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# FOUNDATION COURSE GENERAL STUDIES PRELIMS CUM MAINS 2025, 2026 & 2027

Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains Exam

- Includes 70 Pre Foundation Classes
- Includes comprehensive coverage of all the topics for all the four papers of GS Mains, GS Prelims & Essay
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## ONLINE Students

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# PERSONALITY DEVELOPMENT PROGRAMME

**CIVIL SERVICES EXAMINATION - 2023**

*Starts*  
**20 OCT**

## Programme Features

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



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## NOTE:

Dear Students,

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



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



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



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



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

# “You are as strong as your Foundation” **FOUNDATION COURSE** **GENERAL STUDIES** **PRELIMS CUM MAINS** **2025, 2026 & 2027**

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# 1. POLITY AND GOVERNANCE

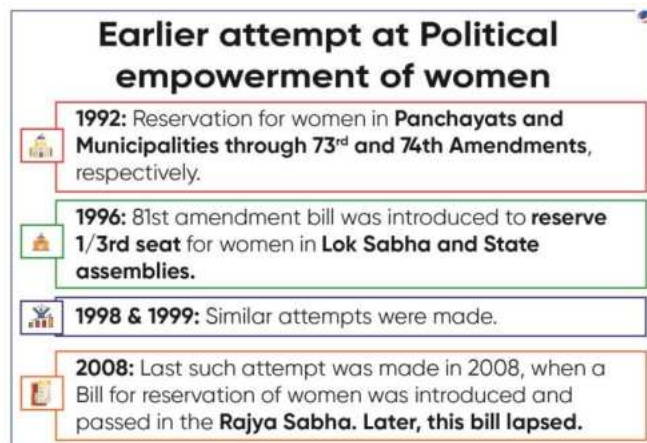
## 1.1. NARI SHAKTI VANDAN [CONSTITUTION (106TH AMENDMENT)] ACT, 2023

### Why in the News?

Recently, Parliament passed Constitution (106<sup>th</sup> Amendment) Act, 2023, to provide for one-third reservation to women in the Lok Sabha, State Assemblies and the assembly of NCT of Delhi.

### Key provisions of the Act

- **Articles amended**
  - **Article 239AA:** Reservation of 1/3<sup>rd</sup> seats for women in the Legislative Assembly of the **National Capital Territory (NCT) of Delhi**.
- **Articles inserted**
  - **Article 330A:** Reservation of 1/3<sup>rd</sup> seats for women in the **House of People (Lok Sabha)**.
    - ✓ It also includes **reservation of 1/3rd seats for women under total number of seats reserved for SCs/STs under Article 330.**
  - **Article 332A:** Reservation of 1/3<sup>rd</sup> seats for women in the **Legislative Assembly of every State**.
    - ✓ It also includes **reservation of 1/3rd seats for women under total number of seats reserved for SCs/STs under Article 332.**
  - **Article 334A:** Provisions of this act shall come into effect after delimitation after the first census taken after the commencement of this act.
    - ✓ **Sunset clause:** Provisions relating to reservation of seats for women shall cease to have effect after the expiration of **15 years**.
    - ✓ The reservation for women, however, **can be extended by the Parliament by law**.
    - ✓ **Periodic rotation of seats** reserved for women after each subsequent delimitation as Parliament may by law determine.
    - ✓ Provisions of this act **shall not affect any representation in legislative assemblies and the Lok Sabha until their dissolution**.



### Need for women's reservation in legislature

- **Under-representation of women in legislature:** Only about 14% of the members in Indian Parliament are women, the highest so far.
  - Average **representation of women in state assemblies in around 8% only**, and some States like Mizoram have no women legislators.
  - According to the **Inter-Parliamentary Union**, India has a **fewer percentage of women in the lower House than its neighbours** such as Nepal, Pakistan, Sri Lanka and Bangladesh.
  - Political under-representation of women is a major reason for India's poor performance in the World Economic Forum's Global Gender Gap report (127<sup>th</sup> out of 146 in 2023).
- **Patriarchal nature of political parties:** Affirmative action for women is imperative to better their condition since political parties are inherently patriarchal.
  - It would also help **overcome the entry barriers** like money and muscle power, for women leadership at the State and national level.
- **Gender-sensitization of public policy:** Women representation in the decision-making process is essential to address problems like lower female labour force participation, increasing crime rates against women, etc.
- **Evidence from the reservation at local level:** According to assessments by Oxfam India, reservation for women at local level led to a significant increase in the reporting of crimes, improved access to basic amenities like drinking water, schools, etc.



- **Nudging Women-led development:** It can enable greater participation of women as public-representatives in policy-making at the national and state level.

### Concerns with the Act

- **Against inequality:** Idea of reservation runs counter to the principle of equality enshrined in the Constitution, as women may not be competing on merit.
- **Impact on voter's choices:** Reservation of seats for women in legislature restricts voter's choices and runs counter the idea of self-determination.
- **Non-homogeneous group:** Women are not a homogeneous community, such as a caste group. Therefore, the arguments made for caste-based reservations cannot be made for women.
- **Less impact on political empowerment of women:** There are larger issues of electoral reforms such as criminalization of politics, internal democracy in political parties, etc., that might act as an impediment to political empowerment of women.
- **Disparity across states:** The act provides for reservation of 1/3<sup>rd</sup> seats across all Lok Sabha seats as against provision of reserving 1/3<sup>rd</sup> seat in each State/UT as mentioned in 2008 bill.
- **Rotation of seats:** The act provides for rotation of seats after every delimitation exercise as against after every general election to the Parliament/ State legislative assemblies.
- **Reservation in Rajya Sabha and Legislative Councils:** Act does not contain any provision for reservation for women in Rajya Sabha and Legislative Councils of the States.
  - **Geeta Mukherjee Committee (1996)** recommended providing reservation for women in Rajya Sabha and Legislative Councils as well.

### Way forward

- **Timely implementation:** Time bound conduct and publication of the census data and delimitation exercise should be done to ensure timely implementation of the act.
- **Capacity building:** Involve civil society and other institutions for training and mentorship of women leaders at local level to ensure their effective mobilization at State and national level.

## 1.2. SIMULTANEOUS ELECTIONS

### Why in the News?

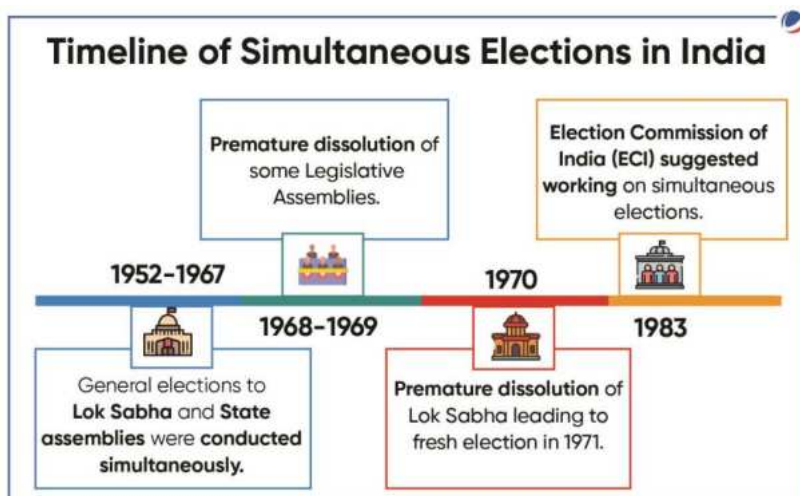
The Union government has recently notified an 8-member committee under the leadership of the former President Shri Ram Nath Kovind to examine and make recommendations on simultaneous election.

### About Simultaneous elections

- It is an idea aimed **to synchronize the Lok Sabha, State Assemblies elections, Municipalities and Panchayats** such that voters in a particular constituency vote on the same day.
- Simultaneous elections **do not mean that voting across the country** for all elections **needs to happen on a single day**.
  - For instance, this can be conducted in a **phase-wise manner** as per the existing practice, provided voters in a particular constituency vote for both State Assembly and Lok Sabha the same day.

### Arguments for Simultaneous elections

- **Impact on Governance due to frequent imposition of the Model Code of Conduct (MCC):** Imposition of MCC puts on hold the entire development programs and activities of the Union and State Governments in the poll bound State.
- **Massive expenditure in conduct of elections:** Elections lead to huge expenditures by various stakeholders on account of conduct, control and supervision of elections.



- For instance, as per CMS data, formal expenditure by the ECI in 2019 Lok Sabha general elections was about ₹ 10,000 crores.
- **Prolonged deployment of security personnel:** About 2-5 State Assemblies go to polls every 6 month period which leads to a **lock-in of Central Armed Police Forces (CAPFs) and state police forces** for prolonged periods.
- **Other issues:** Frequent elections **disrupt normal public life**. For instance, political rallies disrupt road traffic and also lead to noise pollution.
  - Frequent elections **perpetuate caste, religion and communal issues** across the country. Elections are **polarising events** which have accentuated casteism, communalism, corruption and crony capitalism.
  - **Shift in focus of governance and policy making towards populism** for immediate political gains as against long-term prudential policy making.

### Challenges in Implementing Simultaneous Elections

- **Operational challenges:** Constitutional and statutory concerns in extending or curtailing the existing terms of some State Assemblies to synchronise the cycle for the first time.
  - Need of amendment to **multiple constitutional provisions (Articles 83, 85, 172, 174 and 356)** related to **conduct of elections and bye-elections** and **no-confidence motion**.
  - **Logistical and warehousing issues** requiring twice as many EVMs and Voter Verifiable Paper Audit Trail machines.
- **Impact to voter behavior:** Apprehension that national issues may dominate over regional issues or vice-versa impacting voter behavior.
- **Lack of familiarity with the idea:** Last simultaneous election was held in 1960s. Hence, an entire generation is not familiar with the idea of simultaneous elections.
  - Therefore, there is a need to explain how and why one has to vote twice or thrice at the polling booth.
- **Others:** Loss of **political accountability** to the electorate as elected representatives and parties will have to face elections only once in 5 years.
  - **Impact on economy at the grassroots level** as many jobs are created during elections.

### Recommendations on implementation of Simultaneous elections

- **Law Commission (170<sup>th</sup> report, 1999)**
  - **Hold elections to the Lok Sabha and State assemblies simultaneously** but **withhold the result of elections** till after the expiry of the term of the assembly concerned – the interval not exceeding 6 months.
- **Parliament Standing Committee on Personnel, Public Grievance and Law & Justice (79<sup>th</sup> report)**
  - **2-phase synchronized election-** Holding of elections of some Legislative Assemblies at mid-term of Lok Sabha and remaining with the end of tenure of Lok Sabha.
  - **Bye-elections** to all seats falling vacant **in a particular year** be conducted together **on a pre-determined date/ time-frame**.
- **NITI Aayog (Discussion Paper, 2017)**
  - Conduct **2-phase simultaneous election** based on the recommendation of the Parliamentary Standing Committee.
  - In cases of **premature dissolution** of Lok Sabha or State assemblies, the term of the newly elected House should be for the rest of what would have been the original term.
  - In the event of '**no-confidence motion**', simultaneously move a '**confidence motion**' for formation of an alternative government.
  - Fix **two windows of one-and-a-half months** each for holding all **bye-elections** due in a particular year.
- **Law Commission (Draft report, 2018)**
  - **Framework for synchronisation of elections**
    - ✓ **Option 1:** Advancing or postponing election timings in certain states, such that elections to all state assemblies and Lok Sabha may be held together.
    - ✓ **Option 2:** Conduct elections only twice in five years.
    - ✓ **Option 3:** Conduct all elections falling in a calendar year together.
  - Replace the '**no-confidence motion**' with a '**constructive vote of no-confidence**', through appropriate amendments.
    - ✓ It further suggested the option of **limiting the number of no-confidence motions** during the term of the House/Assembly.



## Conclusion

As the government explores the idea of simultaneous elections further, a thorough and transparent deliberation should guide any decisions to ensure that the integrity of our democratic process remains intact.

## 1.3. ARTIFICIAL INTELLIGENCE AND ELECTIONS

### Why in the news?

Five Swiss political parties have signed a code of conduct agreeing to limit the use of artificial intelligence (AI) in their campaigns for the federal elections.

### Role of AI in elections

- **Predictive Modelling:** The prediction models can be built using AI. It will help determine the probability of a voter backing a specific candidate.
  - Factors such as demographics, voting patterns and issues that matter can be considered to build a model that helps identify the voters who will vote for a particular candidate.
- **Social Media Analysis:** Using AI, parties can analyze the trends and sentiment to build a social media outreach program, as per the voters' preferences.
- **Personalization:** AI can aid in tailoring communications for specific voters based on their interests, preferences, and traits. This can **assist candidates in connecting with the audience** more deeply.
- **Real-Time Data Analysis:** Campaigns may adapt their messaging and outreach methods in reaction to shifting conditions by using AI to **evaluate real-time data on social media trends, sentiment, and influencers**.
- **Increased Efficiency:** AI can track and measure the performance of various campaign activities such as advertising, canvassing, and events. This enables campaigns to identify what works and doesn't and make data-driven decisions to optimize their activities.
- **Enhance participation:** AI also generates chances for participative democracy, like enhanced voter education and mobilisation.

### Do you know ?

> **Artificial Intelligence** is the **ability of a machine to display human-like capabilities** such as reasoning, learning, planning and creativity.

### Concerns Associated with AI in Elections

- **Manipulation:** AI can be used to create deepfake videos, misinformation, and social media manipulation, influencing voters and distorting the truth.
  - **Public figures can be defamed or even blackmailed** with deepfakes, **influencing political life** or withdrawing from elections or politics.
- **Erode trust in Elections:** AI tools can be used to conduct an influence campaign that has the **potential to undermine public trust in democratic institutions and elections**.
- **Lack of regulation:** There is a lack of comprehensive regulation specifically addressing the use of AI in elections.
- **Accuracy and Data Quality:** The effectiveness and precision of AI systems deployed in political campaigns are hindered by the accuracy and reliability of the algorithms used, as well as the quality and quantity of available data.
- **Cyber security vulnerabilities:** Using AI to gather and analyse personal voter data raises **privacy and data protection concerns due to lack of cyber security infrastructure**, data storage devices and increased cyber-attacks.

### Way forward

- **Regulatory Frameworks:** Governments should establish clear regulatory frameworks for the use of AI in elections, including data protection, and campaign advertising.
- **Strengthen the Election Commission of India (ECI):** To reduce the risk of AI misuse by political campaigns, ECI should **strengthen disclosure requirements** covering online communications.
  - ECI must establish clear guidelines and ethical frameworks for the use of AI in elections, emphasizing accountability and responsibility.
- **Innovation and Detection:** The government should ramp up efforts to **promote innovation in the detection of deep-fake, voting disinformation campaigns and strengthen infrastructure** to protect elections from cyberattacks fuelled by language models and chatbots.
  - Security Agencies should create and share resources to help election offices address disinformation campaigns that exploit deep-fake tools and language models to undermine election processes.
- **Adaptive Response:** Continuously monitor and adapt to emerging threats and challenges related to AI in elections, responding swiftly to maintain the integrity of the electoral process.

## 1.4. PERSONALITY RIGHTS

### Why in the News?

Recently, Delhi High Court granted protection to a famous Bollywood actor's personality rights from misuse by third parties.

### About Personality Rights

- **Personality rights** refer to the right of a person to protect his/her personality under the right to privacy or property.
  - It includes name, voice, signature, images or any other feature easily identified as markers of personality.
- It is significant to **protect privacy of individuals, individual's right to derive economic benefits out of their personality traits, and consumers from misleading advertisements.**

### Personality Rights in India

- Personality rights or their protection are **not expressly mentioned in any statute in India** but are traced to fall under the **right to privacy** and the **right to property**.
- **Two components of Personality Rights**
  - **Right to publicity:** Right to keep one's image and likeness from being commercially exploited without permission or contractual compensation.
    - ✓ It is governed by statutes like **the Trade Marks Act, 1999** and **the Copyright Act, 1957**.
  - **Right to privacy:** Right to not have one's personality represented publicly without permission.
    - ✓ It is broadly governed under the **Article 21 of the Constitution** and the Supreme Court judgment in **Justice K.S. Puttaswamy (Retd.) Case (2018)**.

### Posthumous Personality Rights

- **Emblems and Names (Prevention of Improper Use) Act, 1950:** Protects unauthorized use of few dignitaries' names and symbols listed in its schedule.
- **IPC:** If negative reference or derogatory representation is made to any deceased person's reputation or their family, **defamation suit** can be filed under the **Indian Penal Code**.
- **Trademark law:** It ensures the benefit to refrain others from using other's name unjustifiably in addition to personal right to sue them for the misuse of other's name.

### Judicial interpretations

- **Titan Industries v. Rajkumar Jewelers case (2012):** Delhi High Court stated that personality rights include the right to not intrude upon their private space or solitude, publicly disclose sensitive facts, misrepresent their image publicly or use their name to be unjustly enriched.
- **Deepa Jayakumar v. AL Vijay case (2019):** Madras High Court held that personality rights cease to exist after the death of the personality and cannot be inherited by legal heirs.
- **Sakshi Malik v. Venkateshwara Creations Pvt. Ltd. & Ors case (2021):** Bombay High Court held that **using another's image**, and most especially a private image, **without consent** is **illegal**.
- **Arun Jaitley vs Network Solutions Private Limited and Ors case (2011):** Delhi High Court stated the popularity or fame of individual will be no different on the internet than in reality.

### Challenges in enforcing Personality rights in India

- **Conflict with the Constitution:** Conflict between right to publicity, media's right to publish and inform public about matters of public interest and citizen's right to know under Article 19.
- **Absence of legislative framework:** There is no existing comprehensive legislative framework to govern various facets of personality rights such as transferability of publicity rights.
- **Dark Patterns:** Deceptive internet techniques and Generative AI are difficult to regulate which can infringe on individual's right to privacy and publicity.

#### Personality rights under international convention

- There is no explicit international convention or treaty on protection of the publicity rights till date.
- However, certain publicity rights can be derived from following international conventions:
  - **Rome Convention (1961):** It protects performers' rights, phonogram producers' rights and broadcasting rights.
  - **TRIPS Agreement (1994):** It secures certain rights of the phonogram producers, live performers and broadcast rights.
  - **WIPO Performances and Phonograms Treaty (WPPT):** It protects rights of performers and phonogram producers, particularly in digital environment.



## Conclusion

Personality rights encompass a wide range of aspects, from the right to privacy and publicity to the right to be free from defamation and harassment. They are not only a legal construct but also an embodiment of the fundamental principles of human dignity and individual autonomy.

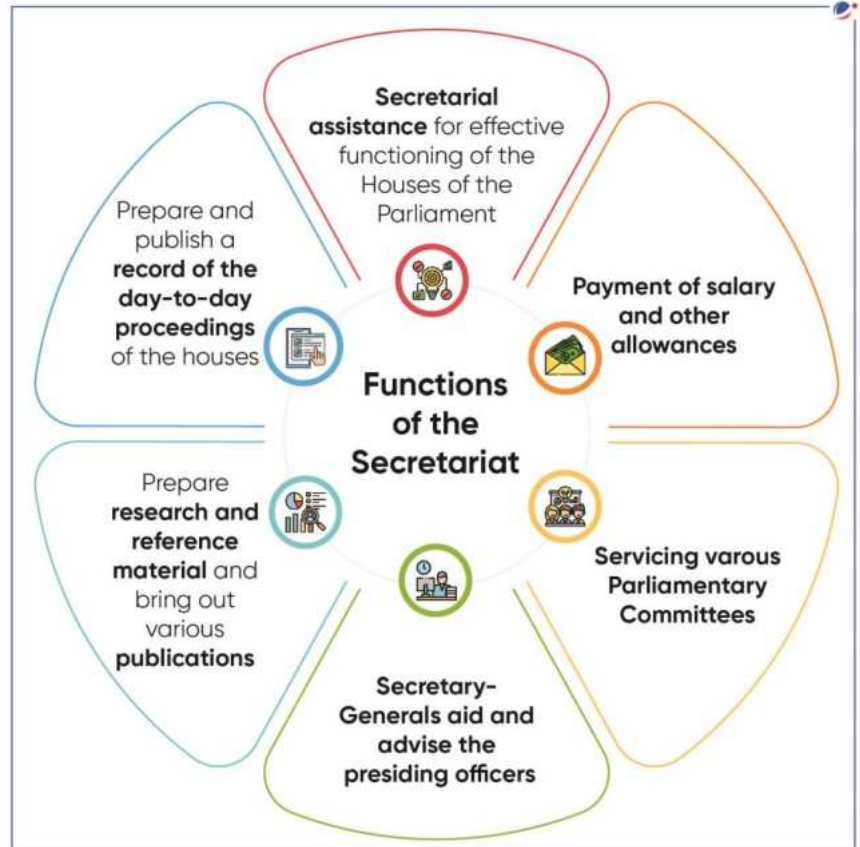
## 1.5. SECRETARIAT OF THE PARLIAMENT

### Why in the News?

As the Parliament completes 75 years, Parliament secretariat has been the custodian of procedure, precedent and legislative knowledge of the two Houses.

### Constitutional provisions

- **Article 98:** Each House of Parliament shall have a **separate secretarial staff**.
  - **Parliament may by law** regulate the recruitment, and the conditions of service of persons appointed, to the secretarial staff of either House of Parliament.
  - It also allows creation of **posts common to both** the Houses of Parliament.
- **Article 187** makes similar provisions for Secretariat of State Legislatures.
- **Council of States (Rajya Sabha)** and the **House of the People (Lok Sabha)** came into existence in **1952**.
  - However, the **Secretariat of the House of the People** continued to be called the '**Parliament Secretariat**' and a new Secretariat called the '**Council of States Secretariat**' was set up for the Rajya Sabha.
  - The **names of the two Secretariats were changed in 1954** to **Rajya Sabha Secretariat** and **Lok Sabha Secretariat** respectively.



### Structure of the Secretariats

- **Lok Sabha Secretariat**
  - **Speaker (Lok Sabha):** Vested with ultimate guidance and control over the secretariat.
  - **Administrative Head:** Secretary General.
  - **Recruitment and Conditions of Service:** Governed by the **Lok Sabha Secretariat (Recruitment and Conditions of Service) Rules, 1955** promulgated by the President in consultation with Speaker.
    - ✓ The rules provide for strength and composition of the secretariat.
    - ✓ All appointments to the posts shall be made by the Speaker.
    - ✓ Speaker may delegate to the Secretary-General or any other officer of the Secretariat, his power to make appointments.
- **Rajya Sabha Secretariat**
  - **Chairman (Rajya Sabha):** Vested with administrative control over the secretariat.
  - **Administrative Head:** Secretary General.
  - **Recruitment and Conditions of Service:** Governed by the **Rajya Sabha Secretariat (Recruitment and Conditions of Service) Rules, 1957** promulgated by the President in consultation with Chairman (similar to Lok Sabha).

- **Other Key Information:**

- Secretariat of both the houses has been **divided into 10 services on functional basis like Legislative, Executive and Administrative services, verbatim reporting services, etc.**
- **Speaker and Chairman can create new posts** in respective secretariat. However, for posts in Class I or Class II, **prior consultation with the Union Ministry of Finance** is mandatory.
- **Secretary-Generals of both the houses hold rank equivalent to that of the Cabinet Secretary** to the Government of India.
  - ✓ However, in the **table of precedence**, Cabinet Secretary is placed at 11<sup>th</sup> position, whereas Secretary, Lok Sabha/ Rajya Sabha are placed at 23<sup>rd</sup> position.

#### Limitations of the Secretariats of the Parliament

- **Absence of legislative framework:** No law has so far been passed under the Article 98(2) regulate the recruitment, and the conditions of service of the secretarial staff of either House of Parliament.
- **Lack of autonomy:** Parliament Secretariats are often alleged of partisanship in favor of executive in terms of disallowing parliamentary questions, rejection of amendments and resolutions on flimsy grounds, etc.
- **Lack of independent cadre:** Most of the senior posts are held by those nominated from All-India Services which adversely impacts the independence of the legislature.

#### Conclusion

Through its dedicated efforts, Parliament Secretariat ensures that the wheels of the government keep turning smoothly, facilitating the law-making process, and upholding the principles of accountability, transparency, and representation.

## 1.6. NEWS IN SHORTS

### 1.6.1. 108 MIGRANTS FROM PAKISTAN AWARDED CITIZENSHIP IN GUJARAT

- A **Ministry of Home Affairs Order, 2021** empowered the **Collectors from certain districts in the States of Gujarat, Chhattisgarh, Rajasthan, Haryana, and Punjab** for:
  - **Registration of Citizen of India** and grant **certificate of naturalization under Section 5 and 6** of the Citizenship Act 1955 respectively.
  - This is applicable in respect of **any person belonging to the minority community in Afghanistan, Bangladesh, and Pakistan.**
- **Citizenship by naturalization** can be acquired by a foreigner (not an illegal immigrant)
  - Who is **ordinarily resident in India for 12 Years**
    - ✓ Throughout the period of **twelve months immediately preceding the date of application**; and
    - ✓ For **11 Years in the aggregate in the 14 Years preceding the twelve months**
  - **Other qualifications** as specified in the Third Schedule to the Citizenship Act, 1955.
- **Constitutional provisions for citizenship (Part 2 of the Constitution)**
  - **Articles 5, 6, 7 and 8**, detail provisions regarding who will be the citizens of India at the commencement of the Constitution.

- **Article 11** grants **Parliament the authority** to make any provision regarding the acquisition and termination of citizenship.



### 1.6.2. DISQUALIFICATION OF LAWMAKERS

- **Karnataka High Court** recently declared the **election of a member of Lok Sabha** from Hassan constituency as **void**



- The decision of disqualification is made on grounds of **guilty of corrupt practices** including wrong disclosure of value of properties, evading taxes, etc.
- **Representation of the People Act (RPA), 1951** enables the High Court to **declare an election void** on certain grounds.
  - Once the election is declared void the **member has to vacate the office**.
  - The aggrieved person **can appeal to the Supreme Court** against the order of the High Court.
- **Disqualification of a lawmaker is prescribed in three situations**
  - **RPA, 1951:** Under Section 8(4), a lawmaker is disqualified for the period of imprisonment and a further six years **if convicted and sentenced to imprisonment for two years or more**.
  - **Tenth Schedule of the Constitution:** Provides for the disqualification of the members on grounds of defection.
  - **Articles 102 (1) and 191 (1):** For disqualification of a Member of Parliament and a Member of the Legislative Assembly respectively.
  - The grounds here include holding an **office of profit, being of unsound mind or insolvent or not having valid citizenship**.

#### 1.6.3. PANEL OF VICE-CHAIRPERSONS (VCS)

- Rajya Sabha Chairman constituted an **all-women panel of VCs** in Rajya Sabha.
- Under the Rules of Rajya Sabha, the **Chairman nominates from among the members a panel of VCs**.
- **Any one of them can preside over the House in the absence of the Chairman/ Deputy Chairman.**
  - However, they cannot preside over the house when the seat of Chairman/ Deputy Chairman is **vacant**.
    - ✓ In this case, **President appoints a member of the House** to perform the Chairman's duties.
- He/she has the **same powers as the Chairman** when presiding and **holds office until a new panel of VCs is nominated**.

#### 1.6.4. PRISON REFORM

- Parliamentary Committee on Home Affairs submitted report on **'Prison conditions, Infrastructure and Reforms'**.
- **Key highlights**

- **Overcrowding:** National Average Occupancy Rate in prisons across India is **130.2%**, with **77.1%** of all the prisoners in the country being **undertrials**.
- **Understaffed:** Prisons are understaffed by **approximately 30%**.
- **Women prisoners:** Of the total of **22,918** women inmates, **1,650** women inmates are with **1,867 children**.
  - ✓ **Fewer number of women prisons and low representation of women in prison staff** (only 13.77%) intensify their difficulties.
- **Prison budget:** Only **0.6%** of prison budget is spent on **vocational/ educational training** of prisoners and **1% on their welfare activities**.
- **Recommendations**
  - **Undertake a comprehensive study** covering the population of the region, crime rate etc. to develop a suitable plan to enhance the **capacity of the prisons or another alternative**.
  - Implement the **"Support to Poor Prisoners programme"** announced in the Union Budget 2023.
  - **Utilise technology like trackable bracelets** to keep track of prisoners on bail.
  - **Renovate colonial-era prisons** to preserve their heritage and earn revenue by **encouraging tourism**.
  - **State Governments may create a Prison Development Fund** for the welfare activities of the prisoners.

#### Steps taken by the Centre for Prison Reforms:



- **Prisons and persons detained** therein are **enumerated in the State list of the 7th Schedule** of the Constitution.
- However, given the significance of prisons in the **Criminal Justice System** Union Ministry of Home Affairs provides **guidance and financial support** to states. It has issued
  - **Model Prison Manual 2016 and Model Prisons**
  - **Model Prisons and Correctional Services Act, 2023**

#### 1.6.5. PUBLIC SERVANTS LOSE IMMUNITY IN PRE-2014 CORRUPTION CASES

- A constitution bench of the **Supreme Court (SC)** **declared that its 2014 judgment**, which **declared Section 6A** of the Delhi Special Police Establishment (DSPE) Act 1946 **as unconstitutional**, will have a **retrospective effect**.

- **Section 6A of DSPE Act** (inserted in 2003) required **CBI to obtain prior sanction from the central government** to investigate **corruption cases against** an officer of the rank of **joint secretary and above**.
- This provision was **struck down as unconstitutional** (violation of right to equality under Article 14) by SC in the **Subramanian Swamy v. Union of India** case (2014).
- **Key highlights of SC judgment**
  - Once a law is **declared unconstitutional** on grounds of it **infringing any of the fundamental rights** guaranteed under **Part III of the Constitution**, it would be held to be an **unenforceable right from date of enactment** (Void Ab Initio).
- **Article 20(1)** has **no bearing in the context of** declaration of Section 6A as unconstitutional as **Article 20 (1) doesn't bar retrospective application of procedural changes** in criminal trial.
- ✓ **Article 20(1)** lays down that **no person shall be convicted of any offense** except for violation of a law in force **at the time of the commission of the alleged act**.



 <p><b>SMART QUIZ</b></p>	<p>You can scan this QR code to practice the Smart Quiz of Polity at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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## 2. INTERNATIONAL RELATIONS

### 2.1. INDIA AND G20

#### Why in news?

India recently held the Presidency of the G20 summit for the first time at New Delhi, with the **theme “Vasudhaiva Kutumbakam” or “One Earth, One Family, One Future”**.



## Key Outcomes of the G20 Summit

- Unanimous adoption of the **G20 New Delhi Leaders' Joint Declaration**.
- **Launch of the Global Biofuel Alliance (GBA)** to increase the consumption of biofuels.
- Memorandum of Understanding (MoU) to establish **India Middle East Europe Economic Corridor (IMEC)**.
- Formal inclusion of the **African Union as a permanent member of the G20**.
- **Other outcomes-**
  - **Proposal to launch a G-20 Satellite Mission for Environment and Climate Observation**, with an aim to help the countries of the Global South.
  - Global regulatory framework for **crypto-assets and use of Artificial Intelligence responsibly**.
  - Consensus on G20 framework for **GDPIR (Global Digital Public Infrastructure Repository respectively)**.

*\*Important outcomes and declarations of the G20 Summit have been discussed in detail in the subsequent articles.*

## Significance of G20

- **Supporting global financial stability:** It plays a key role in promoting global financial stability, through financial regulation, crisis prevention, and management.
- **Addressing global development challenges:** It has made efforts to address a range of development challenges, including poverty reduction, infrastructure financing, and sustainable development.
- **Human resource development and Employment:** At the 2014 Summit in Brisbane, G20 leaders committed to reduce the gender gap in labour force participation by 25 per cent by the year 2025 compared to 2012 (the 25x25 goal).
- **Recast Bilateral ties:** Bilateral meetings on the summit's sideline have occasionally led to major international agreements.

### Significance of G20 Presidency for India

- **Showcase Leadership:** India got the chance to prove its leadership role in **steering discussions, building consensus** as well as **offering solutions** to address developmental and geopolitical issues.
- **Voice of the Global South:** Through its presidency, India was able to embed priorities of the Global South in the larger global conversation and advance its own credentials as a voice of the Global South.
  - E.g., India's initiative led to the African Union being accepted as a permanent member of the G20.
- **Economic opportunities:** India's G20 presidency is expected to translate into trade and investment opportunities for Indian businesses' global expansion.
- **Expand India's footprint:** By hosting the summit, India was able to demonstrate its contemporary technology advancement and its heritage, culture and traditions, enhancing India's stature and status in global politics.
- **Build trust:** India's heritage of being the moderating influence helped in building consensus and lessen the East-West polarization and the North-South divide.
- **Steering global agenda and reshaping world order:** India used the opportunity to reshape the global agenda based on its priorities and promote its interests on the international stage.

## India's G20 Priorities



**Green Development, Climate Finance & LiFE**



**Technological Transformation & Digital Public Infrastructure**



**Accelerated, Inclusive & Resilient Growth**



**Multilateral Institutions for the 21st century**



**Accelerating Progress on SDGs**



**Women-led Development**

## Challenges

- **Divergent interests and priorities among member countries:** This can make it difficult to reach a consensus on key issues and to promote a coherent approach.
- **Lack of effective power:** G20 is not a legally binding institution.
- **Geopolitical Tensions:** Geopolitical tensions between G20 members, undermine cooperation and make it difficult to achieve consensus on important issues.
- **Inadequate response to global challenges:** The G20 has faced criticism for its perceived lack of action on key global challenges, such as climate change and inequality.
- **Limited accountability and transparency:** It operates largely behind closed doors, with limited opportunities for public scrutiny and accountability, and lacks a formal charter.
- **Rising Protectionism:** There is a growing trend towards protectionism and trade tensions between major economies.

## Way forward

- **Inclusivity:** It must reach out to non-member states and non-state actors, giving voice and consideration to their concerns.
- **Avoiding internal conflicts:** Collective action and problem-solving should be encouraged that transcends traditionally like-minded groups of countries.
- **Effective implementation:** Summit leaders should solidify the forum's role through swift action on promises.
- **Maintaining continuity:** Promote collective action on a sustained basis and should maintain continuity on issues taken up across presidencies.

### 2.1.1. NEW DELHI DECLARATION

#### Key highlights of the New Delhi Declaration

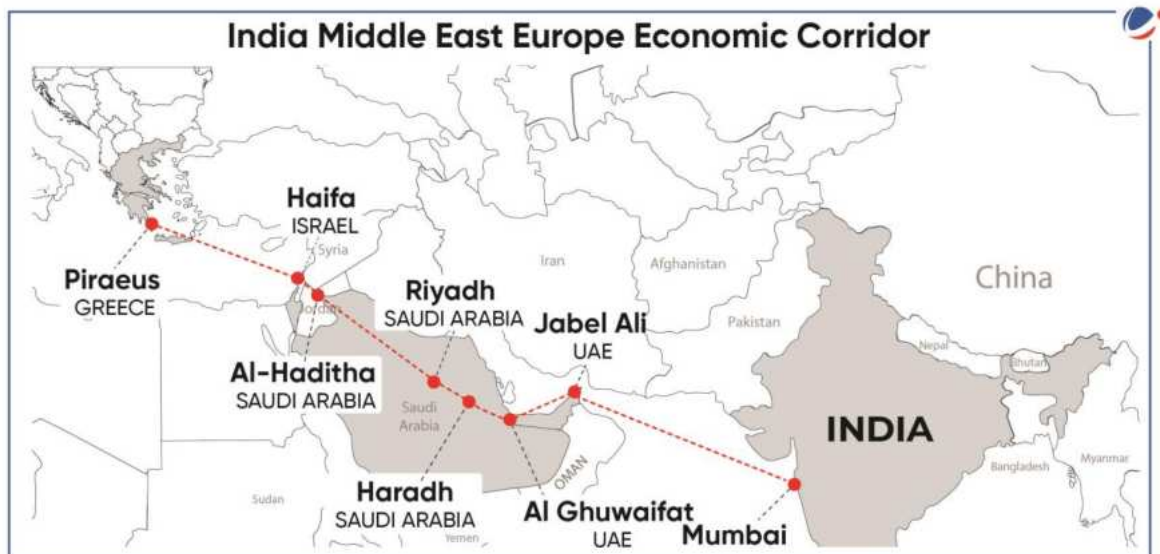
Theme	Details
<b>Accelerating progress on SDGs</b>	<ul style="list-style-type: none"><li>• Endorsed the G20 Principles on <b>Harnessing Data for Development (D4D)</b> and welcomed the decision to launch the <b>Data for Development Capacity Building Initiative</b>.</li><li>• Strengthening the <b>Agricultural Market Information System (AMIS)</b> and the <b>Group on Earth Observations Global Agricultural Monitoring (GEOGLAM)</b>, for greater transparency to avoid food price volatility.</li><li>• Emphasis on <b>adopting a one-health approach</b>.</li></ul>
<b>Strong, Sustainable, Balanced, and Inclusive Growth</b>	<ul style="list-style-type: none"><li>• <b>G20 2023 Financial Inclusion Action Plan (FIAP)</b>, aimed at advancing financial inclusion for individuals and MSMEs.</li><li>• Adoption of <b>G20 Generic Framework for Mapping Global Value Chains (GVC)</b> to help members identify risks and build resilience.</li><li>• Establishment of the <b>Start-up 20 Engagement Group</b>.</li></ul>
<b>Women empowerment</b>	<ul style="list-style-type: none"><li>• <b>Creation of a full-fledged working group on women's empowerment</b> to prioritize gender equality, women empowerment, and leadership.</li></ul>
<b>Multilateral Institutions for the 21<sup>st</sup> Century</b>	<ul style="list-style-type: none"><li>• <b>Agreement on UNGA 75/1 (UNSC reforms)</b> for the first time in G20.</li><li>• Roadmap for implementing the recommendations of the G20 independent review of the <b>Multilateral Development Banks Capital Adequacy Framework</b>.</li></ul>
<b>Technological transformation and Digital Public Infrastructure (DPI)</b>	<ul style="list-style-type: none"><li>• <b>Proposal of the One Future Alliance (OFA)</b>, a voluntary initiative for supporting implementing DPI in low and low-middle-income countries.</li><li>• India plans to build and maintain a <b>Global Digital Public Infrastructure Repository (GDPIR)</b>, a virtual repository of DPI, voluntarily shared by G20 members.</li><li>• Joint roadmap to support a <b>coordinated and comprehensive policy and regulatory framework</b> for crypto-assets.</li></ul>
<b>International taxation</b>	<ul style="list-style-type: none"><li>• Reaffirms commitment to <b>twin pillars of international package</b>. (Profit allocation and nexus and Global Minimum Taxation)</li></ul>
<b>Green Development</b>	<ul style="list-style-type: none"><li>• Encourage efforts to <b>triple renewable energy capacity</b> by 2030.</li></ul>



<b>Pact for a Sustainable Future</b>	<ul style="list-style-type: none"> <li>Recognition of the need <b>for about USD 5.8-5.9 trillion in the pre-2030 period</b> for developing countries to implement their NDCs.</li> <li>Call to set an ambitious, traceable, transparent <b>New Collective Quantifiable Goal</b> of climate finance in 2024.</li> <li>Launch of initiatives like the <b>Resource Efficiency Circular Economy Industry Coalition (RECEIC)</b>, <b>Travel for LiFE</b> etc.</li> </ul>
<b>For Planet, People, Peace and Prosperity</b>	<ul style="list-style-type: none"> <li><b>Build consensus on Ukraine issue:</b> In line with the UN Charter, States agreed to uphold the principles of territorial integrity and sovereignty.</li> <li>Addressed the adverse impact of <b>Russia-Ukraine war on global economy</b> and welcome constructive initiatives that support <b>a comprehensive, just, and durable peace in Ukraine.</b></li> </ul>
<b>Promotion of thematic Roadmaps and Principles</b>	<ul style="list-style-type: none"> <li><b>Jaipur Call for Action</b> for enhancing <b>MSMEs' access to information</b> to promote the integration of MSMEs into international trade.</li> <li><b>Chennai High-Level Principles</b> for a Sustainable and Resilient <b>Blue/Ocean-based Economy.</b></li> <li><b>Gandhinagar Implementation Roadmap (GIR)</b> and <b>Gandhinagar Information Platform (GIP)</b> for strengthening the <b>G20 Global Land Initiative.</b> <ul style="list-style-type: none"> <li>G20 Global Land Initiative aims to prevent, halt and reverse land degradation with an ambition to reduce degraded land by 50 percent by 2040.</li> </ul> </li> <li><b>Deccan High-Level Principles on Food Security and Nutrition 2023.</b></li> <li><b>Goa Roadmap for Tourism as a Vehicle for Achieving the Sustainable Development Goals</b> to achieve Sustainable Tourism. <ul style="list-style-type: none"> <li>It has <b>5 priorities-</b> Green Tourism, Digitalization, Skills, Tourism MSMEs, and Destination Management.</li> </ul> </li> </ul>

### 2.1.2. INDIA-MIDDLE EAST- EUROPE ECONOMIC CORRIDOR (IMEC)

- The Memorandum of Understanding (MoU) to establish the 'India-Middle East- Europe Economic Corridor' (IMEC) was signed between **India, US, Saudi Arabia, European Union, UAE, France, Germany, and Italy.**
- The IMEC will consist of **railroad, ship-to-rail networks (road and sea) and road transport routes (and networks),** extending across two corridors-
  - The east corridor:** Connects India to the Arabian Gulf.
  - The northern corridor:** Connects the Arabian Gulf to Europe.
- Aim:** To provide a reliable and cost-effective cross-border ship-to-rail transit network enabling goods and services to transit to, from, and between **India, the UAE, Saudi Arabia, Jordan, Israel, and Europe.**
  - Along the railway route, Participants also intend to enable the laying of cable **for electricity and digital connectivity,** as well as pipe for **clean hydrogen export.**
- The project forms part of **the Partnership for Global Infrastructure and Investment (PGII).**
  - PGII was announced in 2021 **during the G7 summit in the UK** and is seen as a counter to China's Belt and Road Initiative (BRI).



- **Other projects under PGII:** Trans-African Corridor.

#### Significance of IMEC for India

- Expected to **speed up trade between India and Europe by up to 40%.**
- **Reduce logistics costs** as well as boost trade in goods and services between India and other countries.
- Boost to **Act West policy** of India.

#### Significance of IMEC

- **Crucial milestone in the shift of global order towards Eurasia:** It signifies the commitment of the US, Europe, and emerging powers such as India, Saudi Arabia, and the UAE to promoting a more balanced and interconnected Eurasian order.
- **Trade facilitation and accessibility:** It would create a consolidated trade route that will **reduce trade costs, promote market access, and encourage investment opportunities** between the participating countries.
- **Enhanced regional connectivity:** Improved transportation infrastructure, cross-border cooperation, energy supply, and logistical efficiencies will enhance regional connectivity.
- **Economic unity:** It is expected to act as an effective medium of economic integration between India, West Asia and Europe.
- **Diplomatic collaboration and geopolitical stability:** Close economic ties resulting from the corridor will incentivize cooperation on security, counterterrorism, and regional stability.
- **Secure regional supply chains:** It will make the global supply chain more resilient.
- **Sustainable development:** IMEC also aims to promote clean energy development and export, expand energy grids and telecommunications, advance clean energy technologies, and improve internet access for all.

#### IMEC vs China's Belt and Road Initiative (BRI)

- In terms of objectives, both mega transnational projects are similar.
- China's New Silk Route **is larger in terms of scale.**
  - Announced in 2013, China has signed BRI cooperation documents with more than 150 countries and over 30 international organizations and created over 3,000 projects.

#### Expected benefits of IMEC over BRI

Parameters	IMEC	BRI
<b>Design</b>	Based on <b>collaborative consultations</b> with all participants.	<b>Centrally designed.</b>
<b>Benefits</b>	For the common benefit of all in the region	Primarily serves China's interests.
<b>Employment</b>	Focus on generating <b>employment for the local population</b>	Mainly generates employment for Chinese companies.
<b>Debt practices</b>	Proposes to follow the <b>best international debt practices</b>	Criticised for putting unsustainable debt burdens on participating nations.

#### Challenges and considerations

- **Complex geopolitics of the region:** The corridor extends across diverse nations with varying political dynamics, interests, and previous tensions.
  - E.g., uncertainties surrounding Saudi Arabia and Israel relations may hamper cooperation.
- **Existing rivalries:** As a strategic competitor, China may seek to divert trade and investments towards its own corridors, potentially undermining the effectiveness of IMEC.
  - Further, IMEC corridor, being an alternative land route, may pose a potential threat to **Egypt's dominance in the region**, diverting trade away from the Suez Canal.
- **Logistical challenges:** Establishing a multi modal network across multiple countries with diverse geographical terrains, regulatory procedures, transportation protocols, financial mechanisms and infrastructural capabilities will be challenging.
- **Security concerns:** The region is susceptible to various security threats, including terrorism, conflicts, and political instability.
- **Challenge with multi-modal routes:** The IMEC consists of land and sea sections, which may escalate cost in comparison to exclusively land or maritime routes.
- **Financial Commitments:** **There is a lack of commitment regarding the financial cost**, which is expected to be finalized in the coming months.

## Way Forward

- **Establish diplomatic dialogue and a unified vision** among all participating nations to mitigate potential conflicts.
- **Harmonize regulatory frameworks** such as customs procedures and enhance financial connectivity.
- **Strengthen regional cooperation** on defense, security by sharing intelligence, and crating joint initiatives to counter security risks.
- **Create robust financial framework** to attract investments from multiple stakeholders, including governments, international organizations, and private sector entities.

### Reasons for India's rising interest in the Middle East

- **Improved security conditions and enhanced political stability:** Diplomatic negotiations within nations and political stability in the region will allow India to maintain robust relations with all three poles of power — Israel, Iran, and Saudi Arabia.
- **Geopolitical Interests:** India has strategic interests in the Middle East due to its proximity to important maritime trade routes and its role in countering terrorism and extremism.
- **Energy Security:** The Middle East is a major source of India's energy imports, particularly oil and natural gas.
- **Diaspora:** There are more than 8 million Indians (or people of Indian origin) working in the larger Middle East region.
  - The Indian workforce in the Middle East sends home more than \$50 billion a year in remittances.
- **Defense:** India has strong bilateral agreements in the region, such as the defense agreement with Qatar, and intelligence sharing with the United Arab Emirates, Saudi Arabia, Oman, and Israel.

## 2.1.3. AFRICAN UNION: A PERMANENT MEMBER OF THE G20

- African Union became the **second regional organization** to become a permanent member of the G2.



# African Union



**Addis Ababa,  
Ethiopia.**

**About:** It is a continental body consisting of the **55 member states** that make up the countries of the African Continent.

**Genesis:** Launched in 2002 as a **successor to the Organisation of African Unity** (OAU, 1963–1999).

**Aim:** Promoting Africa's growth and **economic development** by championing citizen inclusion and **increased cooperation and integration of African states.**

**Other Key Information:**  
Collectively the group has a GDP of \$3 trillion with some 1.4 billion people.

### Significance of inclusion of African Union in the G20

For the G20	For India	For Africa
<ul style="list-style-type: none"> <li>• <b>Utilize Africa's enormous potential in mitigating climate change:</b> Africa is home to <b>60% of the world's renewable energy assets</b> and more than 30% of the minerals important to renewable and low-carbon technologies.</li> <li>• <b>Boost credibility of its policies and decisions:</b> AU's inclusion enhances G20's capacity to devise inclusive and</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Championing the cause of global south:</b> India's successful endorsement for inclusion of AU in the G20 solidifies its image as the <b>Voice of the Global South.</b></li> <li>• <b>Align with India's aspirations:</b> The step aligns with India's own global aspirations to foster a multipolar world and a more equitable and representative international order.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Inclusivity:</b> It gives more leadership and voice to African countries on issues like global tax reforms, debt relief, climate change discussions, etc.</li> <li>• <b>Correcting imbalance:</b> Africa has remained a passive receiver rather than an active</li> </ul>



<p>equitable solutions that are truly beneficial to the global community.</p> <ul style="list-style-type: none"> <li>• <b>Reinvent its image:</b> It makes G20 more representative, repurposing the G20 to be the vehicle for building a fairer, more prosperous, and sustainable.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Permanent seat in UNSC:</b> India is keen to garner support from AU for Permanent Membership of the UNSC.</li> <li>• <b>Resource diversification:</b> Africa is a resource-rich continent dominated by commodities like crude oil, gas, pulses and lentils, leather, gold, and other metals.</li> </ul>	<p>contributor to discussions shaping its economic destiny.</p> <ul style="list-style-type: none"> <li>• <b>Signal toward Growth of Africa:</b> It signals the rise of a continent- otherwise framed as a victim of war, extremism, hunger, and disaster.</li> </ul>
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#### India's efforts in promoting integration with the African continent

- **The Pan African E network Project (PANEP):** It is an information and communications technology (ICT) project that seeks to connect the member states of the Union through a satellite and fiber-optic network to India and to each other.
- **India Africa Forum summit:** It aims for greater cooperation between India and Africa.
- **The Indian Technical and Economic Cooperation Programme:** It is the leading capacity-building platform of the Ministry of External Affairs active in the African Union.
- **Asia-Africa Growth Corridor:** It seeks to develop infrastructure and digital connectivity in Africa through Indo-Japan collaboration.

### 2.1.4. GLOBAL BIOFUEL ALLIANCE

- It was launched by India along with the leaders of **Singapore, Bangladesh, Italy, USA, Brazil, Argentina, Mauritius and UAE.**
  - The alliance will also act as a **central repository of knowledge** and an expert hub.
- **Aim:** To serve as a catalytic platform, fostering global collaboration for the advancement and widespread adoption of biofuels.
- **Present GBA Members include-**
  - **7 G20 countries:** Argentina, Brazil, Canada, India, Italy, South Africa, USA
  - **4 G20 invitee countries:** Bangladesh, Singapore, Mauritius, UAE.
  - **8 non-G20 countries:** Iceland, Kenya, Guyana, Paraguay, Seychelles, Sri Lanka, Uganda, and Finland.
  - **12 International organizations** including World Bank, Asian Development Bank, World Economic Forum, International Energy Agency, etc.

*\*To read more about biofuels, kindly refer to Article 5.1.4 biofuel opportunity in 19ecarbonization of May 2023 monthly current affairs magazine.*

#### Significance of GBA

- **Develop a market for biofuels:** GBA will ensure a stable supply of eco-fuels and create a virtual marketplace connecting industries, countries, and tech providers, enhancing demand-supply mapping.
- **Robust standards:** It will facilitate the development, adoption, and implementation of internationally recognized standards, and regulations to incentivize biofuels adoption and trade.



#### Data Bank

➤ **Over 80% of global sustainable biofuel production** is concentrated in just four markets: the **United States, Brazil, Europe and Indonesia.** (Biofuel Policy in Brazil, India and the United States, IEA)

#### Benefits of GBA for India



**Boost India's biofuel initiatives** such as PM-JIVAN Yojna, SATAT, and GOBARdhan scheme



**Contribute to increasing farmers' income** and create new jobs



**Reduce oil dependency** (India imports more than 80% of its crude oil)



**Achieve National Targets** (National Policy on Biofuels targets to **achieve 20% ethanol blending in petrol by 2025-26**)



**Additional opportunities for Indian industries** (meeting global biofuel demand and exporting technology and equipment)

- **Contribute to climate efforts:** International Energy Agency (IEA) estimates that global sustainable biofuel production would need to **triple by 2030** to put the world's energy system on track towards net zero emissions by 2050.
- **Decarbonize transport sector:** The transport sector is responsible for approximately one-quarter of greenhouse gas emissions.
- **Awareness:** It will help raise awareness about biofuels' role in reducing greenhouse gas emissions.

### Challenges for GBA

- **Lack of clear definition:** There is a lack of consensus on what sustainable fuels are and countries don't think biofuels are sustainable.
- **Technology transfer:** Developing countries may encounter resistance from developed nations due to concerns about technological secrecy.
- **Geopolitical contestation:** Oil-producing nations might not favor the alliance.
- **Slow growth:** The deployment of biofuels is not accelerating fast enough, especially compared to other renewable resources like solar and wind.
- **Production-related challenges:** Limited availability of quality feedstock, effect on food production and prices, changes in cropping pattern, lack of cost-effective technologies, etc. may hamper sustainable production of biofuels.

### Conclusion

The alliance will have to develop sustainable long-term plans, make sufficient investments, foster innovation, resolve supply chain issues, quickly resolve any disputes, and encourage collaboration.

## 2.2. INDIA AS A GLOBAL UNIFIER

### Why in the News?

The theme for India's G20 Presidency is **"Vasudhaiva Kutumbakam – One Earth, One Family, One Future"**.

### Idea of Vasudhaiva Kutumbakam

- **Meaning:** Vasudhaiva Kutumbakam means **'the world is one family'**. It affirms the **value of all life** – human, animal, plant, and microorganisms – and their **interconnectedness** on the planet Earth and in the wider universe.
  - The Upanishadic philosophy, of which Vasudhaiva Kutumbakam is a representation, emphasizes the **divinity of every living being**. It believes that every human being is divine, thus there is no cause for conflict.
- **Progressive thought:** This is an all-embracing outlook that encourages us to **progress as one universal family**, transcending borders, languages, and ideologies.
- **Origins:** The phrase **Vasudhaiva Kutumbakam is made up of three Sanskrit words, Vasudhaa (earth/world), iva (like) and kutumbakam (large/extended family).**
  - The verse finds mention in Maha Upanishad; and is further referred to in the Hitopadesha (written by Narayana Pandit).
  - The idea of Vasudhaiva Kutumbakam is also reflected in the Vedic saying – **"yatra vishvam bhavati eka needam,"** or, **"The world is a nest"**.

### How India is acting as a Global Unifier through this ideology?

India is driving solutions towards key global issues. This is reflected in the following efforts, value systems and cultural elements-



- **Environment conservation:** At the root of Vasudhaiva is **Vasudha, our planet Earth**.
  - India is promoting a sustainable environment with its Mission LiFE (Lifestyle for Environment), net zero emission targets, reclamation of degraded lands, and multilateral initiatives.
- **Digital Public Infrastructure (DPI):** India has established its foundational DPI consisting of identity, payment and data exchange layers.
  - India is **helping developing countries to adapt, build and scale DPI** to unlock inclusive growth.
- **Energy Transition:** India is supporting global energy transition through initiatives such as the International Solar Alliance and Global Biofuel Alliance.
- **Inclusive multilateralism:** India is consistently **pushing to boost multilateralism** by pursuing reform of global institutions.
  - In this pursuit, India held the **Voice of the Global South Summit** and pushed for the **inclusion of the African Union** as a permanent member of the G20.
- **Capacity Building:** Under India's **Indian Technical and Economic Cooperation Programme (ITEC programme)**, over 200,000 professionals from 161 partner countries have benefited since 1964.
  - India pushed for the launch of the **Data for Development Capacity Building Initiative for the development of the Global South**.
- **Yoga:** Pursuant to India's quest, the UN General Assembly declared June 21 as the International Day of Yoga.
  - It fosters a **culture of inclusiveness, fraternity and global family** uniting humanity.
  - It is also an example of **India's Soft Power** (ability to persuade others to perform something without any form of coercion).
- **Culture:** India's G20 presidency provided ground for **showcasing unique and diverse cultures** from different regions and nations to strengthen relationships, enhance socio-economic cooperation and promote national interest.

#### What are the challenges?

- **Balancing National Interest:** There is a **competitive and conflictual side** of international relations. It considers **nation-states as the principal actors** and **national interests as paramount**.
  - It remains a challenging endeavour to balance global concerns with national interests.
- **Different power centres:** According to some, Vasudhaiva Kutumbakam is not a peaceful construct but a **dysfunctional one with different power centres** vying to secure their interests even at the risk of trampling over common values.
  - Also, it is not clear that in the presently emerging multipolar world how will power be shared among the various leaders and centres.
- **Enforcement issue:** Dealing with a world which follows the philosophy of Vasudhaiva Kutumbakam would require not only the ability to develop common norms to address contentious issues but also the **political, economic, and military prowess** to enforce these agreed-upon norms.
- **Hard power:** Hard power of nation-states is counter-intuitive to the idea of Vasudhaiva Kutumbakam, which is based on the principle of self-restraint.
- **Identity Politics:** Movements of identity politics that promise a **return to traditional forms of collective identities** based on race, nationality, religion or caste rely on the simplistic binary of 'us' and 'them'.
  - Such movements **create an 'other'** which is usually a **rival social group that is vilified**, thus directly negating the core philosophy of Vasudhaiva Kutumbakam.

#### Way forward

- **Co-existence:** A strong spirit of co-existence is required to overcome barriers of knowledge, distance, and language among others. Such spirit can be imbibed through more interconnectedness and dialogue among nations.
- **Reinvigorated multilateralism:** There is a need for a greater push on effective, inclusive and networked multilateralism to give voice to the marginalized world.
- **Promotion of cultural elements:** Cultural exchanges among countries and the promotion of the idea of the world as a single entity with diverse cultural centres can help.
- **Inclusive Development:** Supporting the development and empowerment of developing and least developed countries especially in Africa through trade, investment, aid, capacity building and technology transfer.



## 2.3. INDIA: THE VOICE OF GLOBAL SOUTH

### Why in news?

India used the platform of its G20 presidency to champion the cause of Global South.

### More in news

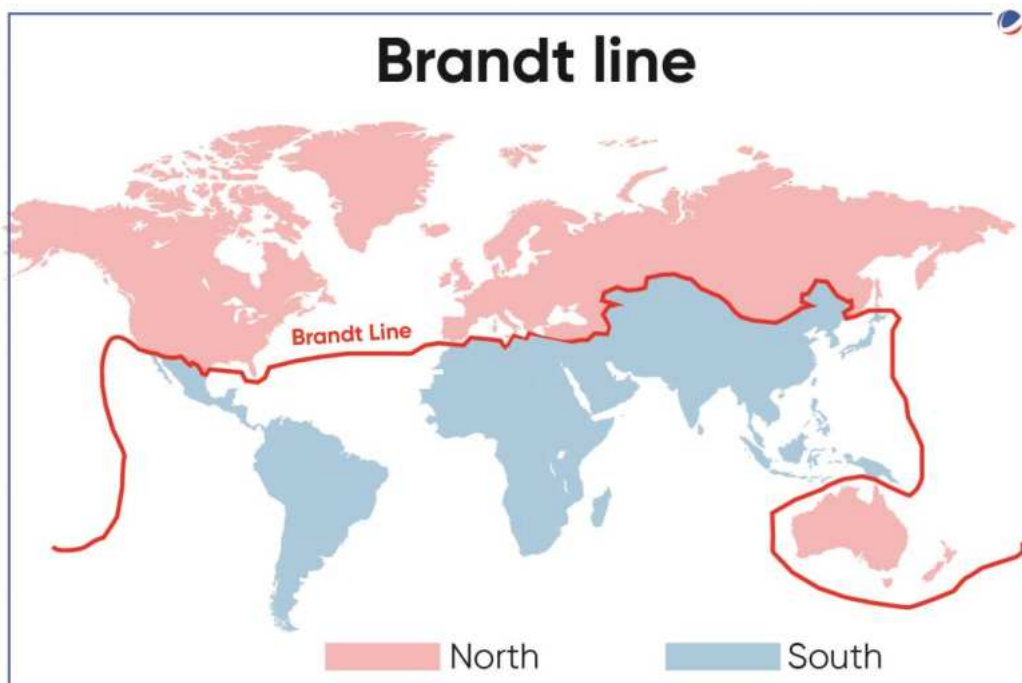
- India became an advocate for the Global South during G20, by making the following efforts-
  - **Supported the inclusion of the African Union** in G20 as a permanent member.
  - **Included issues of the Global South** in G20 discussions, such as reforms in the multilateral development bank (MDB), debt restructuring for countries facing high levels of sovereign debt, resource mobilisation for climate finance etc.
  - **G20 theme 'Vasudhaiva Kutumbakam** (One Earth, One Family, One Future)' symbolized the inclusion of developing countries.

### What is Global south?

- It refers to countries often characterized as **developing, less developed, or underdeveloped**.
  - These countries are primarily located **in the Southern Hemisphere**, largely in Africa, Asia and Latin America.
- Similarly, economically developed countries such as the United States, Canada, Europe, Russia, Australia and New Zealand constitute Global North.
- The concept of the Global South can be traced back to the **Brandt Report of 1980**, which proposed a division between North and South countries based on their **technological advancement, GDP, and standard of living**.

### Challenges faced by the Global South

- **Underrepresentation in global forums**, as seen by their exclusion from the UN Security Council's permanent membership.



### Factors favouring India to act as a voice of Global South



#### Historical and philosophical appeal

Leader of the Non-Aligned Movement, philosophy of "**Vasudhaiva Kutumbakam**" etc.



**Economic and geopolitical clout** in global politics.



#### Bridge between developed and developing world

One of the fastest-growing economies in the world.



#### Responsible partner

First Responder in humanitarian crises, Technical and financial aid giver etc.

- **Geopolitical conflicts of the Global North impact global decision-making process**, with concerns of the Global South like rising prices of oil, food price volatility etc. taking a backseat.
  - E.g., the Ukraine conflict led to inflation in food and oil prices which adversely affected countries in the global south.
- **Diverging approach of the Global North on normative issues:** E.g., there is a lack of consensus between Global North and Global South over the interpretation of democracy, human rights, agenda for climate governance, etc.
- **Global South is disproportionately impacted** by most of the global challenges including climate change.

**How has India positioned itself as the leader of the global south?**

- **Gaining goodwill** by utilizing **multidirectional diplomatic engagements and economic and technological growth trajectory** to tackle global crisis situations affecting the Global South.
  - E.g., India's **Vaccine Maitri initiative** provided medicines and vaccines to over 100 countries.
- **Democratizing climate governance in the global arena**, for example, by supporting **Common but Differentiated Responsibilities (CBDR)** in negotiations, advocating for climate finance from developed nations, etc.
- **Pushing reform in multilateral institutions to make them more inclusive**, for example, through its demand of broadening of the **UN Security Council's permanent** membership.
- **Providing alternative approach** on normative issues like democracy and human rights.
- **Capacity building of the Global South** in various areas such as human resources, technology, energy etc.
  - E.g., the recently launched **India-UN Capacity Building Initiative** aims to share India's development experiences, best practices and expertise with partner countries in the Global South through capacity building and training programs.
- **Creating platforms for collaborative dialogue**, e.g., virtual **Voice of Global South Summit** in January, 2023.



#### **Challenges for India in Leading the Global South**

- **Balancing national interests** while fulfilling international obligations as a leader requires strategic balancing.
  - For example, India's recent ban on rice exports has been criticized by many countries for exporting food price inflation.
- **Limited resources** to adequately support countries of the Global South.
- **Chinese competition and interference**, primarily in development finance, infrastructure and trade.
  - It is **further pushing its geopolitical agenda** through economic aid and debt diplomacy.

#### **Way Forward**

- Ensuring that the **concerns of the Global South are acknowledged and accounted for at multilateral forums**.
  - e.g., India can create inclusive dialogue by utilizing its 5 pillared approach for multilateral forums: Samman (Respect), Samvad (Dialogue), Sahyog (Cooperation), Shanti (Peace) and Samriddhi (Prosperity).
- **Develop synergies** in the Global South on trade, technology, tourism, and resources by **investing in connectivity infrastructure and technology transfer**.
- **Reforming global trade and finance institutions** to increase financial independence for the Global South countries and improve access to capital.
  - For instance, reform in the World Trade Organization (WTO) would give them equitable and rules-based access to world trade.

- **India's proposal:** To re-energise the world, India has called for a **global agenda of 4Rs – Respond, Recognize, Respect and Reform.**
  - This means responding to the priorities of the Global South, recognizing the principle of 'Common but Differentiated Responsibilities', respecting the sovereignty of all nations, and reforming international institutions to make them more relevant.

#### Related news

- India reiterated its commitment towards **Global South at G77 Plus China Summit in Cuba.**
- Group of 77 (G-77) is called G77 Plus China because while China works closely with the group, it does not officially consider itself a full member.



## Group of 77 (G77)



**Genesis:** Established in 1964 by seventy-seven developing countries.



**Aim:** Provides the means for the countries of the **South to articulate and promote their collective economic interests and enhance their joint negotiating capacity** within the United Nations system.  
• It also promotes South-South cooperation for development.



**Members:** 134 members



**Other Key Information:** Largest intergovernmental organization of developing countries in the United Nations.

## 2.4. INDIA-ASEAN

### Why in the news?

Recently, the Prime Minister of India attended the 20th ASEAN-India Summit and the 18th East Asia Summit (EAS) in Jakarta, Indonesia.

### Association of Southeast Asian Nations (ASEAN)

<b>About</b>	<ul style="list-style-type: none"> <li>○ <b>ASEAN was established in 1967 with signing of ASEAN Declaration</b> (Bangkok Declaration) by Indonesia, Malaysia, Philippines, Singapore and Thailand.</li> </ul>
<b>Member states</b>	<div>  Brunei Darussalam            Cambodia            Indonesia            Myanmar            Lao PDR         </div> <div>  Malaysia            Philippines            Singapore            Thailand            Vietnam         </div>
<b>Purpose of ASEAN</b>	<ul style="list-style-type: none"> <li>○ Accelerate <b>economic growth, social progress and cultural development</b></li> <li>○ Promote <b>regional peace and stability.</b></li> <li>○ Promote active <b>collaboration and mutual assistance</b> on matters of common interest.</li> <li>○ Provide <b>assistance</b> to each other in form of <b>training and research facilities.</b></li> </ul>
<b>Institutional Mechanism</b>	<ul style="list-style-type: none"> <li>○ <b>ASEAN Chairmanship:</b> Rotates <b>annually</b> based on alphabetical order of the English names of Member States.</li> <li>○ <b>ASEAN Summit: Highest policy-making body in ASEAN</b> comprising the Heads of State or Government of ASEAN Member States. ASEAN Summit Meetings held <b>twice annually.</b></li> <li>○ <b>ASEAN Secretariat:</b> Indonesia, Jakarta.</li> </ul>
<b>Regional Cooperation Mechanism</b>	<ul style="list-style-type: none"> <li>○ <b>ASEAN Plus Three Cooperation:</b> ASEAN member states, China, Japan and Republic of Korea.</li> <li>○ <b>East Asia Summit:</b> ASEAN Member States, Australia, China, India, Japan, New Zealand, Republic of Korea, Russian Federation, and USA</li> </ul>



### Key highlights of ASEAN-India summit

- India presented a **12-point proposal** for strengthening India-ASEAN cooperation. Some of them are
  - Establishing multi-modal connectivity and economic corridor **linking South-East Asia-India-West Asia-Europe**.
  - Sharing **India's Digital Public Infrastructure Stack** with ASEAN Partners.
  - **ASEAN-India Fund for Digital Future** focuses on cooperation in digital transformation and financial connectivity.
  - Invitation to ASEAN countries to join the **Global Centre for Traditional Medicine** and **Coalition for Disaster Resilient Infrastructure**.
  - **AITIGA**: India emphasized the need to complete the **review of the ASEAN- India Trade in Goods Agreement (AITIGA)** in a time-bound manner.
    - ✓ AITIGA review is expected to make AITIGA more **user-friendly, simple, and trade facilitative for businesses as well as support for sustainable and inclusive growth**.

#### Key highlight of EAS POA (2024-2028)

- Mainstreaming and implementation of the **ASEAN Outlook on the Indo-Pacific (AOIP)**.
- Reinforces the **centrality of ASEAN and ASEAN-led mechanisms** as the driving force within the EAS.
- Emphasis on strengthening partnerships, through **cross-sectoral collaborations** that includes efforts in furthering the **implementation of the 2030 Agenda for Sustainable Development**.

#### About ASEAN- India Trade in Goods Agreement (AITIGA)

- **AITIGA was signed in 2009** and entered into force in 2010.
- It is sometimes referred to as **ASEAN-India Free Trade Agreement**.
- Under the Agreement, India and ASEAN decided to open their markets by **progressively reducing and eliminating duties on more than 76% goods** and committed to liberalize tariffs on over 90 percent of goods.

### Key highlights of the East Asia Summit

- Reviewed the implementation of the EAS Plan of Action (POA) 2018-2022 and welcomed the **adoption of the new EAS POA (2024-2028)**.
- India reaffirmed ASEAN centrality in the Indo-Pacific and called for ensuring a free, open and rules-based Indo-Pacific.

### Significance of India- ASEAN relations

- **Geopolitical**: ASEAN is **central to India's Act East Policy and Indo-Pacific Vision** and contributes to the Security and Growth for All in the Region (SAGAR) initiative.
- **Regional Integration and Multilateral Cooperation**: India's engagement with ASEAN is part of its broader commitment to regional integration and multilateralism. ASEAN serves as a platform for dialogue and cooperation on various regional and global issues.
- **Economic Cooperation**: India and ASEAN registered a bilateral trade of USD 131.5 billion in 2022-23. The trade with ASEAN accounted for **11.3% of India's global trade in 2022-23**.
- **Development of Northeast**: Connectivity through the **India-Myanmar-Thailand Trilateral Highway (IMT)** and the **Kaladan Multimodal Project etc.**, have led to greater connectivity with the Northeast and **ensured progress and development in the region**.
- **Security**: Partnership between ASEAN and India helps in **countering Terrorism, Violent Extremism and Transnational Crimes** through the implementation of the **ASEAN Plan of Action in Combating Transnational Crime (2016-2025)**
- **China Factor**: Countering China has been a major driving factor behind India's interactions with Southeast Asian countries.
  - China releasing a new map and falsely claiming territories (land and maritime) of India and Southeast Asian countries would further add to the shared concerns between India and ASEAN.
- **Soft Power**: For India to become a civilisational superpower, apart from economic and military might, **South-East Asia is a natural destination to practice soft power**.
  - South-East Asia shares cultural commonalities with India, including temples, yoga, epics like the Ramayana and Mahabharata, and the practice of Ayurveda.

### Concerns associated with India- ASEAN relations

- **Great power competition**: Southeast Asia is increasingly becoming a theatre of great power competition between the United States (US) and China because of its location in the broader Indo-Pacific region.

- **Widening trade deficit:** There is a **disproportionate trade balance favouring ASEAN** due to non-tariff barriers, import regulations etc.
  - The trade deficit has widened to USD 43.57 billion in 2022-23 from USD 25.76 billion in 2021-22. It was just USD 5 billion in 2010-11.
- **Competing regional agreements:** The engagement of ASEAN countries with other regional agreements like the **RCEP** and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (**CPTPP**) **diverts attention and resources away** from the ASEAN-India relationship.
- **Lack of market access and connectivity:** Physical and digital connectivity between India and ASEAN countries remains limited, **affecting trade, investment, Business-to-business and people-to-people ties**.
- **Delayed projects:** Since the conception of project IMT trilateral highway in 2002, it has faced various **delays and challenges, including political instability in Myanmar and financial issues**. Now, it is expected to be completed by 2027.
- **China Factor:** India's primary strategic focus in Southeast Asia is countering China's influence. However, India has yet to offer a compelling alternative, allowing China to maintain its dominance in both the economic and strategic realms within Southeast Asia.

### Way forward

- **Comprehensive Strategic Partnership:** strengthening comprehensive strategic partnership could ensure greater coordination between India's Indo-Pacific Oceans Initiative (IPOI) and ASEAN's ASEAN Outlook on Indo-Pacific (AOIP).
- **Maritime cooperation:** Greater maritime cooperation with ASEAN would complement ASEAN-centrism which is a core principle of India's as well as the Quad's policy towards the Indo-Pacific Region.
- **Value chain integration:** Enhance focus on a range of policy measures including trade facilitation, liberalisation of goods, services and capital, competition policy, and infrastructure quality, that promote value chain integration.
- **Enhanced Connectivity:** Expediting the IMT trilateral highway project, building an economic corridor along it and extending it to Cambodia, Lao PDR, and Vietnam can boost connectivity vis-à-vis trade with ASEAN.
- **Cultural and Educational Exchanges:** Promote cultural understanding and people-to-people ties through cultural events, tourism, and educational exchanges.

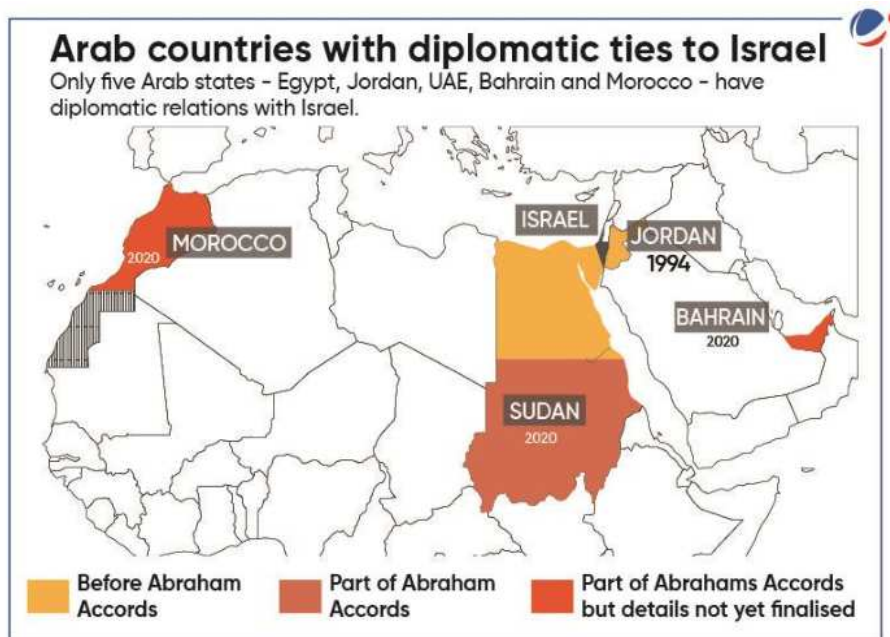
## 2.5. ABRAHAM ACCORDS

### Why in the news?

Three years have been completed since the signing of the Abraham Accords.

### About Abraham Accords

- Abraham Accords refers to the **collective agreement between the United States (US), the United Arab Emirates (UAE) and Israel** that was signed in September 2020.
  - These Accords were later extended to the countries of **Sudan, Bahrain and Morocco**.
- The agreement marks the **first normalisation of ties between Israel and an Arab country** since Jordan in 1994.
  - Egypt was the first Arab State to sign a peace deal with Israel in 1979. Jordan signed a peace pact in 1994.
- As per the agreement, the UAE and Bahrain will **establish embassies, exchange ambassadors, cooperate and work together with Israel** across a range of sectors, including tourism, trade, healthcare and security.



- The Accords were called **'the Abraham Accords'** as the three major monotheistic religions of the world, Islam, Christianity and Judaism, all find their roots in Prophet Abraham.

### Significance of Abraham Accords

- **Stability in the region:** Many experts opine that the Abraham Accords are designed to create a collective security framework for enhancing stability and preventing conflict in the Persian Gulf.
- **Solution to Israel-Palestine issue:** The Abraham Accords can advance the two-state solution by **opening channels of communication between the Arab states of the Gulf and Israel**.
  - Amid the recent Israel-Palestine conflict, **Bahrain and the United Arab Emirates (UAE)**, both signatories of the Abraham Accords, are **calling for de-escalation among all involved parties** to safeguard the well-being and lives of the people involved.
- **Economic significance:** The trade between Israel and other West Asian countries increased by 74% between 2021 and 2022.
- **Religious significance:** The Abraham Accords also opened the door for communities to visit the historic religious sites in Israel such as the **Al-Aqsa Mosque in Jerusalem**.
- **Cooperation in technology:** For instance, the Prosperity Green & Blue agreement between Israel, the UAE, and Jordan determined that a solar field to supply electricity to Israel would be established in Jordan, while in return, a desalination plant in Israel would deliver water to Jordan.
- **Education:** A number of Emirati students have enrolled in Israeli universities. Bahrain has also embraced the prospects for shared educational activities and signed a number of agreements with Israel to advance student and professor exchanges.

### Emerging Challenges for Abraham Accords

- **Changing Geopolitical Alliances in West Asia:** The region of West Asia attracts the world because of the existence of the main source of energy.
  - Britain and France ruled over Arab countries from the beginning of the twentieth century till decades.
  - After the Second World War, the US started to grab West Asia in its command.
  - The growing involvement of Russia and China has introduced new complexities to the region's political landscape.
- **Palestinian Issue:** The Abraham Accords were criticized for not effectively addressing the fundamental causes of the Palestinian conflict.
  - Recently, Gaza-based group Hamas mounted a mass-scale attack against Israel.
- **Antipathy towards Iran:** The Abraham Accords were perceived to be motivated by shared concerns over Iran's nuclear program and regional influence.
- **China's Saudi-Iran diplomacy:** The China-backed Saudi-Iranian deal is seen as a setback to efforts to build a regional anti-Iran coalition, a main driver of the Abraham Accords. It could delay Israel's attempt to normalise ties with Saudi Arabia.
  - Russia views China's growing diplomatic assertiveness in the Middle East, which was evidenced by its brokering of the Saudi Arabia-Iran normalization deal, as a positive step toward a multipolar regional order.
- **Internal Opposition:** In the countries that signed the accords, there were segments of the population that opposed normalization with Israel.
  - Decades of mistrust and past conflicts mean that while government-to-government relations might improve, people-to-people ties would take longer to develop.

#### Significance for India

- **Regional cooperation:** Accords have laid the foundation for **expanded regional and multinational cooperation**. A concrete illustration of this is the establishment of the I2U2 Group, formed by **Israel, India, the UAE, and the U.S.**
  - The focus of I2U2 will be on areas such as water, energy, transportation, space, health, and food security.
- **Economic Opportunities:** The normalization of relations between Israel and Arab countries could potentially open up new economic opportunities for India.
  - The vibrant Indian diaspora in the Gulf now has the convenience of direct flights between the UAE/ Bahrain and Israel.



## Conclusion

The Abraham Accords represent a significant step towards fostering peace and stability in West Asia. By establishing diplomatic relations and economic cooperation between Israel and several Arab nations, it has opened doors for increased regional cooperation. However, in the context of the recent Israel-Palestine conflict, it is difficult to envision how the Abraham Accords and their expansion can achieve peace or stability, even in the short term. Sustainable peace requires addressing the root causes of conflict which is the Israel and Palestine issue.

*A detailed analysis of the Israel-Palestine conflict and situation in West Asia will be covered in the subsequent editions.*

## 2.6. INDIA-SAUDI ARABIA RELATIONS

### Why in the news?

Recently, the Indian prime minister and Saudi crown prince co-chaired the first summit-level meeting of the **India-Saudi Arabia Strategic Partnership Council (SPC)**.

### Key highlights of the meeting

- Decision to expedite the **implementation of the \$50-billion West Coast refinery project**,
  - It will involve the construction of a **60 million-ton refinery-cum-petrochemical complex** on the Maharashtra coast.
  - It will be a collaborative effort between **India, Saudi Arabia, and Abu Dhabi**.
- **Discussions regarding possible cooperation in various infrastructure sectors**, including the power grid, gas grid, optical grids, and fiber networks.
- **MoUs signed in the fields of New and Renewable Energy, Digitization and Electronic manufacturing, enhancing bilateral investment, seawater desalination, etc.**



### The India-Saudi Arabia Strategic Partnership Council

- It was **set up in 2019**.
- **India is the fourth country** with which Riyadh formed such a partnership, after the UK, France, and China.
- **Aim:** To establish a high-level council to steer the Indo-Saudi relationship.
- **Two main pillars:** The Committee on Political, Security, Social and Cultural Cooperation; and the Committee on Economy and Investments.

### Significance Saudi Arabia for India

- **Economic partnership:** Trade with Saudi Arabia accounted for 4.53% of India's total trade in FY23.
- **Energy security:** Saudi Arabia is a key partner for ensuring India's energy security and was the third-largest crude and petroleum products source for FY23.
- **Geostrategic:** Saudi Arabia's strategic location in West Asia makes it crucial to India's foreign policy priorities in the region including advancing India's '**Look West**' policy and cooperation on the proposed **India-Middle East-Europe Economic Corridor**.
- **Defense and Security:** Security cooperation between both countries is significant in combating terrorism and its financing as well as in the areas of cyber security, maritime security, combating transnational crime, narcotics, and drug trafficking.
- **Shared interest in multilateral forums and organizations:** Saudi Arabia supports India's call for comprehensive reforms of the United Nations Security Council.

### Overview of India- Saudi Arabia relations

- **Diplomatic relations:** Began in 1947 and the bilateral relationship elevated to a 'Strategic Partnership' in 2010.
- **Bilateral Trade:** India is Saudi Arabia's 2<sup>nd</sup> largest trade partner and Saudi Arabia is India's 4<sup>th</sup> largest trade partner.
- **Bilateral exercise:** Al Mohed Al Hindi.

- **Trade agreement:** Saudi Arabia can play a key role in expediting the stalled **India-Gulf Cooperation Council (GCC) Free Trade Agreement (FTA)** negotiations.
- **Indian Diaspora:** There are more than 2.4 million Indian expatriates gainfully employed in Saudi Arabia.
- **Cultural linkage:** Saudi is home to the holy cities of Mecca and Medina known for the annual Haj and Umrah pilgrimage.

### Challenges for the relations

- **Regional conflicts in the Middle East:** The complex and multidimensional politics of the Middle East region pose a challenge.
- **Diaspora issues:** Issues like exploitation of Indian workers, Saudi's policy to provide more jobs to its citizens, and more tax on migrants hamper bilateral relations in the fields of labour and human resources.
- **Influence of Pakistan:** Saudi Arabia's historically close ties with Pakistan, can be an issue.
- **Energy dependency:** India is highly dependent on Saudi Arabia for crude oil and natural gas imports.
  - OPEC countries charge Asian premiums (extra charges) from Asian countries while selling oil in comparison to Western countries.
- **Trade deficit:** India's trade deficit with Saudi reached an all-time high in the fiscal year 2022-23.

### Way forward

- **Balanced approach:** India and Saudi Arabia will both have to strike a balance in dealing with each other's adversaries.
- **Bilateral engagements beyond trade and commerce:** Both countries would need to improve political and cultural exchanges to realize the vision of a 'strategic partnership'.
- **Labor Welfare:** Ensuring the welfare and protection of the large Indian expatriate community in Saudi Arabia is a key priority.
- **Counterterrorism:** Strengthen cooperation in counterterrorism efforts and intelligence sharing to combat extremism and ensure stability in the region

## 2.7. NEWS IN SHORTS

### 2.7.1. INTERNATIONAL ORGANISATION OF LEGAL METROLOGY (OIML) CERTIFICATE

- India has become an **OIML certificate-issuing authority**.
- **OIML-Certificate system** is a system for issuing, registering, and using OIML certificates, and their associated test or reports for **measuring instruments e.g., thermometers, clinical thermometers, etc.**
- **Significance:** increase in exports, earning of foreign exchange, and generation of employment.



### 2.7.2. UNITED NATIONS COMMISSION ON INTERNATIONAL TRADE LAW (UNCITRAL)

- India hosts inaugural **UNCITRAL South Asia Conference**.
- **UNCITRAL** (established in 1966) is a **subsidiary body of General Assembly of UN** with a mandate for further **harmonization and unification of law of international trade**.
  - It is composed of 70 **Member States elected by General Assembly**.
  - Members are **elected for terms of six years (India is member till 2028)**.
- **UNCITRAL is not a part of WTO**.
  - **WTO** deals with **trade policy** issues whereas **UNCITRAL** deals with **laws applicable to private parties** in international transactions and is not involved with "state-to-state" issues.

### 2.7.3. L.69 GROUPING

- L.69 grouping, in a meeting hosted by India, **called for reform of UN Security Council (UNSC)**.

- L.69 is a pro-reform grouping that includes developing countries from Africa, Latin America and the Caribbean, Asia and the Pacific.
  - The countries were united by a common desire to achieve comprehensive reform of UNSC and strengthen multilateralism.
  - India is a leading country in L.69.

#### 2.7.4. FIVE EYES ALLIANCE

- It is an intelligence-sharing arrangement between US, UK, Canada, Australia and New Zealand.
- Under this, intelligence agencies of these five countries share signal, military and human intelligence among themselves.



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## 3. ECONOMY

### 3.1. GROSS DOMESTIC PRODUCT (GDP) ESTIMATION IN INDIA

#### Why in the news?

The Ministry of Finance issued clarification regarding the ongoing debate around the accuracy of the April-June 2023 GDP data.

#### More about the news

- India recorded real GDP growth of 7.8% during the April-June period of 2023-24 as per the income or production approach, the highest in the past four quarters.
  - It was on the back of **double-digit expansion in the services sector (which forms 56% of gross value added)**.
- Critics argued that these GDP figures are inflated as they **do not accurately reflect the impact of inflation** on GDP growth.

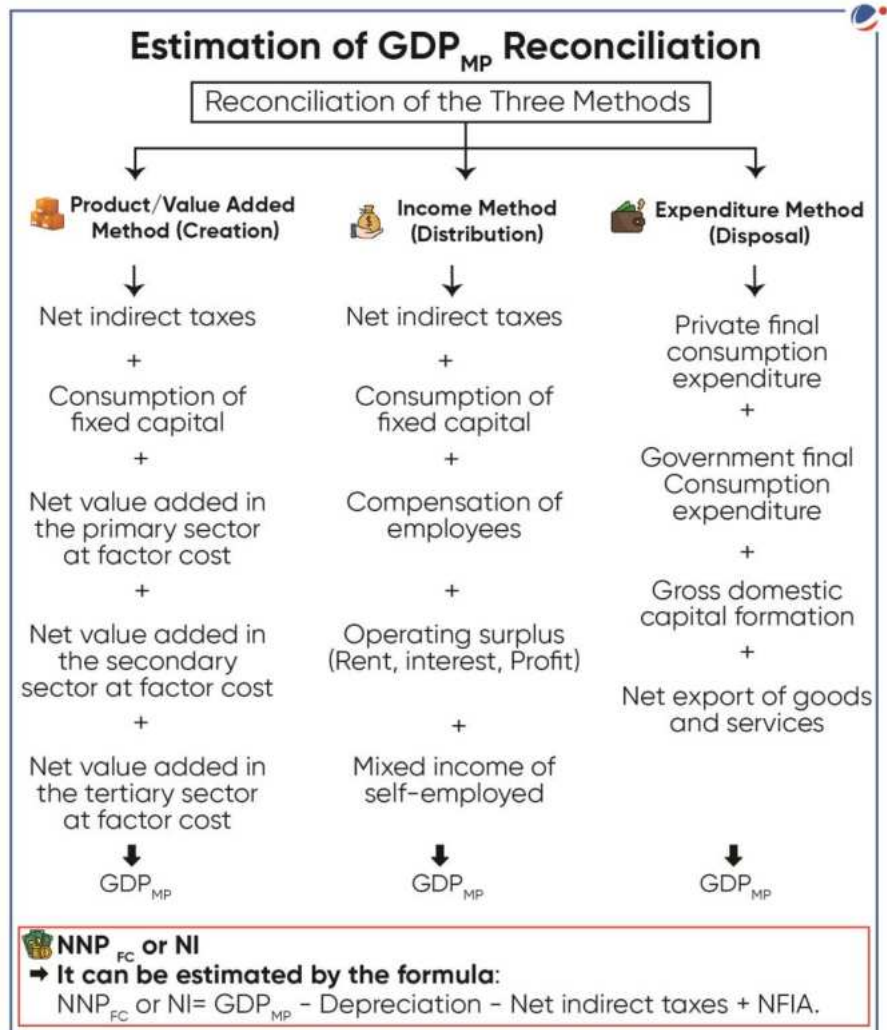
#### GDP calculation approaches

There are **three approaches** to calculating the GDP of a country-

- Production or 'Value-added' Approach:** It sums the **"value-added" at each stage** of production, where value-added is defined as total sales less the value of intermediate inputs into the production process.
- Income approach:** It measures the **total income earned by the factors of production**. Income earned by all the factors of production in an economy includes the wages paid to labour, the rent earned by land, the return on capital in the form of interest, as well as corporate profits.
- Expenditure approach:** This measures the total expenditure incurred by all entities on goods and services within the domestic boundaries of a country.

#### Know the term

- GDP:** It measures the **monetary value of final goods and services** (that are bought by the final user) produced in a country in a given period of time (say a quarter or a year).



Ideally, the **growth rate in three approaches should be the same**. However, due to **variations in data collection and processing** (often referred to as **statistical discrepancy**), there are **often gaps** between the three which are taken into account while making the final calculation.

#### Present GDP Calculation Methodology in India

- Income Method:** Government of India follows the consistent practice of **using the income side estimates** to compute economic growth.
- Real and Nominal GDP:** The Ministry of Statistics and Programme Implementation (MoSPI) calculates quarterly GVA (gross value added) at **constant prices (2011-12) [Real GDP]** and **current prices [Nominal GDP]**.

- **GDP Deflator:** The GDP deflator, also called **implicit price deflator**, is a measure of inflation. It is the ratio of Nominal GDP to Real GDP.
  - This ratio helps show the **extent to which the increase in GDP** has happened on account of **higher prices rather than an increase in output**.
  - Nominal GDP **does not take inflation into account while the real GDP does**. This is the reason that nominal GDP is more often higher than real GDP.

### Challenges with current GDP calculation methodology

- **Accuracy of Data:** The GDP calculation depends on the accuracy and credibility of the available data. Outdated data in various sectors of the economy provide an inaccurate picture of the economic activity.
  - Also, in India, the GDP results declaration cycle runs for three years. Effectively, the accurate data for one FY comes through **after a lag of three years**
- **Accounting unorganized sector:** Presently, GDP computation methodology uses data from the organized sector as a proxy for the unorganized sector.
- **Exclusion: Not all productive activity is included in GDP.** For example, unpaid work (such as that performed in the home or by volunteers) and black-market activities are not included because they are difficult to measure and value accurately.

### Why GDP is not a very good marker to measure development?

- **Misleading growth:** GDP is not a measure of the overall standard of living or well-being of a country. **Many key goods**, including peacefulness, environmental protection or family bonding, are **not measured in GDP because they do not involve transactions**.
- **Inclusion of social harm:** GDP even calculates social harm if it generates a positive economic activity. For instance, a train crash which generates Rs. 1 billion worth of track repairs, medical bills and funeral costs is deemed by this measure as beneficial as an uninterrupted service which generates Rs. 1 billion in sales.
- **Non-inclusion of social and environmental aspects:** It does not allow for assessment of social aspects of people's life – state of health, quality of education, length of time for leisure etc. or accounting of natural capital.

### Way Forward

- **Base year updation:** Regular updation of the base year is required in order to maintain the accuracy of the volume estimates of GDP. (The current base year is 2011-12, which is more than a decade older.)
- **Double deflation:** Countries can take steps to adopt double deflation. It means that outputs and inputs are deflated separately using relevant output and input price indices.
- **Robust data:** Timely data collection, storage and processing, especially with the help of emerging tools such as Big Data and Artificial Intelligence can increase the accuracy of GDP estimation.
- **Measurement of productive activity:** All productive activities of an economy irrespective of the economic transactions such as voluntary work, unpaid household work etc. can be included in the GDP figure.

## 3.2. CROSS BORDER PAYMENTS

### Why in the news?

**G20 TechSprint 2023** was organised to promote innovative solutions aimed at improving cross-border payments.

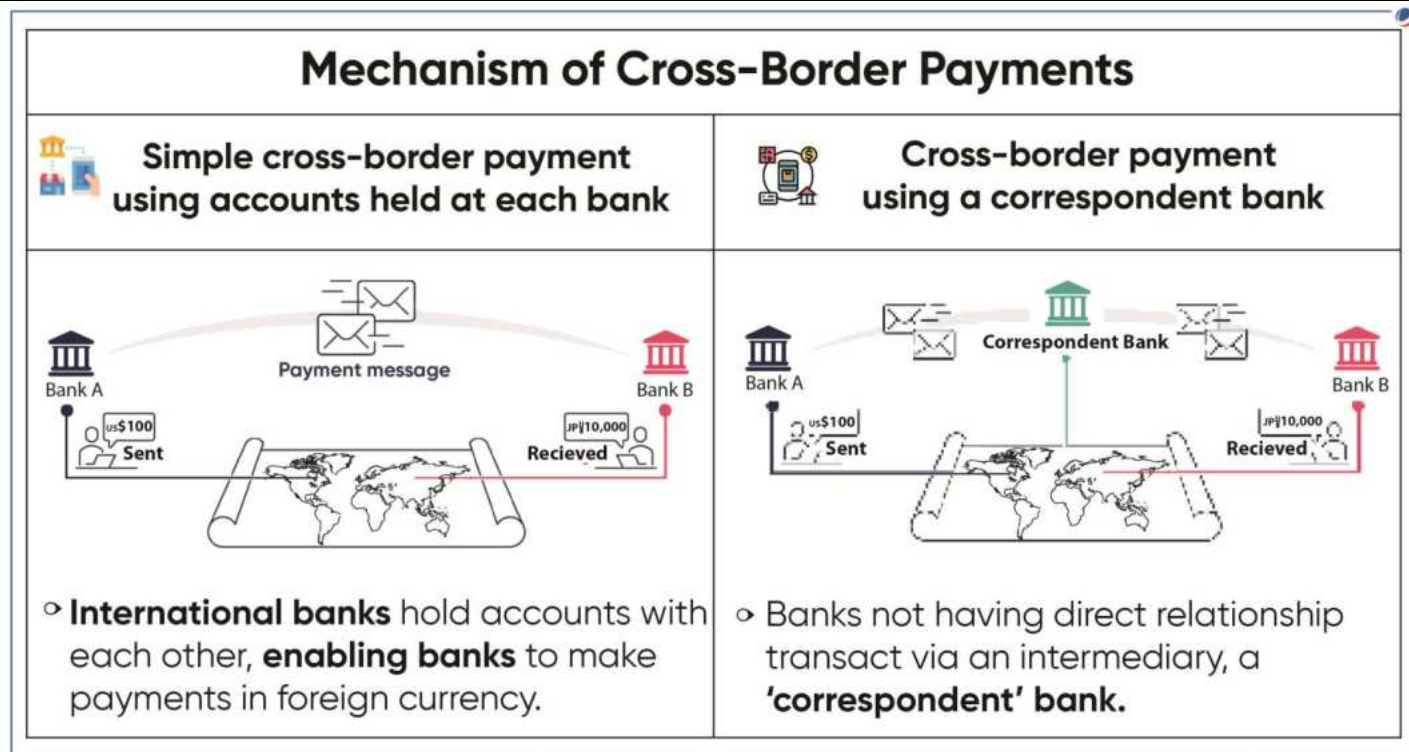
### More about the news

- **G20 TechSprint 2023** is a joint initiative of the Reserve Bank of India (RBI) and the Bank for International Settlements (BIS) Innovation Hub.
- The G20 nations have agreed to promote cross-border payments, as outlined in the G20 Roadmap for Enhancing Cross-border Payments.
- Further, on the sidelines of the G20 summit, India has proposed to expand its presence for **cross-border bill payments in the UK** through the Bharat Bill Payment System (BBPS).

## About Cross border payments

- It is a type of transaction that takes place between financial institutions, businesses, and individuals, where the **sender and recipient are based in separate countries**.
  - The cross-border payments market value is estimated to be **\$190 trillion in 2023** and expected to reach \$290 trillion by 2030.

Common types of cross-border payment	
Type	Working
International Wire Transfers	<ul style="list-style-type: none"> <li>Involves the sender providing their bank with instructions to send money to a recipient in another country.</li> <li>E.g., using SWIFT codes to transfer from one bank to another bank in a different country.</li> </ul>
Digital Wallets	<ul style="list-style-type: none"> <li>Using products such as PayPal, Google Pay, or Apple Pay.</li> <li>Suitable for small transaction.</li> </ul>
International money orders	<ul style="list-style-type: none"> <li>Paper-based payment method that can be sent through the mail or transmitted electronically using a third-party provider.</li> </ul>
Credit card transactions	<ul style="list-style-type: none"> <li>Businesses can accept payments from customers in different currencies through accepted Credit cards.</li> </ul>
Cryptocurrencies	<ul style="list-style-type: none"> <li>Cryptocurrencies such as Bitcoin and Ethereum are decentralized digital currencies that can be used to make cross-border payments.</li> </ul>



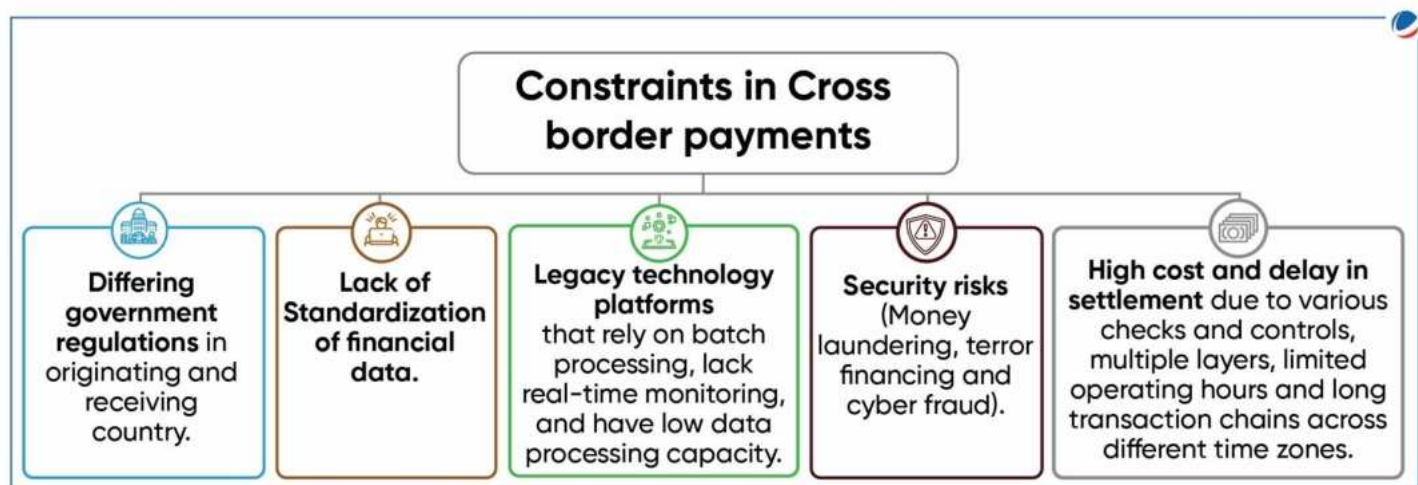
## Significance of cross-border payments

- Financial inclusion:** It can play a pivotal role in bridging the gap and enabling underserved communities to participate in the global economy.
- Access to global markets:** It allows businesses to expand into international markets and reach new customers, suppliers, and partners.
- Diversification:** It enables businesses to diversify their customer base, supplier base, and investment portfolio.
- Globalization:** Cross-border payments are a fundamental element of the globalization process.

### Additional significance of cross-border payments for Indian economy

- Ease Remittances:** Since 2016, India's cross-border remittances have been growing at a CAGR of 8%.
- Facilitating Travel and tourism:** In 2021, the travel and tourism industry in India contributed around 178 billion U.S. dollars to the country's GDP.
- Accelerating foreign investment:** India received a total FDI inflow of US\$70.97 billion in FY 2023.





#### Steps taken in India for strengthening cross-border payments

- **RBI Payments Vision 2025:** One of its focus areas is to bring ease in cross border payment by using bilateral and multilateral arrangements.
- **NIPL (NPCI International Payments Limited)**, has undertaken various initiatives across nations to enable cross-border acceptance of BHIM UPI QR at merchant establishments.
  - Currently, BHIM UPI QR has gained acceptance in **Singapore, UAE, Mauritius, Nepal and Bhutan.**
- **RBI has allowed access to Unified Payments Interface (UPI) to foreign nationals and NRIs** visiting India by enabling them to make payments using UPI while they are in India.
- **India-UAE MoU on use of CBDC for Cross-border payments:** RBI and the Central Bank of United Arab Emirates have signed an MoU to conduct pilots to test central bank digital currency (CBDC) transactions for cross-border payments.

#### Way forward

- **Improve existing payment infrastructures and arrangements** through measures like aligning processes and operating hours across systems, interlinking existing payment systems etc.
- **Adopt a harmonized ISO 20022 version** (an open global standard for financial information) for message format.
- **Collaborate with fintech companies** specializing in cross-border payments to leverage their expertise and innovative solutions.
- **Explore the potential role of new payment infrastructures and arrangements** like central bank digital currencies (CBDCs).
- **Ensure compliance with international and local regulations**, including anti-money laundering (AML) and know-your-customer (KYC) requirements.
- **Rigorous and effective risk assessments** to reduce the burden associated with compliance checks and facilitate market entry.

### 3.3. CORPORATE GOVERNANCE

#### Why in the news?

The revised G20/OECD Principles of Corporate Governance were endorsed at the G20 Leader's Summit in New Delhi, India.

#### More on the news

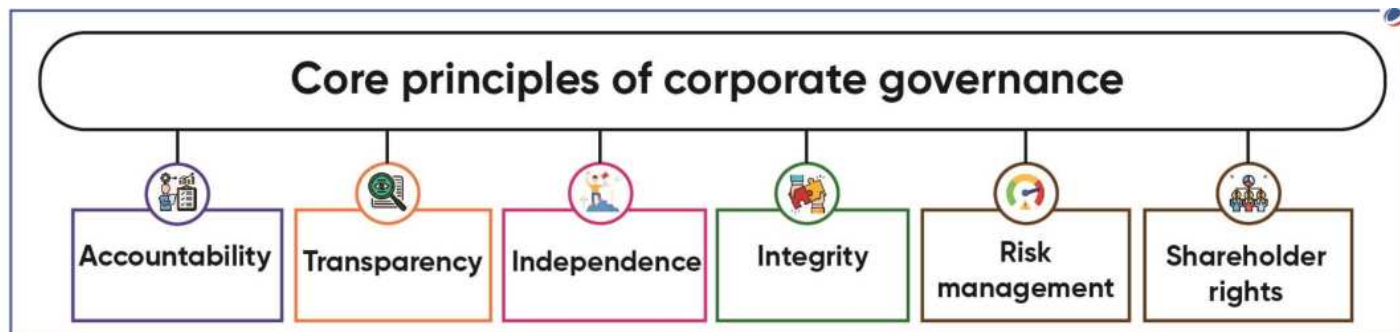
- The G20/OECD Principles of Corporate Governance are the leading international standard for corporate governance.
- The Principles underwent a **comprehensive review in 2021-2023** to update them in light of recent evolutions in corporate governance and capital markets.



- The revised Principles were earlier adopted by the **OECD Council** at the Ministerial Level in June 2023.

### What is corporate governance?

- It is the system of **rules, practices, and processes by which a company is directed and controlled**.
- It essentially involves balancing the interests of the company's many stakeholders such as shareholders, management, customers, suppliers, financiers, government, and the community.



### Need for strong corporate governance framework

- **Improves Financial Performance** by implementing strong governance mechanisms to improve their overall operational efficiency, minimize risks, and make better-informed decisions.
- **Build trust and confidence among individual and institutional investors**, leading to more capital for companies.
- **Improves access to financing from capital markets** and promote **innovation, productivity and entrepreneurship**.
- **Corporate governance failures can have wider economic impacts**, particularly if they involve large companies or financial institutions.
- **Generates Positive Societal Impact** by aligning companies' business strategies with societal needs.
- **Fosters Positive Corporate Culture** through improved productivity and better teamwork.

### Challenges for corporate governance in India

- **Lack of Separation of ownership and management** due to many companies being family-owned.
- **Lack of independent directors** leading to issues like **conflict of interest** and lack of impartial evaluation and influence-free decision-making.
- **Low education and awareness among investors** about corporate governance principles and their importance.
- **Limited scope of governance policies**, with some being applicable to only listed companies.
  - E.g., SEBI has directed **only the top 1000 listed companies to publish annual Business Responsibility and Sustainability** which aim to link financial results with environmental, social and governance framework.
- **Lack of transparency** in the operations of companies and incomplete disclosures, leading to difficulties in monitoring the effectiveness of corporate governance practices.
- **Fraudulent practices and financial irregularities**, e.g., Infrastructure Leasing & Financial Services (IL&FS) scam of 2018.
- **Poor risk prediction and mitigation** capabilities of companies and **limited focus on sustainability parameters**.
- **Limited participation of the minority shareholders** and other stakeholders in the decision-making process.

#### Framework of Corporate Governance in India

- **The Companies Act, 2013:** The Act dictates the provisions in terms of board meetings, audit committees, disclosure requirements in financial statements, the constitution of the board, and related party transactions.
- **Securities and Exchange Board of India (SEBI):** It is a regulatory authority responsible for monitoring and regulating the corporate governance of listed companies.
- **The Institute of Chartered Accountants of India (ICAI):** It is responsible for issuing guidelines and standards, thereby directing the pathway of disclosing financial data.
- **Institute of Company Secretaries of India (ICSI):** It is responsible for issuing the secretarial standards primarily in terms of "Board of Directors Meetings" and "General meetings".
- **Ministry of Corporate Affairs:** For regulating the functioning of the corporate sector in accordance with law.

## Way Forward: Implementing Revised G20/OECD Principles of Corporate Governance

Category	Directives
Basis for an effective corporate governance framework	<ul style="list-style-type: none"> <li>• <b>Promote transparent and fair markets</b> and the <b>efficient allocation of resources</b>.</li> <li>• Legal and regulatory requirements consistent with <b>the rule of law, transparent and enforceable</b>.</li> </ul>
Rights and equitable treatment of shareholders and key ownership functions	<ul style="list-style-type: none"> <li>• Protect and facilitate the exercise of <b>shareholders' rights</b>.</li> <li>• <b>Ensure the equitable treatment of all shareholders</b>, including minority and foreign shareholders.</li> <li>• <b>Effective redress for violation of shareholders' rights</b> at a reasonable cost and without excessive delay.</li> </ul>
Institutional investors, stock markets, and other intermediaries	<ul style="list-style-type: none"> <li>• <b>Sound incentives throughout the investment chain</b>.</li> <li>• <b>Disclose and minimize conflicts of interest of entities/professionals that provide analysis/advice for investors</b>, such as analysts, brokers, ESG rating and data providers, credit rating agencies etc.</li> <li>• <b>Fair and efficient price discovery</b> in Stock markets.</li> </ul>
Disclosure and transparency	<ul style="list-style-type: none"> <li>• <b>Timely and accurate disclosure on all material matters regarding the corporation</b>, including the financial situation, performance, sustainability, ownership, and governance.</li> <li>• Disclosures in accordance with <b>internationally recognised accounting and disclosure standards</b>.</li> <li>• <b>Annual external audit</b> by an independent, competent and qualified auditor.</li> </ul>
Responsibilities of the board	<ul style="list-style-type: none"> <li>• <b>Strategic guidance of the company</b> including proper risk management, and maintaining <b>high ethical standards</b></li> <li>• <b>Effective monitoring of management</b> through identifying potential conflicts of interest, conducting independent external audits, overseeing the process of disclosure and communications etc.</li> <li>• <b>Accountability</b> to the company and the shareholders.</li> </ul>
Sustainability and resilience.	<ul style="list-style-type: none"> <li>• Incentives for companies and their investors to make decisions for <b>the sustainability and resilience of the corporation</b>.</li> <li>• <b>Sustainability-related disclosure frameworks</b> consistent with high-quality, understandable, enforceable, and internationally recognized standards.</li> <li>• <b>Enable free dialogue between a company, its shareholders and stakeholders</b> to exchange views on sustainability matters, illegal or unethical practices etc.</li> </ul>

## 3.4. REGULATION OF CRYPTO ASSETS

### Why in the news?

G20 countries adopted the New Delhi Leaders' Declaration which called for effective regulation of crypto assets.

### Crypto regulation in India

- **Legal provision:** At present, the exchange, transfer, safekeeping or administration of cryptocurrencies is under the **ambit of the Prevention of Money Laundering Act (PMLA) 2002**.
  - This would require all entities dealing with crypto to implement **mandatory KYC processes, report suspicious activities**, and require financial entities/crypto companies to **maintain client details** for five years.
- **RBI's stance:** RBI has, on several occasions, voiced its concerns about crypto assets, saying that these assets threaten financial stability.





- **2013:** RBI issued a **statement cautioning users, holders, and traders of virtual currencies**, including cryptocurrencies, about the potential risks associated with their use.
- **2017:** RBI **cautioned** users, holders and traders of virtual currencies, including Bitcoins, regarding various risks associated in dealing with such virtual currencies.
- **2018:** RBI issued a **circular prohibiting banks and other regulated entities** from providing services to individuals or businesses **dealing in cryptocurrencies**. The circular effectively made it illegal for Indian residents to buy or sell cryptocurrencies.
- **2020:** The ban was **overturned by the Supreme Court** stating that it was disproportionate and that it violated the fundamental rights of citizens. This decision **effectively legalised the use of cryptocurrencies** in India and opened the door for their wider adoption.
- **Regulatory Framework:** In 2022, the Ministry of Finance released a report proposing the creation of a digital rupee, a state-backed cryptocurrency, as well as a framework for regulating private cryptocurrencies.
  - The report also recommended the **establishment of a Digital Currency Regulatory Authority (DCRA)** to oversee the use of cryptocurrencies in India.
- **Tax regime:** In 2022, the Union Budget, for the first time officially classified digital assets, including cryptocurrency, as **“virtual digital assets.”**
  - In the proposed tax regime, the government has announced a flat **30-percent income tax on the transfer of “crypto-assets”**.
  - The Centre also announced another **1% tax deducted at source (TDS)**.

### Challenges in Regulating Cryptocurrency

- **Blanket Ban:** Blanket bans making crypto-asset activities illegal can be costly and technically demanding to enforce.
  - Circumvention can be achieved by many **technology solutions** due to the inherent borderless nature of crypto assets.
  - This will result in **heightened financial integrity risks**, and create inefficiencies.
- **Regulatory consistency:** Achieving consistency in crypto regulations across different countries remains a complex task.
- **Lack of harmonized taxonomies:** Different jurisdictions define and categorize crypto-assets in various buckets, creating ambiguity in understanding the risks posed as well as a lack of clarity for market participants.
- **Fragmentation:** Fragmented monitoring, supervision and enforcement due to a lack of coordination among various law enforcement agencies.
- **Balancing innovation and risk:** Striking the right balance between fostering innovation and mitigating risks remains a delicate task.
- **Cross-border enforcement:** Enforcing regulations in a global, decentralized ecosystem and different national priorities poses significant challenges.

### Global Regulation of Crypto Assets

- **IMF-FSB Synthesis Paper:** In the recently concluded G20 summit, the countries endorsed the report by the International Monetary Fund (IMF) and the Financial Stability Board (FSB) on risks and the framework for regulating crypto assets.
  - This includes **not banning the assets and creating reporting and licensing mechanisms** for the regulation of digital assets by 2025.
- **Markets in Crypto-Assets Regulation (MiCA):** Framed by the European Union, it is the **first cross-jurisdictional regulatory and supervisory framework** for crypto-assets.

#### How India is shaping global regulation of crypto assets?

- The **IMF-FSB Synthesis Paper on Crypto Assets** was spearheaded by India.
  - The paper highlighted potential systemic implications of crypto assets, cross-border challenges, and various regulatory approaches that can be adopted.
- **Advocacy for inclusive regulation:** India advocated for regulatory approaches that promoted financial inclusion, especially for underserved populations.
- **Risk Mitigation:** India’s leadership raised issues like money laundering and terrorist financing through crypto assets and called for the inclusion of such concerns in crypto regulation.

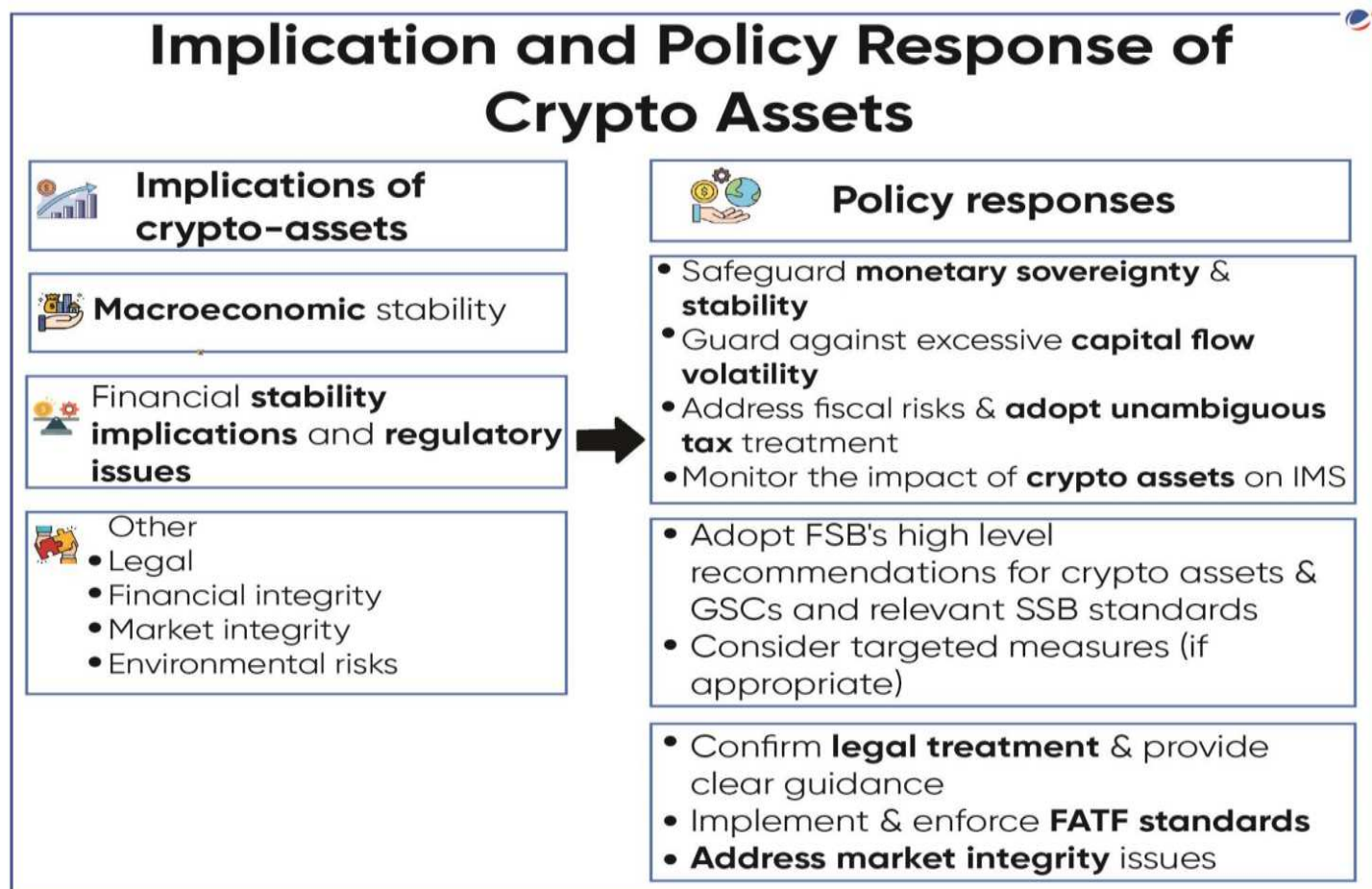
**To know more about MiCA, please refer to Article 3.6. Markets in Crypto Assets (MiCA) of April 2023 edition of Monthly Current Affairs Magazine.**

- **Emerging markets and advanced economies:** Both of these **lag on regulatory development**. Only 25% of the economies studied have regulations in place on taxation, AML/CFT, consumer protection, and licensing.

Global Regulatory Approaches	Description
<b>Principle based regulation</b>	Instead of prescribing detailed rules, this regulatory approach outlines the results and performance expected.
<b>Risk based regulation</b>	It works on the idea of intervention based on the associated level of risk.
<b>Agile regulation</b>	Agile regulation adopts a responsive, iterative approach, acknowledging that policy is no longer limited to governments but is a multistakeholder effort.
<b>Self- and co-regulation</b>	In self-regulation, industry representatives coordinate and collaborate to formulate voluntary standards or codes of conduct. In co-regulation, a non-governmental organization is formed by participants of a particular industry or sector to assist in the regulation of enterprises in that area with the oversight of the regulator.
<b>Regulation by enforcement</b>	It indicates that enforcement actions are being used to define regulatory frameworks and making rules.

### Way Forward for Crypto Regulation

- **Implication – Policy Linkage:** Identifying implications of crypto assets and framing an adequate policy responses can be a way forward (see infographic).



- **No outright ban:** Blanket ban makes crypto-related activities like trading illegal and hence tough to monitor.
- **Licence and supervision:** Licensing of crypto assets service providers and supervising them in the same way as financial institutions.
- **Anti-money laundering:** Once licensed and regulated, the service providers should implement measures like customer due diligence, record keeping and reporting of suspicious activities.

- **Clarity on taxation:** In addition to a **clear tax policy** that takes into **consideration cross-border transactions**, it should also leverage third-party information, especially from intermediaries such as crypto-asset trading platforms, broker-dealers etc. to enhance tax compliance.
  - The G20 nations have endorsed forming a framework like the **Crypto Asset Reporting Framework (CARF)** for cross-border data sharing for effective tax compliance.
- **Robust data framework:** Authorities should have access to the data as necessary and appropriate to fulfil their regulatory, supervisory and oversight mandates.

Scan the QR code to know more about **Cryptocurrency**.

**Weekly Focus #43:** Cryptocurrency: A Tool of Economic Empowerment or a Regulatory Nightmare?



## 3.5. DIGITAL INCLUSION IN EMERGING TECHNOLOGIES

### Why in the news?

Recently, the Telecom Regulatory Authority of India (TRAI) has released a Consultation Paper on **“Digital Inclusion in the Era of Emerging Technologies”**.

### More on news

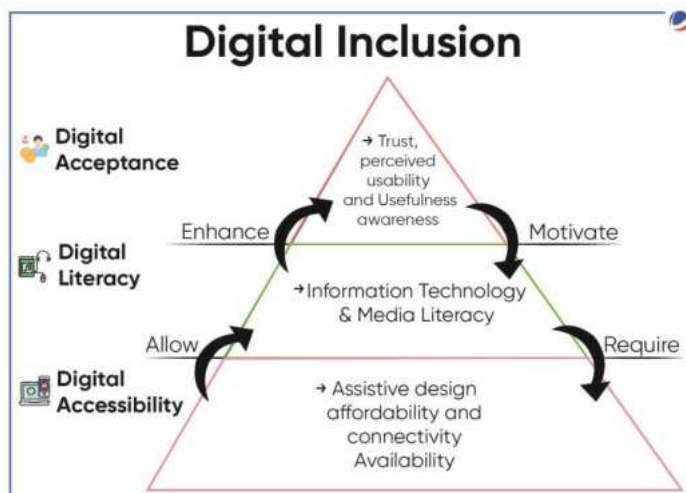
- It aims to explore and address the challenges and opportunities presented by the rapid advancement of emerging technologies, with a **focus on ensuring inclusivity for all segments of society and industries** particularly Micro Small and Medium Enterprises (MSMEs).

### Know the term

➤ **Emerging technology** is a term generally used to describe **new, advanced and futuristic technology** at a given point in time and may also refer to the **continuing development of an existing technology**. They include 6G, Artificial Intelligence, Distributed Ledger Technology, Internet of Things, etc.

### Importance of Digital Inclusion in Emerging Technology

- **Extent Job Market:** Digital technologies **provide job opportunities for individuals**, especially in fields like data science, data engineering etc.
  - As per the Future of Jobs Report 2023 by the World Economic Forum, Data analysts and scientists are expected a 30-35% increase in demand.
- **Enhanced learning:** Digital Inclusion and online learning can **bring down the cost of education**, reduce the digital divide etc.
  - Technologies like Augmented reality (AR) /Virtual Reality (VR) have enabled students to visualize events and experiments, thus making the **learning process more active, effective, and meaningful**.
- **Inclusive workspace:** Digital Inclusion improves workplace participation and **bridges the gap between employment opportunities for men, women, and disabled employees**.
  - This empowers disabled and female workers to transcend limitations tied to **part-time or low-skilled positions**.
- **Better pay/wages:** Enhanced IT skills and digital inclusion **boost individual earning potential** in the workforce and significantly **contribute to business innovation and overall workplace productivity** in tech-savvy professions.
- **Healthcare:** Digital Inclusion can **improve the accessibility, affordability and quality** of healthcare. It can facilitate clinical support, map and monitor the spread of infectious diseases, as well as track supplies of drugs and vaccines.





- For example, **tele-consultations through the e-Sanjeevani platform** touched one million during the pandemic highlighting the importance of Digital Inclusion in medicine.
- **MSMEs:** Emerging technologies that could be useful through the development of use cases for MSMEs include E-commerce; the Internet of Things; Process automation etc.

#### Digital Inclusion for Micro, Small and Medium Enterprises (MSMEs)

- **Benefits of Digitalisation for MSMEs**
  - **Reduce manual effort, errors, and improve overall efficiency** of MSMEs operations.
  - **Increased reach of MSMEs** through online platforms like ecommerce websites etc. **to expand their customer base and increase sales.**
  - **Easy access to finance** through digital lending platforms like online marketplaces and peer-to-peer lending platforms.
  - **Efficient storing and managing data** on customer.
- **Challenges faced by MSMEs:** Poor affordability of internet; **building trust with online consumers** and managing logistics; lack of **knowledge and expertise to leverage digital technologies** etc.
- **Initiatives undertaken in India for MSMEs**
  - **Udyam Registration Portal:** To register MSMEs businesses and access various government schemes, financial support, and resources.
  - **MSME Sampark:** Digital platform **connecting job seekers with recruiters in the MSME sector.**
  - **CHAMPIONS (Creation and Harmonious Application of Modern Processes for Increasing Output and National Strength) scheme:** To promote use of modern technologies in MSMEs and provide them with necessary support to enhance their productivity and competitiveness.
  - **MSME Global Mart platform: Business-to-Business (B2B) web portal,** which helps MSMEs in Market access through online presence by showcasing their products and services.
  - **Open Network for Digital Commerce (ONDC):** ONDC aims to create new opportunities to curb digital monopolies and support MSMEs in their digitalisation by enabling them to use digital commerce for their business operations.

#### Challenges of Digital Inclusion in Emerging Technology

- **Access:** The rapid pace of **technological advancements** and the **high costs of adopting** and utilizing emerging technologies can **widen the digital divide**, particularly for marginalized communities and underserved regions.
  - In 2021, 49% of Indian adult men-owned smartphones, while only 26% of women did, revealing a gender disparity in ownership.
- **Infrastructure:** Lack of access and investment to 5G network, and AI technologies could **hinder the equitable deployment of emerging technologies**, thus worsening the existing disparities in digital inclusion.
  - Lack of **fiberization** (the process of connecting radio towers with each other via optical fibre cables) of mobile towers hampers the quality of internet access.
- **Affordability:** In India in 2022, **the cost of the cheapest internet-enabled smartphone was 35.91%** of the average monthly income.
- **Limited Digital literacy** is a key barrier to Digital Inclusion in both developed and developing markets.
- **Cyber-attacks:** Digital spaces can be misused and can **act as a tool for online gender-based violence, stalking and bullying**, spread of misinformation, phishing and hate speech.
  - This creates **barriers to connecting, engaging**, and adopting emerging technologies.

#### Initiatives taken wrt Digital Inclusion in Emerging Technologies

- **For Digital Connectivity**
  - **Universal Service Obligation Fund (USOF):** Established under Indian Telegraph Act 1885 to provide support for **affordable access to a reliable and ubiquitous telecom network** to remote and rural areas.
  - **BharatNet project:** Formerly known as National Optical Fibre Network, aimed to **connect all Gram Panchayats and Villages in country by high-speed broadband connectivity** using Optical Fibre Cable.
  - **National Broadband Mission 2019:** It aims to achieve **availability of broadband connections** and **create digital fibre map of Digital Communications network and infrastructure**, including Optical Fiber Cables and Towers throughout the country.
  - **Digital India Programme:** Its vision is centred around three key vision areas i.e.
    - ✓ Digital Infrastructure (e.g. High speed internet, secure Cyber-space) as a core utility to Every Citizen.
    - ✓ Governance & Services on Demand.
    - ✓ Digital Empowerment of Citizens (Digital Literacy).

- **For Digital Affordability**
  - **National Policy on Electronics 2019:** It promotes **domestic manufacturing and export** of electronic devices including smartphones, laptops, and tablets; and **producing 1 billion mobile handsets by 2025**.
  - **Design Linked Incentive Scheme:** It offers **financial incentives as well as design infrastructure support** across various stages of development and deployment of semiconductor design(s) for Integrated Circuits (ICs), Chipsets, etc. over a period of five years.
- **For Digital Literacy**
  - **Pradhan Mantri Gramin Digital Saksharta Abhiyan:** It aims to **digitally literate 60 million people** (14-60 years age) from rural areas by **training them to operate computer or digital access devices** (tablets, smartphones, etc.), send and receive e-mails, etc.
  - **Digital Skilling Programme:** It focuses on skilling, reskilling and upskilling students via internships, apprenticeships, and **employment to 1 crore students in emerging technologies**.

### Way forward

- **Policy intervention:** To ensure comprehensive Digital Inclusion, it is imperative to **implement targeted policies to address gaps** arising due to emerging technologies **focusing on digital literacy programs and affordable access** to all sections of society.
- **Investment:** Public and private **funding for high-speed internet infrastructure development** is crucial for ensuring digital inclusion in un-served and underserved.
  - World Bank has estimated that a 10% increase in fixed broadband penetration would increase GDP growth by 1.21% and 1.38% in developed and developing economies respectively.
- **Tax rebates:** It is essential to reduce mobile sector-specific taxes (like import duties) and fees discouraging internet usage and adoption of mobile devices (import duties).
- **Stakeholders Collaboration:** Government, telecom industry, multinational corporations, and non-governmental organizations must collaborate to **address bureaucratic hurdles, and develop strategies to facilitate Digital Inclusion** and adoption of digital technologies by businesses.

### International Practices for Digital Inclusion

- **Smart Nation Singapore programme:** Vision is **digital-first Singapore** where, **Digital Government, Digital Economy and Digital Society will act as three pillars of a smart Singapore** and harness technology to effect transformation in health, transport, urban living, government services and businesses.
- **Affordable Connectivity Program, USA:** It ensures that households can afford the broadband they need for work, school, healthcare and more.

### Related News: Generative AI (GAI) and Jobs

- The **International Labour Organization (ILO)** released a paper titled 'Generative AI (GAI) and Jobs: Global analysis of potential effects on job quality and quantity.'
- **GAI** is a branch of artificial intelligence that uses **deep-learning models** like OpenAI's **ChatGPT** and Google's Bard to create high-quality content like text, speech, etc.
  - It leverages advanced **Natural Language Processing** to understand complex language structures.
- **Key observations**
  - **GAI is more likely to augment jobs** as opposed to **fully automating occupations**.
  - Share of jobs potentially exposed to automation with GAI grows with the income of the country.
  - **Poorly managed tech** transition has gendered effects **and can disproportionately harm women**.
- **Recommendations**
  - **Negotiation between employers and workers** to encourage redeployment/training over job loss.
  - Instituting **social protection and skills development programs**.
  - Enhancing **job quality, training, and income support** mitigates automation's gender effects.
  - Bring **AI regulation laws** involving **tripartite systems of workers, employers, and governments**.

## 3.6. MANAGING FOOD INFLATION IN INDIA

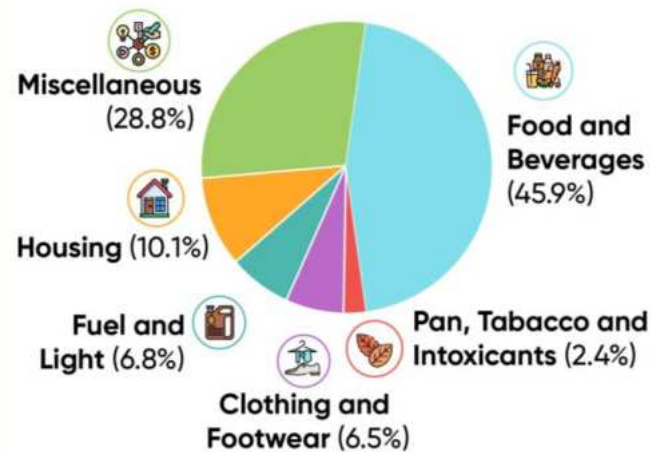
### Why in the news?

The Indian Council for Research on International Economic Relations (ICRIER) has estimated that banning cereal exports has cost farmers at least ₹45,000 crore in 2023.

## Food Inflation in India

- **Retail inflation** was at 6.83% with **Food Inflation at 9.2%** in August 2023. It is measured by the Year-on-Year **Consumer Price Index (CPI)**.
  - The recent inflation is largely because of the **impact of rising food prices**, as food and beverages carry 45.9% weight in the CPI basket.
- **Major contributors** to current food inflation include tomatoes, onions, cereals (wheat and rice), spices, and milk and dairy products.
  - **Wheat inflation** is partly due to domestic factors like **heat waves and unseasonal rains** and partly a result of international price transmission due to issues like the **Russia-Ukraine war**.

## All India Consumer Price Index- Groups



Weightage of different items

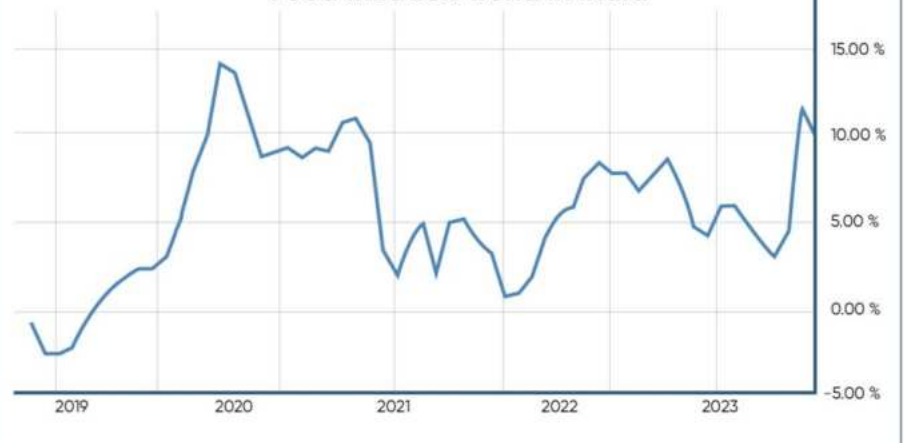
## Factors Affecting India's Food Inflation in the long-term

<p><b>Monsoon Variability</b>, which is further aggravated by climate change.</p>	<p><b>Global Commodity Prices</b>, include food as well as crude oil prices.</p>	<p><b>Government Policies</b>, including the MSP Policy.</p>	<p><b>Infrastructure availability</b> such as storage and distribution systems.</p>	<p><b>Exchange rate fluctuations</b> affect agri-trade and thus agri-prices.</p>	<p><b>Outbreaks of pests and diseases</b> can affect crop yields and prices.</p>
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## Government Measures to manage food inflation

- **Export restrictions:** These include export ban, export duty and imposition of Minimum Export Price (MEP). Some recent measures include:
  - Imposition of the **export ban** on wheat, broken rice, and non-basmati rice.
  - **Export duty** of 20% on par-boiled rice, and a 40% export duty levied on onions.
- **Stock limits:** Imposition of stocking limits on wheat traders and millers.
- **Buffer Stocks:** The government maintains buffer stock and offloads from it under the Open Market Sales Scheme (OMSS).
- **Food Security scheme:** Pradhan Mantri Garib Kalyan Ann Yojana was launched to provide free food grains to more than 80 crore beneficiaries.
- **Direct support to farmers:** Support is provided through subsidies, income support and procurement at Minimum Support Price (MSP).
- **Supply-side measures:** Improving agricultural productivity, marketing, strategic reserves, promoting diversification and value addition.

## Food Inflation trend in India





### Concerns with the current food inflation management system

- **Loss of Farmers' Income:** Measures to contain food inflation such as export ban, OMSS and imposition of stock limits results in a collective loss of farmers' income.
- **Policy Bias:** Adoption of such market-distorting policy measures indicates a bias in **favour of consumers** (compared to farmers i.e., producers) in India's food price policy.
- **Indirect tax burden on farmers:** A prior research by ICRIER and OECD showed that between 2000-01 and 2016-17, Indian farmers carried a substantial **indirect tax burden amounting to Rs. 2.65 lakh crores annually**.
- **Dumping Effect:** The combination of an export ban and the government selling wheat in the open market at prices below the MSP guaranteed to farmers has been argued to be tantamount to **"dumping" within India** by the government itself.
  - **Dumping refers to a situation** of where the price of a product in the importing country is less than the price of that product in the exporting country.
- **Global Ramifications:** India is the largest rice exporter accounting for around 40% of the global share. India's export ban on rice affects global prices.
  - Such sudden policy shifts **endanger global food security** and **undermine India's reputation as a reliable exporter**.

### How to best manage food inflation without adverse effects?

- **Calibrated trade policy:** Instead of a protectionist trade policy, trade policy can be calibrated to control rising inflation with measures such as a timely reduction in import duty.
- **Buffer Stocks:** Government should build **buffer stocks for volatile vegetable staples** like TOP (Tomato, Onion, Potato) during the harvest season.
  - This will help **farmers realize stable prices** in the glut period.
  - The stocks can be systematically released over the lean period, or during the festive season when demand is high, to **cool down the prices**.
- **Income support to farmers:** Government can increase its amount of income transfer to farmers under PM-Kisan from ₹6,000 to ₹10,000 a year to offset the potential income losses.
- **Development of food processing:** Processed food can provide a viable substitute for consumers during price pressure on fresh produce.
- **Research and Development (R&D):** Increase investment in R&D from current **0.48% of agriculture GDP** in order to augment productivity.
  - It can be directed to areas like innovative farming practices, and drought-resisting seed varieties, adaptive to these changing conditions.
- **Increasing irrigation:** Irrigation coverage can be **increased by expanding micro irrigation infrastructure** including soil moisture sensors, and drip irrigations.

## 3.7. DIGITISATION OF AGRICULTURE

### Why in the News?

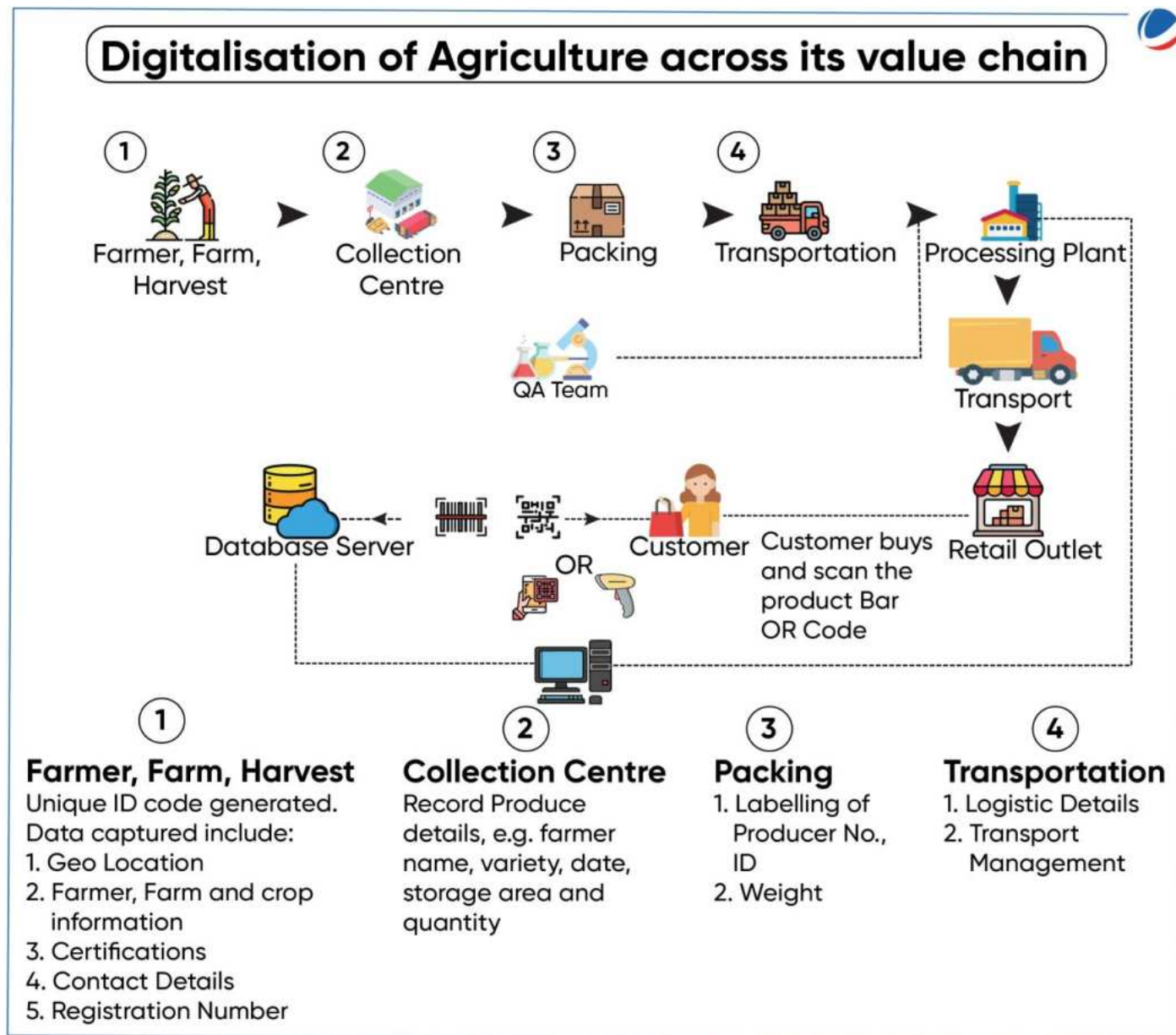
The G20 Delhi declaration has **committed to promote responsible, sustainable and inclusive use of digital technology** by farmers and an ecosystem of Agri-Tech start-ups and MSMEs.

### About Digitisation of Agriculture

- It is **integration of cutting-edge digital technologies into the farm production system**, including Artificial Intelligence (AI), robotics, unmanned aviation systems, sensors, and communication networks is referred as Digitisation of Agriculture.
- **Significance of Digitisation of Agriculture**
  - **Across the agricultural value chain:**
    - ✓ **Input Supply:** Helps to optimize the input-resources like fertilisers, pesticides, water etc. at the right time.  
Ex: Use of AI with agricultural data.



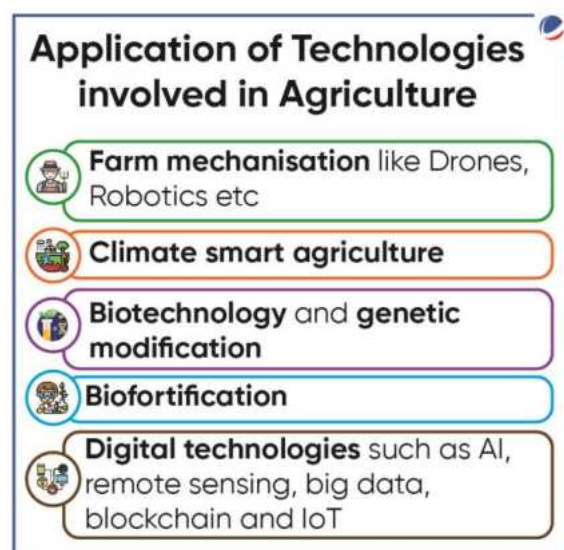
- ✓ **Production:** Increases operational efficiency and decreases production cost of farming due to reduced manpower requirement and labour hours. **Ex:** Sub Mission on Agricultural Mechanization (SMAM).
- ✓ **Trading:** Right price for the produce is obtained by elimination of middleman thereby increasing the profitability. **Ex:** e-NAM.
- ✓ **Warehousing:** Aids scientific decision making in farming activities, which will reduce burdens of crop loss or failure, low yield, pest attack etc. **Ex:**
- **Improved Governance:** Better agriculture governance, by using agriculture data gathered cross the country for the welfare of farmers and citizens. **Ex:** National e-Governance Plan in Agriculture (NeGP-A). India Digital Ecosystem of Agriculture (IDEA) framework.
- **Social benefit:** Bridges the gender gap, through promotion of women centric innovations enabling them to involve in agricultural activities at par with males. **Ex:** PM-KISAN Mobile App.



#### Challenges in Digitisation of Agriculture in India

- **Digital illiteracy** makes the farmers shy away from trying new generation technologies in agriculture
  - In addition, **the recent increase in digital fraud** cases using mobile devices has affected the trust in digital mode.
- **Lack of awareness** about the schemes and subsidies provided by the government to make use of digital technologies.
- **Capital requirement is high** at the initial stages and makes it difficult for a small and marginal farmer to acquire them

- **Fragmented landholdings** is a major concern for digitisation as it **make the scalability of a technology difficult**.
  - As per the latest Agriculture Census, **the average size of operational holdings has decreased from 2.28 hectares in 1970-71 to 1.08 hectares in 2015-16**.
- **Fear of unemployment** as the automation would reduce the number of man power required for the process
- **Nascent stage of Agritech startups** and they find it difficult to get funding as well as a reliable customer base.
  - Presently, there is **only 1% agritech startup penetration** in India (as per EY India).
- **Lack of infrastructure** in rural areas like access to electricity, internet, service centres for the machineries etc
- **Limitations of available the products** like lack of content in regional languages, user friendly interface, Inadequate farm and farmer-level datasets etc.



#### Way forward

- **Improving the access to innovative products** to the farmers by educating them and providing finances to acquire the same.
- **Focusing on producing technologies at affordable cost**, which enables the farmers to acquire them
- **Portable Hardware models needs to be focused** as small, plug and play hardware, which can be commonly shared among a group of farmers
- **Bridging the gap between field and academic institutes** for them to better understand the ground level issues faced by the farmers and work towards them
- **Arrangement of better financing options and incubation centres** for the Agritech startups for them to stabilise and sustain

#### Latest initiatives in digitisation of agriculture

- **Unified Portal for Agricultural Statistics (UPAg)** is an advanced agricultural data management platform designed to generate crop estimates and integrate with other systems generating Agriculture Statistics such as Price, Trade, Procurement, Stock etc.
- **The Kisan Rin Portal (KRP)** offers a comprehensive view of farmer data, loan disbursement specifics, interest subvention claims, and fosters seamless integration with banks for more focused and efficient agriculture credit.
- **Weather Information Network Data Systems (WINDS) manual**, leverages advanced weather data analytics to **provide stakeholders with actionable insights on weather** and empowers farmers, policymakers, and various agricultural entities to make well-informed choices.
- **YES-TECH** is a technology-driven **yield estimation system**, offering methodologies, best practices, and integration insights for accurate yield assessments at the Gram Panchayat level.
- **National e-Governance Plan in Agriculture (NeGP-A)**, A Centrally Sponsored Scheme under Ministry of Agriculture & Farmers Welfare, aims to achieve rapid development in India through use of modern technologies in agriculture.

### 3.8. NATIONAL LOGISTICS POLICY (NLP)

#### Why in the News?

India recently marked the **first year anniversary of the National Logistics Policy (NLP)**.



## Logistics Sector in India

- **Logistics' means Transportation & handling of goods** between points of production and consumption, storage, value addition and allied services.
- The logistics infrastructure comprises **ports, stations, Multimodal Logistics Parks (MMLPs), warehouses, connected by roads, railways, shipping, inland waterways, air routes, pipelines, etc.**



### Key Aspects



### About National Logistics Policy (NLP)

- NLP was introduced in **September 2022**, to promote **seamless flow of goods across the country** and **improve Indian goods competitiveness** in domestic as well as global markets.
- **Vision:** To drive economic growth through an **integrated, seamless, efficient, reliable, green, sustainable and cost-effective logistics network** by leveraging best in class technology, processes and skilled manpower.
- **Targets of NLP**
  - **Reduce cost of logistics in India** to global benchmarks **by 2030**.
  - **Improve the Logistics Performance Index ranking** – and be among top 25 countries by 2030.
  - **Create data driven decision support mechanism** for an logistics ecosystem.
- **Implementation of the National Logistics Policy:** Through a **Comprehensive Logistics Action Plan (CLAP)**, which consists of interventions divided into specific action areas including:

### 8 Action areas of CLAP



### Progress under NLP so far

Components	Description	Progress
Digitalisation	<ul style="list-style-type: none"> <li>• Use of <b>Unified Logistics Interface Platform (ULIP)</b>, the <b>Data-based platform</b> which integrates <b>34 logistics-related digital systems</b> including <b>GST data</b>, across departments.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Over 614 industry players</b> have registered on ULIP.</li> <li>• <b>106 private companies</b> have signed <b>Non-Disclosure Agreements (NDAs)</b>.</li> </ul>
Export Import (EXIM) Logistics	<ul style="list-style-type: none"> <li>• A <b>Comprehensive port connectivity plan</b> was developed to address last and first mile infrastructure gaps under it.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>60 projects</b> of <b>Ministry of Road Transport and Highways</b> and <b>47 Ministry of Railways</b></li> </ul>

		have been sanctioned to improve last mile connectivity to ports.
<b>State Engagement</b>	<ul style="list-style-type: none"> <li>To bring <b>holistic focus on 'logistics'</b> in public policy at State level, States/UTs are developing State Logistics Plans (SLPs) aligned with NLP.</li> </ul>	<ul style="list-style-type: none"> <li><b>22 States have notified</b> their logistics policies so far.</li> </ul>
<b>Issues and Grievance redressal</b>	<ul style="list-style-type: none"> <li><b>Ease of Logistics Services (E-logs) Portal</b> aims to use technology platforms 'to improve good governance and stakeholder outreach in the logistics sector'.</li> </ul>	<ul style="list-style-type: none"> <li><b>Around 29 business associations</b> have been empanelled so far.</li> </ul>

### Challenges in NLP

- Fragmented Logistics sector in India and Lack of integrated digital logistics systems.**
  - Ex: **Unorganized players control 90% of the market.**
- Lack of logistics standardisation which results in difficulty in interoperability, raises handling risks and leads to delays.**
- Lack of skilled workforce in the logistics sector:** The logistics sector is a labour-intensive sector that employs nearly 22 million people and of these, **only 4.7% are formally skilled.**
- Lack of coordination between states in logistics** leading to delays in shipments and increased costs.
- Lack of acceptance of Digital technologies** by transporters due to issues of digital literacy and anti-competitive practices by transport unions.
- Limited alternatives to first & last mile connectivity.**

### Way forward

- Implementation of Roadmap and Monitoring**, through a thorough study on gap assessment across sectors and creation of a workable solution with regular monitoring.
- Addressing infrastructure and procedural gaps in India's Export Import (EXIM) connectivity** and create efficient and reliable logistics network
- Improving regulatory interface** to enable seamlessness between sectors, promote standardization, formalization and inter-operability
- Develop Sectoral Plans for Efficient Logistics (SPEL)** aligned with PM GatiShakti for each sector with underlying philosophies of inter-operability, resiliency, sustainability.
- Better State Engagement**, by providing support for development of state and city level logistics plans and set up institutional framework for the same.

#### Role of States in Logistic Policy implementation

- To create a dedicated agency for the development of logistics in the state** and provide better coordination between departments for providing single window clearances.
- To identify local logistics infrastructure requirement** for creation of logistics zone, ware houses, expressways etc.. to achieve last mile connectivity.
- To create quality storage facilities** according to the landscape and local industrial requirements.
- To provide impetus to the industries** in the form of subsidies like Capital Interest Subsidy, Stamp duty subsidy, etc.
- To integrate quality data from various state's master plan**, for better and wider adoption of logistic policy initiatives like PM GatiShakti.
- To enable area-based development** and for gap identification, project planning, etc. at grass root level

## 3.9. INLAND WATERWAYS

### Why in the news?

Recently, the Standing Committee on Transport, Tourism and Culture submitted its report on 'Development and Expansion of Existing and New National Inland Waterways'.

## Inland Water Transport


- Inland Water Transport (IWT) is a fuel-efficient, environment-friendly and cost-effective mode of transport.
- India has about 14,500 km of navigable waterways comprising **rivers, canals, backwaters, creeks, etc.**
- As per constitutional provisions, only those waterways which are declared as **National Waterways come under the purview of the Central Government** while the rest of the waterways remain in the purview of the respective State Government.

## Importance of Inland Water Transport


- Cost savings:** The cost of developing waterways is much lower than rail & road. IWT thus can reduce logistics costs, which amounts to approximately 13-14% of GDP in India. (Global average 8%)
- Environment friendly:**
  - Least fuel consumption per tonne-km.
  - CO<sub>2</sub> emission is 50 per cent that of trucks.
  - Safe mode for hazardous and over-dimensional cargo
- Strategic importance:** The North-Eastern Region which is **strategically and economically** important had to face connectivity hurdles with mainland India due to poor conditions of roads. IWT system offers **natural navigation channels** connecting the entire region.
- Supplementary mode**
  - Reduces pressure on road and rail.
  - Reduces congestion and accidents on the road.
- Tourism and Recreation:** Inland waterways can be used for tourism and recreation, attracting tourists and generating income for local communities through activities such as boating, fishing, and sightseeing.

## Issues associated with the development of IWT

- Unviability of projects:** Of the 111 notified national waterways, 23 have been made operational.
  - The development of 63 national waterways is not being taken up due to **financial and staffing constraints**.
- Low level of investment compared to road and rail modes:** key factors **discourage companies from shifting to inland waterways** are
  - The slow pace of development of waterways
  - Poor hinterland connectivity
  - High vessel and equipment costs
- Least Available Depth (LAD):** Maintaining a depth of the river which is navigable for vessels with a capacity of 1500-2000 tons is a challenge.
- Impact on the environment:** While inland waterways have a low environmental impact during operations, their **development alters the ecology of the river**.



### Inland Waterways Authority of India (IWAI)



**Ministry:** Ministry of Ports, Shipping and Waterways.

**Genesis:** Setup as a Statutory body in 1986, under The Inland Waterways Authority of India Act, 1985.

**Mandate:**

- Conduct surveys, **techno-economic feasibility** for developing inland water transport mode;
- Development and regulation** of National Waterways for shipping and navigation.
- Regulation of traffic, coordination** with other modes of transport for movement on the National Waterways etc;
- Assist and advise Central and State Government** on matters relating to Inland Water Transport.

Mode	Railways	Highways	IWT
Freight cost (Rs/Tkm)	1.36	2.50	1.06
Energy Consumption	0.0048 litre/Tkm	0.0313 litre/Tkm	0.0089 Litre/Tkm
Vehicle operating cost	0.843 rs./TKm	1.179 Rs./TKm	1.009 Rs./TKm

\*Tonne-kilometre (TKM)

## Do you know ?

- Freight movement on waterways in India is having about **2% of modal share** whereas **USA stands at 4%, the Netherlands at 49%, China at 14% and Vietnam at 48%.**



- For instance, dredging and construction on the national waterway-I disrupted the activities of Gangetic Dolphin.
- **High cost of development of Ancillary facilities**, like, multimodal terminals, jetties, and river information systems
- **Lack of convergence** between IWT and other modes of transport
- **Recurring siltage** and irregular siltation
- **Clearance at Cross Structures/bridges**

#### Steps taken for Inland Water Transport

- **Development of National Waterways (NWs)**: For the development of Inland Water Transport (IWT), 111 waterways (including 5 existing and 106 new) spread over 24 States have been declared NWs under the **National Waterways Act, 2016**.
- **Jal Marg Vikas Project (JMVP)** for capacity augmentation of navigation on NW-1 is being implemented with the technical assistance and investment support of the World Bank.
- **Ro-Ro (Roll-on-Roll-off) and Ro-Pax (Roll-on/Roll-off with passenger) Ferry** Service Commenced in Various National Waterways, such as between Neamati and Kamalabari (Majuli), Guwahati and North Guwahati etc.
- **Revision of Levy & Collection of Fees**, including the proposal to waive waterway user charges initially for a period of three years.
- **Digital solutions** for ease of doing business, such as:
  - **CAR-D** (Cargo Data) Portal is a web-based portal for collecting, compiling, analysing, and disseminating all cargo and cruise movement data of National Waterways to the stakeholders.
  - **PANI** (Portal for Asset & Navigation Information) integrates river navigation and infrastructure information on a single platform.
- **Enhanced regional trade using IWT mode.**
  - Addition of new Ports of Call and routes in under **Indo Bangladesh Protocol on Inland Water Transit and Trade**.
  - Stone exporters from Bhutan have identified Inland waterways as an alternate mode of transportation
- **IWT under Maritime India Vision 2030**: The following focus areas have been identified under the Vision.
  - Enhancement and development of infrastructure at 23 priority NWs.
  - Development of terminal infrastructure for Ro-Ro & Ferry Services.
- **IWT under Blue Economy Vision 2047**: Initiatives under the vision are:
  - Enhance **regional connectivity** through waterways with Bangladesh, Nepal, Myanmar and Bhutan –known as **Regional Waterway Grid (RWG)**.
- Flagging off of **the world's longest river cruise- 'MV Ganga Vilas'**.

#### Important national water ways

- **National Waterway 1**: Ganga-Bhagirathi-Hooghly River System (Haldia - Allahabad)
- **National Waterway 2**: Brahmaputra River (Dhubri - Sadiya)
- **National Waterway 3**: West Coast Canal (Kottapuram - Kollam), Champakara and Udyogmandal Canals
- **National Waterway 4**: Krishna River (Vijayawada – Muktyala)
- **National Waterway 5**: Dhamra-Paradio via Mangalagadi to Pankopal.

#### Way forward

- **Financial incentives**: Provide financial incentives and subsidies to encourage industries to shift their cargo transportation to inland waterways.
- **Public-Private Partnership**: Active involvement of the private sector in the inland waterways sector is imperative to ensure greater efficiency and competitiveness and attract higher investment for infrastructure development.
- **Waterway Connectivity**: IWA may ensure that the connectivity to rail, road and ports be comprehensively dealt with in the Detailed Project Report (DPR) itself.
- **Environmental Considerations**: Research and Development studies should be conducted to make an assessment of the impact of the increased inland water transport activities on aqua-marine life.
- **International Collaboration**: Collaborate with neighbouring countries on the development of transboundary waterways, facilitating regional trade and connectivity.
- **Promote river cruise**: The government should launch programmes to incentivize river cruise operators so that the available potential can be fully realised.

## 3.10. PM VISHWAKARMA SCHEME

### Why in the News?

Recently, Prime Minister launched '**PM Vishwakarma**' Scheme for traditional artisans and craftspeople on occasion of Vishwakarma Jayanti.

### About PM Vishwakarma scheme

It envisages to provide end-to-end **holistic support to the traditional artisans and craftspeople** in scaling up of their conventional products and services.

- **Objective:**
  - To enable **recognition of artisans and craftspeople** as Vishwakarmas.
  - To **provide incentives for digital transactions** to encourage **digital empowerment of Vishwakarmas**.
  - To provide a **platform for brand promotion and market linkages** to help them access new opportunities for growth.
- **Type:** Central Sector Scheme.
- **Duration:** FY 2023-24 to FY 2027-28.
- **Nodal Ministry:** Ministry of Micro, Small & Medium Enterprise (MoMSME).
- **Scheme will be jointly administered:** By MoMSME, the Ministry of Skill Development and Entrepreneurship (MSDE), and the Department of Financial Services (DFS) under the Ministry of Finance.
- **Registration:** Free of charge through **Common Services Centres** using a **biometric-based PM Vishwakarma Portal**.
- **Recognition:** Artisans and craftspeople will be provided recognition through the **PM Vishwakarma certificate and ID card**.
- **Approach:** Strengthen and nurture the **Guru-Shishya parampara** or family-based practice of traditional skills
  - **Rolled out in rural and urban areas** with a focus on saturating districts in a phased manner.
- **Eligibility criteria:**
  - An artisan or craftsman **working with hands and tools** and engaged in one of the **recognized (18) family-based traditional trades with minimum age of 18 years**.

18 Traditional trades	
 Carpenter (Suthar)	 Cobbler (Charmkar)/ Shoesmith/Footwear artisan
 Boat Maker	 Mason (Rajmistri)
 Armourer	 Basket/Mat/Broom Maker/Coir Weaver
 Blacksmith (Lohar)	 Doll & Toy Maker (Traditional)
 Hammer and Tool Kit Maker	 Barber (Naai)
 Locksmith	 Garland maker (Malakaar)
 Goldsmith (Sonar)	 Washerman (Dhobi)
 Potter (Kumhaar)	 Tailor (Darzi)
 Sculptor (Moortikar, stone carver), Stone breaker	 Fishing Net Maker

- Beneficiary should **not have availed loans** under similar credit-based schemes of Central Government or State Government for self-employment/ business development, e.g. PMEGP, PM SVANidhi, Mudra, **in the past 5 years**.
- **Government employee** and their **family** members **not eligible**.

- Benefits under the Scheme shall be restricted to **one member of the family**.  
✓ Under the Scheme, a **'family' is defined as consisting of the husband, wife and unmarried children**.
- **Required documents or information:** like Aadhaar, mobile number, bank details, ration card.
- **Lending institutions:** Scheduled Commercial Banks, Regional Rural Banks, Small Finance Banks, Cooperative Banks, NBFCs and Micro Finance Institutions.

### Benefits of Scheme

- **Marketing Support:** National Committee for Marketing (NCM) will provide services such as **Quality Certification, Branding & Promotion, E-commerce linkage, Trade Fairs advertising, publicity** and other marketing activities.
- **Cheap credit:** Credit support will rejuvenate sector.
  - **Collateral free Enterprise Development Loans:** Rs 1 lakh (First Tranche for 18 months repayment) & Rs 2 lakh (Second Tranche for 30 months repayment).
  - **Concessional Rate of Interest:** 5% to be charged from the beneficiary with Interest Subvention cap of 8% to be paid by MoMSME.
  - **Credit Guarantee fees** to be borne by Gol.
- **Skill Upgradation:** Basic Training of 5-7 days and Advanced Training of 15 days or more, with a stipend of Rs. 500 per day.
- **Creating a holistic support ecosystem:** Provisions such as incentives for Digital Transactions and Marketing Support, liberal loan terms, etc. will help to develop a supporting ecosystem for this industry.
  - **Incentive for Digital Transaction:** Re 1 per transaction for maximum upto 100 transactions (monthly)
- **Preserving Traditions:** The scheme encapsulates the essence of preserving heritage while embracing progress.
- **Promote Gender justice and social justice:** As per the census of crafts conducted during the Seventh Plan period, there were more than 68.8 lakh crafts persons in the country.
  - **Women (56.13%) and socially and economically disadvantaged sections** like SC, ST and OBC (which together make up more than 72%) account for a majority of the pool.

### Concern Raised

- **Available data on the crafts landscape is outdated:** The last census of crafts was carried out during the Seventh Plan period, which ended in 2012.
- **Caste-Based Occupations:** There is concern that the scheme may inadvertently reinforce caste-based occupations, limiting the opportunities for community members to explore more lucrative professions.
- **Non-Recognition of Guru (Master) as Trainer:** Under Guru-Shishya parampara, the Master used to provide valuable training, which he has learned from his experiences to new employee remain unrecognized as formal training under the scheme.
- **Silent on Wages:** Low wages causing the gradual erosion of artisan communities.
- **Lack of economic viability:** Due to poor market coverage and quality concerns product often gets lower price tag causing a lack of economic viability for their output

#### Other such initiatives for Artisans

- **National Handicraft Development Programme (NHDP) by the Ministry of Textiles** which provides supports to the handicraft clusters and artisans.
- **Comprehensive Handicrafts Cluster Development Scheme (CHCDS) by the Ministry of Textiles** which aims to mobilize the artisans into Self-Help Groups, thrift and credit, training of SHGs for community business enterprise.
- **PECHAN scheme by the Ministry of Textiles**, to provide a new identity to handicraft artisans so that the benefits of various schemes are provided to the deserving artisans.
- **Other Schemes:** Upgrading the Skills and Training in Traditional Arts/Crafts for Development (USTTAD); Scheme of Fund for Regeneration of Traditional Industries (SFURTI), etc.

### Way forward

- **Standards and certification:** It will help tackle the multiplicity of non-tariff barriers that impede access to global markets for traditional crafts and help artisans realise better value for their work.
- **New Markets:** Linking traditional artisans with modern techniques can help open up new markets both at home and abroad, much as it has done for the handloom sector.
- **Addressing Root Causes of poverty and inequality** among artisan communities with such as limited access to education and employment opportunities.



## 3.11. NEWS IN SHORTS

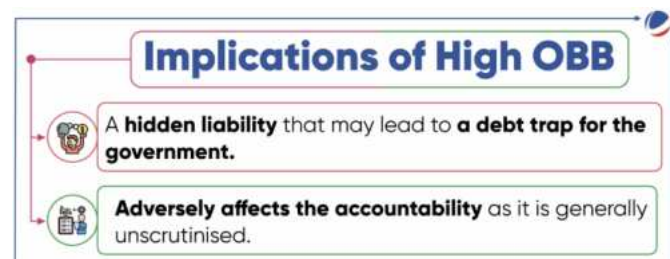
### 3.11.1. 4TH G20 SUSTAINABLE FINANCE WORKING GROUP (SFWG) MEETING

- G20 SFWG aims to **mobilise sustainable finance to help ensure global growth and stability**, and promote the **transition towards greener, more resilient, and inclusive societies and economies**.
  - G20 Sustainable Finance Roadmap, as finalized in 2021, is the **core around which SFWG functions**.
- SFWG during India's G20 presidency has identified challenges and made **recommendations on several areas including:**

Areas	Challenges	Recommendations
Mobilisation of adequate resources for climate finance	<ul style="list-style-type: none"> <li>Lack of clear and predictable public climate policy and regulatory frameworks.</li> <li>Capital flows to climate investments are often constrained by lack of investment-ready or bankable projects.</li> </ul>	<ul style="list-style-type: none"> <li>Policy and regulatory frameworks conducive to climate-related bankable projects.</li> <li>Encouraging philanthropic foundations to align with Multilateral Development Banks (MDBs), Development finance institutions (DFIs) etc.</li> <li>Apply active risk management approaches to climate projects to mitigate risks to investors.</li> </ul>
Rapid Development and Deployment of Green and low-carbon technologies	<ul style="list-style-type: none"> <li>Limited data and scalability of climate technology accelerators and incubators.</li> <li>Uneven and uncertain domestic policy and regulatory environments.</li> </ul>	<ul style="list-style-type: none"> <li>Governments should provide clarity over their long-term policy pathway towards carbon neutrality and climate adaptation.</li> <li>Incentivize corporate investments in R&amp;D for climate innovation, climate technology start-ups etc.</li> </ul>

### 3.11.2. OFF-BUDGET BORROWINGS (OBBS)

- Centre for Social and Economic Progress (CSEP) recently released a report on '**Off-Budget Borrowings (OBB)**' by Indian Governments.
- OBBs refer to **borrowings that are not reflected in the budget**, even though **budgetary resources** will have to be **used for their repayment**.
  - Thus, OBB is **not part of the calculation of the fiscal indicators** despite fiscal implications
- OBBs are taken not by government directly but by **another public institution** on its direction.
  - For example, **loan by FCI for paying food subsidy bill** (this practice is discontinued from FY 2020-21).
- Reasons for resorting to OBB**
  - Bypass Fiscal Deficit targets** under the FRBM Act, 2003,
  - Avoid borrowing limits** under **Article 293 (3)** of the Constitution.
    - Article mandates **States to take consent of the Centre before raising any loan if they have any outstanding loan to the Centre or loans where the Centre is the guarantor**.
  - Avoid delay in central grants**, or reduction in other sources of revenue.
- Ways of OBB:** National Savings Schemes Government Fully Serviced Bond, Domestic /Foreign Market borrowings, etc.



### 3.11.3. RBI'S FINANCIAL INCLUSION INDEX RISES

- RBI's Financial Inclusion (FI) Index shows **growth across all segments**.
  - The FI was **60.1% for March 2023**, as compared to 56.4% in March 2022 and 43.4% during its pilot in March 2017.
- The index **captures the extent of FI across the country** by including details of banking, investments, insurance, postal as well as the pension sector.
  - It **ranges between 0** (complete financial exclusion) **and 100** (complete financial inclusion) and has been constructed without any '**base year**'.

- It tracks **97 indicators** and divides them into three **sub-indices** namely:
  - ✓ **Access** (35% weightage),
  - ✓ **Usage** (45%) and
  - ✓ **Equality** (20%).
- **FI** refers to the process of ensuring that **all individuals and 53arginalized populations** have **access to affordable and appropriate financial services**.
- **Significance of FI:**
  - Promotes **Economic and Sustainable Growth**.
  - Helps to **reduce poverty and inequality in the society**.
  - **Empowers 53arginalized sections of the society**.
  - Induces **innovation and promotes small businesses**.
- **Challenges in ensuring FI:**
  - **Inadequate infrastructure** in rural areas like bank branches and ATMs.
  - **Financial illiteracy**.
  - **Procedural Complications** like filling of forms etc.
  - **Hidden Charges imposed** force marginal people out of the formal system.

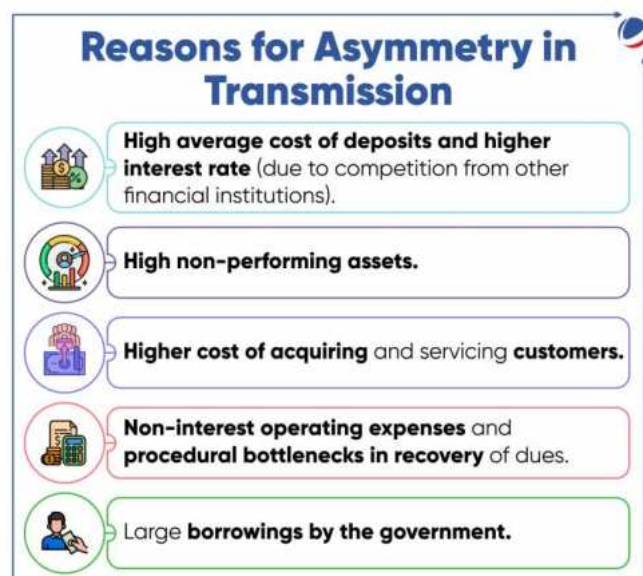


### 3.11.4. HOUSEHOLD FINANCIAL SAVINGS

- According to RBI data, **India's household savings have touched decadal lows** of 5.1% in FY23.
- Household savings are arrived at by **subtracting aggregate financial liabilities from total financial assets**.
  - **Liabilities** include **loans from banks, NBFCs, among others**.
  - **Assets** comprise **deposits with banks and other financial institutions, life insurance, provident funds, currency and other investments**.
- **Importance of household savings:** one of the principal means for financing the fiscal deficit, provides capital for investment, reduce dependence on foreign capital to fund growth etc.

### 3.11.5. MONETARY POLICY TRANSMISSION (MPT)

- According to a SBI report Monetary policy has asymmetric transmission in Indian financial markets.
- Monetary policy transmission (MPT) is the **process** through which **policy action of the central bank is transmitted** to meet the ultimate objectives of **inflation and growth**.
  - Changes to monetary policy **affect interest rates** in the economy which in turn affect **economic activity and inflation**.
  - Therefore, transmission of a **rate change should be instantaneous**.
  - Instant transmission also **enhances the credibility of the Central Bank**.
  - To improve the transmission RBI introduced **marginal cost of funds-based lending rate (MCLR) system in 2016**.
- MPT is said to be **asymmetric transmission** if the **economy does not show positive relationship** with changes in **Monetary policy**.
  - For instance, 1 % increase in **repo rate** has resulted in only **2 to 3 basis points** increase in **10-year AAA corporate bond spread**.



### 3.11.6. BASEL-III CAPITAL FRAMEWORK

- Reserve Bank of India (RBI) introduced the Basel-III capital framework for **All India Financial Institutions (AIFIs)**.
- Exercising power under **Section 45L of the RBI, 1934**, RBI has mandated AIFIs to maintain a **capital adequacy ratio (CAR) of 9%** by April 2024 (July 2024 for NHB).
  - It was done as **AIFIs are being seen as key institutions to promote the flow of credit** to economic sectors they cater to.



- RBI controls **liquidity in banking system** through a **Liquidity Adjustment Facility (LAF)**.
- LAF is operated through **Repo auctions (for absorption of liquidity)** and **Reverse Repo auctions (for injection of liquidity)**.
- **Additional instruments for liquidity management:** Marginal standing facility, Statutory Liquidity ratio, etc.
- In banking system **Liquidity deficit (LD)** means banks **do not have sufficient funds** for **credit demands** by customers.
- **Reasons Behind LD**
  - **Implementation of Incremental Cash Reserve Ratio (ICRR):** RBI mandated banks to set aside an additional **10% net demand** and time liabilities to absorb surplus liquidity.
  - **Payments of advance tax and GST by businesses:** hence **shift of liquidity** away from banking sector.
  - **Other: Selling of dollars** by RBI, **increase in credit demand** due to the festive season, etc.
- **Implication of LD**
  - rise in **interest rates** for **consumers**.
  - rise in rates of **Treasury bills Repurchase**, **overnight call money rates**, etc.
  - **less availability of credit** for **developmental activities**.

#### • About BASEL-III Norms

- Basel-III norms were **adopted by financial regulators** to **improve the banking sector's ability to absorb shocks** arising from **financial and economic stress**.
  - ✓ It was developed by Basel Committee on Banking Supervision in the aftermath of the **financial crisis of 2007-08**.
- It mandates banks to maintain a **CAR or Capital to Risk-weighted Assets (CRAR) at least 8%**.
  - ✓ CRAR is a ratio that **compares the value of a bank's capital** (or net worth) **against the value of its various assets weighted according to risk**.
  - ✓ **RBI mandates banks** to maintain a minimum **CAR of 9%**.

### 3.11.7. LIQUIDITY DEFICIT IN THE BANKING SYSTEM

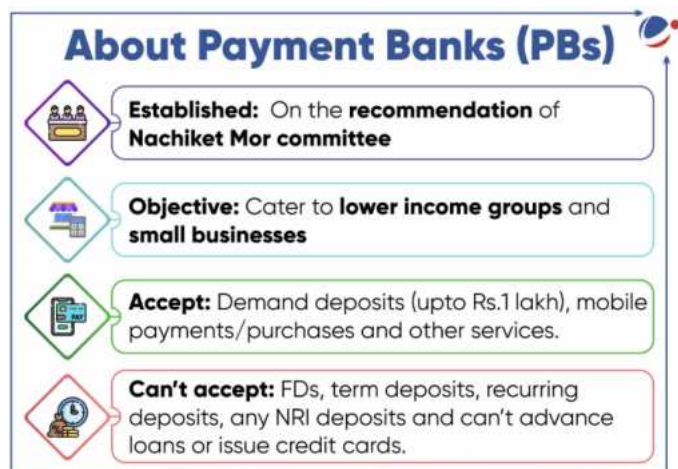
- Liquidity Deficit in the banking system **widened to ₹1.46 trillion, highest since 2019**.
- **Liquidity** is a measure of **cash and other assets** banks, available to **pay bills** and **meet short-term business and financial obligations**, e.g., usually consisting of **Central bank reserves** and **government bonds**.

### 3.11.8. INDIAN POST PAYMENT BANK (IPPB)

- Recently the IPPB **completed 5 years**.
- In 2018, IPPB was established under the **Department of Posts, Ministry of Communication** with **100% equity owned by the Government** of India.
  - **Vision:** Build the most **accessible, affordable and trusted bank** for the common man in India.
  - **Mandate:** Spearheading **financial inclusion** by removing barriers and **reducing costs for accessing banking services**.
- IPPB is registered under the **Banking Regulation Act, 1949** duly licensed by RBI to carry on the **business of payments bank** in India.
  - It is a **scheduled payment bank** offering range of products like savings and current accounts, remittances and money transfer, Aadhar Enabled Payment System etc.
  - It offers three accounts: **Safal** (regular account); **Sugam**, (Basic Savings Bank Deposit Account (BSBDA)); and **Saral** (BSBDA-Small).
- **Achievements of IPPB**
  - **More than 6 crore accounts** have been opened across country including **96 lakh in aspirational districts**.



- 1.90 lakh postmen and Gramin Dak Sevaks have been **equipped with smart phones and bio-metric devices**.
- 1.55 lakh banking access points through Post Offices network PAN India.
- **Challenges:** Competition from private companies, low financial literacy and poor infrastructure in rural areas etc.



### 3.11.9. GRESHAM'S LAW

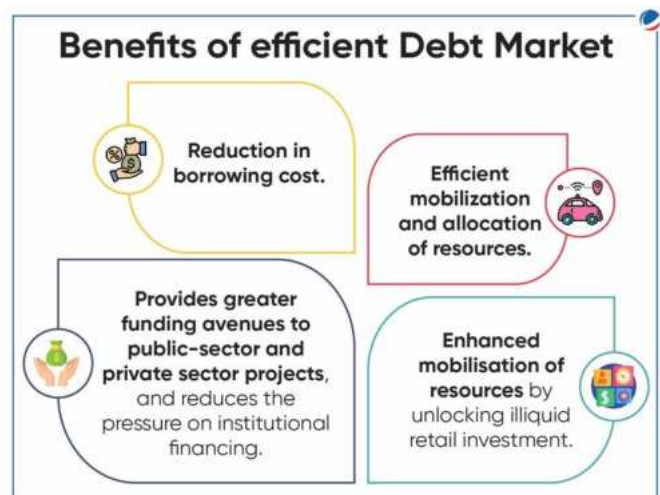
- It states that, in a fixed exchange rate system, “bad money drives out good”.
- It comes into play when exchange rate between two currencies is fixed by government at a certain ratio that is different from market exchange rate.
  - It causes undervalued currency to go out of circulation.
  - Overvalued currency remains in circulation but it does not find enough buyers.
- It applies not just to paper currencies but also to commodity currencies and other goods.
- Law, named after English financier Thomas Gresham, came into play recently during Sri Lanka crisis.

### 3.11.10. OVERNIGHT INDEX SWAP (OIS)

- Indian OIS rates rose to their highest levels in last 10 months.
- An OIS is an **interest rate derivative** contract in which **two entities agree to swap/ exchange a fixed interest rate payment (OIS rate) for a floating interest rate payment**.
  - OIS is also considered a **measure of monetary policy** expectation.
- Floating rate is **usually overnight interbank rate** {reference rate for Indian OIS contracts is Mumbai Interbank Outright Rate (MIBOR)}.
- **Benefits of OIS:** hedging interest rate risks, reduction of credit risk, effective management of debt portfolios by financial institutions etc.

### 3.11.11. DEBT MARKET

- SEBI eases norms for large corporates (LCs) tapping the debt market.
- Move will aid **investors such as insurers, pension and provident funds** which are required to invest a particular percentage of their incremental receipts in corporate bonds and would facilitate ease of compliance for LCs.
- Measures proposed by SEBI includes:
  - **Higher monetary threshold** for defining LCs.
  - **Removal of penalty** on LCs which are not able to raise a certain percentage of borrowing from debt market.
- Debt Market is the **market where fixed income securities of various types and features are issued and traded**.
  - It includes **government securities (G secs)** – the largest component – **and bonds** issued by public sector undertakings, other government bodies, financial institutions, banks and companies.
  - **Types of Debt Instruments:** Bonds, Debentures, Commercial Papers, Certificates of Deposit, G secs etc.



### 3.11.12. PLI SCHEME FOR AUTOMOBILE AND AUTO COMPONENTS

- Production Linked Incentive (PLI) scheme for automobile and auto components **extended for another year to 2027-28**.
- The government has also decided to **disburse the incentives on a quarterly basis**, instead of annual plan.
- **About PLI Scheme for Automobile and Auto Component Industry (PLI-AUTO)**
  - **Nodal Ministry:** Ministry of heavy industries (MHI)
  - **Purpose:** To drive supply chain of **Advanced Automotive Technology (AAT)** products (vehicles and components).

- **Base Year (BY):** BY for calculation of Eligible sales for incentive is 2019-20.
- **Conditions for incentive:** Minimum 50% domestic value addition.
- **Effect on eligibility under FAME-II:** Incentive payable under this scheme to electric vehicle (EV) manufacturers is **in addition** to the incentives given under FAME-II scheme.
- **Project Management Agency:** IFCI Limited (IFCI), a Non-Banking Finance Company in the public sector.
- **Achievements**
  - ✓ **95 companies** have been admitted under the scheme.
  - ✓ **Investment** (till June 30, 2023) is **₹10,755 crore out of the total outlay of ₹67,690 crore in the next five years.**
- Government aims to increase the contribution of automobile sector to **India's GDP to 12%** (currently 7.1%) and **employment generation to 50 million** (currently 37 million).



### 3.11.13. TECHNICAL TEXTILES (TTS)

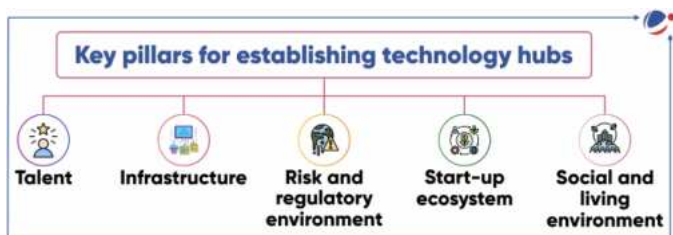
- Ministry of Textiles (MoT) approved **Startup Guidelines for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT).**
- **Key highlights**
  - **Aim:** Developing the **Startup Ecosystem** in Technical Textiles (TTs)
  - **Focus:** **Niche sub-segments** such as Bio-degradable and Sustainable textiles, High-performance & Specialty fibres, Smart textiles, etc.
  - **Financial Aid:** Grant-in-aid to support individuals and companies to **translate prototypes** into technologies and products and **commercialize them.**
    - ✓ **Startups** will get grant-in-aid **up to ₹50 lakhs** for up to a **period of 18 months.**
    - ✓ **Incubator** will get an additional **10%** of total grant-in-aid
  - **Support to premier institutes:** IIT Delhi, NIFT Mumbai among others got approval for **upgrading laboratory infrastructure**, and introduction of **new degree programmes** in TTs.

- TTs are **engineered textile materials and products** used primarily for their **technical performance and functional properties** rather than aesthetic and decorative features
  - TTs are broadly classified **into 12 different categories** including Agrotech, Oekotech, Buildtech, Meditech, Geotech, etc.



### 3.11.14. REPORT ON EMERGING TECHNOLOGY HUBS OF INDIA

- As per Deloitte and Nasscom Report, **India's IT industry is moving to new cities from 7 major hubs** including metropolitan hubs.
- The **technology industry is decentralising to 26 cities** with **representation from tier-2 and tier-3 towns** (Chandigarh, Kanpur, Ahmedabad, etc.) as well.
- **Key findings**
  - Majority of **5.4 million people** employed in technology industry have **clustered around seven major cities** of Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad and Pune.
  - **60 percent of graduates come from smaller cities** in key fields and **30 percent of whom relocate to tier-1 cities** for employment after graduation.
- **Why are IT companies moving operations to emerging hubs?**
  - **Rising cost of operations in major hubs** (60-80% increase in real-estate cost).
  - **Better access to skilled talent pool** at lower cost. Presently, **11-15 percent of tech talent** is based in **tier 2 and tier 3 cities.**
  - **Rapid development** of infrastructure, skill diversity, startup presence, and governmental initiatives such as smart cities, tech parks, and incubation centres.
  - **Growing proliferation of start-ups and incubators** in emerging hubs. **39 percent of tech start-ups** established in 2022 are from emerging hubs.



### 3.11.15. E-COMMERCE FOR THE GROWTH OF MSMEs

- The India Council for Research on International Economic Relations (ICRIER) has released its annual survey on MSMEs, focusing on the leverage of E-commerce for the growth of Micro Small and Medium Enterprises (MSMEs)
  - Established in 1981, ICRIER is one of India's premier economic think tanks with the goal of providing policy advice to effectively deal with external economic shocks.
- MSMEs in India**
  - Around **19.3 million MSMEs** which employ around **131.04 million individuals** are registered on the Udyam portal.
    - ✓ **Udyam portal** provides MSMEs with a permanent registration and basic identification number.
  - Share on Udyam portal of Micro, Small and Medium Enterprises.

Type	Share
Micro	96.2 %
Small	3.4 %
Medium	0.4%

### Composite Criteria for MSME

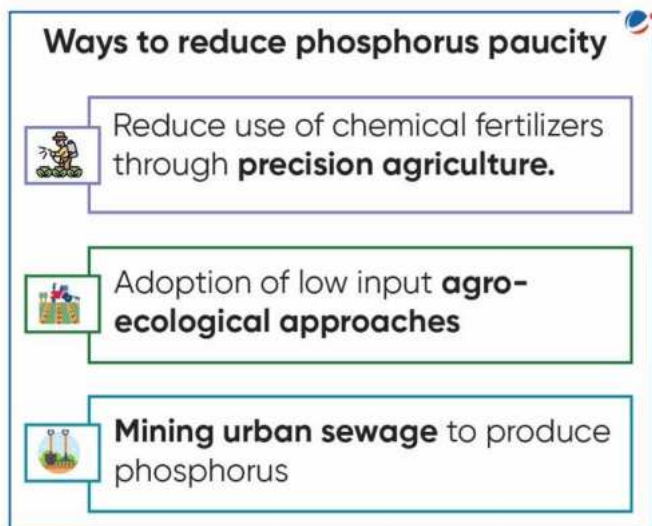
	<b>CLASSIFICATION</b> Manufacturing Enterprises and Enterprises rendering Services
	<b>MICRO</b> Investment in Plant and Machinery or Equipment: Not more than Rs.1 crore Annual Turnover: Not more than Rs. 5 crore
	<b>SMALL</b> Investment in Plant and Machinery or Equipment: Not more than Rs.10 crore Annual Turnover: Not more than Rs. 50 crore
	<b>MEDIUM</b> Investment in Plant and Machinery or Equipment: Not more than Rs.50 crore Annual Turnover: Not more than Rs. 250 crore

- Challenges in integrating with E-Commerce sites:**
  - Lack of knowledge and digital illiteracy.
  - Lack of digital infrastructure.
  - Lack of access to skilled labour.
- Significance of E-Commerce integration:**
  - Successful integration with E-commerce platform have reported an increase in sales.
  - Integrated firms report higher turnovers and profitability.
  - Integrated firms have a higher share of permanent employees

### 3.11.16. INDIA IS RUNNING OUT OF PHOSPHORUS

- Phosphorus** is one of the **macronutrients** essential for plant growth which is **required by plants for:**
  - Photosynthesis process
  - Energy transfer and nutrient movement within the plant
  - Strong root development
  - Transfer of genetic characteristics
- India is the world's largest importer of Phosphorus**, most of it from the cadmium-laden deposits of West Africa.
  - Phosphate rocks are majorly produced **only from two States** in India, namely **Rajasthan and Madhya Pradesh**.
  - Some **deposits** are also present in the central part of peninsular India, Lalitpur (Uttar Pradesh), Mussoorie syncline, and Cuddapah basin (Andhra Pradesh).
- Concerns with Phosphorus availability:**
  - At most places, Phosphorus coexists with **Cadmium**, a heavy metal whose removal is expensive.
  - Handful of countries** such as Morocco, Western Sahara, China, Algeria etc **control most of the world's reserves of phosphorus** which is a major geopolitical concern.
- Harmful effects of phosphorus:**
  - Much of phosphorus is **lost directly to water bodies** as agricultural run-off and through sewage which leads to **growth of toxic algal blooms**.
  - Cadmium-laden fertilizers** are often applied to the soil, absorbed by crops, and consumed, bioaccumulating in human bodies **accelerating heart disease**.





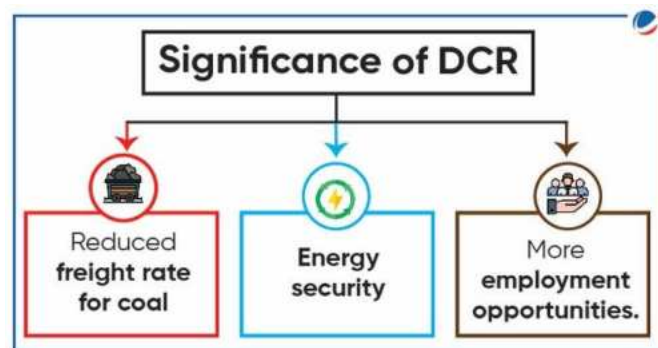
### 3.11.17. ASIAN PREMIUM

- According to reports, Saudi Arabia has slashed the **premium charged on oil exports to India** after India began sourcing oil requirements from Russia at deep discounts.
  - Saudi Arabia has now reduced the premium to \$3.5 per barrel from around \$10 in the last year.
- Asian Premium is an **extra charge being collected by OPEC countries** from Asian countries when selling oil in comparison to Western countries.
  - The practice dates back to the 1980s.
- Reasons identified for the existence of Asian premium.**
  - Asian countries, dependent heavily on oil imports, were essentially price-takers. Thus, the **oil exporters used their superior bargaining power to squeeze Asian oil importers** while charging less to their American and European customers.
  - Saudi Arabia and other Gulf states supply a relatively high level of oil exports to the U.S. and Europe **to maintain military and political support**.
  - This implies that the "Asian Premium" is effectively a "North Atlantic Discount".
- India has repeatedly pressed oil producers to **eliminate this premium** and even asked for an 'Asian discount' instead.
- Also, India has been **diversifying import sources** and securing cheaper oil.

### 3.11.18. DEDICATED COAL CORRIDORS

- According to the Railway Board **Dedicated Coal Corridors (DCC)** needed to meet Power Demand.
- DCC can be referred to as **high-capacity railway corridor** that is **exclusively meant for transportation of coal across country**.

- It will be laid down on a line of **Dedicated Freight Corridors**.
- DCC would be **exclusively for coal transportation** from **Odisha, Jharkhand, and Chhattisgarh** to other parts of country.
- Need of DCC:**
  - Volume:** Coal traffic to thermal power plants constitutes highest in the rail freight traffic, both in terms of **capacity** and **revenues**.
    - ✓ **Highly congested rail networks** cause significant **delays in coal transportation**.
  - Cost:** majority of India's coal reserves are **concentrated in the eastern parts of India**, while consumption of coal is scattered across the country, **hence huge logistic costs**.
  - Energy requirements:** India's **coal consumption** and **energy demand** will increase to 1,853 million tonnes and 3,000 billion units by 2030, respectively. Any shortfall can **impact growth of country**.
- Other issues in Coal transportation:** Low **handling capacity of railway**, **improper loading** and unloading infrastructure, and non-availability of wagons.





- Initiatives for coal transportation:**
  - Ministry of Coal released a **draft Coal logistic policy for 2022** aims to create the optimal infrastructure for coal transportation at the origin & destination point.
  - Around 67 **First Mile Connectivity (FMC) Projects** are being implemented.

### 3.11.19. RATIONALIZATION OF COAL LINKAGES

- Ministry of Coal** has initiated a **policy initiative called rationalisation of Coal Linkage**.
  - It aims to **reduce the distance in transportation of coal from Coal Mines** to consumers, thereby **decreasing transportation costs** and **increasing efficiency** in coal-based power generation.
  - Through this initiative, Coal PSUs are **fostering a more sustainable energy ecosystem**.

- So far, **four rounds of rationalization of linkage have taken place**, covering 73 Thermal Power Plants.

- The move has resulted in **rationalising of total 92.16 million tonnes of coal** and has **saved around Rs 6420 crores to Government**.

 <p><b>SMART QUIZ</b></p>	<p>You can scan this QR code to practice the Smart Quiz of Economics at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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# फाउंडेशन कोर्स

## सामान्य अध्ययन

प्रारंभिक एवं मुख्य परीक्षा

### 2025, 2026 & 2027

इनोवेटिव क्लासरूम प्रोग्राम

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- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करेंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- 60 प्री फाउंडेशन कक्षाएं
- सीसेट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करेंट अफेयर्स मैगजीन

नोट: ऑनलाइन छात्र हमारे पाठ्यक्रम की लाइव वीडियो कक्षाएं अपने घर पर ऑनलाइन प्लेटफॉर्म पर देख सकते हैं। छात्र लाइव चैट विकल्प के माध्यम से कक्षा के दौरान अपने संदेह और विषय संबंधी प्रश्न पूछ सकते हैं। वे अपने संदेह और प्रश्न नोट भी कर सकते हैं और दिल्ली केंद्र में हमारे कक्षा सलाहकार को बता सकते हैं और हम फोन/मेल के माध्यम से प्रश्नों का उत्तर देंगे।

**DELHI: 21 नवंबर, 9 AM**

**BHOPAL: 10 जनवरी, 9 AM**

**LUCKNOW: 10 जनवरी, 9 AM**

**JAIPUR: 5 & 16 अक्टूबर, 7:30 AM & 4 PM**

## 4. SECURITY

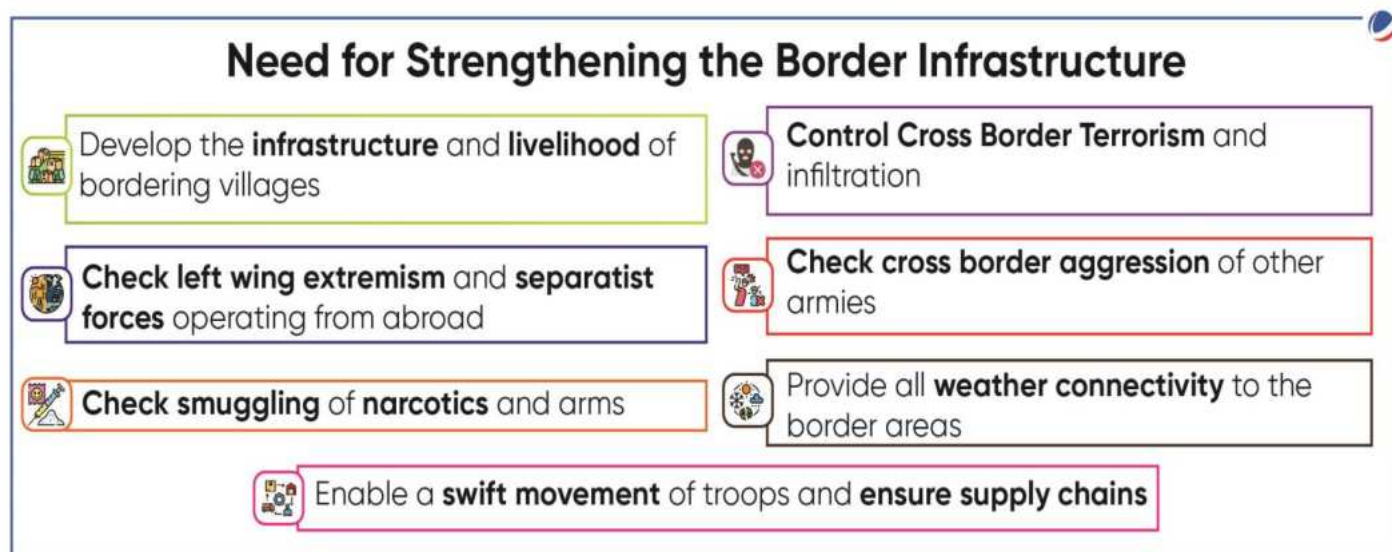
### 4.1. BORDER INFRASTRUCTURE

#### Why in the News?

The Defence Minister recently inaugurated 90 projects of the Border Road Organisation strengthening the border infrastructure of the country.

#### More about the News

- These projects have **been built across border regions of 11 states and union territories** of India.
- The border infrastructure **consists of airfields, tunnels, all-weather roads, fencing and also laying of new railway lines.**



#### Challenges in creating border infrastructure

- **Challenging Terrain:** The terrain across India's international border ranges from Marshy lands, salt pans, deserts, valleys, rivers, forests etc.
- **Political instability in neighboring countries**, such as Pakistan, can potentially result in border-related problems, triggering issues like mass migrations, among others.
- **Lack of Coordination between Ministries like Home Affairs and Defence Ministries** which has led to infrastructure delays in the border areas.
- **Potential hotspots for radicalization:** Border areas suffering from economic underdevelopment frequently lack essential infrastructure, rendering them susceptible to becoming potential hotspots for radicalization.
  - **Ex:** The northeastern states are marred with ethnic conflicts and regional separatist forces making it difficult for border infrastructure development.
- **Porous borders:** They enable for criminal operations like smuggling, human trafficking, the trafficking of drugs and weapons, and infiltration in the border regions.
- **Environmental concerns:** Building of large infrastructure projects in these ecologically sensitive areas may lead to severe damage to the biodiversity of the region.
  - Currently, **all highway projects within 100 km of India's "Line of Control (LoC)"** are exempt from obtaining environmental clearances.
- **'Under-utilisation of funds':** The parliamentary committee for the home ministry has expressed dismay over 'under-utilisation of funds' for border infrastructure and border area development programmes.



## Way Forward

- **Integrate local communities** in border management, and make them as eyes and ears for the forces, promoting better surveillance across the border
- **Reducing the distance between inter Border Outposts** across open borders, so as to reduce the cases of trafficking, smuggling and fake currencies.
- **Utilise Technology**, like LIDAR, Laser Fencing, flood lightings, CCTVs, Drone Surveillance etc... in feasible areas of the borders and **create Border Protection Grid** in every border State
- **Continuous upgradation** of the present inventory of equipment and accessories in conjunction with the new project so that they are also utilized optimally
- **Private sector participation** should be encouraged, and their capacities can be utilised in the technological up gradation aspects and in context of electronic and surveillance equipment and maintenance.

### Government Initiatives to Strengthen Border infrastructure

- **Vibrant Villages Programme:** Centrally Sponsored Scheme, which aims to develop the essential infrastructure and creation of livelihood opportunities in certain districts and border blocks of 4 states and 1 UT namely Arunachal Pradesh, Sikkim, Uttarakhand, Himachal Pradesh and Ladakh.
- **Border Infrastructure and Management (BIM):** Central Sector Umbrella Scheme which aims to provide better roads, electricity, and communication infrastructure along the border areas.
- **Comprehensive Integrated Border Management System (CIBMS):** An integrated system that utilises high-tech surveillance devices such as sensors, detectors, cameras, radar systems to address the gaps in the present system of border security.
- **Implementation of recommendations of Shekatkar Committee** relating to border Infrastructure like Outsourcing road construction work, Introduction of modern construction plants, Land acquisition and all statutory clearances etc.

## 4.2. NEWS IN SHORTS

### 4.2.1. ARMED FORCES SPECIAL POWERS ACT (AFSPA) 1958

- **Union Ministry of Home Affairs** has extended **AFSPA in parts of Nagaland and Arunachal Pradesh** by another 6 months.
- **AFSPA grants special powers to armed forces** to bring back order in “**disturbed areas**”.
  - They can **open fire** against any person in **contravention to law, arrest and search premises without warrant, etc.**
- **Key highlights**
  - **Disturbed areas:** A **part or whole** state/UT is declared disturbed area when **use of armed forces in aid of civil power is necessary** to restore order.
    - ✓ Declaration is made by **Governor** of state, **administrator** of UT or by **Centre**.
  - **Immunity to Armed forces personnel:** Prohibition legal proceeding against them except **with the previous sanction of the Central Government**.
    - ✓ In 2016, Supreme Court ruled that the **armed forces could not be immune from investigation for excesses committed** during the discharge of their duties even in **disturbed areas**.

- **Treatment of arrested person:** Army authority is duty bound to **handover** the arrested person to the officer-in-charge of the **nearest police station with least possible delay**.
- **Applicability:** Parts of Assam, Manipur, Nagaland, and Arunachal Pradesh.
- **Concern:** Abuse of powers, Human right violation, etc.

### 4.2.2. PREVENTION OF MONEY LAUNDERING (MAINTENANCE OF RECORDS) RULES, 2005

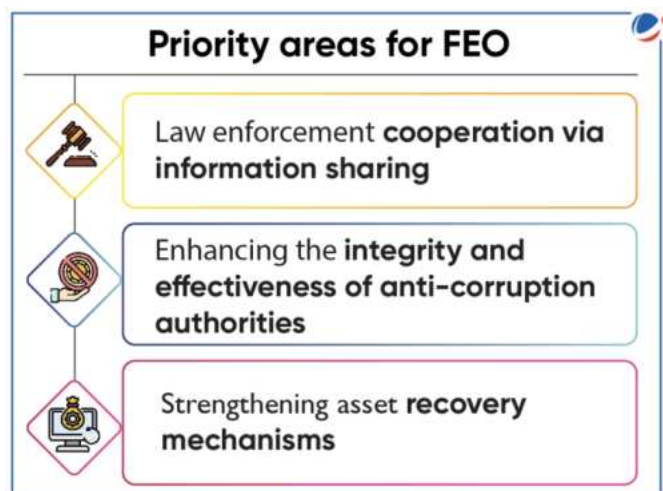
- Ministry of Finance notified **changes** in the **Prevention of Money Laundering (Maintenance of Records) Rules, 2005**.
- Amendments aim to **enlarge type and nature of individuals** who can come under **Prevention of Money Laundering Act (PMLA)** ambit.
- **Key amendments**
  - **Ownership rules**
    - ✓ A person having **ownership of more than 10%** (Earlier limit 15%) of **capital or profits of a partnership** will be considered as **beneficial owner**.
    - ✓ A **person** who exercises **control over partnership through other means**, will be treated as a **beneficial owner**.

- **Definition of principal officer of a reporting entity** (banking company, financial institution, intermediaries etc)
  - ✓ Only an **officer at management level can be appointed as 'Principal Officer'**. Earlier, reporting entity had discretion to appoint any officer as 'Principal Officer'.
  - ✓ Reporting entity shall ensure that **in case of a Trust, trustees shall disclose their status or position** they occupy in the Trust.
  - ✓ **Reporting entities to keep client records for five years** after business relationship with client had ended or account has been closed, whichever is later
- PMLA was **enacted in 2002 to prevent money laundering** and to provide for **confiscation of property derived from**, or involved in, money-laundering.
  - **Enforcement Directorate (ED)**, under Department of Revenue, **enforces PMLA**.

#### 4.2.3. FUGITIVE ECONOMIC OFFENDER (FEO)

- Assets worth **over \$1.8 billion recovered** under Fugitive Economic Offenders Act.
- A **Fugitive Economic Offender (FEO)** is a person against whom an **arrest warrant has been issued** for involvement in **economic offenses involving at least Rs. 100 crore** and the person **has left India to avoid criminal prosecution**.
- Presently, only 10 people have been declared as fugitive economic offenders.
- **FEO Act, 2018:**
  - **Scheduled Offences** are **counterfeiting government stamps** or currency, cheque dishonour, **transactions defrauding creditors**, **money laundering**, etc.
  - **Declaring an offender:** an application will be filed in a **Special Court designated under the Prevention of Money-Laundering Act, 2002**.
  - **Enforcement Directorate (ED)** is the **apex agency** to implement the law.
  - **Empower authorities to confiscate assets even when no conviction has been obtained**.
  - **Rights and titles of the confiscated property** vest in the central government.
  - **Appeals against the orders of the special court** will lie before the **High Court**.

- **Challenges:** Lack of international cooperation on deportation, **complex legal structures** of different countries and jurisdictions, etc.



#### 4.2.4. TTPS-BASED CYBERCRIME INVESTIGATION FRAMEWORK

- TTPs ((Tactics, Techniques, and Procedures) -based cybercrime investigation framework **can help**
  - **track and classify cybercrimes**,
  - **identify the chain of evidence required to solve the case**, and
  - **map evidence onto the framework to convict criminals**.
- It was **developed by IIT Kanpur** with support from the **Department of Science and Technology (DST)** under **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)**, developed a methodology and tool for apprehending cybercriminals' modes of operations in a crime execution lifecycle.
  - **NM-ICPS** aims to develop technology platforms to carry out **R&D, translational research, product development, incubating & supporting start-ups**, and commercialization.

#### 4.2.5. SMISHING

- **Smishing is a social engineering attack** (uses psychological manipulation and exploits human error) that **uses fake mobile text messages to trick people** into downloading malware, sharing sensitive information, or sending money to cybercriminals.
  - Smishing is a **combination of SMS** (short message service) and **phishing**.
- Phishing is a **broad term for cyberattacks that use social engineering** to trick victims into paying

money, handing over sensitive information, or downloading malware.

- **Main difference** between the different **types of phishing attacks is the medium used** to carry out the attacks.

#### 4.2.6. SPAMOUFLAGE

- Meta has **taken down thousands of Facebook accounts** that were part of a campaign known as “Spamouflage”.
- Spamouflage was a widespread **online Chinese spam operation** which **posted praise for China** and criticisms of the USA, western foreign policies, and critics of Chinese government.
- Similar campaign by Russia, named **Doppelganger**, was disrupted last year.
  - It **mimicked websites of mainstream news outlets** in Europe and **post bogus stories** about Russia's war on Ukraine, then try to spread them online.

#### 4.2.7. DEFENCE INDIGENIZATION

- **Defence Acquisition Council (DAC)** approved Rs 7,800 crore to **bolster the Armed Forces**.
  - DAC granted an **Acceptance of Necessity** for the acquisition of an **Electronic Warfare Suite on Mi-17 V5 Helicopters**, sourced from Bharat Electronics Limited under the **Buy (Indian-IDDMM) Categories**.
- **Buy (Indian-IDDMM) category** refers to the **procurement of products** from an **Indian vendor** that has been indigenously designed, developed, and manufactured with a **minimum of 50% Indigenous Content** on cost basis of the total contract value.
  - It is one of the **Categories of procurement of the Defence Acquisition Policy, 2020** to boost indigenous arms manufacturing.
  - **Other categories of Procurement:** Buy (Indian), Buy and Make (Indian), Buy (Global-Manufacture in India), Buy (Global).
- **Significance of Defence indigenization**
  - **Security and strategic imperatives** in the **context of hostile neighborhood** and changing geopolitics.
  - Boosting **innovation and research** in defence.
  - Reducing **current account deficit** emerging from defence imports.

- **Challenges: interoperability of equipment**, issues with economies of scale in the short-term, **ensuring deep and sustained R&D** in defence.
- **DAC** is the **highest decision-making body** on defence procurement having the **Defence Minister as its chairman**.

#### 4.2.8. INFORMATION FUSION CENTRE – INDIAN OCEAN REGION (IFC-IOR)

- **About IFC-IOR**
  - **Established in 2018** in Gurugram.
  - **Objective:** is to **enhance maritime domain awareness and share information on vessels of interest**.
  - **Region covered:** Indian Ocean Region and adjoining Seas.
  - **Significance:** vital role in enhancing **global efforts to combat maritime security threats** including Piracy & Armed Robbery, Contraband Smuggling, IUU Fishing, etc.

#### 4.2.9. ‘PRALAY’ BALLISTIC MISSILES

- **Ministry of Defence** granted approval for acquisition of a regiment of Pralay ballistic missiles.
- **About ‘Pralay’ Ballistic missiles**
  - **Type:** Surface-to-Surface **short-range ballistic missile** that is capable of being launched from a **mobile launcher**.
  - **Developed by:** DRDO
  - **Operational range:** 150 to 500 kms
  - **Payload capability:** 350 to 700 kgs of conventional warhead.
- **Unlike intercontinental ballistic missiles** that exit the Earth's atmosphere, **short-range ballistic missiles stay within it**.
- While it has a **low trajectory** and is largely ballistic, it **can manoeuvre** in flight.

#### 4.2.10. MAHENDRAGIRI (Y - 12654)

- The **seventh and last stealth frigate of Project 17A, Mahendragiri, was launched** at Mazagon Dock Shipbuilders Limited (MDL) in Mumbai.
  - Mahendragiri, named after a **mountain peak in Eastern Ghats, located in Odisha**.
- Project 17A Frigates are the follow-on class of the Project 17 (Shivalik Class) Frigates, **with improved stealth features, advanced weapons & sensors and platform management systems**.



- Project 17A ships have been **designed in-house by Indian Navy's Warship Design Bureau.**

#### 4.2.11. OPERATION POLO

- 75th anniversary of **Operation Polo** is being celebrated.
- It is the code name of **military action** launched by the **Indian Army** on September 13, 1948, to integrate the **princely state of Hyderabad**.
  - It was launched because Nizam Mir Osman Ali Shah was **reluctant to join India** after Independence in 1947.

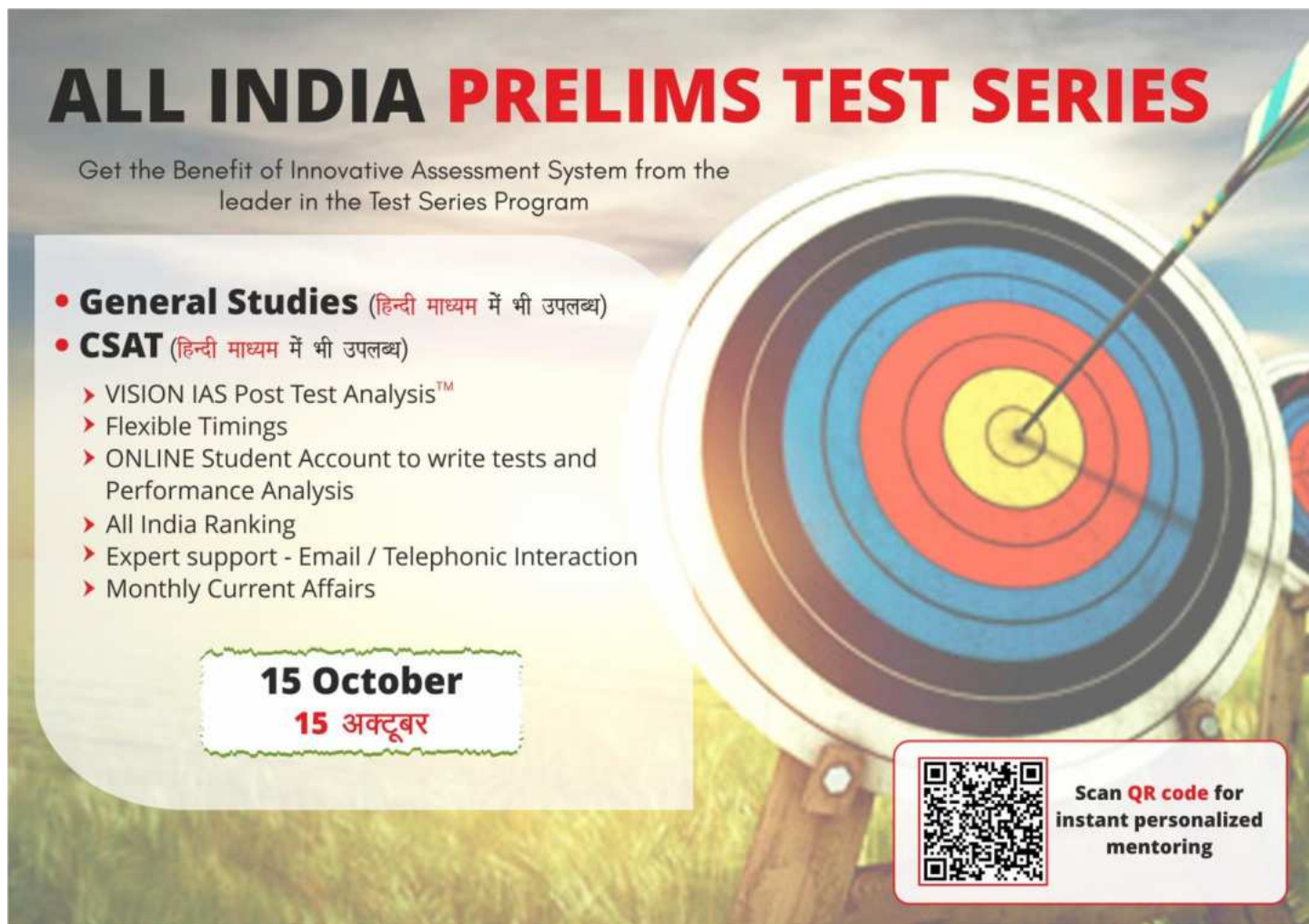
#### 4.2.12. NYOMA AIRFIELD

- Minister of Defence has laid foundation stone for **Nyoma airfield in Eastern Ladakh.**
- **Border Roads Organisation will construct** India's highest fighter airfield in Nyoma.

- **Nyoma village** is located **close to south Bank of Pangong Tso at 13,700 feet.** Nyoma is around 46 kilometres from Line of Actual Control.
- **Significance of Nyoma airfield**
  - **Boost air infrastructure** in Ladakh and **augment IAF's capability** along Northern border.
  - Counter China's strategy of **Anti Access Area Denial (A2AD).**
  - **A2AD involves restricting the enemy's freedom of movement** on battlefield through deployment of a wide range of surface-to-air missile sites and long-range radars etc.

#### 4.2.13. EXERCISES IN NEWS

- **Varuna:** It is bilateral exercise between **Indian and French Navy.**
- **SIMBEX:** Singapore India Maritime Bilateral Exercise (SIMBEX) is an **annual bilateral naval exercise between India and Singapore.**



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# 5. ENVIRONMENT

## 5.1. NAMAMI GANGE PROGRAMME (NGP)

### Why in the News?

According to the latest projections on the Namami Gange Programme (NGP), the installed waste treatment plants are capable of treating just 20% of the sewage estimated to be generated in the 5 major States that lie along the river.

### More on News

- The projection has also revealed that out of a total of 409 projects, only 232 projects have been completed and made operational (till December 2022).

### About NGP

- Objective:** **Integrated Conservation Mission** to accomplish the twin objectives of **effective abatement of pollution, conservation, and rejuvenation of River Ganga**.
  - Also covers its tributaries under **one umbrella programme**.
- Phases:**
  - Namami Gange Mission- I: 2014-2021.**
  - Namami Gange Mission- II: 2022-2026.**
- Key features**
  - Type:** Central Sector Scheme.
  - Implementing Agency:** **National Mission for Clean Ganga (NMCG)** and its state counterparts—State Programme Management Groups.
- Key pillars:** Sewerage Treatment Infrastructure, River-Front Development, River-Surface Cleaning, Bio-Diversity, Afforestation, Public Awareness, Industrial Effluent Monitoring, and Ganga
- Gram.
- Major States covered:** **Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal.**
- Activities split into three segments or targets
  - Entry-level activities immediate** (for visible impact).
  - Medium-term activities** (to be implemented within 5 years of time frame).
  - Long-term activities** (to be implemented within 10 years).

### Challenges faced by NGP

- Delay in Implementation of Projects:** Mainly due to factors such as **delays in handing over land, delays in getting permission from the National Highways Authority of India (NHAI) and Railways**, etc.



**Genesis:** Registered as a society in 2011 under the **Societies Registration Act 1860**.

**Structure:** Two two-tier management structure (Governing **Council** and **Executive Committee**).

- Executive Committee has been authorized to accord approval for all projects up to Rs.1000 crore.

**Legal backing:** It is placed at third place in **five tier structure** envisaged by the **Environment Protection Act, 1986** for river Ganga. Other tiers are:

- National Ganga Council**, chaired by PM.
- Empowered Task Force (ETF)** on river Ganga under chairmanship of Union Minister of Jal Shakti.
- State Ganga Committees**
- District Ganga Committees**

**Key Objectives:**

- Maintain minimum **ecological flows** in the river Ganga.
- Ensure effective abatement of pollution and rejuvenation by adopting a **river basin** approach.

**Key Functions:**

- Implement the World Bank supported National Ganga River Basin Project.

### Achievements of Namami Gange Programme

- Median value of **Dissolved Oxygen** (indicator of river health) has been found to be within acceptable limits as per survey in 2022.
- Out of 1072 Grossly Polluting Industries (GPIs) 885 have been brought under **Central Pollution Control Board's Online Continuous Effluent Monitoring Stations (OCEMS)**.

### Other Key Initiatives for Cleaning Ganga

- Clean Ganga Fund:** In 2014, it was formed to clean up the Ganga, set up waste treatment plants, and conserve the biotic diversity of the river.
- National River Ganga Basin Authority (NRGBA):** It was constituted under the provisions of the EPA, 1986. It has been dissolved in 2016, consequent to constitution of **National Council for Rejuvenation, Protection and Management of River Ganga (NCRPM)** or National Ganga Council.
  - It is implemented by NMCG.
- Ban on Waste Disposal:** In 2017, the National Green Tribunal banned the disposal of any waste in the Ganga.
- Collaboration with Other Countries:** Such as Australia, United Kingdom, Germany, etc.

- **Poor financial management:** Only about 14,745cr of funds have been released by NMCG to State Governments, State Missions for Clean Ganga (SMCG), and other agencies till June 2023.

- **States** are dependent on the **Centre** for funds.

- **Inadequate Sewage treatment:**

Untreated sewage and substantial industrial effluents are **still being discharged** into the river or its tributaries. This is because of the absence of requisite functional treatment capacity.

- **Governance issues:** There are a number of authorities at the **state** and **the national levels** which cause duplication of effort. There is a lack of coordination among agencies.
- **Lack of Participation:** Not much enthusiasm is shown by the **private entities** and **civil society** at large to take extra steps without being dependent on the government funds.

#### Way forward

- **Verification:** The existing and planned sewage treatment plants (STPs) need to be verified on efficiency, reliability and technology parameters by independent agencies.
- **Revenue Generation:** Evolve new and innovative ways to generate sufficient revenues for operation and maintenance (O&M) of water and wastewater infrastructure through pricing and valuing water.
- **Restore local storages** (ponds, lakes, wetlands): It should be an integral part of river restoration and conservation strategy.
- **Mapping and updating of land records:** Map the entire looped length of each and every tributary of the Ganga and correct the land records.
  - **Start restoring lower-order streams** and smaller tributaries in the Ganga Basin.
- **Other Strategies:** Many of the strategies like river-linking, riverfront development projects, access to toilets, making villages open defecation-free, etc. need to be integrated with long-term ecological and sustainability goals.

## Namami Gange: Strategic Areas of Intervention

Nirmal Ganga	Aviral Ganga	Jan Ganga	Gyan Ganga	Arth Ganga
<ul style="list-style-type: none"> <li>• Sewerage Infrastructure</li> <li>• Industrial Pollution</li> <li>• Wastewater reuse and recycle</li> <li>• Rural sanitation</li> <li>• Solid Waste management</li> </ul>	<ul style="list-style-type: none"> <li>• Maintaining ecological flow</li> <li>• Wetland mapping and conservation</li> <li>• Floodplain management</li> <li>• Sustainable agriculture</li> <li>• Afforestation and biodiversity conservation</li> <li>• Small river rejuvenation</li> </ul>	<ul style="list-style-type: none"> <li>• Riverfront, ghats and crematoria</li> <li>• Community engagement</li> <li>• Ganga Run</li> <li>• Ganga Utsav</li> <li>• Ganga Quest</li> <li>• Ganga Amartran Abhiyan</li> </ul>	<ul style="list-style-type: none"> <li>• Water quality monitoring</li> <li>• High resolution mapping of Ganga stretch</li> <li>• Microbial diversity</li> <li>• Aquifer mapping &amp; spring rejuvenation</li> <li>• Cultural mapping &amp; spring rejuvenation</li> <li>• Cultural mapping &amp; climate scenario mapping</li> <li>• River Cities Alliance</li> </ul>	<ul style="list-style-type: none"> <li>• Zero Budget Natural Farming</li> <li>• Monetisation of Reuse of Sludge &amp; Wastewater</li> <li>• Livelihood Generation</li> <li>• Public Participation</li> <li>• Culture Heritage &amp; Tourism</li> <li>• Institutional Building</li> </ul>

## 5.2. IPBES ASSESSMENT REPORT ON INVASIVE ALIEN SPECIES AND THEIR CONTROL

### Why in the news?

Recently, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) has released the 'Assessment Report on Invasive Alien Species and their Control'.



## More on news

- The report **analyzes the extent of the threat** posed by such species to various categories of biodiversity and ecosystem services.
  - It **assesses the effectiveness of current international, national and subnational control measures** and associated policy options that could be employed to prevent, eradicate and control invasive alien species.

## About Invasive Alien Species


- **Invasive alien species** represent a **subset of alien species** known to have established and spread with negative impacts on biodiversity, local ecosystems and species.
  - **Alien species** are animals, plants, and other organisms that have been **introduced by human activities** to new regions.
  - **All Alien species are not invasive species.**
- As per the report, **invasive alien species are one of the five major direct drivers of biodiversity loss globally**, alongside land and sea use change, direct exploitation of organisms, climate change, and pollution.
- **Common characteristics of invasive alien species include:**
  - Rapid reproduction and growth
  - High dispersal ability
  - Ability to adapt physiologically to new conditions.
  - Ability to survive on various food types and in a wide range of environmental conditions.

## Reasons for the growth of Invasive Alien Species

- **Lack of legislation:** 83 per cent of countries do **not have national legislation or regulations** directed specifically toward the prevention and control of invasive alien species.
  - Nearly half of all countries (45 per cent) do **not invest in the management of invasive alien species.**
- **Human activities:** Many human activities facilitate the transport, introduction, establishment and spread of invasive alien species.
  - It is estimated that, by 2050 the total number of alien species globally is expected to be about 36% higher than in 2005.
- **Global Trade:** There is a strong link between the volume of commodity imports and the number of invasive alien species in a region.
  - Increasing **international trade of exotic plants and animals** and the movement of people, including tourism, facilitate the spread of invasive alien species.
- **Climate change:** Climate change facilitates the spread and establishment of many alien species and creates new opportunities for them to become invasive.

## Impact of Invasive Alien Species

- **Environmental damage:** They have **devastating effects on native plant and animal species**, leading to human-wildlife conflicts. Invasive alien plants, especially trees and grasses, can sometimes be **highly flammable and promote more intense fires.**



### Data Bank

- **>37,000** alien species established worldwide.
- **3,500** invasive alien species, with negative impacts on nature, and also, in some cases, on people.
- **34%** proportion of impacts reported in the Americas (31% Europe and Central Asia; 25% Asia Pacific; 7% Africa).
- **75%** of negative impacts are reported from the terrestrial realm, especially temperate and boreal forests and woodlands and cultivated areas.



### Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

HQ Bonn, Germany.

**Genesis:** Established in 2012.

**About:** An independent intergovernmental body committed to **strengthen science-policy interface for conservation and sustainable use of biodiversity**, long-term human well-being and sustainable development.

- It is **not a United Nations body**. However, United Nations Environment Programme (UNEP) provides secretariat services to IPBES.

**Membership:** 144 member States.

- All States Members of UN are eligible for IPBES membership.

- **60%** of global extinctions have been caused, solely or alongside other drivers, by invasive alien species.
- **Food security:** Invasive species are the major cause of **crop loss** and **degraded soil quality**.
- **Social impact:** They negatively **affect the autonomy, rights and cultural identities of Indigenous Peoples** through the **loss of traditional livelihoods and knowledge, reduced mobility and access to land**, and increased labour to manage the invasive alien species.
  - More than 2,300 invasive alien species are found on lands of Indigenous Peoples across all regions of Earth.
- **Health:** Invasive alien species can serve as vectors for infectious zoonotic diseases that can lead to epidemics, such as malaria, dengue fever, chikungunya, Zika, yellow fever etc.
- **Economic burden:** The global **economic cost** of invasive alien species **exceeded \$423 billion annually in 2019**, with costs having at least quadrupled every decade since 1970.

#### Initiatives against Invasive Alien Species

- **Target 6 of Kunming-Montreal Global Biodiversity Framework** aims to eliminate, minimize, reduce and or mitigate the impacts of IAS on biodiversity and ecosystem services by 2030.
- **Global Invasive Species Programme (GISP):** It was established in 1997 to address global threats caused by Invasive Alien Species and to provide support to the implementation of **Article 8(h) of the Convention on Biological Diversity (CBD)**.
  - **Article 8 (h)** of CBD calls to **prevent the introduction of, control or eradicate** those alien species which threaten ecosystems, habitats or species.
- **Global Register of Introduced and Invasive Species (GRIIS)** presents validated and verified national checklists of introduced (alien) and invasive alien species at country, territory, and associated island level.
- **Ramsar Convention:** Ensure that the impact on wetlands from invasive species is prominently addressed.
- **United Nations Convention on the Law of the Sea (UNCLOS):** States are required to protect and preserve the marine environment from intentional or unintentional introduction of alien species.

### Know the term

- **Biological invasion:** It is a process involving **intentional or unintentional transport or movement of a species outside its natural range by human activities** and its introduction to new regions, where it may become established and spread.

#### Way Forward

- **Effective Management:** Biological invasions and their adverse impacts can be prevented and mitigated through effective management of
  - **Pathways of introduction** and spread of invasive alien species.
    - ✓ Pathway management involves strictly enforced import controls, pre-border, border and post-border biosecurity, and measures to address escape from confinement.
  - Target invasive alien species **at either local or landscape scales**
  - **Site-based or ecosystem-based management**
- **Awareness:** Public engagement with citizen-science platforms or community-driven eradication campaigns can raise awareness and contribute to actions that reduce the threat of invasive alien species.
- **Integrated Governance:** There is a need for a context-specific integrated governance approach, involving complementary strategic actions such as
  - Enhancing coordination and **collaboration across international and regional mechanisms**.
  - Developing and adopting **effective and achievable national strategies**
  - **Sharing efforts and commitment** and understanding the specific role of all actors
- **Investment:** Capacity building and **targeted investment in research innovation** and environmentally sound technology is required for the eradication of invasive alien species.

## 5.3. UNESCO WORLD HERITAGE SITES

#### Why in news?

According to new research, the **World Heritage Sites (WHS's)** make up less than 1 % of the Earth's surface, but they harbour more than 20 % of the planet's biodiversity.

## More on News

- Research was conducted by **United Nations Educational, Scientific and Cultural Organization (UNESCO)** and the **International Union for Conservation of Nature (IUCN)**.
- They are estimated to protect over 20,000 endangered species.
- **WHS's** have been referred as **last line of defense against extinction**.
  - Played key role in protection of **Javan Rhinos**, **Vaquitas** (the world's smallest cetacean) and **Pink Iguanas**.
  - Also protected **Sumatran Rhinos**, **Sumatran Orangutans** and **Mountain Gorillas**.

## About World Heritage Sites (WHS) and Convention

- It is any of the areas or objects inscribed on the **UNESCO World Heritage List**.
- These sites are designated as having **outstanding universal value** under the **World Heritage Convention** of 1972.
- There are total 1199 heritage sites under the Convention (as of 27<sup>th</sup> Sept, 2023).
- Sites are selected under three categories i.e. **cultural**, **natural**, and **mixed**.
  - There are 42 **World Heritage Sites** in India. Out of these, 34 are cultural, 7 are natural, and one is of mixed type.
- **World Heritage Convention**
  - It has been adopted as **Convention Concerning the Protection of the World Cultural and Natural Heritage**.
  - **Principle**: Recognizes the way in which **people interact with nature**, and the fundamental **need to preserve the balance between the two**.
  - **Parties and Implementing Agency**: 195 State parties including India and World Heritage Committee.
  - **Strategic Objectives (Five Cs)**: Credibility, Conservation, Capacity-building, Communication and Communities.

## Why World Heritage Sites are unique in conserving biodiversity?

- **Covers wide Horizon**: Deals with both natural, cultural heritage and mixed heritage sites. These are conferred the highest level of international protection. E.g., Khangchendzonga National Park of India.
- **Regional Planning Programme (RPP)**: Parties are encouraged to integrate the protection of the sites into **RPP**. E.g., National Biodiversity Strategies and Action Plans (NBSAPs).
- **World Heritage Fund**: It fulfils the urgent need during disasters or natural calamities.
- **Reporting Mechanism**: Convention stipulates the obligation on Parties to report regularly to the **World Heritage Committee (WHC)** on the state of conservation of their World Heritage properties.
  - E.g., In Kaziranga National Park (India) and Chitwan National Park (Nepal), the population of Greater one-horned Rhinos has been doubled since their inscription on the UNESCO World Heritage List.
- **Public Participation**: Encourages **States Parties to strengthen** the appreciation of the public to enhance protection through educational and information programmes.
- **Policy Action**: Facilitate dialogue between **policymakers and World Heritage actors** in the development and implementation of effective actions.
- **Balance between Nature and Culture**: Strengthen the link between **nature and culture**, as many cultural sites, including those in **urban areas** are promoting biodiversity.

## Challenges faced by World Heritage Sites

- **Decline in the population of the endangered species**: Either by natural factors such as disease or by human-made factors such as poaching. E.g. Tropical Rainforest Heritage of Sumatra.
- **Development Activities**: It includes activities like construction of reservoirs which flood important parts of the property, industrial and agricultural development etc.
  - **Human encroachment** also threatens the integrity of the sites. E.g. Lake Turkana National Parks in Kenya
- **Climate Change**: Every **1°C increase in global temperature** could **double the number of species threatened** by dangerous climate conditions. Due to it, migration pattern, food availability etc. have changed.
- **Funding**: World Heritage Fund is not able to fulfil need of all nations as many nations do not contribute on time.
- **Armed conflict**: Along with **rising frequency of disasters**, heritage sites **face brunt of armed conflicts**.
  - E.g., **UNESCO sites of Kyiv and L'viv** are inscribed on the **List of World Heritage in Danger** due to **Ukraine-Russia conflict**.



- **Other: Nations** modify the **legal protective status** of the area, severe deterioration of the **natural beauty or scientific value**, etc.

## Conclusion

**WHS** need to be given more protection and priority as they are playing key role in biodiversity conservation. It will play key role in achieving the target of **Kunming-Montreal Global Biodiversity Framework**.

UNESCO
<b>About</b> <ul style="list-style-type: none"> <li>Established in 1945, as a <b>specialised agency</b> of the <b>United Nations</b> to <b>promote international cooperation in education, sciences, culture, communication and information</b>.</li> <li><b>Membership</b>: 194 Members including India and 12 Associate Members.</li> <li><b>Structure</b>: Secretariat, headed by Director-General, implements the decisions of General Conference and Executive Board</li> </ul> <b>Functions</b> <ul style="list-style-type: none"> <li>Attaining quality education for all and promoting lifelong learning</li> <li>Mobilizing <b>scientific knowledge</b> and policy for sustainable development</li> <li>Addressing emerging <b>social</b> and <b>ethical challenges</b></li> <li>Fostering cultural diversity, intercultural dialogue and a culture of peace</li> <li>Building inclusive knowledge societies through information and communication</li> </ul> <b>Key Initiative/Other Information</b> <ul style="list-style-type: none"> <li><b>Man and Biosphere Programme (MAB), 1971</b>: MAB is an <b>Intergovernmental Scientific Programme</b> that aims to establish a <b>scientific basis</b> for the <b>improvement of relationships between people and their environments</b>.</li> <li><b>Budapest Declaration on World Heritage (2002)</b>: Adopted to ensure that the <b>World Heritage Convention</b> applies to heritage in all its diversity. It is an instrument for the sustainable development of all societies through <b>dialogue</b> and <b>mutual understanding</b>.</li> <li><b>UNESCO strategy for gender equality</b> in and through education 2019-2025</li> <li>It is also a member of <b>United Nations Sustainable Development Group (UNSDG)</b>.</li> <li>All Member States have established a <b>National Commission</b> for UNESCO.</li> </ul>

## 5.4. PACIFIC DECADAL OSCILLATION (PDO)

### Why in the news?

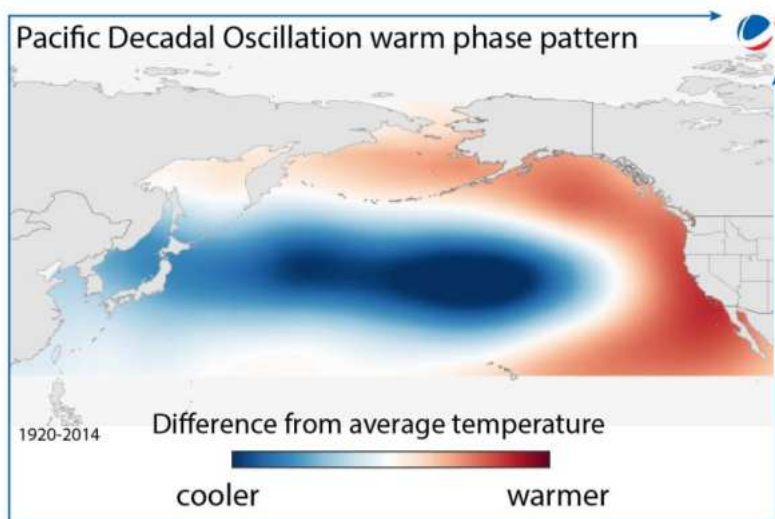
According to a recent study, a combination of global warming and the Pacific Decadal Oscillation (PDO) could make cyclones more frequent in the coming years.

### More on News

- Also, both PDO and **El Nino Southern Oscillation (ENSO)** impact each other.
- Scientist have also pointed the linkage of PDO and global warming.

### About PDO

- **PDO** is a long-term ocean **fluctuation** in the **Pacific Ocean**.
- It has **two phases**:
  - **Cool or Negative Phase**: Characterized by a **cool wedge** of lower than normal **sea-surface heights/ocean temperatures** in the **eastern equatorial Pacific**.
    - ✓ And a warm **horseshoe pattern** of higher than **normal sea-surface heights** connecting the **north, west and southern Pacific** (refer to image).
  - **Warm or positive phase**: It is reverse of cool phase. In it, **West Pacific Ocean** becomes cool and the wedge in the east warms.



- It waxes and wanes approximately every 20 to 30 years. However, in the **recent time**, the ‘**warm**’ and ‘**cold**’ phases have been much shorter.

#### Why PDO enhances the frequency of Cyclones?

- **Negative PDO** along with **La Nina** phase creates **suitable condition** for the tropical cyclones.
- In 2019, the PDO entered a **cooler or negative phase**. If it remains so, it could mean **more tropical cyclones** in the **post-monsoon months** that originate near the equator.
  - The number of **equatorial-origin cyclones** was 43% fewer in 1981-2010 compared with 1951-1980, and this was because the **PDO was in a ‘warmer’ or positive phase**.
- It’s usually rare for cyclones to form near the Equator (due to the absence of Coriolis force) but when the waters are warm, they can **gain more moisture and rise in intensity**.

#### About ENSO

- Though ENSO is a **single climate phenomenon**, it has **three states or phases**. Which are as Follows:
  - **El Niño**: A **warming** of the ocean surface or **above-average** sea surface temperatures (SST), in the **central and eastern tropical Pacific Ocean**.
    - ✓ It leads to drought and deficient rainfall in Asia.
    - ✓ Due to it, recently global monthly mean ocean temperatures has raised at an all-time high relative to temperatures since records started to be kept.
  - **La Niña**: A **cooling** of the ocean surface or **below-average** sea surface temperatures (SST), in the **central and eastern tropical Pacific Ocean**.
  - **Neutral**: Neither El Niño or La Niña. Often tropical Pacific SSTs are generally close to average.

#### Relation between PDO and El Nino Southern Oscillation (ENSO)

- **Climate impacts** experienced during a **PDO** event can go **hand-in-hand** with **impacts of ENSO**.
  - If **both phenomena** are in the **same phase**, their associated **impacts can be amplified**.
- **Impact on Indian Monsoon: ENSO** (El Niño phase) with a **positive PDO** is generally **not good for the Indian monsoon**.
  - When **ENSO** (in La Nina phase) is linked with a **negative PDO**, it intensifies monsoon in India.

#### Relation between PDO and Global Warming

- It is thought that negative phases could be linked to times of **slower warming**.
- This happens because **cold or negative phases** of the **PDO** tend to increase **mixing of colder, deep ocean waters with warmer surface waters**.
  - This temporarily reduces the rate of **global warming** caused by **increasing greenhouse gas emissions**.
- However, positive phases of PDO have the opposite effect i.e. **increases the global warming**.

#### Conclusion

PDO is a complex phenomenon. It impacts region ranging from USA to India. Due to climate change and other related events such as ENSO its cycle has changed in the recent time. Still research is going on to understand its different dimensions.

#### Related News: Marine Heatwaves (MHWs)

- **Long-term, persistent warming** and discrete periods of extreme regional ocean warming is called **MHWs**.
  - Indian Ocean (Arabian Sea and the Bay of Bengal) experienced it recently.
- **Causes**: It occurs when the surface temperature of a **particular region** of the sea rises to **3 or 4 degrees Celsius** above the **average temperature** for at **least five days**.
  - **El Nino** has contributed in its **occurrence**.
- **Key Characteristics**:
  - MHWs can last for weeks or even years.
  - They can affect small areas of coastline or span multiple oceans.
  - MHWs have increased by 50% over the past decade and now last longer and are more severe.
- **Impacts**:
  - **Marine ecosystems**: Deaths of **several marine species**, alter their **migration patterns**, lead to **coral bleaching** and even **impact weather patterns**.
  - **Humans**: Can make **storms stronger** and severely **affect coastal communities**. These make **hurricanes and tropical cyclones stronger more intense and frequent**.
  - **Precipitation**: Due to its presence in the **Bay of Bengal**, **northwest India** received **sufficient rainfall**.

## 5.5. NEWS IN SHORTS

### 5.5.1. BREAKTHROUGH AGENDA REPORT 2023

- Jointly released by **International Energy Agency, International Renewable Energy Agency, and UN Climate Change High-Level Champions.**
- It is an **annual progress report**, requested at **UN Climate Change Conference COP26 2021** as part of the launch of the **Breakthrough Agenda**.
  - **Breakthrough Agenda** is an action plan that aims to align actions and coordinate investment across **5 key sectors viz.**
    - ✓ **Power, Road transport, Steel, Hydrogen, and Agriculture.**
- **Key findings**
  - Transition to **clean energy sustainable solutions** is **accelerating**.
  - Country's **Nationally Determined Contributions** are not aligned with **global climate goals**.
  - **Power sector** accounts for **23% of total emissions**, which has risen by around 10% since 2010.
- **Sector wise recommendations**
  - **Power sector:** Prioritise **R&D investments** in storage, and distributed operation of energy resources.
  - **Hydrogen:** Define regulatory frameworks for **storage technology transfer** and increase concessional finance available for **well-targeted usages**.
  - **Road transport:** Agreed on a timeline for zero-emission and **established standards** for **battery carbon footprint**,
  - **Steel:** Establish a **dialogue on steel decarbonization** policies and make an emissions accounting methodology.
  - **Agriculture:** **Additional finance is needed for agroecology, reduction of food loss and waste, reducing methane emissions, and crop and livestock breeding.**

### 5.5.2. UNDP LAUNCHES NATIONAL CARBON REGISTRY

- United Nations Development Programme (UNDP) launched the **National Carbon Registry**.
- National Carbon Registry is an **open-source software** that allows countries to **effectively manage national data and processes for trading carbon credits**.

- It has been **accredited as a digital public good** (DPG) and **can be integrated with national measurement, reporting and verification (MRV) systems** to meet international reporting requirements.
- National carbon Registry **will promote development of Carbon Market** by facilitating trading of carbon credits.
  - **Article 6 of Paris Agreement** allows countries to voluntarily **cooperate with each other to achieve emission reduction targets** set out in their Nationally Determined Contributions (NDCs).
- **Carbon markets** are trading systems in which carbon credits are sold and bought.
  - Companies or individuals can **use carbon markets to compensate for their greenhouse gas emissions by purchasing carbon credits** from entities that remove or reduce greenhouse gas emissions.
  - **One tradable carbon credit equals one tonne of carbon dioxide** or the equivalent amount of a different greenhouse gas reduced, sequestered or avoided.
  - Carbon trading was **introduced by Kyoto Protocol** in 1997.
- In India, **Ministry of Power notified Carbon Credits Trading Scheme (CCTS), 2023** for institutionalisation and functioning of Indian Carbon Market (ICM).

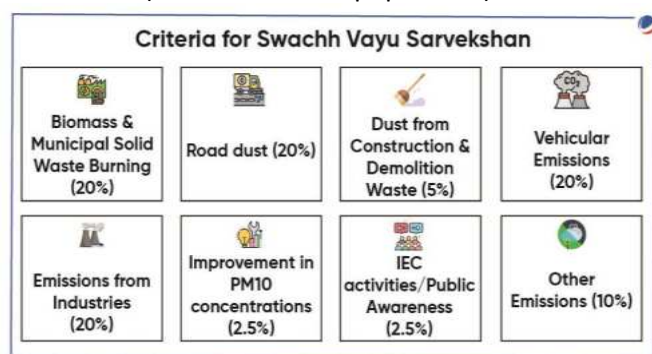
### 5.5.3. TECHNICAL REPORT ON THE GLOBAL STOCKTAKE

- The **first global stocktake technical synthesis report** released by the **United Nations Framework Convention on Climate Change (UNFCCC)**.
- The global stocktake (GST) aims to serve as a **report card on the progress of countries under the 2015 Paris Agreement in achieving their climate action goals**.
  - The Global Stocktake is intended to **evaluate progress on climate action at the global level** — not the national level — and identify overall gaps to achieve the Paris Agreement as well as opportunities to bridge them.
- **Key Finding**
  - The world is **'not on track' to meet the long-term goal** of limiting global temperatures to 2 degrees Celsius.



- **Renewable energy has to be scaled up and all 'unabated fossil fuels'** (for example, coal plants without carbon capture and storage mechanisms) were to be rapidly eliminated to reach net zero CO<sub>2</sub> emissions.
- **More ambitious mitigation targets in NDCs** (Nationally Determined Contributions) are needed to reduce emissions more rapidly.
- **Transparent reporting on adaptation** can facilitate and enhance understanding, implementation and international cooperation.
- **Support for adaptation and funding arrangements** for averting, minimising and addressing loss and damage, from the impact of climate change, needed to be rapidly scaled up from expanded and innovative sources.
- **A focus on inclusion and equity** can increase ambition in climate action and support.
- **Strategic capacity-building support** to developing countries needs to be scaled up to address locally determined needs.

- Better performing cities i.e., the **top 3 cities in each category, are rewarded with a cash price, trophy and Certificate.**
- In Swachh Vayu Sarvekshan 2023
  - ✓ **Indore** ranked first in **1<sup>st</sup> category** (million plus population)
  - ✓ **Amravati** ranked first in **2<sup>nd</sup> category** (3-10 lakhs population)
  - ✓ **Parwanoo** ranked first in the **3<sup>rd</sup> Category** (less than 3 lakhs population)



#### 5.5.4. SWACHH VAYU SARVEKSHAN

- Recently, Swachh Vayu Sarvekshan 2023 (Clean Air Survey) awards were announced.
- **Swachh Vayu Sarvekshan** is an initiative by the **Ministry of Environment, Forest and Climate Change (MoEFCC)** under the **National Clean Air Programme (NCAP)**.
  - NCAP has been launched by the MoEFCC as a **comprehensive initiative** in partnership with various Ministries and States **to improve air quality at city, regional and national level.**
- **Objectives of Swachh Vayu Sarvekshan**
  - **To create awareness** among all sections of the society
  - **To create awareness** among all sections of the society
  - **To create awareness** among all sections of the society
  - **Inform citizens about the health impacts** related to exposure.
  - **Comparing air quality conditions** at different locations/cities
  - **To achieve the goal of NCAP 'Clean Air for All'**
- All 131 cities covered under NCAP are **required to do the self-assessment as per the framework provided on the PRANA online portal** (Dashboard to capture the progress of the NCAP programme).
  - 131 cities are **categorized into three groups based on population.**

#### 5.5.5. BUILDING MATERIALS AND THE CLIMATE

- 'Building Materials and The Climate: Constructing A New Future' report was released by the **United Nations Environment Programme (UNEP).**
- It highlights the urgent need to **develop new models for cooperation on decarbonisation of building materials.**
  - Report was developed in collaboration with Yale Center for Ecosystems and Architecture in the framework of the Global Alliance for Buildings and Construction (GlobalABC).
- Decarbonisation of buildings refers to **removal or reduction of carbon dioxide (CO<sub>2</sub>) emission** into atmosphere.
- **Need to decarbonise building/construction sector**
  - It is **responsible for at least 37 percent of global emissions** (largest emitter of greenhouse gas).
  - To **limit global warming to 1.5°C (Paris agreement)** and **achieve net zero by 2050** by reducing **embodied carbon** in building materials.
    - ✓ Embodied carbon account for **11 percent of annual global GHG emissions arising from manufacturing, transportation, installation, maintenance, and disposal of building materials.**

- **Challenges in decarbonization of building/construction sector**
  - **Regulation and market demand:** No consensus exists on **Building specifications, standards and codes**.
  - **Lack of Data** on **durability and resilience** of materials and its impact on embodied carbon.
  - **Lack of capacity** in data collection and reporting of material changes, maintenance and repair that have occurred in a building over time.



#### 5.5.6. CENTRAL EMPOWERED COMMITTEE (CEC)

- Ministry of Environment, Forest and Climate change (MoEF&CC) forms **CEC on Environmental issues**.
  - MoEF&CC, exercising power under the **Environment (Protection) Act (1986)**, constituted a **permanent statutory CEC**.
    - ✓ The **permanent CEC will replace an ad hoc CEC formed in 2002** for monitoring the implementation of SC's order in **TN Godavarman vs. Union of India (1996)**.
    - ✓ Ad hoc CEC has been reporting to SC on steps taken for **removal of encroachment, compensatory afforestation, and other conservation issues**.
- **Key highlights about CEC**
  - **Composition:**
    - ✓ **Chairman and 3 Expert Members** selected for **3 years** (extendable once upto age of 60).
    - ✓ **Chief Coordinating Officer** a serving officer not below rank of **DIG of Forests/Director in GOI**.
    - ✓ All of them should have **experience in Environment, Forest and Wildlife**.
  - **Functions:**
    - ✓ **Monitor implementation of SCs orders** and place **reports of noncompliance** before the Centre.

- ✓ Deal with any **applications made by any aggrieved person**.
- **Jurisdiction:** Whole country
- **Deferment of State:** If the State differs from CEC's recommendation, it shall be referred to the Centre whose decision **shall be final and binding**.
- **Concern:** Lack of representation from civil society (ad hoc panel comprised of two members of NGOs).

#### 5.5.7. GLOBAL TRENDS ON LAND DEGRADATION AND DROUGHT

- Data released by the **United Nations Convention to Combat Desertification (UNCCD)**
  - **UNCCD is the sole legally binding international agreement** for sustainable land management.
- **Key Findings**
  - Between 2015 and 2019, **at least 100 million hectares of land** were degraded every year **amounting to 402 million hectares** in four years.
  - It impacted the lives of **1.3 billion people**.
  - At this rate, **restoring 1.5 billion hectares of land by 2030** is essential to achieve a **land-degradation-neutral (LND) world**.



- **Reasons:** extreme **weather conditions, drought, excessive Use of fertilizers and pesticides, salination, climate change, etc.**
- **LDN** is a state whereby, the **amount and quality of land resources necessary to support the ecosystem to enhance food security remain stable or increase, within specified temporal and spatial scales**.

- Earlier, UNCCD has released a **2018–2030 Strategic Framework** that focuses on;
  - **Mitigate, adapt and manage land degradation.**
  - Mobilize **financial and nonfinancial** resources.
  - **Improve the condition of land degradation-** through participation.

#### 5.5.8. ECOCIDE

- Ecocide refers to **unlawful or wanton acts committed** with knowledge that there is a **substantial likelihood of widespread** or long term **damage to environment** being caused by those acts.
  - **Arthur Galston**, in 1970, was **first to link environmental destruction with genocide** when referring to **use of Agent Orange** (a herbicide) by **US during Vietnam War**.
- **Ecocide** is currently recognised as a **crime in several countries**.
- Though **used in certain cases as references** by Courts, **India is yet to make it an offence**.

#### 5.5.9. EXTREME WATER STRESS

- **New data from World Resources Institute (WRI)**, a global research organisation, shows that
  - **One-quarter** of the global **population faces extremely high water stress**.
  - **25 countries, including India**, face extremely high water stress each year.
    - ✓ A country facing “**extreme water stress**” means it is **using at least 80% of its available supply**, “**high water stress**” means it is **withdrawing 40% of its supply**.
- **Other Key findings**
  - **50% of world’s population** live under **highly water-stressed conditions** for at least one month of the year.
  - **31% of global GDP** will be exposed to **high water stress by 2050**. **India, Mexico, Egypt and Turkey** will account for **over half of exposed GDP** in 2050.
  - **60% of world’s irrigated agriculture** faces extremely high water stress.
  - **Causes of global water stress:** Increased water use, lack of investment in water infrastructure, unsustainable water use policies, increased variability due to climate change etc.
- **Recommendations**
  - Improve **water governance through nature-based solutions** and green infrastructure.

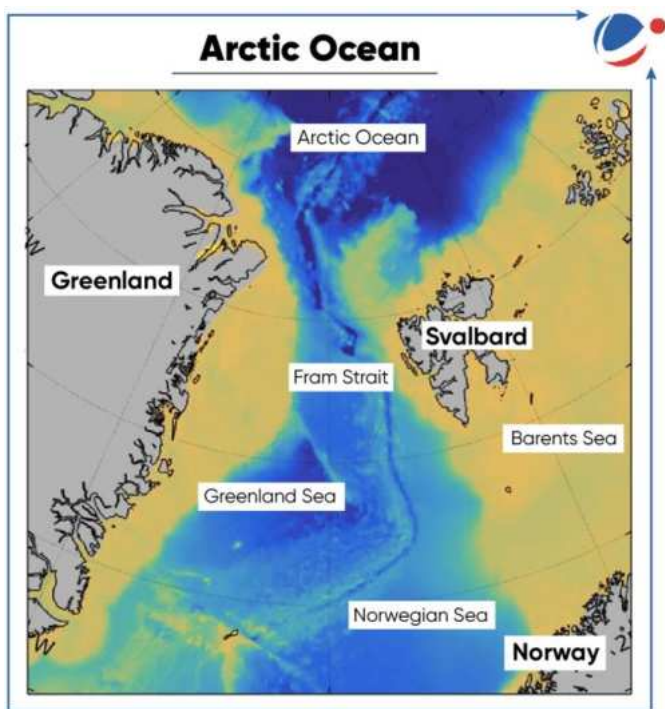
- **Consider programs like debt-for-nature swaps** for a commitment to invest in mangrove restoration or wetland conservation.
- **Switching to water-efficient crops** or using methods like sprinkler or drip irrigation versus flooding fields.
- Cities should develop **urban water resilience action plans**.



#### 5.5.10. ATLANTIFICATION

- Atlantification is making the **Arctic Ocean saltier and warmer**.
- Atlantification is a process in which **warm water from Atlantic is being advected into arctic ocean in increasing amounts** thereby making some parts of Barents Sea to more closely resemble the Atlantic.
  - **Top of the Arctic Ocean** is typically **covered by sea ice**. Below this is a **layer of cool freshwater**, followed by a **deeper layer of warmer, saltier water** delivered to Arctic from Atlantic.
  - **Layers are held in place** as a result of differences in **water salinity** and thus **protects sea ice from being melted** by incoming **warm water from Atlantic**.
- However, **rapid decline in arctic ice covers** in recent decades is **causing the ocean to mix together** and also **driving Atlantification**.
  - Once sparked, Atlantification **causes further melting of sea ice**, which could, in turn, **lead to more Atlantification**.
- Researchers believe that Atlantification is **driven by a process called Arctic Dipole** which is associated with **anticyclonic winds over North America** and **cyclonic winds over Eurasia** which **alternates in an approximately 15-year cycle**.
  - **Positive phase of Arctic Dipole** contributed to **slowing Arctic sea-ice loss** by restricting Atlantic water into the Arctic via the Fram Strait and **negative phase accelerate sea-ice decline**.





#### 5.5.11. ARTIFICIAL REEF (AR)

- Department of Fisheries is promoting AR under **Pradhan Mantri Matsya Sampada Yojana** for rejuvenating coastal fisheries.
- **ARs are technology interventions used to rehabilitate or improve natural habitats**, increase productivity and manage aquatic resources including habitat enhancement.
- **Advantages**
  - **Reduce wave damage on coasts**, helps regeneration of marine ecosystem and act as a **carbon sink**.
  - **Enhance recreational fisheries**, eco-tourism, creating suitable areas for diving and reducing conflicts.
  - **Restricts bottom trawling** in the near shore areas.

#### 5.5.12. ELECTRIFIED FLEX FUEL VEHICLE (FFV)

- **World's first prototype** of the **BS 6 Stage II 'Electrified Flex fuel vehicle (FFV)'** launched.
  - This vehicle has both the **flex fuel engine as well as an electric powertrain**.
  - It offers **higher use of ethanol** combined with **better fuel efficiencies**.
- FFV has an internal combustion engine **that can run on more than one type of fuel, or even a mixture of fuels** such as petrol and ethanol.

- **For example: E85** which has 85% ethanol fuel and 15% gasoline or other hydrocarbon by volume.
- **Benefits:** Lower harmful pollutant emission like Carbon monoxide, sulphur, etc., reduced import dependence on crude oil.
- **Drawbacks:** Lower mileage compared to traditional gasoline, use of water-intensive crops such as sugarcane for production of ethanol, etc.
- **Bharat Stage VI (BS VI)**
  - Bharat stage (BS) emission standards are laid down **to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment**.
  - Government had decided to **leapfrog directly from BS-IV to BS-VI** emission norms w.e.f. **April 01, 2020**.
  - The **fuel quality has improved significantly from BS-IV to BS-VI** norms by **reducing the permissible Sulphur content by 80%** (from 50 Parts Per Million (ppm) to maximum 10 ppm).

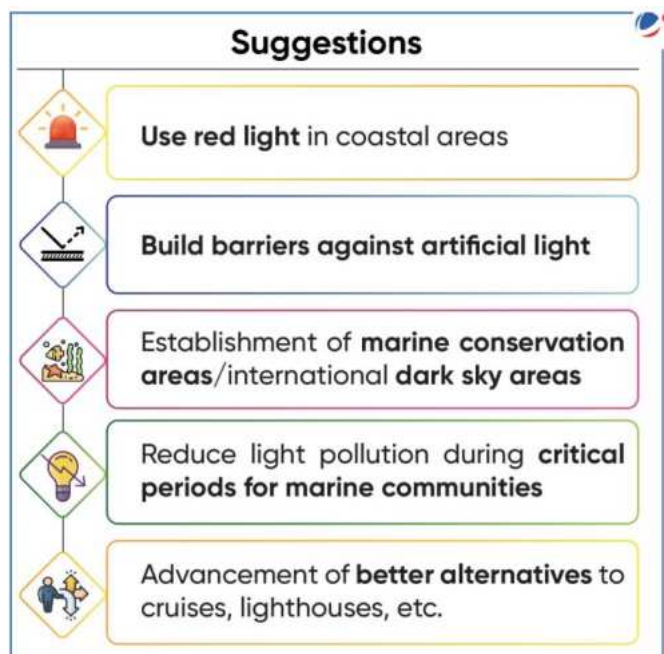
#### Ethanol Blended Petrol (EBP) Programme

- The **target of 10% ethanol blending** for Ethanol Supply Year (ESY) 2021-22 **has already been achieved**.
- The **National Policy on Biofuels – 2018** targets **20% blending of ethanol in petrol** by ESY 2025-26.

#### 5.5.13. MARINE LIGHT POLLUTION

- According to a study by Journal Aquatic Conservation **marine light pollution threatens coastal marine systems**.
- **Light pollution** also known as **'Artificial Light at Night' (ALAN)** is an excessive, misdirected, or obtrusive artificial (usually outdoor) light in the environment.
- **Sources of light for Marine Ecosystem:**
  - **Natural Sources-** Sunlight, moonlight, starlight, and bioluminescent light (**result of endogenous biochemical reactions**).
  - **Artificial light:** City lights, by offshore oil and gas platforms, wind farms, and island development.
- **Significance of Light for Marine Ecosystem**
  - **Ocean is generally divided into three zones** based on the **amount of sunlight it receives** i.e., Euphotic (<200 m), Dysphotic (200 and 1,000 m), and Aphotic zones (**below 1,000 m**).
  - Marine organisms have **visual systems guided by light** and **solar and lunar cycles** to regulate their life events e.g., eggs hatching, etc.
- **Impacts of ALAN:**
  - **Behavior change**-mating, reproductive.

- **Symbiosis** or inter species interaction impacted.
- **Physiology** e.g hormones, metabolism and growth.
- **Photosensitive** systems of species get disturbed.



#### 5.5.14. DELHI FRAMEWORK ON FARMERS' RIGHTS

- **Global Symposium on Farmers' Rights (GSFR)** adopts the Delhi Framework on Farmers' Rights.
  - GSFR was organized by Secretariat of **International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)** of **Food and Agriculture Organization (FAO)**.
  - PGRFA are the **raw material** that form basis of **all crop varieties** and include **seeds and all other plant genetic material**.
- **Key highlights of Delhi Framework:**
  - Creating **functional synergy across different UN instruments** (ITPGRFA, CBD, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) etc.) for realization of farmers' rights.
  - Establish/support **farmer-managed seed system for traditional varieties** and create self-sustaining production and marketing value chain.
  - **Building farmer-centric partnership opportunities** including South-South, triangular and regional cooperation.
- **ITPGRFA**, also known as **seed treaty**, is a **major international agreement to conserve, use and manage PGRFA** around the world.

- It is a **legally binding agreement** that was adopted in 2001 and **entered into force in 2004 (India is a party)**.
- ITPGRFA **makes it possible to share plant genetic resources across borders** through a unique Multilateral System of Access and Benefit-sharing (MLS).
- **India has enacted the Protection of Plant Varieties and Farmers' Rights Act 2001** to safeguard **interest of farmers** and other peoples who are engaged in the **conservation and improvement of plant genetic resources**.

#### 5.5.15. NORMAN BORLAUG FIELD AWARD FOR FIELD RESEARCH AND APPLICATION

- **Dr. Swati Nayak**, an Indian scientist at **International Rice Research Institute (IRRI)**, was named the recipient of the prestigious award in 2023.
  - She is recognized for her **innovative approach to engaging smallholder farmers in demand-driven rice seed systems** and adoption of **climate-resilient and nutritious rice varieties**.
- \$10,000 award **recognizes exceptional, science-based achievement** in international agriculture and food production **by an individual under the age of 40**.
  - **Endowed by:** Rockefeller Foundation.

#### 5.5.16. WALKING LEAVES

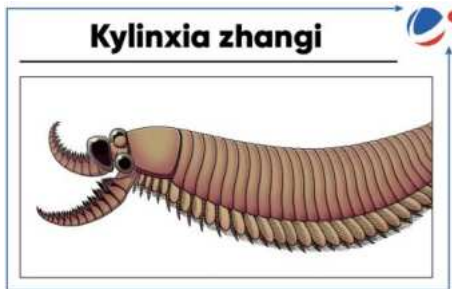
- An international research team has **described seven previously unknown species of leaf insects (Phylliidae family)**, also known as walking leaves.
- **About Walking Leaves:**
  - They are usually green insects and are known for **their leaf-like appearance**.
  - **Distribution:** Islands in the Indian Ocean, across parts of mainland South Asia and Southeast Asia, to Papua New Guinea and Australia in the western Pacific.
  - Males tend to be **smaller than females**.



#### 5.5.17. KYLINXIA ZHANGI

- Researchers have investigated a nearly **520-million-year-old fossil of Kylinxia zhangi** (found in China).
  - New findings revealed that Kylinxia sported **three eyes on its head**, along with a pair of **claws** that was possibly **used to catch prey**.

- The fossil is part of the **Cambrian Chengjiang biota**, a group of **exceptionally preserved animals**.
- **Kylinxia** is related to the **arthropods**.



#### 5.5.18. MITHUN

- **Food Safety and Standards Authority of India** has recognised the Mithun (*Bos frontalis*) as a food animal.
- **Food Animals** are those that are **raised** and used for **food production or consumption by humans**.
- **About Mithun**
  - **Species:** Ruminant species of Bovidae family.
  - **Habitat:** **Arunachal Pradesh, Nagaland, Manipur, and Mizoram**. Also found in parts of Bangladesh, Myanmar, and Bhutan.
  - **State animal:** of both Arunachal Pradesh and Nagaland.
  - **Similar** to that of **Gaur (Indian bison)** but are smaller in size.
- **Categorization** can help check its declining population.
- Earlier in **2022**, **Himalayan yak** was accepted as a food animal by **FSSAI**.



#### 5.5.19. PTERYGOTRIGLA INTERMEDICA

- Scientists of Zoological Survey of India have discovered a new species of marine fish from West Bengal.
- New species, **commonly known as gurnards or sea-robins**, belongs to **family Triglidae** and there are a total **178 species** of the family worldwide.

- They have a very **long and slender opercular spine** and a **short cleithral spine**.
- Its distinct characteristics include a **distinct pectoral-fin with black membranes** on the inner surface, a **white posterior margin**, and **three small white spots basally in the fin**.

#### 5.5.20. RED FIRE ANT

- **Red fire Ant** - one of the **world's most invasive species**, has been found in Europe for the **first time**.
- **Native:** South America however, spread in United States, Mexico, the Caribbean, China, and Australia.
- **Communication:** through **chemical secretions and stridulation** (sounds produced by rubbing or drumming one body part against another)
- **Invasive species** drive plant and animal extinctions, **threaten food security** and exacerbate **environmental catastrophes**.

#### 5.5.21. SAGO

- SAGOSERVE (a cooperative society) received **GI tag for its Sago produced in Salem (TN)**.
- Sago is **derived from raw tapiocas** and is in the **form of small hard globules or pearls** and is **pearl white in colour**.
  - **Tapioca** is a **horticultural crop**, that **grows in tropical, warm humid climate** with **rainfall of over 100 cm per annum**.
- Sago comprises of **high carbohydrate content** and is **low in protein, fat, minerals, vitamins** etc.
- It is **easy to digest** and **provides rapid energy**.

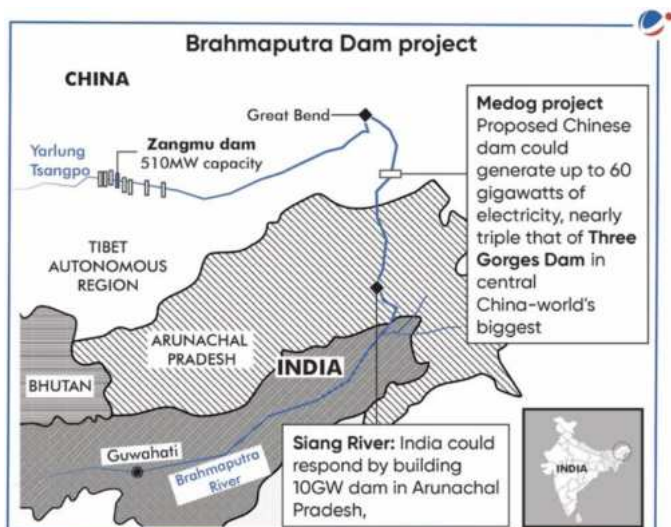
#### 5.5.22. AGUMBE FOREST

- The amount of rainfall received in Agumbe has reduced as compared to the other towns in the region.
- **Agumbe is in the Shivamogga district of Karnataka** and referred as **"Cherrapunji of South India"**, with an average **rainfall of 8000 mm**
  - It is **situated at an elevation of 650 meters** within Central Western Ghats and has a **distinctive tract of tropical moist evergreen forest**.
  - It is also located **adjacent to the Someshwara Wildlife Sanctuary** and the **Kudremukh National Park**.
- It is the **world's only natural habitat of the King Cobra** and referred to as **"The Cobra Capital"**.



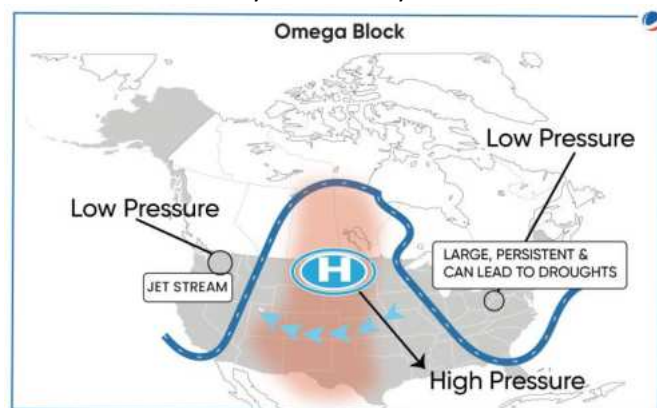
### 5.5.23. SIANG RIVER

- The Centre has proposed to construct a large **barrage on the Siang River to protect it from potential hazards posed by the massive Chinese dam being built on river Tsangpo in Tibet.**
- China's proposed massive hydropower project on the **Great Bend of Yarlung Tsangpo River** just before the river enters India as Siang.
  - The **Yarlung Tsangpo river** starts from Mansarovar lake and flows easterly for more than 1,600 km across Tibet **before bending towards the south-east around Namcha Barwa peak to enter India** at Gelling in Arunachal Pradesh, where the **river is known as Siang.**
  - The Siang **flows down the Himalayas in Arunachal Pradesh, enters the Assam valley, joins two other rivers (Lohit and Dibang) and together they become the Brahmaputra.**
- **Impact of China's mega dam project**
  - **Chinese control overflow:** Chinese authorities will have control over the Tsangpo's flow, enabling them to store it in reservoirs and redirect it to suit their regional water management needs
  - **Agriculture:** Such a huge dam could hold back massive amounts of silt carried by the river which could affect farming in the areas downstream.
    - ✓ Silty soil is more fertile than other types of soil and it is good for growing crops.
  - **Seismological impact:** Large-scale infrastructure projects elevate seismic risks, endangering downstream populations significantly.
  - **Ecological impact:** Deforestation, soil erosion, and landslides compound ecological vulnerabilities.



### 5.5.24. OMEGA BLOCKING

- According to a study, recent **floods in the Mediterranean** regions were caused by **low-pressure systems forming around an Omega Block** centred over the **Netherlands.**
- Omega block occurs when **two low-pressure systems become cut off from the main flow of the jet stream**, sandwiching a high-pressure system between them.
- It **resembles the Greek letter  $\Omega$**  on a weather map.
- Omega-blocking events have also been **linked to other extreme weather events in the past**, including Pakistan floods in 2011, 2019 heatwaves during May in France and July in Germany etc.

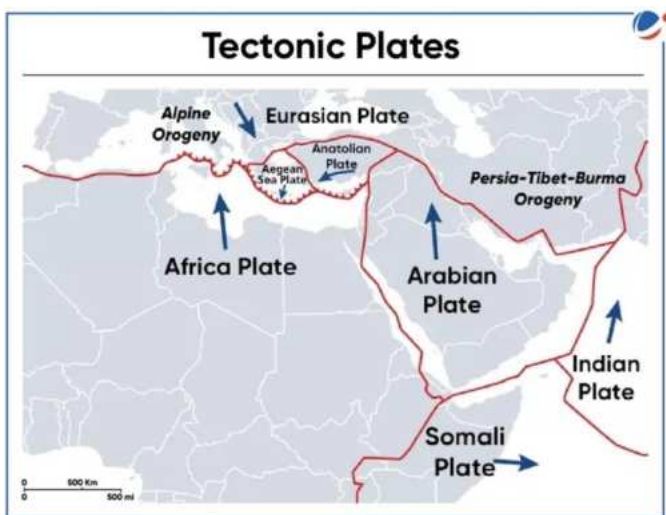


### 5.5.25. KILAUEA VOLCANO

- **Kilauea volcano** has erupted again in US state of Hawaii.
- **Kilauea aka Mount Kilauea, the world's most active volcanic mass**, is located on **southeastern part of island of Hawaii**, Hawaii state, U.S.
- **Volcano** is a **vent** in the crust of Earth, from which eruptions of **molten rock, hot rock fragments, and hot gasses** take place.

### 5.5.26. EARTHQUAKE IN MOROCCO

- **Earthquake is caused by to release of energy** within the earth's lithosphere generating waves.
- **Epicentre:** located in the Atlas Mountains.
- **Reasons for the strongest earthquake in this region**
  - **Northward convergence of the African plate** with respect to the **Eurasian plate along a complex plate boundary.**
  - It was **attributed to oblique-reverse faulting** at shallow depth within the Moroccan High Atlas Mountain range.
  - This type of **faulting is common in areas of compression** along the convergent plate boundaries.



### 5.5.27. AAROGYA MAITRI CUBE UNDER PROJECT BHISHM

- India has built the **world's first disaster hospital, called Aarogya Maitri Cube** which can be airlifted and assembled in 72 cubes.
  - These cubes contain medical equipment and supplies to **support 200 survivors for 48 hours**.
  - These medical cubes have been indigenously developed under **Project BHISHM (Bharat Health Initiative for Sahyog Hita and Maitri)**.
  - India has already **donated two Aarogya Maitri Cubes to Myanmar** as a goodwill gesture and one is **being readied for donation to Sri Lanka**.



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## 6. SOCIAL ISSUES

### 6.1. UNIVERSAL HEALTH COVERAGE

#### Why in the news?

Recently, the **Tracking Universal Health Coverage: 2023 Global Monitoring report** was jointly released by the **World Health Organization** and **World Bank**.

#### More in news

- The report analyses progress towards Universal Health Coverage (UHC) using **two Sustainable Development Goals (SDGs) indicators** i.e.
  - UHC Service Coverage Index (SCI)** that covers **essential health services (SDG 3.8.1)**.
  - Out-of-Pocket Health Expenditure (OOPE)** measuring **catastrophic health spending (SDG 3.8.2)**.
- Key findings of the report**
  - The **UHC service coverage index** increased from 45 to 68 between 2000 and 2021.
  - The world is **off track to make significant progress towards the UHC** (SDG target 3.8) by 2030 as improvements to health services coverage have stagnated since 2015.
  - The proportion of the **population not covered by essential health services decreased by about 15%** between 2000 and 2021, with minimal progress made after 2015.
    - ✓ The COVID-19 pandemic disrupted essential services in 92% of countries at the height of the pandemic in 2021. In 2022, 84% of countries still reported disruptions.
  - The proportion of the population that faced **catastrophic levels of OOP health spending has increased**.
  - Financial hardship is **more prevalent among poorer households** mostly due to **higher rates of impoverishing health spending** rather than catastrophic health spending.

#### Service Coverage Index (SCI)

- SCI used to track **SDG 3.8.1 (includes four indicator categories)**
  - Reproductive, maternal and newborn and child health,
  - Infectious diseases,
  - Non-communicable diseases and
  - Service capacity and access.
- It is measured on a **scale from 0 (worst) to 100 (best)**.
- In 2021, **India score decline to 63 from 64 in 2019**.

#### Know the term

- **Catastrophic Health Spending:** It is defined as household health spending exceeding 10% of household consumption expenditure.
- **Impoverishing health spending:** OOP expenditure is considered to be impoverishing when it pushes households below a pre-defined poverty line or further into poverty if they are already poor according to that poverty line.

#### Universal Health Coverage and its importance

- UHC** means that **all people have access to a full range of quality health services without financial hardship**.
  - It covers the **full continuum of essential health services**, from health promotion to prevention, treatment, rehabilitation and palliative care.
- Importance of Universal Health Coverage**
  - Maximize human capital** by making **investments in health**, which is crucial for both **educational attainment in children** and **workforce productivity** in adults, which promotes economic growth.
  - Well-functioning health system with equitably distributed healthcare infrastructure **increases the demand for skilled jobs**.
  - Helps in **achieving Sustainable Development Goal 3** (Good Health and Well-being).
  - Helps to reduce social barriers to care and**, the distribution of health resources between different population groups and empowers patients in decision-making.

#### Key Dimensions of Universal Health Coverage

**Access to health services:** Everyone who needs services should get them, not only those who can pay for them

**Financial risk protection:** People should not fall into debt paying for treatment and care

**Quality of services:** Services should be adequate and effective



## Challenges in achieving Universal Health Coverage

- **Low Health care spending:** As per, the Economic Survey 2022-23, central and state governments' budgeted **expenditure on healthcare increased marginally** from 1.6% in FY21 to 2.1 % of GDP in FY23 and is **among the lowest in the world**.
- **Lack of financial protection:** As per NITI Aayog, at least 30% of the population is devoid of any financial protection for health due to **existing gaps in coverage and overlap between schemes**.
- **High out-of-pocket expenditure (OOPE):** India's OOPE as a per cent of current health spending is 47.1% in 2019-20, significantly **above the global average of 18%**.
- **Inequitable Access:** Rural communities in India suffer from significant access to healthcare such as a **lack of qualified medical professionals, physical limitations** like distance, lack of established healthcare infrastructure and inability to pay for necessary medical treatment.
  - As per the Lancet publication (2023), the provision of **core health services lacks uniformity across state-run district hospitals**. Only 16 per cent of the district hospitals in Tamil Nadu offered all key services. In states like Assam, Punjab, Madhya Pradesh, Mizoram and UP, it was found to be just 1 per cent.
- **Lack of medical manpower:** India faces a shortage of healthcare professionals, including doctors, nurses, and paramedical staff, which impacts the delivery of healthcare services.

### Initiatives taken to achieve Universal Health Coverage

- **Ayushman Bharat Yojana:** It aims to undertake interventions to holistically address health at primary, secondary and tertiary level.
- **Ayushman Bharat Digital Mission:** It will improve equitable access to quality healthcare by encouraging use of technologies such as telemedicine and enabling national portability of health services.
- **National Health Policy 2017:** It aims at achieving universal health coverage and delivering quality health care services to all at affordable cost.
- **Intensified Mission Indra Dhanush:** It focusses on reaching **zero-dose children aged between 0 and 5 years** and pregnant women who might have missed any vaccine doses in the national immunisation schedule.

## Way forward

- **Recommendations from report**
  - Adopting a **primary healthcare approach** can improve health systems and accelerate progress toward UHC.
  - **Expansion of essential services**, especially for Non-Communicable Diseases.
  - Removing financial barriers e.g., issues of **indirect costs** and **co-payments** in health care.
  - Strong commitments to **International Health Regulations** in acute public health risk.
- **Increase public spending:** Government spending should be increased to around 5.2% i.e., the average health spending of the Lower- and Middle-Income Countries (LMIC).
- **Address Structural Issues:** Structural weaknesses within the healthcare delivery system i.e., lack of medical supplies and healthcare workers; irrational treatments etc. can be addressed by **engaging the private sector, and civil society and expanding medical seats** etc.
- **Centre-State Coordination:** Central government should adopt a **collaborative mechanism allowing for flexible policy-making, and differential financing from the Centre to the state**.
  - This will also allow states to better meet the diverse requirements and develop health plans that are consistent with the needs and requirements of populations.

### 6.1.1. AYUSHMAN BHARAT DIGITAL MISSION

#### Why in the news?

Recently, National Health Authority (NHA) organized 'Arogya Manthan' 2023 to celebrate five years of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) and two years of the Ayushman Bharat Digital Mission (ABDM).

*\*To read more about AB PM-JAY, kindly refer to Article 6.4. Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (ABPMJAY) of August 2023 Monthly Current Affairs Magazine.*

#### More on the news

- At the event, States and Union Territories that excelled in various categories were awarded-
  - **Highest Ayushman Card Creation:** Assam, Nagaland, and Jammu & Kashmir
  - **Highest Percentage of Utilization in Public Hospitals:** Karnataka and Tripura

- **Top State in Generation of ABHA Scan and Share Tokens:** Uttar Pradesh
- **Top State in Linking Health Records with ABHA:** Andhra Pradesh

## About ABDM

- **Aim:** To develop the backbone necessary to support the integrated digital health infrastructure of the country.
- **Implementing Agency:** NHA under the Ministry of Health and Family Welfare.
- The digital infrastructure under the scheme is being developed by adopting **India Enterprise Architecture Framework (IndEA)** released by the Ministry of Electronics and Information Technology.
  - IndEA is holistic a framework for **streamlining, standardizing, and optimizing the e-Governance** efforts across the country for interoperability and integration.



## Components of the mission

<b>Ayushman Bharat Health Account (ABHA) Number</b>	<ul style="list-style-type: none"> <li>• A randomly generated <b>14-digit number generated</b> through self-registration.</li> <li>• <b>Purpose:</b> Identifying individuals, authenticating them, and threading their health records (only with the informed consent of the patient) across multiple systems and stakeholders.</li> </ul>
<b>ABHA app</b>	<ul style="list-style-type: none"> <li>• A <b>Personal Health Records (PHR) application</b> available on Android and iOS platforms.</li> <li>• Allows the <b>self-uploading/scanning of existing physical health records</b> such as diagnostic reports, prescriptions, etc.</li> </ul>
<b>Health Facility Registry</b>	<ul style="list-style-type: none"> <li>• A comprehensive repository of <b>all the health facilities</b> of the country across different systems of medicine.</li> <li>• Includes <b>both public and private health facilities</b> including hospitals, clinics, diagnostic laboratories and imaging centers, pharmacies, etc.</li> </ul>
<b>Healthcare Professionals Registry</b>	<ul style="list-style-type: none"> <li>• A comprehensive <b>repository of all healthcare professionals</b> involved in the delivery of healthcare services across <b>both modern and traditional systems of medicine.</b></li> </ul>

## Significance of the mission

- **For patients:** It will empower individuals with accurate information to enable **informed decision-making** and increase the accountability of healthcare providers.
  - It will also ensure **transparency in the pricing** of services and provide the option to access health services remotely through **teleconsultation and e-pharmacy**.
- **For healthcare professionals:** They will have better access to patient's medical history for prescribing more appropriate and **effective health interventions**.
- **Insurance Claim:** It will help **digitize the claims process** and enable faster reimbursement.
- **For policymakers:** Better quality of **macro and micro-level data** will enable advanced analytics, better preventive healthcare, and strengthen implementation and monitoring of health programmes and policies.
- **For researchers:** They will be able to study and evaluate the effectiveness of various programs and interventions.

## Challenges in the implementation of ABDM

- **Digital divide and illiteracy** make it difficult for certain sections of the population to adopt ABDM.
- **High cost of digitization of medical data.**
- **Poor interoperability between states**, with data migration and inter-state transfer facing multiple errors and shortcomings.



- **Capacity building and digital skilling of medical professionals** needed to prepare them to use digital tools.
- **Concerns about personal data security and privacy:** For instance, the recent ransomware attack on the All-India Institute of Medical Sciences (AIIMS), Delhi has brought questions of safety and privacy.
- **Limited awareness among citizens** about the app and its use.
- **Health is a state subject:** There are state schemes and initiatives that have the same vision and mission as ABDM leading to a multiplicity of efforts. For instance, the eHealth initiative by Kerala.

#### Way forward

- **Protecting details of patients through methods like anonymization** and ensuring that the health records of the patients remain entirely confidential and secure.
- **Encourage Research and Development** in digital health technologies, especially in areas such as artificial intelligence, machine learning, and predictive analytics.
- **Streamlining processes and standardizing medical data** to ensure the smooth transfer of data between states.
- **Increase Public Awareness** to ensure that citizens understand how to access and utilize the digital healthcare services available.
- **Introducing the concepts of ABDM and digital health in the curriculum** for medical professionals.
- **Incentivizing private providers** to participate in the process of digitization of medical health records. E.g., the Digital Health Incentive scheme aims to incentivize stakeholders such as hospitals, labs etc. to adopt a digital health ecosystem.

## 6.2. NEWS IN SHORTS

### 6.2.1. THE GENDER SNAPSHOT 2023

- “Progress on the Sustainable Development Goals (SDGs): The gender snapshot 2023” report released by **UN Women and UN Department of Economic and Social Affairs (DESA)**.
- **Key findings**
  - **SDG 1 (No Poverty):** Over 340 million women and girls will still live in extreme poverty by 2030.
    - ✓ Progress will need to be **26times faster** to reach SDG 1 by 2030.
  - **SDG 2 (Zero Hunger):** Close to **1 in 4 women and girls** will experience moderate or severe food insecurity by 2030.
    - ✓ **Addressing gender gaps in agrifood systems** can reduce food insecurity and **boost global GDP by nearly \$1 trillion**.
  - **SDG 4 (Quality Education):** Only 60% of girls have completed schooling at upper secondary level compared to 57% of boys.
  - **SDG 5 (Gender Equality):** Next generation of women will spend an **average of 2.3 more hours per day on unpaid care and domestic work than men**.
  - **SDG 10 (Reduced inequalities):** Women are **twice as likely as men to report instances of discrimination** based on sex and almost **twice as likely as men to experience discrimination** on basis of marital status.

- **SDG 13 (Climate Action):** 158 million women and girls globally may be **pushed into poverty as a direct result of climate change**.



### 6.2.2. WOMEN'S BASIC INCOME

- **Tamil Nadu** launched the Kalaingar Magalir Urimai Thogai (Women's Basic Income) scheme.
- This scheme will provide a monthly stipend of **Rs 1,000 for eligible women**.
  - **Women who hold less than specified land and annual family income** aged above 21 years old are eligible.
  - **Other states** like Karnataka, Madhya Pradesh, and Punjab have similar schemes for women.
- **As per Economic Survey 2016-17, a Universal Basic Income (UBI)** for women has large multiplier effects on the household.
  - **UBI has three components:** universality, unconditionality, and agency (by providing support in the form of cash transfers to respect, not dictate, recipients' choices).



Argument in favor of UBI	Argument against UBI
<ul style="list-style-type: none"> <li>• Treats <b>beneficiaries as agents and entrusts citizens</b> with the responsibility of using welfare spending.</li> <li>• As all individuals are targeted, <b>the exclusion error (poor being left out)</b> is zero.</li> <li>• <b>Provides a safety net against</b> health, income, and other shocks.</li> <li>• Encourage greater usage of bank accounts, leading to <b>improvement in financial inclusion.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Might make people <b>lazy and opt out of the labor market.</b></li> <li>• <b>Gender disparity</b> as men are likely to exercise control over spending of the UBI.</li> <li>• A cash transfer's purchasing power may severely be <b>curtailed by market fluctuations</b></li> <li>• Huge burden on the <b>government budget</b></li> </ul>



### 6.2.3. MALAVIYA MISSION - TEACHERS TRAINING PROGRAMME (MM-TTP)

- **University Grants Commission's** MM-TTP was launched.
- **About MM-TTP**
  - It is proposed by **restructuring of existing schemes of capacity building of teachers** under Department of Higher Education.
  - It envisages **capacity-building training for the faculty and staff across higher educational institutions (HEIs)**, in the light of **National Education Policy (NEP) 2020** within **two years** through multiple training centres.
  - **Human Resource Development Centres (HRDCs)** will also be **renamed as Madan Mohan Malaviya Teachers' Training Centre.**

### 6.2.4. DIGITAL INFRASTRUCTURE FOR KNOWLEDGE SHARING (DIKSHA) PLATFORM

- National eGovernance Division (NeGD) under MeitY is set to **integrate Personalised Adaptive Learning (PAL) into its existing DIKSHA platform.**
  - PAL is a software-based approach that allows **each student to have an individualized learning experience.**
- DIKSHA is an **initiative of National Council for Education Research and Training (NCERT), Ministry of Education.**

### 6.2.5. DEEMED TO BE UNIVERSITY STATUS

- NCERT has been granted the status of deemed to be university. Deemed university status will **now allow NCERT to**
  - **offer its own graduate, post-graduate and doctoral degrees** and
  - have **autonomy in terms of introduction of programmes**, course structure, conducting examinations and management, among others.
- An **institution of higher education**, other than a university, **doing the work of high standard in a specific area**, can be declared as an **institution deemed to be university.**
- Declared by Central Government **under section 3 of University Grants Commission (UGC) Act, 1956.**

### 6.2.6. NMC GETS WFME RECOGNITION FOR 10 YEARS

- **National Medical Commission (NMC)** is India's regulatory **body overseeing medical education and practice.**
  - It is a **statutory body**, constituted by **NMC Act, 2019.**
- World Federation for Medical Education (WFME) grants recognition Status to **individual accrediting agencies** that meet **WFME recognition criteria.**
- **Benefits**
  - It will enable **Indian medical graduates to pursue postgraduate training** in other countries

that require WFME recognition, e.g., the United States, Canada, etc.

- All the **706 existing medical colleges** in India will **become WFME accredited**.
- **New medical colleges** that will be set up in the next **10 years will automatically** get accredited.
- It will enhance the **quality** and **standards** of medical education in India.
- **Aligning medical education** with **global best practices** and benchmarks.
- Make **India** an **attractive destination** for international students.

**World Federation for Medical Education (WFME)**  
Copenhagen, Denmark

**Genesis:** It was established by World Health Organization (WHO) and World Medical Association (WMA) in 1972.

**About:** It is a not-for-profit, non-governmental organisation concerned with **education and training of doctors** whose mission is to **strive for better health care** for all mankind.

**Mandate:** It aims to **enhance the quality of medical education** worldwide.

### 6.2.7. AYUSHMAN BHAV CAMPAIGN

- It is a **collaborative effort** spearheaded by **Gram Panchayats** to extend **comprehensive healthcare coverage** to every village and town.
- It has **3 components**:
  - **Ayushman Apke Dwar 3.0**: to provide Ayushman cards to remaining eligible beneficiaries enrolled under the **PM-JAY** scheme.
  - **Ayushman Melas**: To facilitate the **creation of Health IDs** and **issuance of Ayushman Bharat Cards**.
  - **Ayushman Sabhas**: To **raise awareness** about vital health schemes and disease conditions.

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# 7. SCIENCE AND TECHNOLOGY

## 7.1. ADITYA-L1

### Why in the News?

ISRO successfully launched India's **first space-based observatory-class solar mission** to study the Sun on September 2, to study the Sun.

### More on News

- On September 18, ISRO successfully performed **trans-Lagrangian point 1 (L1) Insertion manoeuvre**.
  - This marks the beginning of the spacecraft's about 110-day trajectory to the destination around the L1 Lagrange point.
- Also, the **Supra Thermal & Energetic Particle Spectrometer (STEPS) instrument**, a part of the Aditya Solar Wind Particle Experiment (ASPEX) payload, has begun the collection of scientific data.
  - STEPS comprises six sensors**, each observing in different directions and measuring **supra-thermal and energetic ions**.
  - The data collected during Earth's orbits helps scientists to **analyse the behaviour of particles surrounding the Earth**, especially in the **presence of the magnetic field of Earth**.
  - STEPS measurements will **continue for the rest of the life of Aditya L1 mission**.

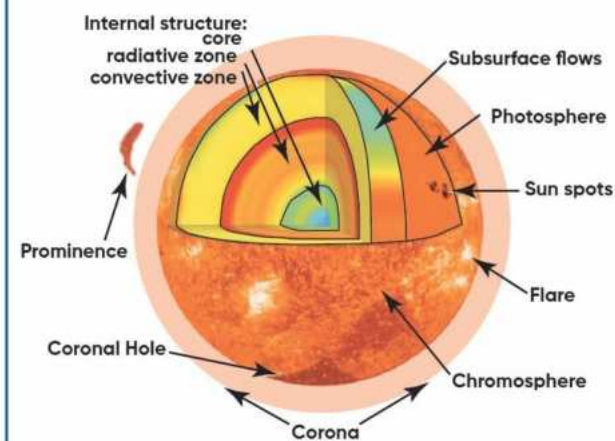
### About Aditya – L1

- Launch vehicle: **PSLV C57** (25<sup>th</sup> mission using **PSLV XL configuration**)
- It is planned to be placed in a **halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth system**.
- Science objectives of the mission**
  - Study of **Solar upper atmospheric (chromosphere and corona) dynamics**.
  - Study of **chromospheric and coronal heating**, physics of the partially ionized plasma, initiation of the **coronal mass ejections (CMEs)**, and **solar flares**.
  - Observe the **in-situ particle and plasma environment** providing data for the study of particle dynamics from the Sun.
  - Identify the **sequence of processes that occur at multiple layers** (chromosphere, base and extended corona) which eventually leads to solar eruptive events.
  - Drivers for space weather** (origin, composition and dynamics of solar wind).
- Aditya – L1 carries 7 payloads** (5 by ISRO and 2 by Indian Academic institutes)
  - Remote sensing payloads**
    - ✓ Visible Emission Line Coronagraph (VELC)
    - ✓ Solar Ultraviolet Imaging Telescope (SUIT)
    - ✓ Solar Low Energy X-ray Spectrometer (SoLEXS)
    - ✓ High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)
  - In-situ payloads**
    - ✓ Aditya Solar wind Particle Experiment (ASPEX)
    - ✓ Plasma Analyser Package For Aditya (PAPA)
    - ✓ Advanced Tri-axial High Resolution Digital Magnetometers

### Know the term

- **Coronal Mass Ejections (CMEs)**: These are large eruptions of **magnetized plasma** from the **Sun's outer atmosphere (Corona)** that propagates outwards into the **interplanetary space**.
- **Solar flares**: A solar flare is an **intense burst of radiation** coming from the release of **magnetic energy** associated with **sunspots**. These are our solar system's largest explosive events.

### Layers of the Sun

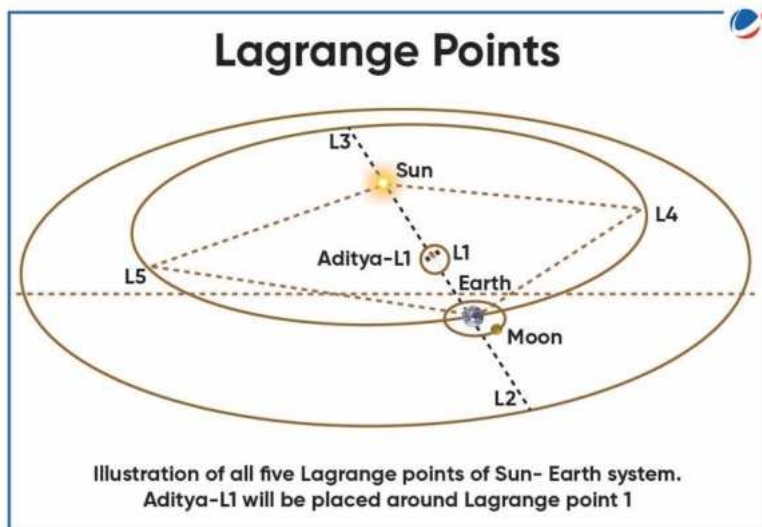




- **Uniqueness of the mission**
  - It will provide for the first time **spatially resolved solar disk** in the **near UV band**.
  - It will provide **information in the acceleration regime of CME** which is not observed consistently.
  - **On-board intelligence to detect CMEs and solar flares** for optimised observations and data volume.
  - **Directional and energy anisotropy of solar wind** using multi-direction observations.

#### About Lagrangian points

- **What:** For a **two body gravitational system**, the Lagrange Points are the **positions in space** where a **small object tends to stay, if put there**.
  - For **two body gravitational systems**, there are **total of five Lagrange points** denoted as L1, L2, L3, L4 and L5. The Lagrange points for Sun-Earth system are shown in the figure.
  - Of these **five Lagrange points**, three (**L1, L2, L3**) are **unstable** and two (**L4, L5**) are **stable**.
  - **Unstable Lagrange points** lie along the **line connecting the two large masses**.
  - **Stable Lagrange Points**, on the other hand, **form the apex of two equilateral triangles** that have the **large masses at their vertices**.
- **Significance:** These points in space for a **two body systems such as Sun and Earth** can be used by spacecraft to remain at these positions with **reduced fuel consumption**.
  - **Placing satellite around L1** gives advantage of **continuous observation of the Sun** without any **occultation/ eclipses**.
- **Mechanism:** At Lagrange point, the **gravitational pull of the two large bodies equals** the necessary **centripetal force** required for a small object to move with them.
- **Other key information:** Lagrange points are **named in honor of Italian-French mathematician Joseph-Louis Lagrange**.
  - Lagrange point **L1** lies **between Sun-Earth line** and the **distance of L1** from Earth is **approximately 1% of the Earth-Sun distance**.
  - NASA-ESA's joint **Solar and Heliospheric Observatory Satellite (SOHO)** mission is **placed near L1 point** while NASA's **James Webb Space Telescope** is placed around **L2 point**.



#### Conclusion

As ISRO embarks on this ambitious journey, the mission embodies the nation's commitment to advancing scientific knowledge and securing its place on the global space exploration stage.

For more details on India's race to space and future missions planned by the ISRO, kindly refer to the Article 7.1.1 of August 2023 edition of the Monthly Current Affairs Magazine.

## 7.2. TIDAL LOCKING

#### Why in the News?

As the sun rises on the Moon, **ISRO is trying to wake up** rover **Pragyan** and lander **Vikram** which were put to sleep to survive the lunar night.

#### More on News

- The Chandrayaan-3 mission was **solar-powered**, and its landing was **planned to coincide with the daylight period on the Moon**.
  - The **diurnal temperature range** on the Moon is **very high**, making it difficult for Chandrayaan-3 Mission's electronics to withstand the **extremely low temperatures** during the **Lunar Night**.

- Therefore, the **lander and rover** were put into hibernation a little **before lunar sunset**.
- **Re-awakening** would **validate ISRO's lander-rover technology** for **future space exploration**.

#### About Lunar Day

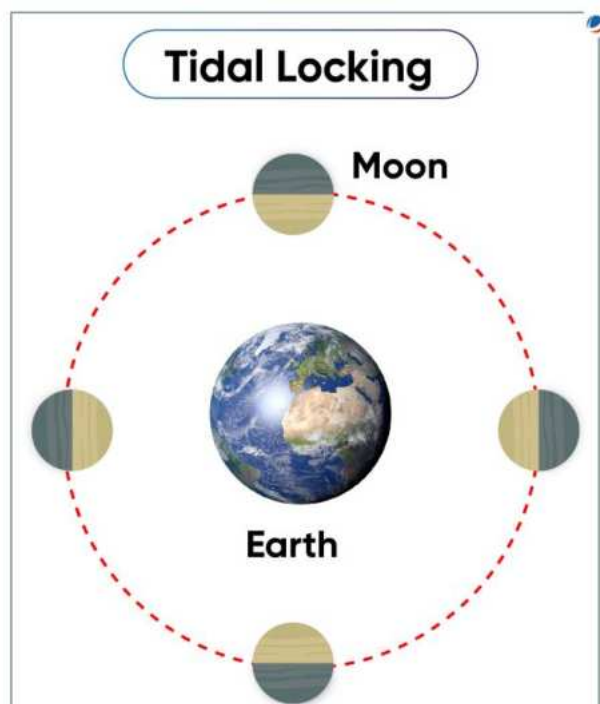
- A mean solar day on the Moon i.e. **Lunar Day** is the time the **moon takes to complete one rotation on its axis** with respect to the **Sun**.
- One mean solar day on the Moon is **29.5 Earth days** (one mean solar day on Earth is 24 hrs).
- Therefore, the **daylight** on the Moon or **Lunar day** would last **approximately two weeks**, followed by **approximately two weeks of lunar night**.
- **Temperature on the Moon**
  - **Daytime temperatures** near the lunar equator reach a **boiling 250 degrees Fahrenheit (120° C)**, while **night time temperatures** get to a chilly **-208 degrees Fahrenheit (-130° C)**.
  - This **high diurnal temperature range** is caused because of the **absence of an atmosphere** and the **tidal locking of the Moon with the Earth**.
    - ✓ The presence of **the atmosphere** limits extreme temperatures by **transferring heat** around the planet.

#### About Tidal Locking

- Tidal Locking **refers** to the **synchronization** between the Moon's **rotation** around its axis (with respect to the Sun) and its **orbit** around the **Earth**.
- It happens due to the **gravitational force** exerted by both the Moon and the Earth on each other.
- **Consequences of Tidal locking**
  - **Only one side of moon visible:** **One side** of the Moon is **always facing the Earth** while the **other** is cloaked in **perpetual darkness**. Giving rise to two sides of the Moon:
    - ✓ **Near Side:** The portion of the moon (about 60%) that is **visible from Earth**.
    - ✓ **Far side:** The portion of the moon that is **never visible from the Earth**.
      - The 'far side' of the moon is **illuminated in sunlight during the 'new moon' phase** (when the moon is invisible from Earth) and continues to receive light for nearly a fortnight.
      - Thus, it is **dark only** in the sense that its various **topographical features** were **hidden until the Soviet spacecraft Luna 3 in 1959 photographed it**.
      - Astronauts aboard the **Apollo 8 mission of 1968** were the **first humans to see the far side** of the moon.
  - **Distortion of shape:** The **gravitation force** that is exerted is always **stronger on the sides facing each other**. This force causes the bodies to **stretch and distort**.
    - ✓ Earth's gravitational force **deforms the Moon** (slightly squashed at the poles and a bulge at its equator).
    - ✓ The same sort of deformation manifests itself in **Earth's oceans** leading to **alternating high and low ocean tides**.
  - **Slow rotation:** Tidal torque **slows down the spin of the planet**.
    - ✓ When the Moon formed it **rotated more quickly than it does today**.
    - ✓ The **Earth is also slowing down**, primarily due to tidal interactions with the Moon.
  - **Hospitability:** High diurnal temperature range impacts the potential hospitability on the moon.

#### Impact of Lunar night

- **Shapes Moon missions:** Extremely low temperature makes it **difficult to keep spacecraft systems alive**.
  - Moon missions would need a **non-solar supply of energy** to allow them to survive the lunar nights.
  - **Nuclear power sources**, reactors and radioisotope power sources (RPS) appear as the most promising candidates.
- **Aid in Research:** Since Moon does not have atmosphere to distribute heat, **everything has its own unique amount of time** to heat up and cool down.
  - For example, **lunar rocks take longer** to heat up and cool down **than lunar soil**.
  - The different heating and cooling rates **makes it possible to identify areas with large quantities of rocks**.



### Tidal Locking in the Universe

- All the solar system's **large moons** are **tidally locked** with their planets.
  - The bigger moons **synchronize early** in their existence, within hundreds of thousands of orbits.
- **Some binary stars** are **tidally locked** to one another.
- Also, evidence is building that **many planets beyond our solar system** are **tidally locked** with their stars.

***To know more about Chandrayaan-3, kindly refer to Article 7.1. Chandrayaan-3 of July 2023 and Article 7.1. Chandrayaan-3 Soft Landing of August 2023 editions of Monthly Current Affairs Magazine.***

## 7.3. BATTERY ENERGY STORAGE SYSTEM (BESS)

### Why in the News?

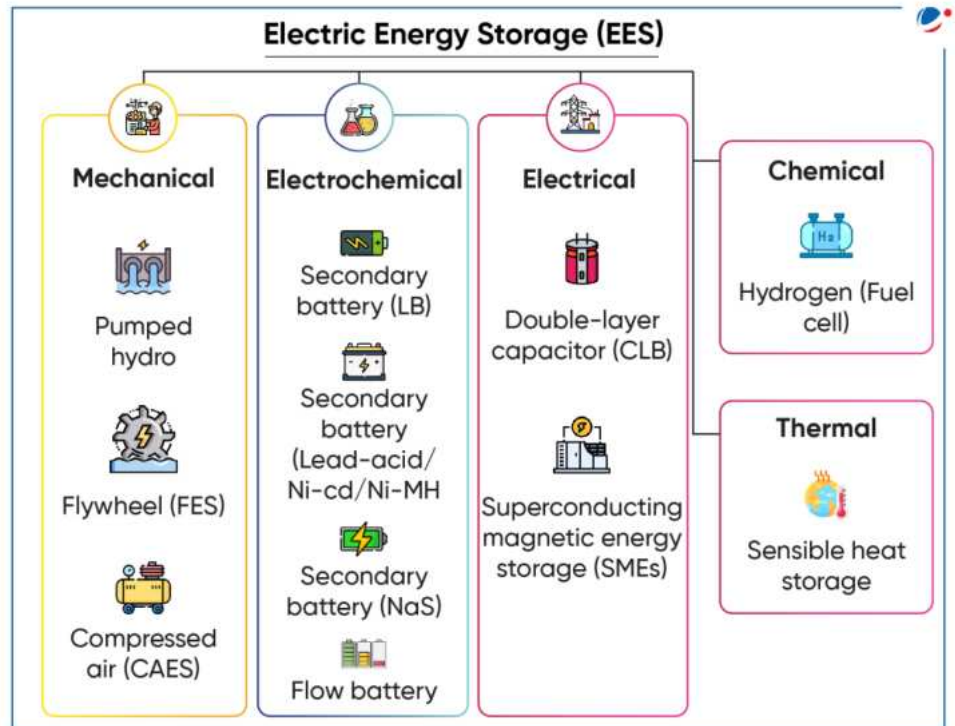
Union Cabinet has approved a scheme for Viability Gap Funding (VGF) for development of Battery Energy Storage System.

### Key highlights of the scheme

- Scheme envisages development of 4,000 MWh of BESS projects by 2030-31.
- It will provide a financial support of up to **40% of the capital cost as budgetary support in the form of VGF**.
  - VGF is a grant, one-time or deferred, provided to support infrastructure projects that are economically justified but fall short of financial viability.
- Scheme targets to achieve a **Levelized Cost of Storage (LCoS) ranging from ₹5.5-6.6 per kWh**, to make stored renewable energy a viable option to manage peak power demand.
  - LCoS reflects the **total cost of the BESS divided by the energy** it is projected to provide over the course of its useful life.
- A minimum of **85% of the BESS project capacity will be made available to Discoms** to enhance the **integration of renewable energy into the electricity grid** and minimize wastage.
- Selection of BESS developers for VGF grants will be carried out through a **transparent competitive bidding process**, to promote level playing field for public and private sector entities.

### About Battery Energy Storage System (BESS)

- It is **categorized under the electrochemical storage** system (refer infographics for types of Electric Energy Storages) which uses different **electrochemical reactions to store electricity**.
- Energy Storage Systems (ESS) have a multitude of applications in the **energy sector and can be used independent of or as a part of, power system infrastructure** at various levels in **generation, transmission, and distribution**.
- **Types of BESS**
  - **Standard (non-flow) batteries:** It consists of pairs of plates (**electrodes**) immersed in **electrolyte** and separated by non-conducting materials.
    - ✓ Lead-Acid (PbA) battery
    - ✓ Nickel-Cadmium (Ni-Cd) battery





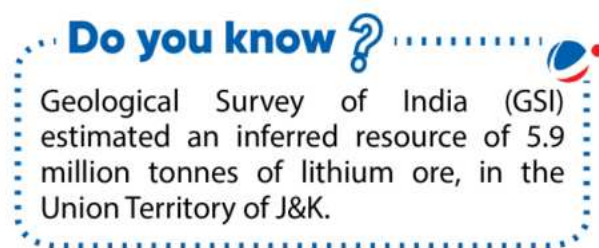
- ✓ Lithium-Ion (Li-Ion) battery
- ✓ Sodium-Sulfur (Na-S) battery
- **Flow batteries:** It uses **tanks of electrolyte** and **membrane to control the flow of electrons** and pumps to control the flow of electrolyte.
  - ✓ Redox Flow Battery (RFB)
  - ✓ Hybrid Flow Battery (HFB)

### Need of domestic manufacturing of BESS

- **Economic:** Reduction of battery cell **imports** and prevention of outflow of **forex reserves**.
  - Advanced cell manufacturing will enable **Electric Vehicle deployment and reduce oil imports** to a greater extent.
  - It may also result in **growth of mining sector** to feed its increasing demand via domestic raw material.
- **Social:** Increasing opportunity for **skill development**, incubation centres and **entrepreneurship** programmes.
  - With the current Advanced Chemistry Cells (ACC) battery manufacturing plans of 50 GWh, IESA estimates that the program shall generate a minimum of 5 lakh employment opportunities.
- **Environmental:** Assistance in meeting **Panchamrit targets** (COP 26 of UNFCCC) of the government.
  - It will also assist in **reducing air pollution** in urban centres by reducing emissions.
  - It will enable **RE integration** with grid to ensure stable and flexible power system operation.

### Challenges of battery manufacturing in India

- **Raw material availability:** Extremely **low reserves of in-house materials** like lithium, cobalt, nickel and battery-grade graphite, which are key constituents for manufacturing electrodes and electrolyte.
  - Absence of major **partnership or a bilateral agreement with major raw material producing countries** like Australia (Nickel, Lithium), Chile (Lithium), Brazil (Nickel), etc.
- **Policies and regulations:** **Policy uncertainty** such as discontinuation of tax holidays, reduction of accelerated depreciation benefit, etc.
- **Technology and material science:** Lack of appropriate **technology transfer** and **exchange of information** due to technology patents is also a key concern, limiting the technical expertise gained at local levels.
  - **Lack of high-quality R&D infrastructure** for research on advanced cell and battery manufacturing.
  - **Absence of EV and storage policies** and dedicated component to support indigenous battery manufacturing at state level.
- **Financing:** **Reluctance among banks/financial institutions** to provide loans for a new technology due to **lack of technical expertise** and a **standardised financial model**.
  - **Lack of assured offtake and a guaranteed market**, further aggravates the issue of financing.
- **Miscellaneous**
  - There are chances that a boom in the Li-ion battery manufacturing market can hamper the livelihood of players in the supply chain of lead acid technology.
  - **Need to protect domestic industry** against cheap and superior quality of Chinese imports.



### Way Forward

- **Demand creation:** Implementation of a **soft loan facility** for Discoms/transmission companies to deploy energy storage and battery solutions.
  - Facilitate **demand creation of e-buses/e-cabs/e-autos**, backed with MoUs and firm-contracts with state transport units (STUs)/cab aggregators and operators/ railways.
- **Phased manufacturing programme:** **Incentivising advanced cell manufacturing**, supported adequately by states to encourage investors.
  - There should be a **minimum 50% of value addition to the cell manufacturing** ecosystem in India by the manufacturer to be eligible for subsidy.

- **State governments** can provide support under various categories, including **infrastructure support** and making provisions for subsidised utilities, such as electricity.
- **Taxation: Re-design GST rates** to discourage imports and encourage domestic procurement of batteries, granting tax-holiday to battery manufacturers, incentivize in-house R&D, etc.
- **Recycling and sustainability:** Ensure **effective implementation of Extended Producer Responsibility (EPR)** and digitize waste management to move from 'End-of-Life' approach to 'circular economy' in BESS.

#### Initiatives undertaken for BESS in India

- **Legal status for Energy Storage Systems (ESS)** as a Generator, Transmission or Distribution element, issued by Ministry of Power (MoP) on in January 2022.
- **Bidding Guidelines for Battery Energy Storage Systems (BESS)** notified by the MoP in March 2022.
- **National Framework for Promoting Energy Storage Systems** unveiled by the MoP in August 2023.
- **Battery Waste Management Rules, 2022** to promote circular economy in BESS sector.

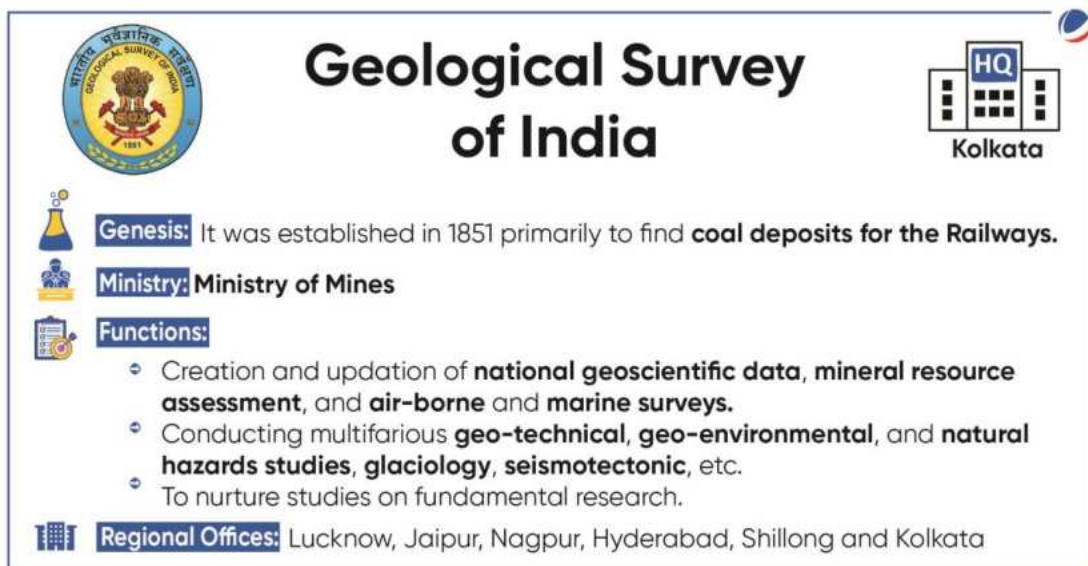
## 7.4. VANADIUM

### Why in the news?

Researchers at the Geological Survey of India (GSI) discovered vanadium, a critical mineral from the Gulf of Khambhat in Gujarat.

### More about news

- **Titanomagnetite ore** containing vanadium has been identified in samples taken from the Gulf of Khambhat.
- Titanomagnetite is a primary source of the element (**88% of the world's vanadium** is extracted from it) and is formed when molten lava cools rapidly.



- According to GSI, deposits in the gulf were drained from the Deccan basalt mainly through the rivers of **Narmada and Tapi**
- It is the first report of vanadium **occurrence in the offshore sediments of India**.

### About Vanadium

- It is a chemical element with the symbol "V" and the atomic number 23 and is classified as a **transition metal**.
- It is an **abundant element in the earth's crust**, ranking 22nd in position in the upper continental crust.
- It is listed as one of the **30 critical minerals** identified by the Government of India.
- **Occurrence:** It rarely exists as a **free element in nature** but can be found in about 65 different minerals, including magnetite, vanadinite, carnotite, and patronite.
- It can be detected spectroscopically in the Sun's rays and occasionally in the light of other stars.
- **Physical Properties:**
  - Under standard conditions, it is hard, **silvery-grey metal**.

### Know the term

- **Transition metals:** They are metallic elements that serve as a **bridge, or transition, between the two sides of the periodic table**.

- It is very **ductile** (can be drawn into wires), **malleable** (can be hammered into thin sheets), and **resistant to corrosion**.
- It **does not react with water or oxygen** at room temperature.

*\*To read more about Critical minerals, kindly refer to Article 3.3. Critical Mineral of June 2023 Monthly Current Affairs Magazine*

### Reserves of Vanadium

#### Globally

- **Brazil is the world's largest exporter of vanadium** (one-fourth of total exports), with Russia and South Africa as the next exporters.
- **China has the highest vanadium reserves and producer** in the world as of 2022.

#### In India

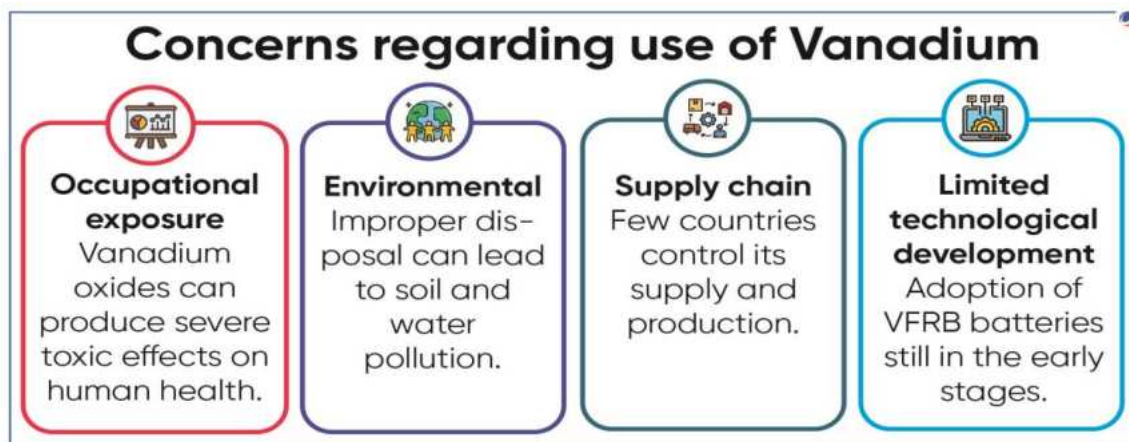
- According to the Indian Bureau of Mines, the total estimated reserves of Vanadium in India is **around 24.63 million tonnes**.
- In 2021 vanadium reserves were also found in **Arunachal Pradesh**.

### Applications of Vanadium

- **Energy storage:** Used in vanadium redox flow batteries, a type of rechargeable battery used for large-scale energy storage in renewable energy systems.
- **Steel manufacturing:** Used as an alloying element in steel production, where it imparts increased strength, toughness, and heat resistance to the steel.
  - The addition of 0.15% vanadium strengthens cast iron by 10-25%.
- **Catalysts:** Vanadium compounds are used as catalysts in the production of chemicals, plastics, and other materials.
- **Nuclear reactors:**

Vanadium alloys are also used to make nuclear reactors because of their low-neutron-absorbing properties.

- **Medicine:** It is used for the treatment of prediabetes, and diabetes.



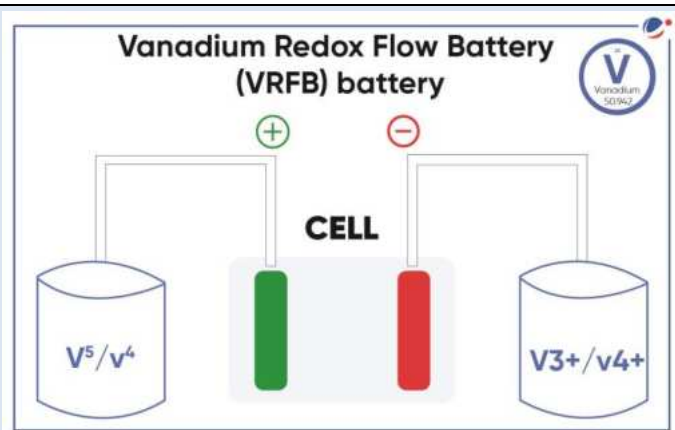
- **Aerospace and aviation:** Used in the manufacture of aerospace and aviation components due to its high strength, lightweight, and heat resistance properties.
- **Other applications:** Used in the production of pigments, ceramics, and as a reducing agent in metallurgy.

### About vanadium redox flow batteries (VRFB)

They are a type of **rechargeable flow battery**, that employs **vanadium ions as the active materials**.

#### Working principle

- VRFBs store their energy in two electrolyte tanks, which are connected to a stack of cells.
- Vanadium has the unique characteristic of having four different stages of oxidation.
- In each of the four stages, Vanadium contains a different electrical charge and is therefore used as a catalyst to store energy.





VRFB vs Lithium-ion batteries		
	VRFB	Lithium-ion batteries
<b>Energy Density</b> (amount of energy compared to its weight)	<ul style="list-style-type: none"> <li>• <b>Lower</b> energy density</li> <li>• Suitable for <b>large scale industrial-scale operations</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Higher</b> energy densities</li> <li>• <b>Suitable for small devices</b>, such as laptops and cellphones.</li> </ul>
<b>Lifespan</b>	<b>Longer life cycle</b> , can handle more charge-discharge cycles	<b>Decay and lose capacity over time</b>
<b>Cost</b>	<b>Initial installation cost is higher</b> , economic in the long run	<b>Initial cost lower</b>
<b>Sustainability</b>	<b>Less waste and recyclable</b> (Vanadium electrolyte can be easily reused and repurposed in other batteries)	<b>High disposal costs</b> (Lithium is challenging and currently uneconomic to extract)
<b>Safety</b>	<b>Safer</b> , uses aqueous electrolytes, which are not flammable.	<b>Less safe</b> , contains flammable electrolytes.
<b>Capacity expansion</b>	<b>Easier</b> , by using larger electrolyte storage tanks	<b>Difficult</b>

## Conclusion

Demand for vanadium is expected to increase due to its increasing usability. VRFB's potential as a renewable, sustainable, and highly safe energy-storage system make it an exciting technology. R&D efforts will have to be initiated to meet the domestic demand for vanadium.

## 7.5. Y-CHROMOSOME

### Why in the News?

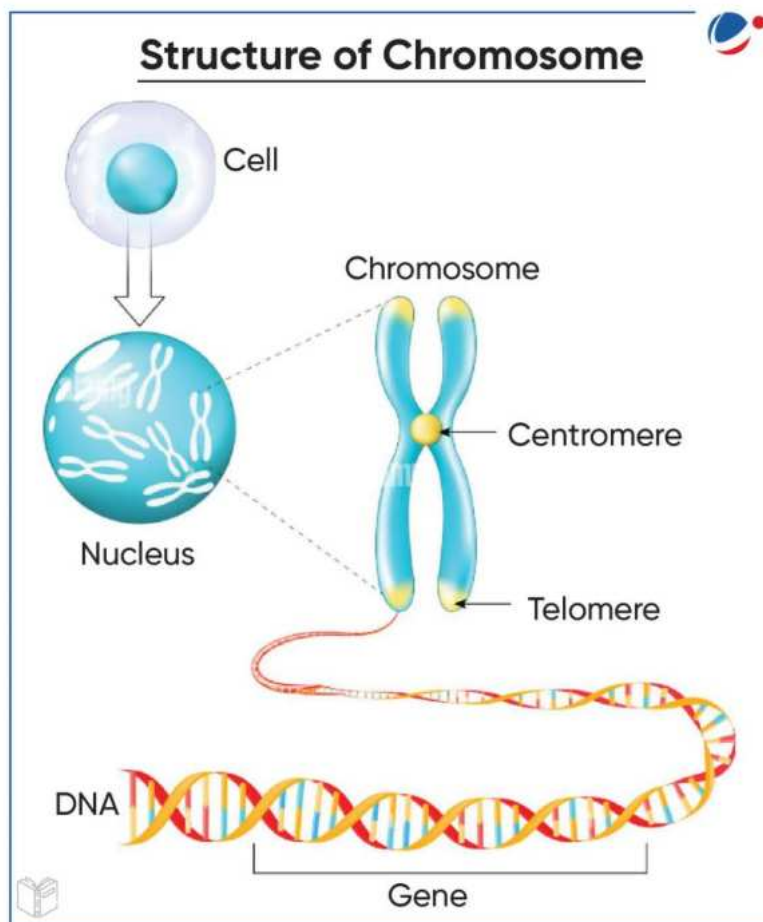
Scientists have successfully sequenced the Y-chromosome using 'long-read' sequencing techniques.

### More on News

- **Y is the last human chromosome to be sequenced** end-to-end or **telomere-to-telomere (T2T)**.
  - **Telomeres** are structures made from DNA sequences and proteins that **cap and protect the end of a chromosome**.
- The sequencing can improve **understanding of many health conditions** thought to be **related to the changes in the genes on the Y chromosome**.
  - **Loss of the Y chromosome** is associated with **increased risk of cancer, Alzheimer's disease, and cardiovascular disease**.

### About Chromosomes and their sequencing

- **Chromosomes** are **thread-like structures** made of protein and a single molecule of DNA that serve to carry the genomic information from cell to cell.
- In plants and animals (including humans), chromosomes **resides in the nucleus of cells**.
- Humans have **22 pairs of numbered chromosomes** (autosomes) and **one pair of sex chromosomes** (XX or XY), for a **total of 46 (23 pairs)**.



## Genome sequencing

- Sequencing simply means **determining the exact order of the bases in a strand of DNA**.
- Approaches to genome sequencing**
  - Short-read sequencing:** In this, **genome is broken into small fragments** (usually 50 to 300 bases) before being sequenced.
    - ✓ It is more effective for applications aimed at counting the abundance of specific sequences, profiling the expression of particular transcripts, etc.
  - Long-read sequencing:** In this, **DNA is fragmented and tagged** for sequencing to **keep track of each fragment**, followed by **local assembly**.
    - ✓ It provides **sequences that are easier to distinguish** and can, therefore, be assembled more easily, handling the confusing repetitions and loops of the Y chromosome.

## About Y-chromosome

- It is one of the two human sex chromosomes (X being the other).
  - Human genome has **22 pairs of autosomes** and **one pair of sex chromosomes** (XX in female and XY in male)
- Y chromosome is **male-determining** because it bears **SRY genes** which are **responsible for certain sex characteristics, such as testes**.
- Y also has a lot of 'junk DNA (sequences that don't seem to contribute to traits)'.
- About **66% of the Y chromosome is composed of repetitive DNA**, which requires specialized DNA sequencing and analysis techniques to determine their arrangement.
- All **individuals who have a Y chromosome are related to a single Y-bearing ancestor**, who likely lived around 300,000 years ago.
- Y chromosome is passed down from **male parent to male offspring**. So, the information on Y chromosome can more specifically **illustrate ancestry of one direct lineage of male ancestors**.

Comparison between X – and Y - Chromosome	
X - chromosome	Y – chromosome
Can be contributed by eggs or sperms	Always contributed by sperms
Longer (Contains about 900 protein coding genes)	Smaller (Contains just around 100 protein coding genes)
Occurs paired in female and single in male	Normally occurs single in male only
Represents 5% of entire human genome	Represents 2% of entire human genome
Contains XX genotype	Contains XY genotype

## Conclusion

Sequencing of the Y-chromosome has unveiled profound insights into human genetics, offering a glimpse into our ancestral past and potential future advancements in medicine.

## 7.6. GENE-DRIVE TECHNOLOGY (GDT)

### Why in the News?

Genetically modified mosquitoes have been used in outdoor but controlled conditions in India, Brazil, and Panama which showed promising drops in mosquito populations, around 90% during the trials.

### More on the News

- Advances in genome sequencing techniques** coupled with our capacity to genetically manipulate them, offers opportunities to **systematically control population of mosquitoes** by interfering with their reproduction.

### About GDT

- GDT** is a type of genetic engineering technique that modifies genes to alter the typical rules of **Mendelian inheritance**.
  - Mendelian inheritance** refers to certain patterns of how traits are passed from parents to offspring.
- Components:** A gene drive consists of **three key components**:
  - The gene to be spread;**

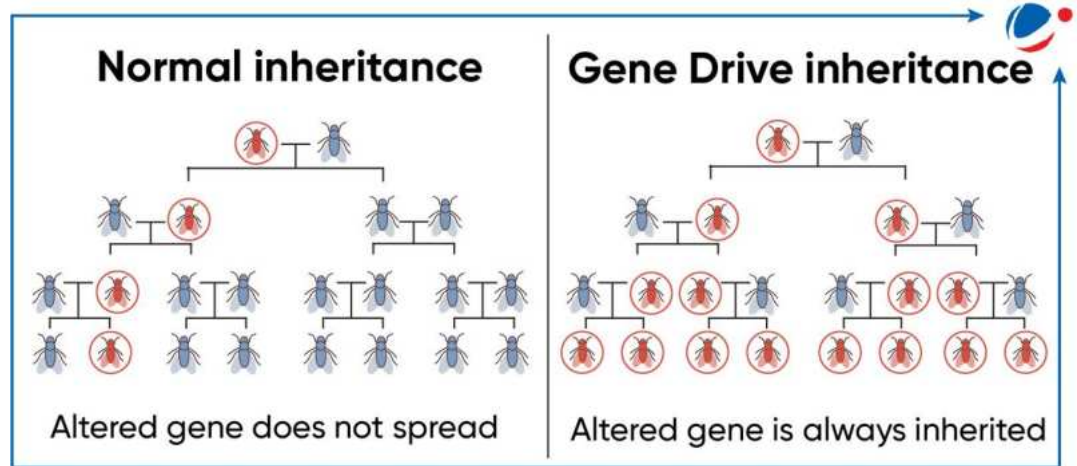
- The **Cas9 enzyme** to cut DNA; and
- **CRISPR**, a **programmable DNA sequence** that determines where the enzyme should cut.

✓ **CRISPR**  
(Clustered  
Regularly  
Interspaced  
Short  
Palindromic

Repeats) are **repetitive DNA sequences** developed as a method of repurposing bacterial immune system to **make breaks in DNA at precise locations**.

✓ **Cas9** is an **enzyme** that acts as a **molecular scissor** that cuts the DNA at a specific location in the genome.

- **Outcomes:** The **genetic material** that encodes for these three elements **gets inserted into an animal's DNA, in place of the naturally occurring gene**.
  - It increases the **likelihood that a particular suite of genes will be passed onto the next generation**, allowing the genes to rapidly spread through a population and override natural selection.
- **Applications:** GDT can be used to **exterminate insects such as mosquitoes** that can spread malaria, dengue, and the Zika virus.
  - Gene drives can also be used to **control invasive species such as rodents**.
- **Concerns**
  - **Ecological:** Long-term disruption in ecosystem like disturbance in balance of food-web, potentially leading to unintended ecological consequences.
  - **Legal:** Gene drive could get out of control and spread uncontrollably across international borders.
  - **Security:** It could potentially be used for bioterrorism or other malicious purposes.
  - **Ethical:** Deciding which species to target and the irreversible nature of GDT raises complex ethical and moral issues.



## Conclusion

GDT offers unprecedented potential for addressing global challenges like vector-borne diseases and invasive species, while also raising profound ethical and ecological concerns. Striking the right **balance between innovation and ethical responsibility** will be pivotal as we navigate the uncharted territory of gene drives.

## 7.7. NEWS IN SHORTS

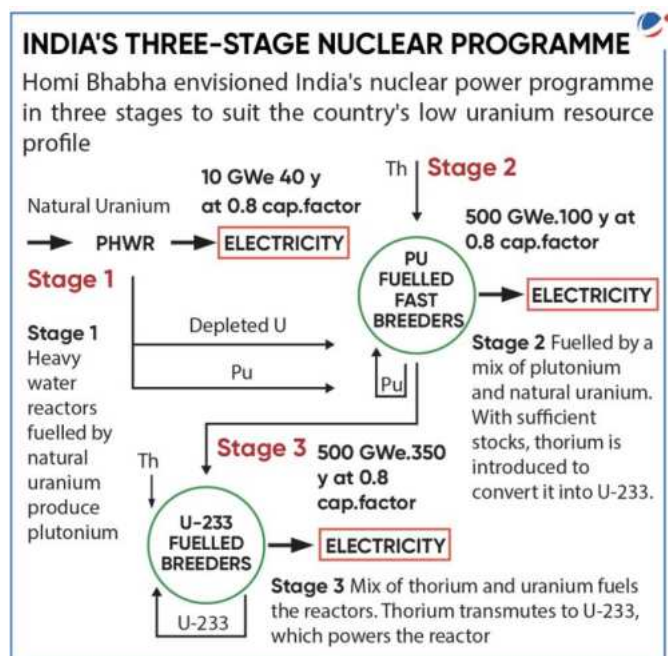
### 7.7.1. HYPERLOOP

- **Tata Steel and TuTr Hyperloop** (deep-tech startup operating from IIT Madras) signed a Memorandum of Agreement **to jointly work on development of hyperloop technology**.
- Hyperloop is a **proposed ultra-high-speed (at over 700 miles an hour) ground transportation system** for passenger and cargo.
  - Hyperloop concept has been promoted by Musk and SpaceX, and other companies.
  - It has **three essential elements**:
    - ✓ **Tube** is a large, **sealed low-pressure system or vacuum tubes** (usually a long tunnel).
    - ✓ **Pod** is a **coach pressurized at atmospheric pressure** that runs substantially free of air resistance or friction inside this tube **using magnetic propulsion**.
    - ✓ **Terminal** handles **pod arrivals and departures**.
- **Benefits:** **Cheaper and reduce air travel between big cities**, less polluting etc.



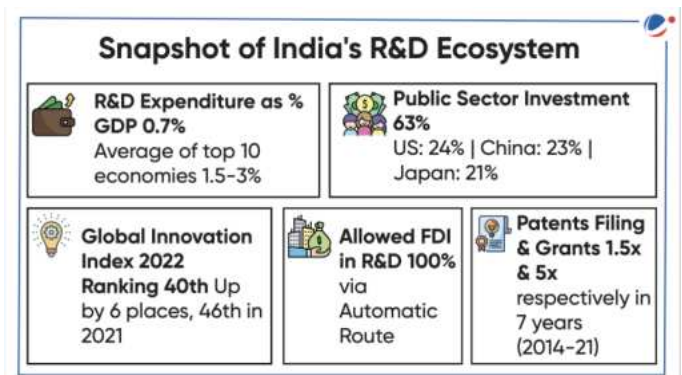
### 7.7.2. KAKRAPAR NUCLEAR POWER PLANT (KAPP 3)

- First **largest indigenous 700 MWe** Kakrapar Nuclear Power Plant (KAPP 3) **started working in Gujarat**.
- KAPP-3 is also the biggest indigenously developed variant of the **Pressurised Heavy Water Reactor (PHWR)**.
  - In 2020, it had achieved its first **criticality** (when **each fission event** releases a sufficient number of neutrons to **sustain an ongoing series of reactions**).
  - PHWRs use **natural uranium as fuel and heavy water as moderator**.
- **Enhanced safety features incorporated**
  - **Thin-walled pressure tubes**: They can **lower the severity** of an **accidental rupture** of the pressure boundary
  - **Passive Decay Heat Removal System**: On lines of similar technology adopted for **Generation III+ plants** to negate the possibility of Fukushima type accidents (happened in Japan in 2011).
  - **Steel-lined containment**: To reduce the containment pressure in case of a loss of coolant accident.
- India is currently on the **second stage** of its **three-stage nuclear program**.
  - **Enrichment** of U-235 isotope **upto 3 to 5 %** is required for **electricity generation**.



### 7.7.3. R&D IN TELECOM, BROADCASTING, AND IT (ICT) SECTORS

- **TRAI released consultation paper** on Encouraging R&D in Telecom, Broadcasting, and IT (ICT) Sectors.
- Objective is to **review existing R&D ecosystem, identify bottlenecks** in promoting R&D and **recommend interventions** to improve R&D in ICT sector.
  - **As per TRAI Act 1997**, TRAI has been mandated to make recommendations for development of telecommunication technology.
- **Significance of R&D in ICT Sector**
  - **For national security**: Development of new technologies to protect critical national infrastructure.
  - **Supporting Industry 4.0**: By innovations that enable autonomous systems, predictive analytics, and real-time decision-making.
  - **Improve consumers' experience** and to protect them from cyberattacks.
  - **Economic**: To achieve objectives of Digital India Program and impetus for becoming a \$5 trillion economy.
- **Challenges**:
  - **Less number of organisations** involved in R&D in telecom and broadcasting sectors.
  - **Limited commercialization of research** due to weak interlinkages.
  - **No centralized governance body** overseeing R&D activities in ICT Sector.
  - **MNCs focus on software instead of hardware**, leading to lack of product development.
  - **Dormant Telecom Centres of Excellence (TCOE)**.
- Initiative taken
  - **Indigenous 4G and 5G core technologies** developed by C-DoT
  - **National Digital Communications Policy, 2018**
  - **Telecom PLI scheme**
  - **Centre for Excellence in Wireless Technology (CEWIT)** an autonomous research society of IIT Madras



#### 7.7.4. MONOCLONAL ANTIBODIES (MABS)

- The **Centre** decided to **procure** doses of monoclonal antibody from **Australia**.
- Monoclonal antibody, an experimental therapeutic, was **also imported for treatment of infected patients during 2018 Nipah outbreak in Kerala**.
  - Nipah virus (NiV) is a **zoonotic virus** and can be transmitted through contaminated food or directly between people.
- Monoclonal antibodies (mAbs) are **artificial antibodies that mimic the activity of our immune systems**.
  - They are **produced through a process that involves extracting specific antibodies** from human blood and **then cloning them**.
    - ✓ They are **clones of just one antibody**, and they bind to one antigen only.
  - They are made by **homogeneous hybrid cells (B cells)** derived from the same parent cell.
    - ✓ **Polyclonal antibodies (PAbs)**, on the other hand, are a mixture of antibodies that are secreted by different B cell lineages.
  - They have been used in the **treatment of cancers, Ebola, HIV etc.**
- mAbs can effectively **bind with a part of the viral envelope** that attaches to the human cells to gain entry into the body.
  - This **effectively neutralises the virus**.
- **Concerns with mAbs:** Side effects such as **cytokine release syndrome reactions, allergic/atopic disorders, impaired immune function**, etc.

#### Know the term

○ **Antibodies:** These are protective proteins produced by the immune system in response to the presence of a foreign substance, called an antigen.

#### 7.7.5. WHO HYPERTENSION REPORT

- WHO has released its **first-ever report on hypertension** titled '**Global Report on Hypertension: The Race against a Silent Killer**.'
- **About Hypertension**
  - It is a **condition of higher blood pressure than normal**, measured by diastolic and systolic blood pressure levels.
  - **Systolic pressure** is the **maximum blood pressure** during contraction of the ventricles and **diastolic pressure** is the **minimum pressure recorded** just prior to the next contraction.

- **Key findings**
  - Globally, **higher prevalence of hypertension among males** (34%) than females (32%).
  - In India, **31% of the population have hypertension**.
  - Only **37%** of Indians with hypertension are **diagnosed** and only **30%** get treatment.
    - ✓ **4.6 million lives in India can be saved by 2040** with better control.
  - **Cardiovascular disease deaths** attributable to high systolic blood pressure are **higher among females (54%) than males (51%)**.
  - **Risk factors** include higher salt intake, tobacco use, obesity, alcohol consumption, and physical inactivity.
- **Interventions in India**
  - **India Hypertension Control Initiative (IHCI):** A collaborative initiative between **MoHFW, state governments, Indian Council of Medical Research (ICMR), and WHO-India**.
    - ✓ Aims to improve hypertension control using evidence-based treatment protocol, uninterrupted drug supply, patient-centered care, task sharing, and digital information system.

#### 7.7.6. GUJARAT DECLARATION

- WHO has released the outcome document of first **WHO Traditional Medicine Global Summit 2023** in form of **Gujarat Declaration**.
  - It **reaffirmed global commitments** towards **indigenous knowledge, biodiversity and Traditional, Complementary and Integrative Medicine**.
  - It serves as a catalyst to **harness the potential of traditional medicine** and focus on their integration in national health systems.

#### 7.7.7. SCRUB TYPHUS DISEASE

- **Caused by:** A bacteria called *Orientia tsutsugamushi*.
- **Vector:** through bites of infected chiggers (**larval mites**).
- **No vaccine** is available to prevent scrub typhus.
- **Common Symptoms:** Include fever, headache, body aches, and sometimes rash.
- **Affected regions:** Rural areas of **Southeast Asia, Indonesia, China, Japan, India, and northern Australia**.

### 7.7.8. RNA (RIBONUCLEIC ACID) STUDY OF TASMANIAN TIGER

- In a **First**, researchers have sequenced **RNA from any extinct species**.
- **Tasmanian tiger (known as the thylacine)** was a **dog-sized striped carnivorous marsupial** inhabited in Australia and adjacent islands.
- **RNA, like Deoxyribonucleic Acid (DNA)**, carries **genetic information and plays a crucial role in protein synthesis**. While DNA contains an organism's genetic code.
  - RNA carries **genetic information** it receives from the DNA, synthesizing **proteins that an organism requires** to live and **regulating cell metabolism**.
- **Benefits:**
  - information on the **metabolism regulation** of species.
  - help in **understanding the causes of past pandemics**.

### 7.7.9. DOLLY SHEEP

- **Sir Ian Wilmut**, who led the team that **created Dolly, passed away recently**.
- Dolly was the **first mammal to be cloned from an adult cell**.
- Dolly was **created using** a cloning method called **Somatic Cell Nuclear Transfer** or SCNT.
  - In SCNT, **nucleus of an egg cell is removed and replaced with nucleus of a donor adult cell**.
  - Because **99.9% of cell's DNA is contained in nucleus** as chromosomal DNA, **resulting animal will share almost exactly same DNA as original donor cell**.

### 7.7.10. UNIVERSE EXPANSION DISPUTE

- **Researchers proposed a new way to settle the universe expansion dispute**.
- **Universe began nearly 13.7 billion years ago** - in an event that astronomers **called big bang**- as just a single point, then **expanded and stretched** to grow as large as it is right now—**and it is still stretching**.
  - In 1929, **Edwin Hubble provided first mathematical description of universe's expansion**.
  - However **finding precise rate of universe's expansion**, called the **Hubble constant**, remains a **challenge**.
- **Hubble constant is calculated by:**
  - Comparing observed **brightness of a supernova**, the largest explosion of a star that takes place in space

- Analysing changes to **cosmic microwave background (CMB)**, radiation leftover from Big Bang event.
- Using **gravitational waves**, ripples in spacetime produced when massive astronomical objects – like neutron stars or black holes – collide with each other.
- However, there is a **discrepancy in measuring Hubble constant** as all **three methods estimate Hubble constant based on information from different stages of the universe**.
  - **CMB is based on a much younger universe** while **other two** are based on an **older universe**.
- **Now researchers** including from India **proposed to study collection of Gravitational Lensing and their time delays to determine Hubble constant**.
  - **Gravitational lensing occurs when massive objects distort and magnify light from objects behind them** (such as a galaxy or a quasar), acting as cosmic telescopes and making distant galaxies appear brighter.

### 7.7.11. CE-20 CRYOGENIC ENGINE

- ISRO has successfully tested the **CE-20** Cryogenic engine to be used in “Mission Gaganyaan”
  - Cryogenic engines **use fuels at cryogenic temperatures (-150 to -273 degree C)** and are **comparatively more powerful** than solid and liquid propellant engines.
- It is the first cryogenic engine to use a Gas-generator cycle using **Liquid Oxygen and Liquid Hydrogen** propellants combination.
- It has a capacity of **28 tonnes of fuel** and will be used as the upper stage of **Geosynchronous Satellite Launch Vehicle Mk III (LVM3)**.

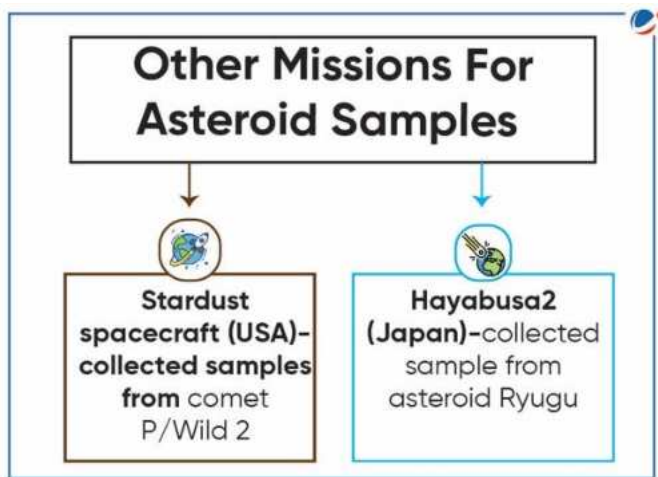
### 7.7.12. NASA'S OSIRIS-REX ASTEROID SAMPLES CAPSULE

- NASA's OSIRIS-REx asteroid samples capsule **from asteroid Bennu lands on Earth**.
- OSIRIS-REx (**Origins, Spectral Interpretation, Resource Identification, Security- Regolith Explorer**), launched in 2016, is the NASA's first mission to **collect a sample from near-Earth asteroid Bennu**.
  - In 2020, OSIRIS-REx spacecraft collected **samples of dust and pebbles** from asteroid Bennu.
    - ✓ Asteroids are **rocky objects that orbit the Sun**. They are the remnants from formation of solar system over 4.6 billion years ago.
    - ✓ They are also called **minor planets** as they are much smaller than planets.
- Bennu is a **B-type asteroid**, i.e., it contains **significant amounts of carbon** and various other minerals. Hence,



it reflects **about 4% of the light that hits it** (Earth reflects about 30% and Venus reflects about 65 %).

- Bennu was formed in first 10 million years of solar system's creations.
- It has not gone through a lot of composition-altering change through billions of years, which means that **below its surface lie chemicals and rocks** from the birth of the solar system.
- **Significance of asteroid samples**
  - To better understand **planet formation** and **origin of organics and water** that led to life on Earth.
  - **Benefit humanity** by learning more about potentially hazardous asteroids.



#### 7.7.13. SLIM AND XRISM

- Japan Aerospace Exploration Agency (JAXA) launched an H-2A rocket carrying the **SLIM moon lander and the XRISM space telescope**.
- SLIM (Smart Lander for Investigating Moon) will attempt to pull off **Japan's first-ever soft lunar landing at Shioli Crater** in early 2024.
  - It aims to demonstrate **pinpoint-landing technology** which can enable landing anywhere on the Moon.
- XRISM (X-Ray Imaging and Spectroscopy Mission) is a **collaboration involving JAXA, NASA and the European Space Agency (ESA)**.
  - It will **study the universe in high energy X-ray light** from the Earth's orbit.

#### 7.7.14. MARS OXYGEN IN-SITU RESOURCE UTILIZATION EXPERIMENT (MOXIE)

- MOXIE, **NASA's oxygen-generating instrument on Perseverance Mars Rover**, has successfully completed its Mars mission.
- MOXIE produces **molecular oxygen** through an **electrochemical process** that **separates one oxygen**

**atom from each molecule of carbon dioxide** pumped in from Mars' thin atmosphere.

- It has proved to be a **viable technology for astronauts on Mars** to produce **oxygen for fuel and breathing**.
- It was developed by researchers at **Massachusetts Institute of Technology**.

#### 7.7.15. JUNO MISSION

- NASA's **Juno mission completed** its 53rd **close flyby of Jupiter**.
- **About Juno mission**
  - **Launched in 2011** for a 5-year journey.
  - **Aim: probe beneath Jupiter's dense clouds** and the origin and evolution of Jupiter, **solar system**, and **giant planets** in general across the cosmos.
    - ✓ It will also study **Jupiter's faint rings** for scientific investigations.
  - In its **extended mission**, it continues its investigation of Jupiter through **September 2025**, or **until the spacecraft's end of life**.

#### 7.7.16. K2-18 B EXOPLANET

- NASA's **James Webb Space Telescope** discovered the **presence of carbon dioxide and methane on an Exoplanet**.
- **K2-18 b exoplanet** is 120 light years from Earth.
  - Planets that orbit stars, **other than our sun**, are called **Exoplanets**.
- **James Webb Telescope** is a space telescope specifically designed to conduct infrared astronomy.
- Its **high-resolution and high-sensitivity instruments** allow it to view objects too old, distant, or faint for the Hubble Space Telescope.

#### 7.7.17. MAGNETOSPHERIC SUBSTORM



- **Study of energetic ion variations** during magnetospheric substorm intervals can help **improve the accuracy of space weather forecasting**.
- Magnetospheric substorm is a **short-lived process** in which a **portion of the energy**, extracted by the **interaction between solar wind and Earth's magnetosphere**, is released.
  - It **depends on Interplanetary Magnetic Field (IMF)**, solar wind velocity, and on solar wind dynamic pressure.
  - **The average duration** of the substorm is **about 2-4 hours**.
  - **The southward direction** of IMF is a **prerequisite for substorm occurrence**.

### 7.7.18. SUPER BLUE MOON

- **Super Blue Moon** is the convergence of three lunar occurrences - a full Moon, a Supermoon, and a blue Moon.
  - **Blue moon** refers to the **second full moon** within a single month—a rare event since **full moons typically occur once a month**.
    - ✓ When a **season experiences four full moons**, the **third full moon** is deemed the blue moon.
  - **Super moon** happens when the moon is passing through or is close to its **perigee**, and is **also a full moon**.
- **Full moon** at perigee (super moon) is about 14% bigger and 30% brighter than a full moon at apogee (called a “micro moon”).

### 7.7.19. ERRATA

- In **June 2023 Monthly Magazine**, due to Typographical Error in Article 7.1. Outer Space Governance, the headquarters of the United Nations Office for Outer Space Affairs (UNOOSA) and Article 7.4 Rare Higgs Boson Decay The European Organization for Nuclear Research (CERN) were given incorrectly.
- **Correct information is:**
  - Headquarters of **United Nations Office for Outer Space Affairs (UNOOSA)**: Vienna.
  - Headquarters of **The European Organization for Nuclear Research (CERN)**: Geneva

 <p><b>SMART QUIZ</b></p>	<p>You can scan this QR code to practice the Smart Quiz of Science &amp; Technology at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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## 8. CULTURE

### 8.1. NATARAJA STATUE

#### Why in the news?

The world's tallest Nataraja statue was installed at Bharat Mandapam, the venue of the G20 summit in Delhi.

#### About the statue

- It is a ~27-foot-tall statue weighing ~18 tonnes.
- It was made by sculptor **Radhakrishnan Sthapathy** in Thanjavur District of Tamil Nadu.
- The statue was built in **Ashtadhatu (8 metals)** using the traditional lost wax casting method.
  - Ashtadhatu also called **octo-alloy**, is an alloy comprising the eight metals of **gold, silver, copper, lead, zinc, tin, iron, and mercury**.

#### About Nataraja Statue

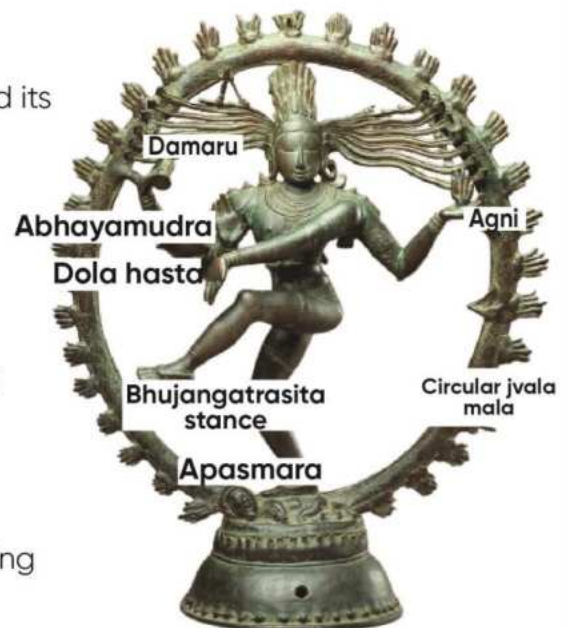
- Nataraja is regarded as the '**Lord of Dance**' and his dance represents the **cyclical creation and destruction of the universe**.
  - The Cholas considered Lord Shiva as Nataraj as their family deity.
- The dance is a manifestation of **panchkrityas or the five activities** of Shiva that are creation, preservation, destruction, veiling and grace.

#### Do you know ?

- > A Nataraja statue is located outside the world's largest physics science laboratory- the **European Organization for Nuclear Research (CERN)** in Switzerland. The statue was a **gift from India to celebrate its association with CERN**, and draws a metaphor between the cosmic dance of the Nataraja and the modern study of the 'cosmic dance' of subatomic particles.

### Features of the Nataraja Statue

- **Damaru in the upper right hand** (signifies creation)
- **Upper left-hand holds Agni** (signifies destruction and its counterpart)
- Lower right hand in **abhayamudra** (a gesture that allays fear and reassures safe existence)
- Lower left hand held in **dola hasta**
- Right leg used for balancing and suppressing the **apasmara** (the demon of ignorance or forgetfulness)
- Left leg in **bhujangatrasita stance** (represents tirobhava, that is kicking away the veil of maya or illusion from the devotee's mind)
- **Circular jwala mala** (the garland of flames) surrounding the entire dancing figuration



#### • Evolution of Nataraja Sculpture

- Evidence shows that bronze representations of Shiva first appeared in the Pallava period between the **7th century CE and mid-9th century CE**.



- Its present, world-famous form evolved **under the patronage of the Chola dynasty**.
- The later Chola craftsmen began to produce figures that were flared and dynamic as opposed to the Pallava sculptures that were close-set and linear.
- The distinguished patron during the 10th century was the widowed Chola queen, **Sembiyan Maha Devi**.
- **Temples associated:**
  - A bejewelled image of Nataraja is located at the **Thillai Nataraja Temple** in Chidambaram (Tamil Nadu).
    - ✓ **Parantaka I (ruler of the Chola dynasty)** is associated with the temple. He is said to have provided the Vimana of the Nataraja temple at Chidambaram with a golden roof.
    - ✓ Temple is located at the **Center Point of world 's Magnetic Equator**.
  - Nataraja idols/sculptures can also be found at the **Uma Maheswarar Temple** in Konerirajapuram, and the **Brihadeeswara Temple**, in Thanjavur.
  - Many Shiva temples in southern India have a **separate Natana Sabha** where the image of Nataraja would have been placed.

#### Art and architecture under Chola dynasty

##### Sculptures

- The Chola period is well known for **its metal sculptures**.
- Chola bronze sculptures were made using the **cire perdue or lost-wax casting** technique that is still practiced today in India and elsewhere.
  - It is a method of metal casting in which **molten metal is poured into a clay mold that has been created by means of a wax model**.
  - Once the mold is made, the wax model is melted and drained away.
- The sculptures featured holes at the bottom.

##### Paintings

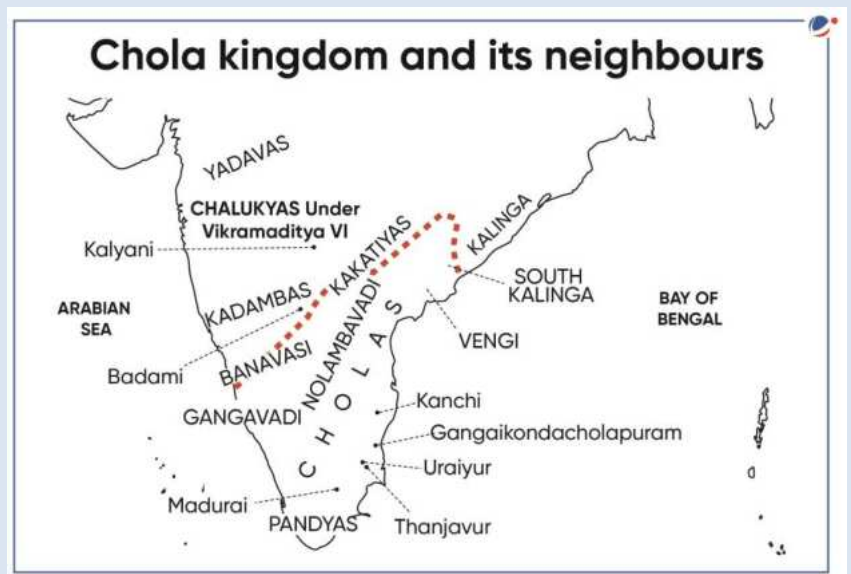
- The art of paintings also flourished and was painted with much realism.
- There were paintings on the themes of **Puranas** painted on the inner walls of the **Raja Rajeswara Temple** and Gangaikonda Cholapuram Temple.
- A painting believed to be that of Marco Polo is in the **Brihadeeswarar Temple**.

##### Music and dance

- Instruments such as kudamula, **veena**, and **flute** were used, and the **devadasis** were expert musicians and singers.
- The **classical dance** form of **Bharatnatyam** is believed to have flourished under Chola patronage.

##### Temples

- Chola temples can be **categorized in two groups** –
  - Early temples that were influenced by **Pallava architecture**.
  - Later temples had **Chalukya influence**.
- **Architectural style:** Dravidian
- **Key Features of the Chola temples**
  - Temples were surrounded by a **high boundary wall**.
  - Consists of **grabhgriha** (inner sanctum) and **antarala** (vestibule).
  - Temples were huge and large with **Vimanas** (structure over inner sanctum) or **Gopuras** (entrance tower) dominating the landscape.
  - The raw materials used are blocks of **gneiss and granite**.
  - **Important examples:**
    - ✓ Early group- **Vijayalaya temple**.
    - ✓ Later group- **Brihadishwar temple of Thanjavur and the Brihadishwar temple of Gangaikond cholpuram**.



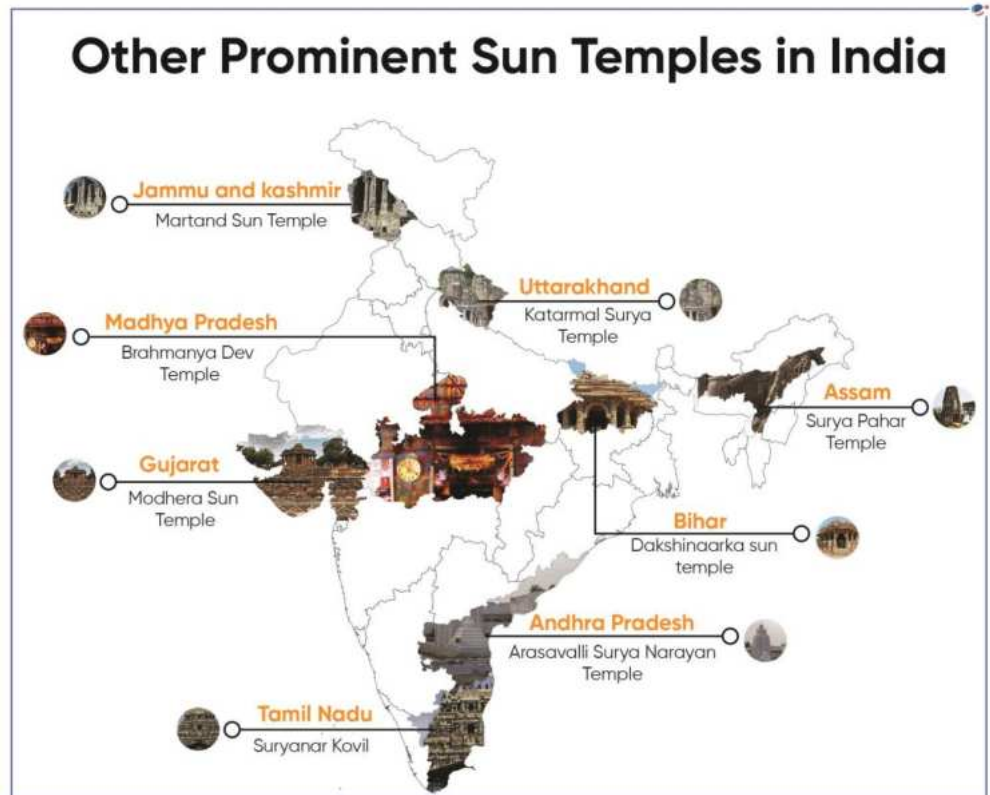
## 8.2. KONARK SUN TEMPLE

### Why in the news?

The mural of the iconic Konark Sun Temple wheel was showcased to the World Leaders at the G20 Summit.

### About Konark Sun Temple

- Konark Sun Temple is a UNESCO World Heritage Site and is also known as **Black Pagoda, Arka Kshetra and Padma Kshetra**.
- The Sun Temple and Konark Wheel were built during the **13th century under the reign of Eastern Ganga King Narasimhadeva-I**.
  - Sun temples are temples dedicated to the worship of the Sun God and these are designed to highlight **the celestial movement of the Sun**.
  - Materials used for building the temple include **Chlorite, Laterite and Khondalite rocks**.
- Konark Sun Temple was once described by Nobel Laureate Rabindranath Tagore as the **place where the language of stone surpasses the language of man**.



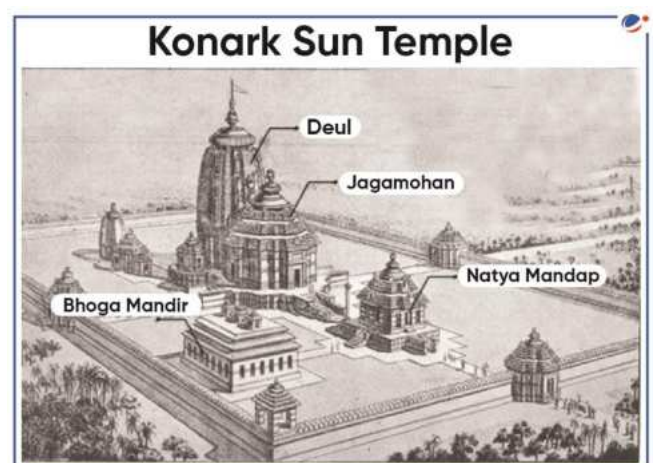
### Eastern Ganga Dynasty

- Eastern Ganga or **Chodaganga Dynasty** ruled over **Kalinga or Odisha** from the **5th century to the early 15th century**.
- According to **early Chodaganga copper-plate grants**, the Eastern Gangas of Kalinga were a branch of Mysore's ruling Western Ganga family.
- Kamarnava** is believed to be the **founder** of the Eastern Ganga dynasty, however, **Indravarman I**, whose **Jirjingi copperplate grant** was issued in 537 CE, is **the first historical ruler** of the Eastern Ganga dynasty known from **reliable records**.
  - The most powerful ruler of this dynasty was **Anantavarman Chodaganga**.

### Structure of the Temple

Konark Sun Temple represents the most **evolved period in Kalinga Architecture**.

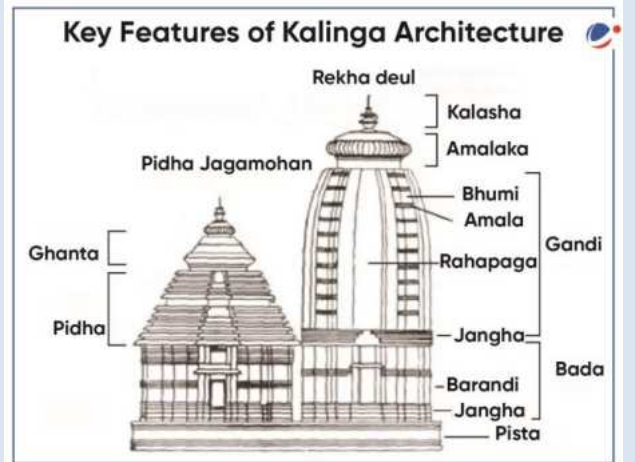
- Entrance**: The main entrance of the Sun Temple, the **Gajasimha** - gaja meaning elephant and simha referring to lions.
  - According to mythology, **lions resemble pride, elephants resemble wealth** and both of them kill the human.
- Natya Mandapa**: Gajasimha leads to the Sun Temple's finely carved Natya Mandapa, the hall for dance and theatre.
  - The sculptures here depict **different types of dance styles**.



- **Jagamohan or Mukhasala:** It is the assembly hall of the temple and the steps that rise to Jagamohan are flanked by stone horses.
- **Deul:** The Jagamohan is followed by the deul which is the sanctum where the idol is placed.
- **Bhoga-mandira (kitchen)** to make bhoga for the deity and devotees.

#### Kalinga Architecture

- **Nature:** The **Nagara style of Northern India** and the Dravida style of South India were combined to create the Kalinga architecture.
- **Typical architecture:** The typical Kalinga temple consists of two parts – a sanctum (**deul**) and a hall (**Jagamohana**). However, early-period temples were devoid of Jagamohana.
  - Later additions to the temple style include **natya-mandapa** and then **bhoga-mandira (kitchen)**.
- **Categories:** The architecture is broadly classified into three main categories:
  - **Rekha deul:** Square plan with a curvilinear tower resembling a shikhara.
  - **Pidha Deul or Bhadra Deul:** Square plan with a pyramidal tower composed of horizontal tiers arranged in a receding manner.
  - **Khakhara Deul:** Rectangular plan with a barrel-shaped (vault shape) tower.



#### Architectural features of the Temple

- **Sun rays:** Sun Temple was designed in such a way that the **rising sun's first rays would illuminate the sanctum** and the presiding deity.
- **Chariot Design:** The Sun Temple at Konark has been designed like chariot of **Surya, the Sun God**.
  - The temple stands on a base of a total of **24 intricately carved wheels**, 12 on each side.
  - The chariot seems to be drawn eastwards towards the dawn by a team of **seven spirited horses**.
- **Konark Wheel:** The thicker wheels are all carved with **circular medallions** at their centres on the widest part of the face.
  - The **rims** are carved with designs of **foliage with various birds and animals**, whereas the **medallions** in the spokes are carved with **the figures of women in various luxurious poses**, mostly of a sensual nature.
- **Seven Horses:** These seven horses have been named in Bhagawat Gita, as '**Gyatri**', '**Usnika**', '**Anustuv**', '**Vrihati**', '**Pangti**', '**Tristup**' and '**Jagati**' which possibly stand for the rhythmic representation of the sacred verses of the Vedas.
  - The seven horses are also **named after the seven colours of the rainbow**: Sahasrara (Violet), Indra-nila (Indigo), Nila (Blue), Haritaha (Green), Pita (Yellow), Kausumbhaha (Orange) and Rakta (Red).
- **Carvings of the Temple:**
  - **War Horses:** There are two carved war horses in front of the southern side of the Konark Temple. The sculpture depicts each of them with its **massive strength and energy crushing down the warrior**.
    - ✓ This figure of the war horse of Konark has been accepted as the **symbol of the state Government of Odisha**.
  - **Sun God:** The Sun Temple has three impressive carvings of the Sun God at three strategic locations, to catch the sun at dawn, at noon and at sunset.
  - **Everyday activities:** The carvings at the base of the temple and on its walls chronicle everyday activities.
  - **Others:** Some carvings depict **sensuous details** while others exhibit **mythical creatures and animals** like elephants and birds.





## Different Interpretations of the Konark Wheel

- **Time:** According to some,
  - **7 horses** represent the **days of the week**,
  - **12 pairs** of wheels represent the **12 months** of the year
  - **24 wheels** signify **24 hours** of a day and
  - **8 major spokes** signify **prahars** (three-hour period) of a day.
- **Life cycle:** Some suggest that the wheels of the chariot have been interpreted as the '**Wheel of Life**'. They portray the **cycle of creation, preservation and achievement of realisation**.
- **Zodiac signs:** These 12 pairs of wheels may also possibly represent the **12 zodiac signs**.
- **Dharmachakra:** Some also believe that the Wheel of Konark is the same as the Dharmachakra of the Buddhists - The Wheel of Karma, The Wheel of the Law.
- **Sun dial:** The wheels of the chariot have also been interpreted as the 'Sun Dial'. Four of the wheels can still be used as sundials to tell the time.
  - The Sun dial shows **time anti-clockwise** and the top centre wider spoke represents 12 o'clock midnight.
  - The Konark wheel has **8 wider spokes and 8 thinner spokes**. The distance between two wider spokes is 3 hours.
- **Symbol of democracy:** It also serves as a powerful symbol of the wheel of democracy that reflects the resilience of democratic ideals and commitment to progress in society.

## Conclusion

The Sun temple at Konark represents the **peak of the Kalinga architecture** and is a symbol of India's rich cultural heritage.

## 8.3. SACRED ENSEMBLES OF HOYSALAS

### Why in the news?

The Sacred Ensembles of Hoysalas in Karnataka, has been declared as **42<sup>nd</sup> UNESCO World Heritage Site (WHS)**.

### More on News

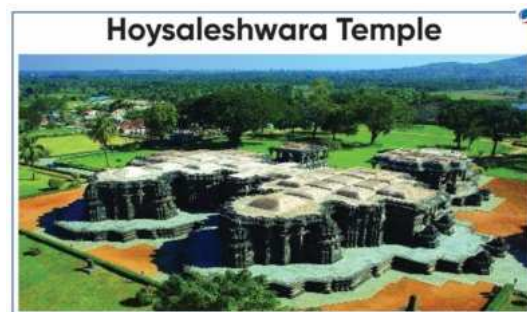
- It includes the temples of **Chennakeshava temple (Belur)** and **Hoysaleswara temple (Halebidu)** and **Keshava temple (Somanathapur)**.
- These temples were built during **12<sup>th</sup>- 13<sup>th</sup> century**.
- Hoysalas temples are 4th WHS of Karnataka. The other three are **Hampi, Pattadakal and Western Ghat**.



### Temples and Features of the Hoysalas

- **Chennakeshava Temple (also referred as Vijayanarayana Temple)**
  - **Commissioned by:** King Vishnuvardhana in 1117 CE in Belur Region, Hassan District.
    - ✓ Located on the banks of the Yagachi River.
  - **Deity:** It is an **ekakuta** (temple with one shrine) and the **garbha griha** (sanctum sanctorum) houses portrait of Krishna.
    - ✓ Dedicated to **Lord Vishnu** known as Chennakesava (Chenna (beautiful) and Keshava (Vishnu)).
    - ✓ It is a living temple (only worshipping temple among them).
  - **Key Features:**
    - ✓ **Material:** Built with **Chloritic schist** or **soapstone**, it is also used in other two temples.
    - ✓ **Platform:** It stands on a **Jagati (adhithana)**.
    - ✓ **Garbhagriha:** It is **stellar in shape** and its **zigzag walls** make the figures of 24 forms of Vishnu look different at **different times of the day due to light**.
    - ✓ **Sculpture:** Exterior sculptured depicts scenes from daily life, music, and dance, and narrate scenes from life of Vishnu and his incarnations and the epics, Ramayana, and Mahabharata.
    - ✓ Some of the representations of Shiva are also included, along with Jainism and Buddhism.
- **Hoysaleswara Temple (Halebid Temple)**
  - **Commissioned:** in 1121 CE, King Vishnuvardhana played key role in its construction in Halebidu, Hassan.

- ✓ Located on the banks of **Dwarasamudra lake**.
- **Deity:** Dedicated to **Lord Shiva** as **Nataraja**, the God of Destruction.
- **Key Features:**
  - ✓ **Mandapa:** It has a **double building** with a large hall for the **mandapa** to facilitate music and dance.
  - ✓ **Vimana/Shikhara** (temple towers): Absent.
  - ✓ **Sculptures:** Depicts scenes from Ramayana, Mahabharata and Bhagavata Purana.
    - There are more than 240 images in the temple and no other temple has these many intricate sculptures.
    - Includes themes from Vaishnavism and Shaktism, too, along with images from Jainism.
- **Keshava Temple**
  - **Commissioned by:** Somanatha Dandanayaka (during the regime of Narasimha III) in 1268 CE in Somanathapura, Mysuru.
    - ✓ Located on the banks of River Kaveri.
  - **Deity:** It is a **Trikuta Temple** dedicated to Lord Krishna in three forms – Janardhana, Keshava and Venugopala.
  - **Key Features:**
    - ✓ **Stellar plan:** three Shrines and Vimanas (Tallest structure over main shrine).
    - ✓ **Prakaara:** Multi-celled enclosure.
    - ✓ **Vimana:** Over all the three sanctums.
    - ✓ **Sculptures:** Include Lord Vishnu, Lord Ganesha, Goddess Lakshmi and Saraswati.



#### Architecture Style











#### Hoysala Architecture Style

- Followed **hybrid** or **Vesara** temple style. Its basic features includes:
  - Basic blend of **Dravidian and Nagara style**.
  - Show a strong influence of '**Bhumija**'.
  - ✓ **Bhumija** is a variety of North Indian shikhara.
  - Feature of '**Nagara**' traditions of northern and western India.
  - **Karnata Dravida tradition** of the **Kalyani Chalukyan** territories.

#### Key Features of Temple Architecture

- **Style:** Followed a **stellate plan** (looking like a star) built on a **raised platform (adhithana)**.
  - Several shrines arranged around a central pillared hall.
- **Material used:** **Soapstone**, these are soft and amiable to carving.
- **Garbha griha (sanctum sanctorum):** It houses a **centrally placed murti (enshrined icon)** on a **pitha (pedestal)**.
- **Mandapas** (hall where groups of people used to gather for prayers):
  - They were both open and closed.
  - Have circular pillars in their mandapas. Each pillar has four sculpted figures on the top brackets.
  - Ceilings are ornate, with mythological figures and floral designs.
- **Gopuram (entrance of temple):** Lofty gopurams were constructed.
- **Sculpture:** Salabhanjika (a woman), a common form of sculpture.
- **Vimana** (structure over the garbhagriha or inner sanctum): Simple on the inside though lavishly decorated on the outside.
- **Other Features:** Ceilings featured **corbelled domes**.
  - On the uppermost part of the temple tower, temples have a **vase-shaped water pot**.

## Hoysala Dynasty

 <b>Genesis</b>	<ul style="list-style-type: none"> <li>They are believed to be natives of the <b>Malnad region in Karnataka</b> but inscriptions also point towards connections with the Yadavas from North India.</li> </ul>
 <b>Founder</b>	<ul style="list-style-type: none"> <li><b>King Nripa Kama II</b> <ul style="list-style-type: none"> <li>He built an alliance with the Western Ganga dynasty.</li> </ul> </li> </ul>
 <b>Time Period</b>	<ul style="list-style-type: none"> <li>10th to 14th century</li> </ul>
 <b>Capital</b>	<ul style="list-style-type: none"> <li><b>Belur and Dwarasamudra (Halebidu)</b></li> </ul>
 <b>Region Ruled</b>	<ul style="list-style-type: none"> <li>Large part of modern day area from Karnataka to Tamil Nadu.</li> </ul>
 <b>Important Rulers</b>	<ul style="list-style-type: none"> <li><b>Vishnuvardhana Raya</b> (during his reign Sri Ramanujacharya's influence spread in the Karnataka region and Srivaishnavism grew in popularity). <ul style="list-style-type: none"> <li>He removed Cholas from Gangavadi in battle of Talakadu, for this he got the title Talkadugonda.</li> </ul> </li> <li><b>Veera Ballala II</b> (freed the Hoysalas from the Chalukya subordination).</li> </ul>
 <b>Administration</b>	<ul style="list-style-type: none"> <li>Kingdom was divided into <b>Nadus, Kampanas, Vishayas and Deshas (in a descending order)</b>.</li> </ul>
 <b>Decline/End</b>	<ul style="list-style-type: none"> <li>Veera Ballala III was killed at the <b>battle of Madurai in 1343</b>.</li> <li>Then, the sovereign territories of the Hoysala Empire were merged with the areas administered by <b>Harihara I</b> in the Tungabhadra River region.</li> </ul>

### Conclusion

The Sacred Ensembles of Hoysalas have enriched our heritage culture. Recognition from UNESCO will help in promoting the conservation of the sites. Hoysala dynasty had played key role in encouraging temple architecture.

## 8.4. SANTINIKETAN

### Why in the news?

Santiniketan has been designated as the 41st UNESCO World Heritage Site (WHS) of India.

### More on News

- It has been designated on the basis of following **Cultural Criteria** of **UNESCO**:
  - Exhibit an important **interchange of human values** on developments in architecture or technology, monumental arts, town-planning or landscape design.
  - Directly** or **tangibly** associated with events or **living traditions**, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.
- It is the third WHS of West Bengal, after the **Sundarbans National Park** and the **Darjeeling Mountain Railways**.
- Along with Rabindranath Tagore, Surendranath Kar, Nandalal Bose, Patrick and Arthur Geddes played key role in shaping it.





## About Santiniketan (Adobe of peace)

- **Location:** District Birbhum, West Bengal.
- **Brief Description:** It is an ensemble of **historic buildings, landscapes and gardens, pavilions, artworks, and continuing educational and cultural traditions.**
  - It represent unique brand of **internationalism.**
  - It drew elements from **ancient, medieval and folk traditions of India as well as Japanese, Chinese, Persian, Balinese, Burmese and Art Deco forms** (Western Europe and the United States).
- **Uniqueness:** It is a uniquely Indian example of a '**total work of art**' (**Gesamtkunstwerk**) where **life, learning, work and art** along with the **local** and the **global** intertwined.
  - Complex includes 36 historic structures along with the sculptures and landscape features.
  - It exhibits the crystallization of their ideas of **humanism, inclusiveness, environmentalism** and a **pan Asian modernism.**
- **Establishment (Early Days)**
  - In the middle of the 19th century, **Maharshi Devendranath Tagore** (father of **Rabindranath Tagore**) found solace and serenity in the barren land.
  - It earlier had an **extensive forest cover**, but substantial soil erosion gave certain areas a **barren look**. This resulting phenomenon is **locally known as khoai.**
  - He purchased the land and built house, named, **Santiniketan**, in 1863.
  - The name later came to **denote the entire area.**
  - It is flanked on two sides by the rivers, the **Ajay** and the **Kopai.**







## Key Architecture and Cultural Features

- **Overall:** The **first architectural structures** are part of the complex was the glass Temple (Mandir), where worship is non-denominational.
- It consist of **three main areas:**
  - **Ashrama** (Hermitage)
  - **Uttaryan** (residential quarters, consists of the Udayan, Konark, Shyamali, Punascha and Udichi )
  - **Kala Bhavana** and **Sangit Bavana**, the schools for Art and Music respectively.
- **Indigenous Architecture Style:** The buildings evolved new forms, celebrating the **narrative of local communities, crafts, and nature.**
  - It veered away from the prevalent **Beaux Arts** (Roman and Greek classicism but combined with more flamboyant French and Italian Renaissance) and **European modernism.**
- **Buildings Material:** Both **traditional materials** (mud and thatch) and **reinforced cement concrete.**
- **Open spaces:** **Integral part** of complex, has been used for cultural exchange and safeguard Indian art and cultural events through the mediums of fairs and seasonal festivals.
  - For engagements and discussions, adda (informal get-togethers) was there. Also, an eight-sided Dinanitika Cha Chakra (evening tea party) was designed.

### Rathindranath Tagore's Period in Santiniketan

- He began his journey in Santiniketan, by establishing **Brahmacharyashrama** in 1901.
  - It was inspired by **ancient Vedic traditions of tapoban and gurukul** with **open air classrooms arranged** under the canopies of trees.
    - ✓ From 1925 this ashrama came to be known as Patha-Bhavana.
- He established **ashrama in Santiniketan due to its environment.**
  - He wanted his students to be aware of their environment, be in communication with it, probe it, make experiments and collect data and specimens.
- **Visva Bharati University, Santiniketan:**
  - A '**world university**' named **Visva Bharati** was established in 1921.
  - In 1951, **Visva Bharati** transitioned into a **central university** with **Rathindranath as the first vice-chancellor.**
  - **Major Departments/Initiatives**
    - ✓ **Vidya Bhavan:** Concentrated mainly on research work and studies of different eastern cultures.
    - ✓ **Siksha-Bhavan:** Imparted **collegiate education** up to the graduation level.
    - ✓ **Sriniketan:** For rural reconstruction.

### Key Architecture elements of different cultures

Culture	Examples
 Chinese	Circular window of Guhaghar
 Japanese	woodwork
 Neo Gothic and Neo Classical	Bungalow style of Santiniketan Griha and Surul Kuthibari
 Buddhist	<b>Ajanta</b> (Patha Bhavan) and <b>Sanchi</b> (railing of Chhatim Tala)
 Sultanate and Mughal Period	Arches, facade, and jaalis
 Bengali	Chaiti, inspired by a rural Bengali hut

- **Decoration: Murals, frescoes, and sculptural friezes** by leading Indian artists adorn at the walls.
  - The walls and corridors of Kalo Bari are adorned with **Bharhut, Mahabalipuram, Mohenjodaro, Egyptian and Assyrian motifs**.

## Conclusion

Santiniketan is still playing key role in spreading the ideals fostered by the Rabindranath Tagore. Nation is taking forward his legacy by incorporating his ideas in the education system.

### About Rabindranath Tagore (1861- 1941)

- **Birth Place:** Kolkata
- **Education:** Educated at home (didn't completed his formal education).
- **Profession:** Writer, song composer, playwright, essayist, and painter
- **Awards:** Nobel Prize in Literature (1913)
- **Notable Works:** Gitanjali, Kabuliwallah, Gora etc.

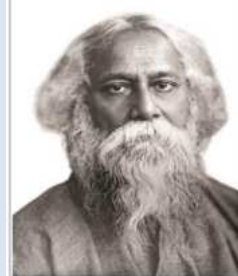
### Contribution of Rabindranath Tagore in Education

- He promoted following elements: **Self Realisation, Intellectual, Physical Development, Moral and Spiritual, and Social Development**.
- Also, included **humanity, co-relation of objects (between man and nature) and economic opportunities**. Emphasised on **mother tongue as the medium of instruction**.

### Difference Between views of Mahatma Gandhi and Rabindranath Tagore

- **Education:** Mahatma Gandhi was highly **critical of Western education**. On the other hand, Rabindranath wanted to combine elements of **modern Western civilisation with best element of Indian tradition**.
- **Nationalism:** According to Gandhiji, nationalism meant **self-rule** in which the whole community and not just the elite would be free and active. Rabindranath believed that, nationalism is individual **selfishness raised to a higher level**.
  - Latter, opposed **burning of foreign clothes** and use of Charkha for Swadeshi Movement.
- **Technology:** Gandhiji opposed worship of machines and technology. While Rabindranath emphasised the need to **integration of science and technology** in different walk of life.

Rabindranath Tagore



### Do you know?

- > Rabindranath Tagore is also referred as **Gurudev, Kabiguru, and Vishwa Kavi**.
- > He bestowed the title **Mahatma** to Gandhi.

### Similarities in their Views

There were many similarities such as **mother tongue as medium of instruction, humanism and the love of nature**, etc.

### Related News: Banglar Mati

- West Bengal declared **Rabindranath Tagore's** Banglar mati, Banglar jol as its **state anthem**.
  - West Bengal Assembly also passed resolution making **Poila Baishakh** (first day of the Bengali calendar i.e. April 15) as the **statehood day**
- Song was written during the **Banga Bhanga movement** against the partition and **promotes communal harmony** through **Raksha Bandhan**.
  - Tagore also composed **Amar sonar Bangla** (national anthem of Bangladesh) and **Vande Mataram** (national song of India).

## 8.5. NEWS IN SHORTS

### 8.5.1. REVAMPED 'ADOPT A HERITAGE 2.0' PROGRAMME

- **Archaeological Survey of India (ASI)** launched revamped 'Adopt a Heritage 2.0' programme.
- The scheme was **originally launched in 2017** under **Ministry of Tourism, Ministry of Culture, ASI, and State/ UTs Government**.
- Objective was ensuring **quality and inclusive provision of amenities** through active participation of **private and public sector organizations and individual**.
  - **Director-General of ASI** may receive **voluntary contributions** towards the cost of maintaining a protected monument under the **Ancient**

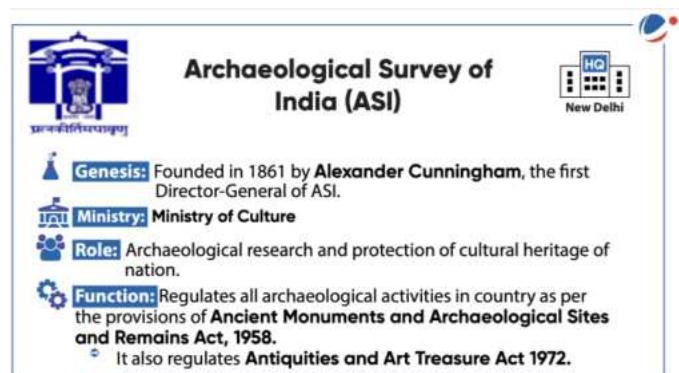
### Monuments and Archaeological Sites and Remains (AMASR) 1958, Act.

- **Need for revamp**
  - **Lack of awareness** about the prescribed **guidelines**
  - **Infeasibility of amenities** proposed for adopted heritage sites
  - **Complexity** induced by semi-commercial activities at the adopted sites
- **Key highlights of Adopt a Heritage 2.0**
  - **Smāraka Sārathī:** Any private/ public sector company/ trust/ NGO/ society that has been selected by ASI for the programme (earlier called as monument mitra).

- **Funding of projects:** Private and public sector companies shall utilize their CSR fund while others may provide **voluntary contribution**.
- **Flexibility:** Either **adopt a monument in whole or provide a particular amenity** such as drinking water facility, cleaning services, etc. for one or several sites.
- **Four-pronged framework of amenities:** Hygiene, Accessibility, Safety, and Knowledge.
- **Project Duration:** 5 years.

### 8.5.2. 'FUNCTIONING OF ARCHAEOLOGICAL SURVEY OF INDIA (ASI)' REPORT

- The report was presented by the **Parliamentary Standing Committee on Transport, Tourism and Culture**.
- The report incorporates the **challenges associated with ASI** and Committee's recommendations for **improving working of ASI**.
- **Challenges with working of ASI**
  - **Centrally Protected Monuments** list includes a large number of **minor monuments** with **no national significance**.
    - ✓ For instance, list includes 75 graves of colonial era soldiers or officials of no notable importance.
  - Provision of **100-meter prohibited area and 300-meter regulated area** around all ASI-protected monuments invites **criticism from local community** as they find it difficult to carry out necessary repair work of their residential houses.
    - ✓ This provision was **introduced in 2010** through an **amendment in Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958**.
  - Restoration is being done **without taking cognizance of original design/beauty of Monument**.
- **Recommendations**
  - ASI should be **rationalised and categorised on basis of their national significance**, unique architectural value and specific heritage content.
  - ASI should be divided into **two wings** namely **ASI** (look after **core mandate**, i.e. exploration, excavation and conservation aspects) and **India Heritage Development Corporation (IHDC)** to deal with ASI's entire revenue.
  - **Advanced technologies** like LiDAR, ground-penetrating radar, and 3D scanning should be used for enhanced accuracy and efficiency of excavations.





### 8.5.3. MERI MAATI MERA DESH (MMMD) CAMPAIGN


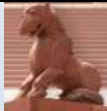


- MMMD is a **nationwide and people led** initiative to **commemorate 75 years of India's independence**.
- It celebrates the **many achievements of the nation** and involves **paying tribute to the 'Veers'** who protect our nation.

### 8.5.4. NEW PARLIAMENT'S GATES AND THEIR GUARDIANS

- New Parliament has **6 entrances**, each **signifying a different role**.
  - Out of these, 3 are designed as **ceremonial entrances**, to welcome special guests and to mark special events.
  - **Ceremonial entrances** have been also named as **Gyan, Shakti and Karma**, representing the Indian knowledge system, patriotism and artistic traditions, respectively.

Ceremonial entrances and their Guardians		
Gaja Dwar (North Gate)		<ul style="list-style-type: none"> <li>• Represents <b>wisdom and wealth, intellect, and memory</b>, and also embodies the aspirations of the elected representatives of the democracy.</li> <li>• Inspired by a similar statue at <b>Madhukeshvara Temple at Banabasi, Karnataka</b>.</li> </ul>
Garuda Dwar (Eastern Gate)		<ul style="list-style-type: none"> <li>• Eagle-like Garuda stands, which signifies the <b>aspirations of the people and the administrators of the country</b>.</li> <li>• Inspired by a similar statue of <b>Nayaka</b></li> </ul>

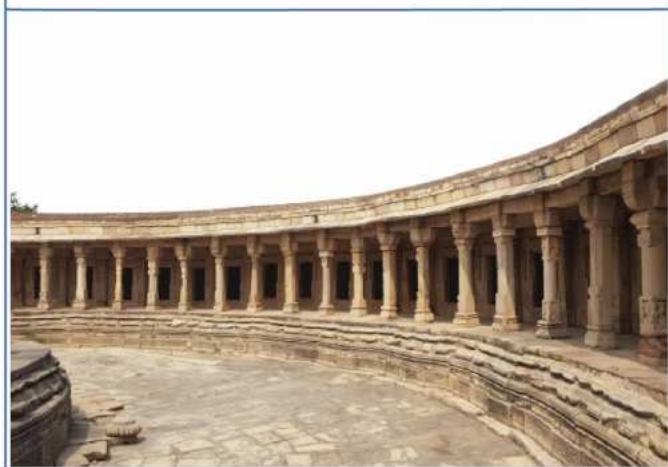


		period sculpture from Kumbhakonam, Tamil Nadu.
Ashwa Dwar (Southern Gate)		<ul style="list-style-type: none"> <li>Horse standing alert and ready which is symbol of <b>endurance and strength, power, and speed</b>, also describing the quality of governance.</li> <li>Inspired by a similar statue at the <b>Sun temple, Konark, Odisha</b>.</li> </ul>
<b>Public Entrances and their Guardians</b>		
Shardul Dwar (Western Gate)		<ul style="list-style-type: none"> <li>Mythological creature, Shardul symbolising the <b>power of the people of the country</b>.</li> <li>Inspired by a similar statue at <b>Shiva Temple at Sihonia in Morena, Madhya Pradesh</b>.</li> </ul>
Hansa Dwar (North East)		<ul style="list-style-type: none"> <li>Reminding the people the <b>power of discernment and self-realisation</b> as essential feature of Democracy.</li> <li>Inspired by a similar statue at <b>Vijay Vitthala Temple, Hampi, Karnataka</b>.</li> </ul>
Makara Dwar		<ul style="list-style-type: none"> <li>Mythological aquatic creature, Makara representing, <b>unity in diversity among the people of the country</b>.</li> <li>Inspired by a similar statue at the <b>Hoysaleswara Temple at Halebidu</b>.</li> </ul>

### 8.5.5. CHAUSATH YOGINI TEMPLE

- It is believed that the design of the old Parliament building was inspired from **Chausath Yogini temple located in mitaoli village in Madhya Pradesh**.
  - Old Parliament building was designed by architects **Edwin Lutyens and Herbert Baker**.
- The grand Chausath Yogini temple is **circular**, with 64 chambers dedicated to the 64 yoginis, and a **central shrine dedicated to Shiva**.
  - The 64 yoginis are **believed to be powerful warriors and sorceresses**.
- It was built around 1323 by King Devapala of the **Kachchhapaghata dynasty**.

## Chausath Yogini temple



### 8.5.6. STATUE OF ONENESS

- Madhya Pradesh government unveiled a **108-foot-tall** statue **Adi Shankaracharya** in **Omkareshwar** and named it as **Statue of Oneness**.
  - Adi Shankaracharya**, also known as **Jagadguru**, was the **founder of Advaita Vedanta (non-dualism)** in **8<sup>th</sup> century**.
  - He was **born** in **Kaladi in Kerala**.

#### Other Statues

 Name	 Dedicated to	 Location
Statue of Unity	Sardar Vallabhbhai Patel	Kevadia in Gujarat
Statue of Equality	Srinivasa Ramanujan	Hyderabad
Statue of Peace	Jain monk Acharya Shree Vijay Vallabh Surishwer	Rajasthan
Statue of Prosperity	Nadaprabhu Kempegowda	Bengaluru

### 8.5.7. ANCIENT STITCHED SHIPBUILDING METHOD (TANKAI METHOD)

- Recently, the **Ministry of Culture** collaborated with the Indian Navy to **reconstruct an ancient stitched ship**.
  - The **Ministry of Culture** has **fully funded** this project.
  - Indian Navy is overseeing the **ship's design and construction**.
- Under the project, a **21-metre "stitched ship"** will be made **using an ancient technique** of constructing a ship by stitching the planks of wood using ropes, cords, coconut fibres, natural resins and oils.
  - These ships, constructed by stitching wooden planks together rather than using nails, **offered flexibility and durability, making them less susceptible to damage from shoals and sandbars**.
  - The idea of ship design was taken from an **Ajanta painting** of a stitched ship.

- **Ancient trade Routes: Ministry of Culture** has recently joined hands with the Indian Navy and Goa-based Hodi Innovations to reconstruct an **ancient stitched ship**.
  - Reminiscent of the ships are that sailed the oceans **on India's ancient maritime trade routes towards South and South East Asian Region**.
  - This initiative is **in synergy with the Ministry of Culture's Project Mausam**.
    - ✓ **Project Mausam** aims to reconnect and re-establish communications between countries of the Indian Ocean world, to create an understanding of cultural values and concerns.
    - ✓ It aims to **rebuild maritime cultural connections with the 39 countries bordering the Indian Ocean**.
- **Ancient trade Routes:** The Indian Ocean trade routes connected Southeast Asia, India, Arabia, and East Africa, beginning at least as early as the 3<sup>rd</sup> century BCE.
  - **Important ancient ports:**
    - ✓ **West coast ports:** Barygaya, Suppara, Calliena, Semylla, Mandagore, Palaepatme, Malizigara, Auranobbas, Byzantine, Naura, Tyndis, Muziris and Nelcynda.
    - ✓ **East coast ports:** Tamralipti, Charitrapur, Paluru, Dantapur, Kalingapatnam, Pithunda, Sopatma, Ghantasala, Poduca, Puhar, Korkai and Camara
- **Some of the important trade routes**
  - **Ancient Maritime and cultural links to South and Southeast Asian regions:** Local traders known as **Sadhavs** used to sail through place of South and South East Asian regions like Bali, Sumatra, Silon (Sri Lanka), etc.
  - **Red Sea trade route:** This maritime highway linked the Roman Empire and India, through the Red Sea.
    - ✓ Trade was in like **spices, ivory, pearls, and precious gemstones**, etc.
  - **Silk Road:** An overland trade route supposedly stretching all the way across Asia from Xian in China to Antioch in Turkey.

### 8.5.8. KOKBOROK LANGUAGE

- Kokborok is the **language spoken by the Borok people** belonging to Tripura.
  - Borok are **branch of Boro people** of Assam belonging to **Sino-Tibetan linguistic group** and **racially Mongoloids**.
- **Kokborok belong to Tibeto-Burman family** and has close **affinity with other language family** like Bodo, Garo, Dimasa etc.
  - **Doulot Ahammad** wrote the **first Kokborok Grammar** (1897).

- It is one of the **state languages of Tripura**.
  - It is declared as **official language of Tripura Tribal Areas Autonomous District Council**.

### 8.5.9. SANGEET NATAK AKADEMI AMRIT AWARDS

- Recently, **84 artists** were conferred with the **Sangeet Natak Akademi Amrit Awards**.
- **About the Award**
  - **Purpose:**
    - ✓ **National honour** bestowed by the country on **performing artists, teachers and scholars** in the field of performing arts.
    - ✓ To honour **the Indian artists aged above 75 years** who have not been accorded any national honour in their career so far.
    - ✓ This is **one-time awards** by the Sangeet Natak Akademi.
  - **Prize:** ₹1 lakh, besides a '**Tamrapatra**' and '**Angavastram**'.
  - **Award presented by:** Vice president of India.



### 8.5.10. NEW NATIONAL AWARDS NAMED "RASHTRIYA VIGYAN PURASKAR (RVP)"


- **About Awards**
  - **Objective:** To acknowledge **remarkable contributions made by scientists** across diverse fields of science & technology.
  - **Domains for Awards:** 13 domains, including Physics, Chemistry, Atomic Energy, Space, etc. Representation from each domain including **gender parity** will be ensured.
  - **Eligibility:**
    - ✓ Scientists/ technologists/innovators working in **government, private sector organizations or any individual** working outside any organization.
    - ✓ **People of Indian Origin** staying abroad with exceptional contributions benefiting Indian communities.

- **Selection Process:** Selected by **Rashtriya Vigyan Puraskar Committee**, headed by **Principal Scientific Adviser** to Government of India. It will comprise of
  - ✓ **Secretaries** of Science Departments,
  - ✓ Members of **Science and Engineering Academies** and
  - ✓ **Distinguished scientists and technologists.**
- **Other**
  - ✓ Awards shall be announced on **11<sup>th</sup> May (National Technology Day).**
  - ✓ Award Ceremony will be held on **23rd August (National Space Day).**
  - ✓ All Awards will have a **Sanad & a medal.**

Award Categories			
 <b>Vigyan Ratna</b>	 <b>Vigyan Shri</b>	 <b>Vigyan Yuva-Shanti Swarup Bhatnagar</b>	 <b>Vigyan Team</b>
Celebrates <b>lifetime accomplishments</b>	Commends <b>distinguished contributions</b>	Recognises young <b>scientists</b> up to the age of <b>45 years</b>	Recognizes teams comprising 3 or more <b>scientists, researchers</b> for collaboratively achieving remarkable feats


#### 8.5.11. RAMON MAGSAYSAY AWARD

- Assam-based **oncologist Ravi Kannan** is among winners of 2023 Ramon Magsaysay Award.
- Established in 1957, the Ramon Magsaysay Award is regarded as the **Asian version of the Nobel Prize.**
- It is named after **Ramon Magsaysay**, the 7<sup>th</sup> president (1953-57) of Philippines. Ramon Magsaysay Award Foundation (RMAF) honours individuals or organizations in Asia every year **for social contribution activities.**



**SMART QUIZ**

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




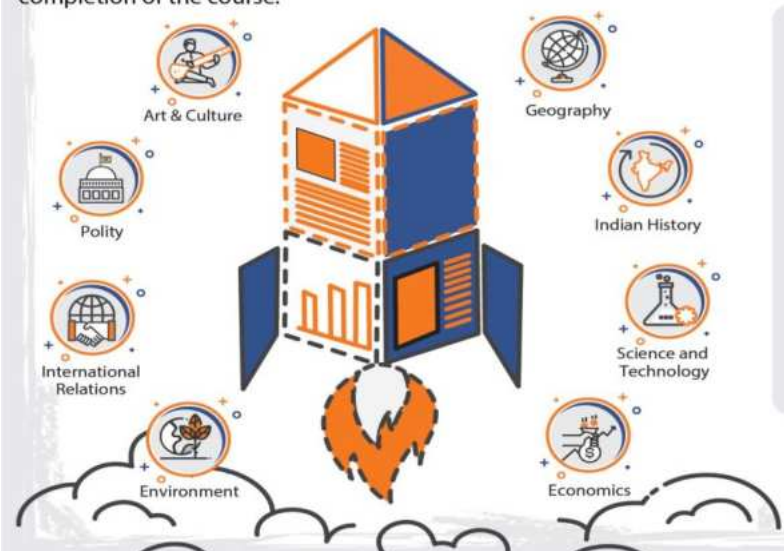
# FAST TRACK COURSE 2024

## GENERAL STUDIES PRELIMS





**PURPOSE OF THIS COURSE**

The GS Prelims Course is designed to help aspirants prepare for & increase their score in General Studies Paper I. It will not only include discussion of the entire GS Paper I Prelims syllabus but also that of previous years' UPSC papers along with practice & discussion of Vision IAS classroom tests. Our goal is that the aspirants become better test takers and can see a visible improvement in their Prelims score on completion of the course.





**INCLUDES**

-  Access to recorded live classes at your personal student platform.
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# 9. ETHICS

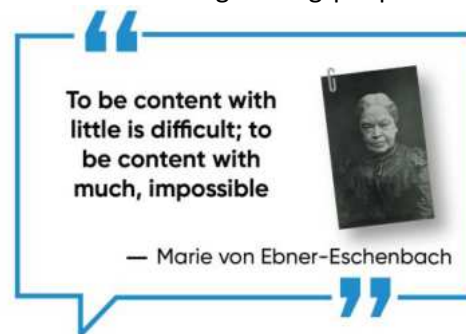
## 9.1. CONSUMERISM

### Introduction

In the last few decades, it has been noticed that the tendency of consumerism has been rising among people. This tendency was more prevalent in the West, but now developing countries like India have come under its grip. This has manifested in people running behind multiple gadgets, luxury accessories etc., which they might not need, but they desire.

### What is Consumerism?

- Consumerism is the idea that **increasing the consumption of goods and services purchased in the market is always a desirable goal**, and that a person's well-being and happiness depend fundamentally on obtaining consumer goods and material possessions.
- Consumerism is an ideology where consumers are **motivated or manipulated to buy something, even if they don't really need it**.
  - It is mainly derived by the **lifestyle obsession** instead of **necessity**.
    - ✓ For instance, **replacing** a perfectly working **mobile phone or laptop** because a new model is launched.
  - It is based on the assumption possession of the **material wealth and things** make a person **happy** and **satisfied**.
  - In present scenario, it used as a tool to show off one's wealth or status. This was called "**conspicuous consumption**" by Thorstein Veblen, a 19th-century economist and sociologist.
  - As per economist, it **strengthens** the economy by **increasing demand** and **production**. While, on the other hand, it harms **society** and the **environment**.
- Consumerism is driven by 4 factors majorly:**
  - Advertising:** The first driving force of consumerism is advertising, a vast industry dedicated to the power of persuasion.
  - Debt:** Credit cards, store cards, payday loans and 'buy now, pay later' schemes all bring forward our expenditure.
  - Obsolescence:** This stems from the realisation by capitalism that life cycles of products could be planned and managed.
  - More:** Tendency to have more than one. For instance, 3 cars for one house rather than one car per household.

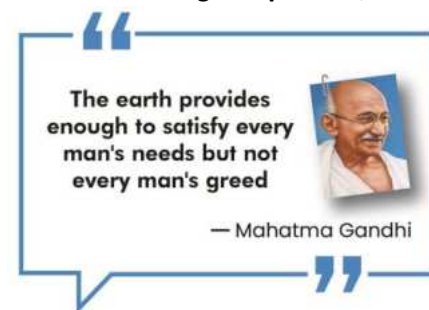


Key Stakeholders	Interests
Consumer	<ul style="list-style-type: none"><li>Consumer always hopes for best and latest products and services.</li><li>They expect that product owner will always share <b>true information</b> about the product.</li><li>The <b>advertisement which manipulates</b> them should be avoided.</li></ul>
Brands	<ul style="list-style-type: none"><li>Their main objective is to <b>enhance their profit</b> and <b>increase the market share of their products</b>.</li></ul>
Advertising Companies	<ul style="list-style-type: none"><li>They work according to the demands of the brands. Do not consider much about the interests of consumer.</li></ul>
Government/Authorities	<ul style="list-style-type: none"><li>Their motive is to ensure welfare of all, both consumer and companies. They regulate market activities but they can't control consumerism when it is done through legal means.</li></ul>
Environment	<ul style="list-style-type: none"><li>Resources should be utilised in the <b>sustainable</b> manner so that it <b>does not cause negative externalities</b> on environment such as pollution.</li></ul>

### Ethical values undermined by Consumerism

- Promotes undesirable means:** In order to achieve end, both **consumer and brands** can resort to **means** which are **not ethically correct**. For instance, **advertisements** (Beauty and cosmetic services/products) claim that products will change user's life.
- Subordinate Consciousness:** In consumerism, person just thinks about buying products and creating collections. In this race, he loses his **consciousness i.e. awareness of one's thoughts and feelings**. This resists them from taking right decisions. **E.g.** Doing shopping for their **social media** uploads etc.

- **Equity/Equality:** It has been found that in **societies which are driven by consumerism** have huge **disparities**; some people live lavish life while other's basic needs are not fulfilled.
  - It under mines the effort of the **Social Justice** (fair division of resources, opportunities, and privileges).
- **Violates basic tenets of the society:** Most of the religion/societies propagate that **satisfaction** will bring inner solace. However, tendencies like consumerism are against it.
  - It also include the loss of **traditional cultures** and **values**; the decline of **altruism** and **community**.
- **Derive Selfishness:** Consumerism ultimately **creates selfish society** in which people just think about their need. E.g. many people spend lakhs on clothes, this amount can be utilised to support education of a poor children.
- **Violates Environmental ethics:** An increase in demand naturally increases production, in turn, leading to change in **land use**, threaten biodiversity, **generation of more waste** and **emission of pollutants**.
  - For instance, in fashion industry, skin of different animal is used to make leather products. This has pushed certain species on the verge of extinction.
  - Also, changing mobile phones every year leads to generation of more e-waste.



Society and Consumerism		
Sphere/Domain	Society with limited consumerism	Society with hyper-consumerism
Disparity	<ul style="list-style-type: none"> <li>• <b>Social justice</b> is upheld.</li> </ul>	<ul style="list-style-type: none"> <li>• Certain section of the society owns more resources than they actually need.</li> </ul>
Humanity	<ul style="list-style-type: none"> <li>• People <b>cherish</b> principle of <b>humanity</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Humanity</b> is being <b>replaced</b> by the <b>selfishness</b>.</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• People follow lifestyle in which <b>adequate care of environment</b> is taken of.</li> </ul>	<ul style="list-style-type: none"> <li>• Pollution, resource depletion etc. are being witnessed.</li> </ul>
Psychological health	<ul style="list-style-type: none"> <li>• People are <b>psychologically fit</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Stress, anxiety, insecurity, and depression</b> are common among people.</li> </ul>

### Striking a balance between Needs and Desires

- **Adopting Ethical Consumerism:** It promotes **practice** of purchasing products and services in a way that **minimises negative impact social and/or environmental consequences**.
- **Moral and Consumer Education:** These subjects' needs to be part of the curriculum at all levels of education.
  - Financial literacy programs needs to be covered.
- **Promoting corporate responsibility:** Corporates should adopt 'Stakeholder Capitalism' instead of 'Shareholder Capitalism'.
  - **Stakeholder capitalism** proposes that corporations should **serve the interests of all their stakeholders**, and **not just shareholders**.
- **Curtailing Advertisements/Influencers:** Regulating authorities like **Advertising Standards Council of India (ASCI)** should keep eye on the advertisements which try to manipulate consumer.
- **Setting up Role Models:** Celebrities/influencers should become role model for others by practicing **responsible consumption** and **making sustainable choices**.
- **Effort by Government/Authorities:** It can be controlled by **imposing taxes** on luxury goods and giving incentives for sustainable practices.
  - More impetus should be given to initiatives like **Lifestyle for environment (LiFE)**.
- **Effort of Civil Society Organisation:** Volunteer of civil society organisation can carry out awareness derive to combat consumerism and promote sustainable living.

### Conclusion

Consumerism is a never-ending chase. Pause, reflect, and make conscious choices. Let's prioritize what truly enriches our lives, rather than what simply fills our spaces. It's time to consume with intention, rather than just to seek attention.

### Check your Ethical Aptitude

Vijay is a rising social media influencer. Company X has hired him to advertise their newly launched cosmetic product. Company is of view that by using influencer they will promote consumerism in the society. For this they have paid him good amount. Also, this will play key role in changing his career. Later, Vijay comes to know that product is not much effective as it was claimed in the advertisement. He thinks to take legal action against company but his well-wisher suggest him to drop the idea of legal action as it may harm its career.

On the basis of case study answer the following questions:

- Examine the ethical dilemma involved in the case.
- What are the options available with Vijay to cope with the situation?
- What ethical responsibility does celebrities/influencers have in preventing spread of consumerism?

## 9.2. ETHICS OF MEDIA TRIAL

### Introduction

In the present times, the media has clothed itself with the power of investigation and trial and ultimately branding him/her as a criminal, even before our courts of law have delivered a judgement. In this context, the Supreme Court (SC) directed the Union government to prepare guidelines on how the police should brief the media about ongoing investigations in order to prevent media trials.

### What is a Media Trial?

- It is generally considered as the process in which media publishes their **own versions of facts** in **newspapers, news websites, and news channels** in order to sensationalize the case.
- This function of media is seen as an invasion of the domain of the judiciary by conducting **indirect trials parallel with the courts**.
- In some cases, it has also been noticed that **irresponsible media briefings** by police officers during **ongoing investigations** enable the process of media trials.
  - E.g., statements made by the accused under Section 161 [before the police] and 164 [before a judicial magistrate] of the Criminal Procedure Code were released to the media.

Key Stakeholders	Their interest
Judiciary/Judges	<ul style="list-style-type: none"><li>• <b>Free trial is the foundation of justice.</b> Anything which may make judges biased towards the accused should be avoided.</li></ul>
Accused/Family members	<ul style="list-style-type: none"><li>• The accused expects that the media will show things <b>without fabricating facts and figures</b>.</li></ul>
Victim/Family members	<ul style="list-style-type: none"><li>• Victims/Family members expect that their <b>identity/personal information</b> will not be <b>revealed</b> by the media. Also, they hope that the media will help them in getting <b>justice</b>.</li></ul>
Witnesses	<ul style="list-style-type: none"><li>• The <b>protection and safety of the witness is crucial in the entire justice ecosystem</b>. Their stake lies in Media not disclosing their identity.</li></ul>
Media	<ul style="list-style-type: none"><li>• Reporting the truth i.e., <b>acting as 4<sup>th</sup> pillar of democracy</b> and managing the commercial angle connected with <b>popularity and viewership</b>.</li></ul>
Individual/Citizen	<ul style="list-style-type: none"><li>• The general public expects that <b>socially significant issues are given priority and honestly reported by media</b> i.e., without bias, prejudice or any vested interests.</li></ul>

### Key Ethical Issues with the Media Trial

- **Credibility of the Justice System:** It undermines the principle of **innocent until proven guilty** which advocates that **every accused** is presumed innocent **until proven guilty by the law**. E.g. Aarushi–Hemraj murder case
  - It also leads to **contempt of court** (disrespect or disobedience toward a court by entering into their domain).
- **Undermines Right to fair trial:** When sub-judice cases (case is under trial) are being discussed by experts in media, their opinions can affect the perception of judges toward the accused/victim. E.g. Jasleen Kaur harassment case.

“Whoever controls the media, controls the mind.”

— Jim Morrison



- **Article 21** of the Constitution of India guarantees everyone the **right to a fair trial (part of the right to life and liberty)**.
- **Threatens Right to Privacy:** The identity/personal information of the accused and victim is revealed which can negatively affect the Public image of an individual. E.g. in Sushant Singh Rajput case.
- **Undermines Media Ethics:** It violates key principles of Media Ethics such as **truth** and **accountability**. It goes against the idea of responsible journalism.

### Challenges in Controlling Media Trials

- **Ineffective Self-regulation of media:** In India, organisations like the **News Broadcasting and Digital Standards Authority (NBSA)** and **Broadcasting Content Complaints Council** have been set up as internal self-regulatory mechanisms for television news and entertainment, respectively.
  - This mechanism has not been very effective as these bodies lack **statutory backing**.
- **Balance between the Freedom of Media and Media Trial:** Under Article 19 of the Constitution, media enjoys the freedom of expression, but it is at times misused when engaging in Media Trials.
  - Also, for **regulating agencies** it becomes difficult to decide what constitutes a **Media Trial** as there is no clear definition or guidelines. E.g., in cases of investigative journalism.
- **Rise in Social Media:** With the rise in **internet penetration**, social media has **emerged** as the **new platform for media trials**. E.g., sharing of sensationalized or fake posts to alter public opinion.



### Way Forward: Finding the Right Balance

- **Creating a balance between the rights of the accused and the media:** In sensitive cases, media can delay reporting on certain aspects until the trial is over.
  - In **Sahara India Real Estate Corporation v SEBI (2012)**, the SC highlighted the need for a delicate balance between the **rights of the accused** and the **media's right to report**.
- **Promoting Self-regulation Mechanism:** Organisations like the **Broadcasting and Digital Standards Authority (NBSA)** should create **comprehensive guidelines**, especially for sensitive cases such as national security issues like reporting of 26/11 attacks.
- **Authenticity:** Media should **reveal facts/figures** only after **scrutinizing their authenticity**.
- **Prohibiting Opinion-Based Reporting:** Media channels should regulate opinion-based reporting i.e. **either favouring or defaming any person/party**.
- **Implementing Media Ethics:** The **Press Council of India** should emphasize and encourage the implementation of the **Code of Journalistic Conduct (2010)**.
  - **Code of Journalistic Conduct** defines the **boundaries of the media** and the proper **code of conduct** to be followed by Journalists.
- **Implement the recommendation of the 200<sup>th</sup> Law Commission:**
  - A **prohibition** on the **dissemination of material** that is **harmful** to the accused, effective from the time of detention.
  - The High Court should have the **authority to order the delay of publishing or transmission** in criminal cases.



### Conclusion

Although Right to Freedom of Press flows from the Article 19 of the Constitution, it is the moral duty of the media to show the truth in a transparent and objective manner to preserve Right to life under Article 21 of citizens. Also, in context of SC' directive on media briefing, certain global best practices of various police departments across the globe (New York, London, etc) having handbooks dealing with media relations can serve as good examples.

## Related News

### Self-Regulation of News Channels

- Recently, SC observed that there is a need to **strengthen** and **fine-tune self-regulation** mechanism to bring discipline in TV channels as present system lacks teeth.
  - **Current mechanism of self-regulation of news channels in India is discussed below.**
- **Legal/Statutory Provisions:**
  - **Cable Television Networks (CTN) Amendment Rules, 2021** (released under Cable Television Networks (Regulation) Act, 1995):
  - **Three-level regulatory mechanism:**
    - ✓ **Level I: Self-regulation by broadcasters,**
    - ✓ **Level II: Self-regulation by authorities created by the news broadcasters,**
    - ✓ **Level III: Oversight by Central government.**
  - **Grievance Redressal:**
    - ✓ **Viewer can file a complaint directly to broadcaster, who has to respond within 15 days.**

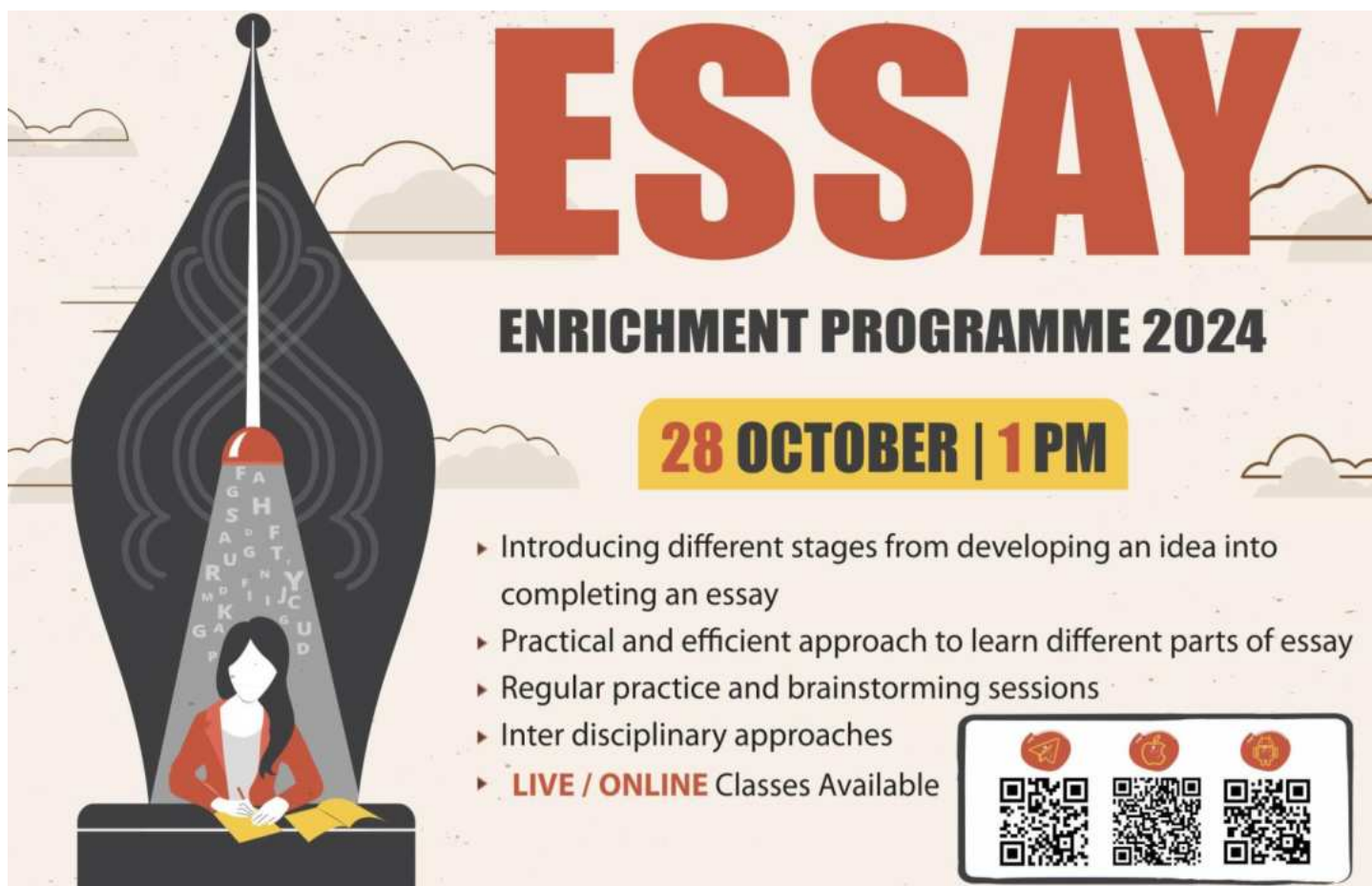
**To know more about Media ethics and self-regulation, kindly refer to Article 9.1 Media Ethics and Self-Regulation in the August 2023 edition of Monthly Current Affairs Magazine.**

### Check your Ethical Aptitude

In 2020, renowned Bollywood actor passed away. The cause of his death as per preliminary report was asphyxia caused due to hanging. This incident was sensationalized by media. Experts on news channels discussed what could be probable reason behind his death and who may be responsible for his death. They even named certain personalities who may be responsible for actor's death. This manipulated the opinion of certain section of society.

**On the basis of case answer the following questions:**

- Identify the stakeholders and their interest.
- What are the ethical issues involved?
- How should media maintain delicate balance between freedom of press and individual rights of a person?




The poster features a large, stylized illustration of a person with long dark hair, wearing a red jacket, sitting at a desk and writing on a yellow notepad. A large, dark, teardrop-shaped shadow or aura surrounds the person, with a white vertical line passing through its center. The background is a light beige color with faint clouds. The text 'ESSAY' is written in large, bold, red capital letters. Below it, 'ENRICHMENT PROGRAMME 2024' is written in bold, dark grey capital letters. A yellow rectangular box contains the text '28 OCTOBER | 1 PM' in bold, dark grey capital letters. To the right of the person, there is a list of bullet points in dark grey text. At the bottom right, there is a black rectangular box containing three QR codes and three small circular icons above them.

# ESSAY

## ENRICHMENT PROGRAMME 2024

**28 OCTOBER | 1 PM**

- ▶ Introducing different stages from developing an idea into completing an essay
- ▶ Practical and efficient approach to learn different parts of essay
- ▶ Regular practice and brainstorming sessions
- ▶ Inter disciplinary approaches
- ▶ **LIVE / ONLINE** Classes Available



# 10. SCHEMES IN NEWS

## 10.1. ATMANIRBHAR BHARAT ROZGAR YOJANA

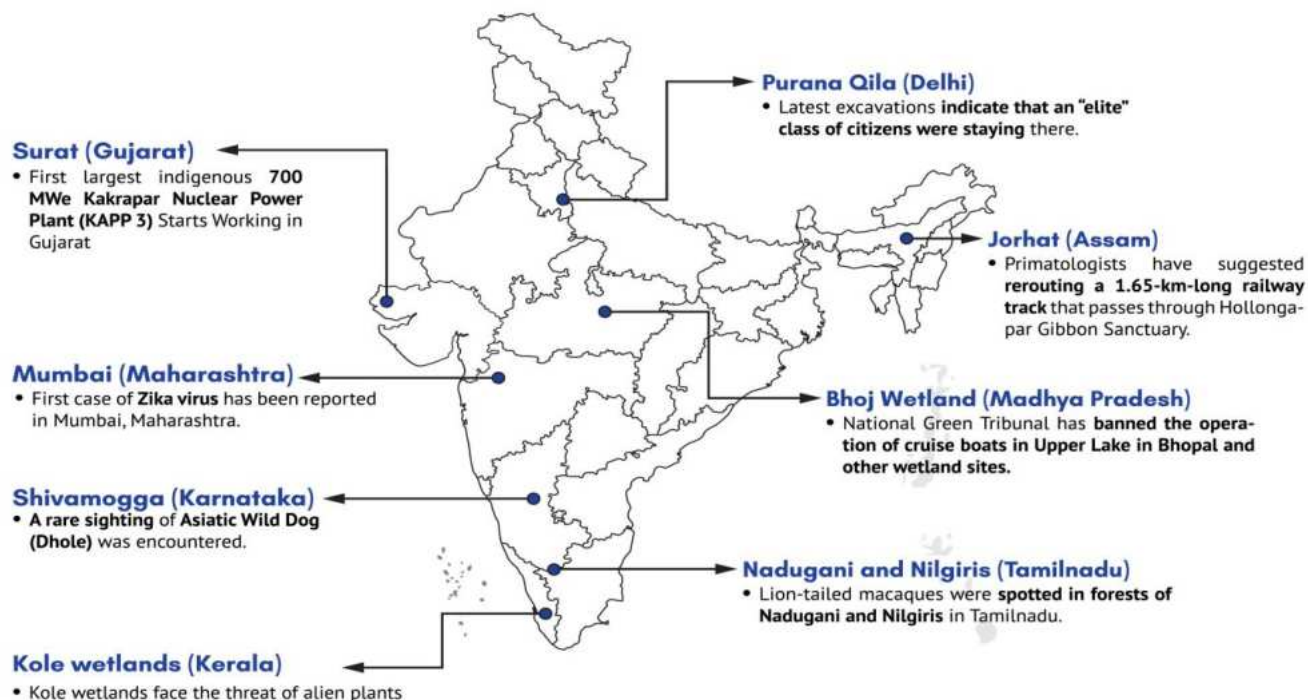
### Why in the news?

Recently, Atmanirbhar Bharat Rozgar Yojana (ABRY) has surpassed its initial employment generation goals leading to job creation.

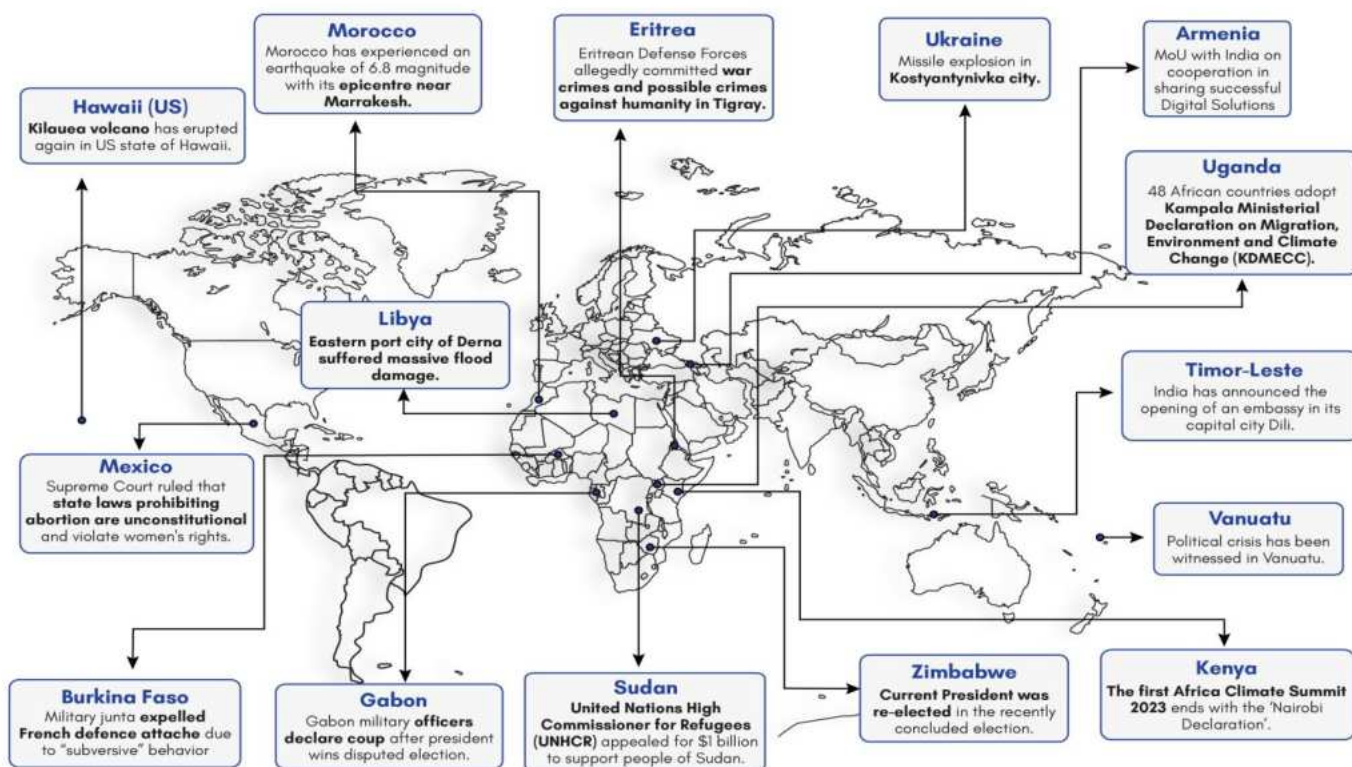
Objectives	Salient features
<ul style="list-style-type: none"> <li>To incentivize employers for the creation of new employment along with social security benefits.</li> <li>Restoration of loss of employment during the COVID-19 pandemic.</li> <li>To reduce the financial burden of the employers of various sectors/industries including MSME and to encourage them to hire more workers.</li> </ul>	<ul style="list-style-type: none"> <li>It is being implemented through the <b>Employees Provident Fund Organisation (EPFO)</b>.</li> <li>ABRY commenced on October 1, 2020, with registration open until June 30, 2021. The government later extended registration until March 31, 2022.             <ul style="list-style-type: none"> <li>The benefit shall be available for a period of <b>twenty-four wage months from the date of registration of the new employee</b> by the employer of the eligible establishment.</li> <li>The <b>number of employees with Universal Account Number (UAN) for whom the employer has remitted EPF/EPF contributions through ECR filed</b> for the wage month of September 2020 up to the due date shall be taken as a reference base of employees.</li> </ul> </li> <li><b>Eligibility criteria of establishments</b> <ul style="list-style-type: none"> <li><b>Establishments already registered</b> before the commencement of this Scheme shall have to employ, over and above the reference base,                 <ul style="list-style-type: none"> <li>✓ <b>A minimum of two new employees</b> (if the reference base of employees is less than or equal to 50) and</li> <li>✓ <b>Minimum five new employees</b> (if the reference base of employees is more than 50)</li> </ul> </li> <li><b>For new establishments</b> getting covered &amp; registered under EPF &amp; MP Act, 1952 from any date during the validity period of this Scheme, the <b>reference base of employees shall be treated as Zero</b> and benefits can be availed for all new eligible employees.</li> </ul> </li> <li><b>Benefits</b> <ul style="list-style-type: none"> <li><b>For establishments employing upto 1000 employees</b>, the Government will pay <b>both 12% of employees and 12% of employers' contribution</b> of wages towards the Employees' Provident Fund (EPF).</li> <li><b>For establishments employing more than 1000 employees</b>, the Government will pay <b>only employees' EPF contribution i.e., 12% of wages</b> in respect of new employees.</li> <li>An establishment, initially with fewer than 1000 employees in September 2020 ECR, will <b>still receive employer's share support</b>, even if the EPF members with UAN exceed 1000 in any month during the scheme.</li> </ul> </li> <li><b>Beneficiaries (New employees) under the scheme</b> <ul style="list-style-type: none"> <li>An employee drawing <b>monthly wage of less than Rs. 15000/-</b> who was not working in any establishment registered with the <b>Employees' Provident Fund Organization (EPFO)</b> before 1<sup>st</sup> October, 2020 and did not have a Universal Account Number or EPF Member account number prior to 1<sup>st</sup> October 2020 is eligible for the benefit.</li> <li><b>Any EPF member possessing a Universal Account Number (UAN) drawing a monthly wage of less than Rs. 15000/-</b> who made exit from employment during the Covid pandemic from 01.03.2020 to 30.09.2020 and did not join employment in any EPF-covered establishment up to 30.09.2020 is also eligible to avail the benefit.</li> </ul> </li> <li><b>Any eligible new employee under this Scheme shall become ineligible</b> if his/her monthly wage exceeds 14999/- at any point of time during this scheme period.</li> <li>If any new employee is already a <b>registered beneficiary under Pradhan Mantri Rojgar Protsahan Yojana (PMRPY) / Pradhan Mantri Paridhan Rojgar Protsahan Yojana (PMPRPY)</b>, <b>no benefit in respect of such new employee shall be available under ABRY.</b></li> </ul>



## Places in News: India



## Places in News: World



# Personalities In News

Personality	About	Ethical Values Exhibited by the Personality
 <p><b>Srimanta Sankaradeva</b> (1449-1568)</p>	<ul style="list-style-type: none"> <li>He was a <b>Vaishnav-saint</b>, scholar, playwright, and social-religious reformer, <b>born in 1449</b>.</li> <li>Propagated a form of <b>Vaishnavism</b>, called <b>Ek-Sarana-Hari-Naam-Dharma</b> (considered Lord Krishna to be one, eternal and absolute)</li> <li>His religious system was <b>strictly monotheistic</b>.</li> <li><b>Poetic works:</b> Kirtana-ghosha, Harischandra-upakhyaana, Kurukshetra-yatra, etc.</li> <li><b>Contribution</b> <ul style="list-style-type: none"> <li><b>Fountainhead of Ankiya-Naat</b> (traditional Assamese one-act plays), Borgeets, Bhaonas, and <b>Sattriya dance (classical Indian Dance form)</b></li> <li>Began the practice of setting up <b>Namghars</b> or houses of recitation and prayers.</li> <li><b>Visual arts:</b> Sapta vaikuntha, Vrindavani vastra, etc.</li> </ul> </li> </ul>	<p><b>Social conscience and humanism</b></p> <ul style="list-style-type: none"> <li>He spearheaded the bhakti movement that influenced the spiritual and social life of people of North-east.</li> <li>His teachings imbibed his followers with the virtues of equality, tolerance, truthfulness and love for humanity.</li> </ul>
 <p><b>Sree Narayana Guru</b> (1856-1928)</p>	<ul style="list-style-type: none"> <li>PM paid tribute to Sree Narayana Guru on his Jayanti.</li> <li>He was a <b>Hindu saint &amp; social reformer from Kerala</b>.</li> <li>He propagated the idea of '<b>One Caste, One Religion, One God</b>'.</li> <li><b>Contribution</b> <ul style="list-style-type: none"> <li>He, along with Padmanabhan Palpu, founded the 'Sree Narayana Dharma Paripalana Yogam' (SNDP) for <b>upliftment and education of Ezhava community</b>.</li> <li>He launched the "<b>Aruvipuram movement, one of the first moments</b> for equal rights to temple entry.</li> <li>He lent support to <b>Vaikom Satyagraha for temple entry (1924-25) in Travancore</b>.</li> <li>His works include <b>DaivaDasakam, Anukampadasakam</b> etc.</li> </ul> </li> </ul>	<p><b>Egalitarianism and Pluralism</b></p> <ul style="list-style-type: none"> <li>He overturned the social system of entire Kerala, while following simple means of ethical writings and social mobilization.</li> <li>He played a significant role in reforming the society by asserting his pluralist view with equality and liberty.</li> </ul>
 <p><b>Mokshagundam Visvesvaraya</b> (1861-1962)</p>	<ul style="list-style-type: none"> <li>Engineers' Day (September 15) is observed every year to celebrate the birth anniversary of M Visvesvaraya.</li> <li><b>Contributions:</b> <ul style="list-style-type: none"> <li><b>Established Bangalore Agricultural University</b>, University Visvesvaraya College of Engineering etc.</li> <li>He was the <b>architect of the Krishnaraja Sagara dam</b> in Mysore.</li> <li><b>Devised steel doors to stop the wasteful flow of water</b> in dams.</li> <li>Developed various irrigation system,</li> </ul> </li> <li><b>Awards: Bharat Ratna award, 1955.</b></li> </ul>	<p><b>Dedication and Innovation</b></p> <ul style="list-style-type: none"> <li>His vast array of contributions to the field of engineering and education in India, from dams to universities, showcases his unwavering commitment to the development and progress of the nation.</li> <li>His designs highlight his innovative spirit. He was constantly seeking to find solutions that were efficient and effective.</li> </ul>











 <p><b>Sarvepalli Radhakrishnan</b> (1888-1975)</p>	<ul style="list-style-type: none"> <li>• He was the <b>First Vice President of India</b> and his <b>birth anniversary</b> is celebrated as <b>"Teachers' day"</b></li> <li>• <b>Contributions:</b> <ul style="list-style-type: none"> <li>▶ <b>Introduced Indian philosophy to the western world</b></li> <li>▶ Participated in the <b>"Andhra Mahasabha"</b> in 1928.</li> <li>▶ <b>Nominated to the League of Nations</b> Committee for Intellectual cooperation in 1931</li> <li>▶ Acted as <b>representative of India in UNESCO</b> from 1946-52</li> <li>▶ <b>Books Authored:</b> The Philosophy of Rabin-dranath Tagore, Indian Philosophy, The Philosophy of the Upanishads, etc.</li> <li>▶ <b>Achievements:</b> Bharat Ratna (1954), Peace Prize in the German Book Trade in 1961, appointed a Knight</li> </ul> </li> </ul>	<p><b>Leadership and Scholar</b></p> <ul style="list-style-type: none"> <li>• He introduced the thinking of western idealist philosophers into Indian thought. He placed Indian philosophy on world map.</li> <li>• He was an educator who made significant contributions to the realm of education. The report of the University Education Commission 1940-49 is greatest contribution to educational thinking and practice.</li> </ul>
 <p><b>Malati Mem</b> (aka Mangri Orang)</p>	<ul style="list-style-type: none"> <li>• She was remembered as one of the <b>first woman martyrs</b> of Assam in India's freedom struggle.</li> <li>• She was <b>one of the leading members of anti-opium campaign</b> in tea gardens of Assam.</li> <li>• In 1921, she was killed for leading a <b>fight against foreign liquor and opium</b> pushed during the colonial period.</li> </ul>	<p><b>Courage and Integrity</b></p> <ul style="list-style-type: none"> <li>• She stood up against the oppressive colonial system, especially in her fight against foreign liquor and opium.</li> <li>• She stood firm in her beliefs and actions, even in the face of adversity. She did not waver from her convictions, even when they led to dire consequences.</li> </ul>
 <p><b>Major Dhyan Chand</b> (29 August 1905, 3 December 1979)</p>	<ul style="list-style-type: none"> <li>• The <b>National Sports Day</b> was recently celebrated in India on 29 August to commemorate the birth anniversary of hockey legend <b>Major Dhyan Chand</b>.</li> <li>• <b>Contributions:</b> <ul style="list-style-type: none"> <li>▶ <b>Indian field hockey player.</b></li> <li>▶ Contributed majorly in the <b>victory of the Indian team in 1928 Olympics</b> when India won its first gold medal in hockey.</li> <li>▶ In 1934, he was made the <b>captain of the Indian team</b>.</li> <li>▶ Conferred the <b>Padma Bhushan in 1956</b>.</li> </ul> </li> </ul>	<p><b>Perfection and Mastery</b></p> <ul style="list-style-type: none"> <li>• His control over ball and goal scoring during the game was considered as magical and unbelievable.</li> <li>• He dominated the sports for almost two decades as no other player emerged anywhere who can match the talent of Dhyan Chand.</li> </ul>
 <p><b>Pandit Deendayal Upadhyay</b> (1916 -1968)</p>	<ul style="list-style-type: none"> <li>• Born in <b>Uttar Pradesh</b>, he was a <b>Rashtriya Swayam sevak Sangh thinker</b> and <b>co-founder of the Bharatiya Jana Sangh</b>.</li> <li>• Leader for adoption <b>Swadeshi economic</b> policies based on cultural, civilizational, and nationalist values.</li> <li>• <b>Philosophy: integral humanism - Ekatma Manavvad, a non-dualistic philosophy of Advaita Vedanta</b></li> <li>• <b>Contributions</b> <ul style="list-style-type: none"> <li>▶ In the 1940s, he started the <b>monthly Rashtra Dharma publication</b>, started a <b>weekly magazine 'Panchjanya'</b> and a daily 'Swadesh'.</li> <li>▶ <b>Books:</b> He authored Samrat Chandragupta, Jagatguru Sankaracharya, Akhand Bharat Kyon? Rashtra Chintan, etc.</li> </ul> </li> </ul>	<p><b>Integral Humanism and Social reform</b></p> <ul style="list-style-type: none"> <li>• He is best remembered for his principle of "integral humanism", which has been defined as "a classless, casteless and conflict-free social order".</li> <li>• He believed in the idea of democracy and as a volunteer worked for social upliftment of suppressed class of people.</li> </ul>



# WEEKLY FOCUS

## Topic Descriptions\_September


ISSUE	DESCRIPTION	LEARN MORE
 <p><b>Global Public Goods: Nurturing Our Shared Future</b></p>	<p>From the air we breathe to the innovations that shape our future, Global Public Goods are the threads that weave our world together. This document explores the critical concept of global public goods, analysing their significance in an interconnected world, the challenges in their provision, and the international cooperation required for protection of these goods.</p>	
 <p><b>Power Sector Reforms: Journey Towards Sustainable Energy and Universal Access</b></p>	<p>As India races toward an energy-efficient future, its Power Sector is at the forefront of change. From policy shifts to technological advancements, Power Sector reforms are steering the country toward a brighter energy future. This document navigates dynamic landscape of reforms, innovations and challenges that are reshaping the nation's energy destiny and explores the path ahead.</p>	
 <p><b>Investing in Future Cities: Building Inclusive, Resilient, and Sustainable Urbanscapes</b></p>	<p>Urbanization in India is more than just a statistic; it's a vibrant narrative of progress. In the quest to build smart, resilient, and liveable cities, investments are the cornerstone. This document embarks on a journey into the vision, challenges, and investment opportunities shaping the cities of tomorrow in India.</p>	
 <p><b>Financing Global Energy Transition</b></p>	<p>As the world grapples with the urgent need to address climate change, the role of affordable financing in driving the global energy transition has never been more critical. This document unravels the funding mechanisms, challenges, and strategies to secure low-cost finance for propelling the global transition to clean, renewable, and equitable energy systems.</p>	

# ALL INDIA

# GS PRELIMS

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## 29 OCTOBER

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# Smart UPSC CSE Preparation Strategies and Approaches

INSIGHTS & STRATEGIES	DESCRIPTION	LEARN MORE
 <p><b>Holistic Preparation Strategy and Approaches: Insights from Topper's Talk and Answer Scripts</b></p>	<p>We have gathered lessons from toppers who stress the value of dedication, planning, and time management. These individuals, from varied academic fields, underscore methods like structured answer writing and using presentation techniques.</p> <p>We bring you these strategies and insights after a careful analysis of topper's strategies, their interaction, and performance at VisionIAS to help you reach your dream destination.</p>	
 <p><b>Ethics Preparation Approach &amp; Strategies: Insights from Ethics Answer Scripts of UPSC Toppers</b></p>	<p>Ethics has emerged as one of the most scoring Papers in the UPSC Mains Examination.</p> <p>To make the most of this Paper's potential, aspirants must combine hard work with smart, validated strategies as reflected in Topper's Answer Scripts and their Talks.</p> <p>These insights provide useful tips on how to skillfully tackle quote-based questions, adopting an application-based approach, and comprehensive treatment of Case Studies from an ethical perspective.</p>	
 <p><b>Essay Preparation Approach &amp; Strategies: Insights from Topper's Answer Scripts</b></p>	<p>UPSC CSE toppers demonstrate exemplary essay writing techniques. Their approaches range from philosophical discussions and informational essays to unique introductions and comprehensive analyses.</p> <p>Some incorporate philosophical quotes, analytical arguments, or historical references, while others focus on strategic planning and coherent structuring. Overall, these toppers emphasize the significance of originality and structure in essay writing for the UPSC exams.</p>	
 <p><b>How to Approach Current Affairs?</b></p>	<p>Current affairs form the cornerstone of civil services exam preparation, permeating all phases - Prelims, Mains, and Interview.</p> <p>Exam questions are increasingly drawn from dynamic sources, intertwining the current with core concepts or bridging static content with present events. In this context, UPSC current affairs preparation, a holistic approach is crucial. It involves diverse sources, consistent revision, and other key elements to succeed in this dynamic examination.</p> <p>Careful preparations transform this vast section into a strong advantage with the right resources and approach.</p>	



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SINGLA**



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