

# THE IAS GAZETTE

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**APTI PLUS**

Academy for Civil Services Pvt. Ltd.  
CREATING CIVIL SERVANTS FOR THE NATION



TH EDITION

## ISRAEL-PALESTINE CONFLICT

### Other topics

- Same Sex Marriage
- India Maldives Ties
- Caste Census
- One Nation One Student-ID initiative

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A MONTHLY PERIODICAL FOR ASPIRANTS OF UPSC CSE



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# 1. POLITY & GOVERNANCE

## 1.1 SWACHH BHARAT MISSION

### Context

- On the progress of the Swachh Bharat Mission - Gramin (SBM-G) the World Bank has now found that **there has been a clear trend of regular toilet use declining in rural India from 2018-19 onwards.**



### Status of SBM

#### Government's claim

- Practices such as open defecation and manual scavenging no longer continue in India.
- Toilet access had improved after the building of over 100 million toilets.

## Findings of the World Bank

### Phase I: Between 2015-16 and 2019-21

- As the program started, it led to a substantial increase in access to owned or shared improved toilets in rural India - from 38% in 2012 to 90% in 2019-20.
- At the national level, regular use of any toilet (improved or unimproved) increased from 46% to 75% on average in rural areas during 2015-16 and 2019-21.
- This increase was across all population and socio-economic sub-groups we track, and especially pronounced for the poor and socially disadvantaged groups
- The regular use of any toilet for SC and ST people saw a jump of 51 and 58 percentage points respectively between 2015-16 and 2018-19 - reaching almost the same levels as those in the General Category.
- Thus, the first phase of 2015-2019 was marked by large improvements.

### Next phase

- There has been a clear trend of regular toilet use declining in rural India from 2018-19 onwards.

### SCs and STs

- The largest drop is seen among Scheduled Caste and Scheduled Tribe socio-economic groups.
- There was a 20-percentage point decline in regular use of toilets for the SCs and a 24 percentage point decline for the STs compared to a decline of 9 and 5 percentage points for the Other Backward Caste and General categories

### No way of measuring toilet usage

- While the SBM information system documented access to shared or own toilets, it had no way of measuring toilet usage.

### States with a Sustained Decline in Toilet use

- The States where there has been a **sustained decline in regular use of toilets since 2018** are Uttar Pradesh, Gujarat, Chhattisgarh, Telangana, Karnataka, and Himachal Pradesh.

### Uneven Decline in Toilet Use

- Seven other States Jharkhand, Madhya Pradesh, Tamil Nadu, Rajasthan, Andhra Pradesh, Maharashtra, and West Bengal have been seeing an uneven decline in toilet use since 2018.

### Steady Performers in Continued Toilet Usage

- Seven other States - Odisha, Punjab, Kerala, Bihar, Uttarakhand, Haryana, and Assam - were found to be steady performers in terms of continued toilet usage.

### Spatial Variation in Toilet Use

- Most low-income States were among the best performers in terms of their overall increase in regular use of toilets and the performance of richer States was mixed.
- While regular toilet use has increased in Tamil Nadu, Karnataka, Andhra Pradesh, Telangana, and Gujarat, the amount of progress was found to be smaller than in poorer States.

### Conclusion

- The analysis confirms that toilet use is not being sustained in rural households in most Indian states.
- The recent negative trends are most concerning and raise questions about sustainability.

### So, what can be the Way Ahead?

- It is pertinent for the sanitation policy to now shift focus towards empowering communities and individuals, to develop a deeper sense of ownership and preference towards toilets and their use, by continuing to address knowledge and attitude-related barriers.
- Programmes to increase awareness regarding retrofitting of toilets with faulty designs, offer a good entry point to increase the sense of ownership, while also building community-level capacities.
- A combination of such emphases would contribute to ensuring that our communities become resilient, sustain ODF practices, and reap the long-term health benefits of sanitation.

## 1.2 POCSO ACT

### Context

- The 22nd Law Commission has advised the government **not to tinker with the existing minimum age of consent under the Protection of Children from Sexual Offences (POCSO) Act.**

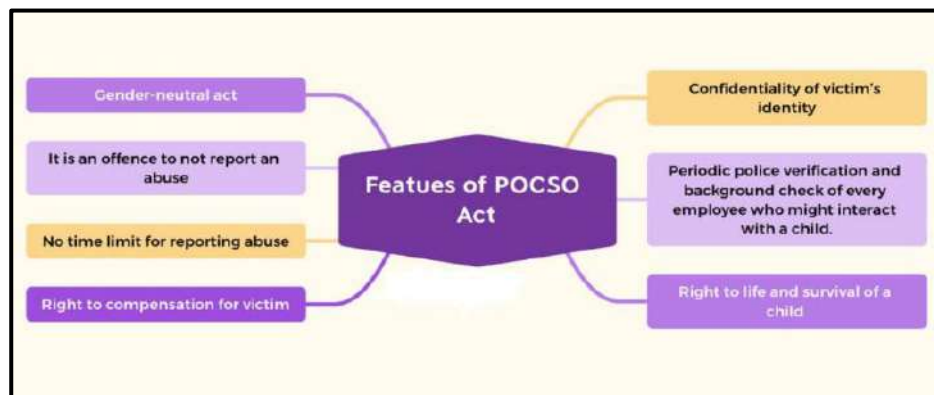
<b>POCSO Act</b>	<ul style="list-style-type: none"> <li>The 'Protection of Children Against Sexual Offences Bill (POCSO), 2011' <b><u>regarding child sexual abuse was passed on 22 May 2012, making it an Act.</u></b></li> </ul>
<b><u>Aim</u></b>	<ul style="list-style-type: none"> <li>To provide a robust legal framework for the protection of children from offences of sexual assault, sexual harassment and pornography, while safeguarding the interest of the child at every stage of the judicial process.</li> </ul>
<b><u>Objective</u></b>	<ul style="list-style-type: none"> <li>The Act seeks to put children first by making it easy to use by including mechanisms for child-friendly reporting, recording of evidence, investigation, and speedy trial of offences through designated Special Courts.</li> </ul>
<b><u>Definition of Child</u></b>	<ul style="list-style-type: none"> <li>The Act <b><u>defines a child as a person under the age of 18 years.</u></b></li> </ul>
<b><u>Age of Consent</u></b>	<ul style="list-style-type: none"> <li>As of the Act's enactment, the age of consent was fixed at 18 years.</li> <li>This means that sexual activities with a minor under the age of 18, <b><u>regardless of consent, are considered illegal.</u></b></li> </ul>
<b><u>Offenses under the act</u></b>	<ul style="list-style-type: none"> <li><b><u>Penetrative Sexual Assault:</u></b> Insertion of penis/object/another body part in child's vagina/urethra/anus/mouth, or asking the child to do so with them or some other person</li> <li><b><u>Sexual Assault:</u></b> When a person touches the child with sexual intent, or makes the child touch them or someone else</li> <li><b><u>Sexual Harassment:</u></b> passing sexually cultured remark, sexual gesture/noise, repeatedly following, flashing, etc.</li> <li>Child Pornography</li> <li>Aggravated Penetrative Sexual Assault/ Aggravated Sexual Assault             <ul style="list-style-type: none"> <li>✓ It is a <b><u>gender-neutral act;</u></b> it also recognizes that boys can also become victims of sexual violence as well. The act is gender-neutral <b><u>for the accused too.</u></b></li> <li>✓ With respect to pornography, the act also <b><u>criminalizes watching or collection of pornographic content</u></b> involving children. The Act makes abetment (encouragement) of child sexual abuse an offense.</li> <li>✓ It <b><u>places the burden of proof on the accused,</u></b> following 'guilty until proven innocent' unlike the IPC.</li> </ul> </li> </ul>
<b><u>Amendment</u></b>	<ul style="list-style-type: none"> <li>In 2019, the POCSO Act was amended and made more stringent, the amendment raised the minimum punishment for penetrative assault from 7 to 10 years and 20 years if the victim was below 16 years of age, with a maximum punishment of life imprisonment with a provision for the death penalty for aggravated penetrative assault.</li> </ul>
<b><u>Children Friendly Process</u></b>	<ul style="list-style-type: none"> <li>A Victim of Child Sexual Abuse can file a complaint <b><u>at any time irrespective of his/her present age.</u></b></li> </ul>

### Other Features

- The Act **assigns a policeman to the role of child protector** during the investigation process.
- The Act stipulates that the **case is disposed of within one year** from the date of reporting of the offense.



- The Act provides for the **establishment of Special Courts for the trial of such offenses** and matters related to them.
- Under section 45 of the Act, **the power to make rules lies with the central**



**government.** To monitor the implementation of the Act, the National Commission for the Protection of Child Rights (NCPCR) and State Commissions for the Protection of Child Rights (SCPCRs) have been made the designated authority. Both are statutory bodies.

- Section 42 A of the Act provides that in case of inconsistency with provisions of any other law, the **POCSO Act shall override such provisions.**
- The Act calls for **mandatory reporting of sexual offenses.** A false complaint with intent to defame a person is **punishable under the Act.**
- The act was amended in 2019 to increase the **minimum punishment from seven years to ten years.**
- It further adds that if a person commits penetrative sexual assault on a child below the age of 16 years, **he will be punished with imprisonment between 20 years to life, with a fine.**
- The Act enhances punishment for sexual offenses against children **with a provision for the death penalty.**



### Crime & punishment

*The Cabinet has made the POCSO Act much more stringent:*

- Aggravated sexual assault on a child under 12 years: **20 years in jail/life term/death penalty**
- Minimum jail term for aggravated sexual assault enhanced from **7 years to 10 years**
- Aggravated sexual assault on a child below 16: **20 years in jail**
- Use of children for porn/possession of child porn: **5/3 years in jail**
- Storing child porn: **₹1,000 fine**

### Challenges and controversies

Child sexual abuse is a **multidimensional problem having legal, social, medical, and psychological implications.**

There are certain drawbacks in the law around the following issues:

- **Consent:** The POCSO Act is silent in this situation and **does not provide any specific guidance if the child or teenager refuses to undertake a medical examination** but the family or the investigating officer insists. The matter of permission in such situations has to be clarified immediately. However, in order to save the child's life, emergency care must be

started without addressing any concerns about legality or permission.

- **Medical evaluation:** In accordance with Section 27(2) of the POCSO Act, a female physician is required to conduct a medical evaluation of a female child or teenage victim. The available medical officer must, nevertheless, offer emergency medical care according to the law. In contrast, the Government medical officer on duty is required by the Criminal Law Amendment Act and Section 166A of the Indian Penal Code to examine the rape victim without fail. This **ambiguous legal situation develops since**

many times female doctors are not accessible.

- **Cost of treatment:** The medical community and institution are legally required to **give survivors free medical care under the law.** The State should be responsible for covering the costs if there are inadequate facilities or if expensive procedures are necessary; otherwise, the hospital could give **shoddy medical care or deny the survivor thorough care.**
- **Consented sexual intimacy:** The POCSO Act of 2012 considers sexual contact between two adolescents or between an adolescent and an adult to be unlawful because no exception has been made to the law's prohibition on sexual contact with anyone under the age of 18, **regardless of consent, the gender, marital status, or age of the victim or the accused.** To avoid prosecution under the POCSO Behavior of 2012, it is recommended that any consensual sexual act that may be considered penetrative sexual **assault should not be a crime when it occurs between two consenting minors.** Contrarily, the most recent amendment to the Indian Penal Code regarding rape laws in states clearly that the age of consent for sex has been fixed at 18, and as a result, anyone who engages in consensual sex with a child under the age of 18 can be charged with rape, potentially leading to an increase in rape cases. Obstetricians and gynaecologists must record all instances of MTP (medical termination of pregnancy) carried out on children, which is another grave consequence (below 18 yr).
- **Child marriage:** According to the POCSO Act of 2012, **child marriage and the consummation of child marriage are both prohibited.** But child marriage is permitted under some personal laws, which makes issues more complicated. When the legislation is up for revision, these problems need to be addressed.
- **Training:** The POCSO Act, 2012 has to be taught to medical, teaching, judicial, legal, and law enforcement institutions immediately.

The major obstacles are finding information, monitoring it, and raising public awareness.

One of the key factors in delivering comprehensive care and justice is training all the stakeholders. Additionally, there is an urgent need to teach all medical students and primary care physicians the delivery of child-friendly interviews, systematic assessments, evidence gathering, prophylaxis for HIV and STDs, family counseling, and frequent follow-up.

- **Role of Mental Health Professional:** Child sexual abuse cases seldom present with definite symptoms of genital trauma. As a result, evaluating a victim of child sexual abuse involves specialized knowledge and methods in history collection, forensic interrogation, and medical examination. When the youngster is being questioned in court, the involvement of the mental health expert is vital. **There can be both immediate and long-term negative effects on a person's mental health from child sexual abuse.** In order to provide the victim with follow-up care in the event that psychiatric disorders emerge, mental health professionals **must offer individual counseling, family therapy, and rehabilitation.**
- **Reporting:** Most instances of **child sexual abuse go unreported.** Furthermore, for many family members as well as survivors, recognizing and disclosing child sexual abuse is a very difficult and highly personal choice. Both survivors and family members experience feelings of embarrassment and humiliation as a result of the act remorse, rage, frustration, and emotional distress. They are kept mute and subjected to prolonged **torment out of fear of becoming victims again due to medical examinations, the criminal justice system, and uninformed society members.**
- **Amplification Resulting from Digital Technologies:** Digital and mobile technology have increased child exploitation and abuse. Online bullying, harassment, and child pornography are just a few examples of the newer types of child abuse that have evolved.

- **Ineffective legislation:** Although the Government of India passed the Protection of Children against Sexual Offences Act 2012 (POCSO Act), it has **not succeeded in preventing the sexual abuse of children**. There are several explanations for this. **Low rate of conviction rate:** The rate of convictions under the POCSO legislation is just approximately 32%, and 90% of the cases are still ongoing.
- **Judicial Delay:** The Kathua Rape case took 16 months for the primary accused to be found guilty, despite the fact that the POCSO Act expressly states that the full trial and conviction procedure must be completed in one year.
- **Unfriendly to Children:** Difficulties in **determining the child's age**. Particularly rules that **prioritize biological age rather than mental age**.

#### **PRESENT STATUS**

- According to the **National Crime Records Bureau (NCRB)**, a total of 32,608 cases of crimes against children were registered under the POCSO Act in 2019, which accounted for **51.9% of the total crimes against children**.
- However, this is only the tip of the iceberg, as **many cases go unreported due to fear, stigma and lack of awareness among children and their families**.

#### **Recommendations**

- **Child's Interest First:** A child shouldn't be subjected to needless suffering only to guarantee a successful prosecution, especially when it may be prevented by connections to the juvenile justice system.
- **Training for Police Officers :** When it comes to crimes against minors, especially cybercrime, investigative authorities must continually improve their capabilities. **A module on "offenses against children" should be included in the curriculum of police academies** and training programs, including refresher training programs, so that students can become familiar with child-related laws, such as the POCSO Act, their goals and procedures, and investigative and forensic techniques.
- **Training for Special Court Judges, Special Public Prosecutors, and Legal Aid Attorneys:** When dealing with and assessing the evidence of a child, the Special Courts employ the same standards and competencies as utilized for adults, which undermines the goals of the POCSO Act. It is **essential that the Special Courts investigate the child's condition with the help of the child's attorney** and/or support person and do not take the child's deposition at face value.
- **Infrastructure for Special Courts must be improved, resources must be appointed, and POCSO Act-mandated special procedures must be followed.**
- **Increase the number of Special Courts** and equip them with the necessary facilities and personnel.

#### **Supreme Court on POCSO Act**

- The Supreme Court issued a direction to set up special courts within 60 days in the districts that have more than 100 pending POCSO cases. This has to be implemented urgently.
- **In 2021, in the Vijaylakshmi v/s State Rep case, the Madras High Court, while dismissing a POCSO case, said that the definition of 'child' under Section 2(d) of the POCSO Act can be redefined as 16 instead of 18.** "Any consensual sex after the age of 16 or bodily contact or allied acts can be excluded from the rigorous provisions of the POCSO Act."
  - The court also suggested that the age difference in consensual relationships should not be more than 5 years to ensure that a girl of an impressionable age is not taken advantage of by "a person who is much older."

- The age of consent must be lower than the age of marriage to decriminalize sex among older adolescents to protect them from the misuse of law and harassment.

### Law Commission on POCSO Act

- The Law Commission acknowledges that there may be situations where children aged between 16 and 18 years may not provide explicit consent but may give tacit approval to certain actions. In such cases, the Commission suggests that amendments to the POCSO Act are necessary to address these nuances.
- The Commission emphasizes the need for a balanced approach in cases involving "adolescent love," where there may be a lack of criminal intention. It advises the courts to exercise caution and discretion in such cases.
- The Commission proposes the introduction of "guided judicial discretion" when it comes to

sentencing in cases involving tacit approval by minors aged 16 to 18. This approach would allow judges to consider the circumstances and severity of each case individually, rather than applying the same severity as in cases involving younger children.

### Conclusion

- A child's psyche is scarred by sexual abuse, which causes depression, emotional anguish, and mental impairment.
- The POCSO Act unquestionably includes protections against child pornography and sexual assault. The penalties for sexual offenses against children have grown more severe as a result of the change in 2019. However, India still needs to do far more to reduce child sex crimes.

## 1.3 DRAFT PATENTS (AMENDMENT) RULES, 2023

### Context

- Public health groups and patent lawyers have voiced concerns about the Draft Patents (Amendment) Rules, 2023.

### Key changes proposed in "The Draft Patents (Amendment), Rules, 2023"

#### I. Section 8 - Concerning Furnishing Details Of All Parallel Applications Filed Outside India - Governed By The Below Rules;

##### Rule 12(2)

- Summary of the proposed change: The time period for furnishing the details in respect of parallel foreign applications filed after the Indian filing date will be two months from the date of issuance of first statement of objections/First Examination Report/FER.

##### Key change:

- Currently, the time period for filing Form 3 (prescribed form for declaring details of the Parallel Foreign Application) u/r 12(2) is 6 months from the date of any such foreign filing.
- The draft rule proposes that the applicant need only to disclose the details of such

foreign filings (filed after the Indian filing date), within 2 months from the date of issuance of the First Examination Report (FER).

##### Rule 12(3) - NEW

- Summary of the proposed change: The Controller shall consider the information relating to processing of the application in a country outside India accessing public databases.

##### Key change:

- Currently, the Controller requires the applicant to provide copies of Search Reports, Office Actions, and claims allowed in parallel foreign applications within 6 months from the date of such invitation (typically 6 months from the FER).
- The draft rule proposes that the Controller obtain such information and documents from public databases (WIPO-CASE, for instance)

##### Rule 12(4) - NEW

- Summary: The Controller may also ask the Applicant to file a fresh Form 3 (that is, the updated details of the Parallel Foreign Applications) within 2 months from the date

of invitation to meet the changed requirement of Section 8(2).

Key change:

- Presently, Section 8 (2) requires copies of the Search reports, office action and claims allowed in Parallel Foreign Applications. Now, with the new rule 12 (3) the Controller will need to check the prosecution history of parallel foreign applications himself from public databases
- The draft amendment seeks to change the requirement of Section 8 (2) to: upon receiving invitation from the Controller, the updated status details of any Parallel Foreign Applications are to be submitted at the PO within 2 months from the invitation date.

**Rule 12(5) – NEW**

- Summary: The delay in filing Form 3 under Rule 12(1), 12(2), 12(3) can be condoned by making a request under Form 4.
- Fee: There is currently no clarity about the fee for condoning the delay in filing Form 3.

**II. Divisional Applications**

**Rule 13(2A) – NEW**

- Summary: A divisional application can be filed for an invention disclosed in a provisional specification.
- **III. Request for Examination**
- **Rule 24B (1)**
- Summary of the proposed change: Request for Examination (RFE) is due within 31 months from the priority date or date of filing, whichever is earlier.

Key change:

- Currently, the RFE should be filed within 48 months from the priority date or date of filing, whichever is earlier.
- The draft proposed amendment reduces the time for filing RFE to 31 months from priority date or filing date.
- Note Below:
- This would mean that if an Indian national phase is filed on the 31-month deadline, RFE is to be filed simultaneously with the Indian national phase.

- Extension would be available; but at an exorbitant rate of INR 50,000 (USD 600 approximately) per month.
- The RFE due date for applications filed prior to the amended Rules coming into force will be as per the previous Rules.

**III. Extending Deadline For Filing Response To First Examination Report (Fer)**

**Rule 24B (6) & 24C (11)**

- Summary of the proposed change: The request for extending the deadline for replying to FER can be filed after the expiry of the 6-month deadline and before the expiry of the maximum extension period of 3 months.

Key change:

- Currently, the request for extending the FER response deadline is required to be filed before the expiry of the 6-month deadline.
- The draft rule proposes that the applicant can file the extension request both before the 6 months deadline or during the 3 months extension available.
- There is no change in the rules governing the final due date for filing the response to the FER i.e., 6 months + 3 months (with requested extension) = 9 months.

**IV. Pre-Grant Opposition Proceedings**

**Rule 55(3)**

- Summary of the proposed change: The Controller shall first decide the maintainability of the pre-grant opposition and thereafter a notice will be sent to the Applicant.

Key change:

- Currently, the maintainability of the pre-grant opposition need not be evaluated by the Controller.
- The draft proposed rule requires the Controller to first decide the maintainability of the Opposition before notifying the Applicant.

**Rule 55(4)**

- Summary of the proposed change: The time period to file a Reply Statement and Evidence, if any, to the pre-grant opposition is TWO months from the date of notice of opposition.

### Key change:

- Currently, the time period to file the Reply Statement and evidence to the pre-grant opposition is THREE months from the date of notice of opposition.
- The draft rule proposes a reduced time period to TWO months.

### **Rule 55(6) – NEW**

- Summary: Pre-grant opposition to be decided within 3 months from the completion of proceedings.

### Key change:

- Currently, Rule 55(5) (which is not proposed to be revised in the Draft Rules) mentions that the pre-grant opposition shall be decided within 1 month from the completion of proceedings.
- This discrepancy is expected to be removed in the final version of the Rules.

### **Rule 55(7) – NEW**

- Summary: The Hearing procedure applicable to post-grant opposition proceedings under Rules 62(2)-(4) & 63 will be applicable also to pre-grant opposition proceedings.

### Key change:

- Currently, no fee is required to be paid to attend the Hearing for pre-grant opposition.
- The draft proposed rule requires fees to be paid by parties intending to attend the Hearing. If such fee and notice is not provided, the Controller may refuse to hear such party.
- Costs may be awarded to opponents if applicant withdraws the application after notice of opposition is given.

### **Rule 55(8) – NEW**

- Summary: Where the pre-grant opposition is found maintainable u/r 55(3), the application shall be examined under “expedited examination” provision in accordance with Rule 24C.

### Key change:

- Currently, applications, for which pre-grant opposition is filed, follow the normal prosecution timeline.
- The draft proposed rule allows applications under pre-grant opposition to be examined and disposed of expeditiously.

## V. Annuities

### **Rule 80(3)**

- Summary of the proposed change: Ten percent reduction in fee is applicable where the renewal fees are paid in advance in respect of a period of at least 4 years.

### Key change:

- Currently, no such discount in renewal fee exists.

## VI. Statement of Working (SOW)

### **Rule 131(2)**

- Summary of the proposed change: SOW shall be furnished once in respect of every period of three financial years (FY), starting from the FY commencing immediately after the FY in which the patent was granted.

### Key change:

- Currently, SOW should be filed once in respect of every FY.
  - The draft proposed rule requires;
  - The patentee/licensee to file the SOW once every three FY.
  - Delay in filing of such a statement can be condoned upon a request made in Form 4 (fee not yet provided).

### Important:

- Compliance of the SOW requirement by the patentee/licensee can be met by simply indicating in the form if the patent is worked or not worked – no other details are required.

## VII. Extension of Deadlines

### **Rule 138(1) & (2)**

- Summary of the proposed change: All due dates prescribed under the rules can be extended by up to six months on Form 4. Cost of extending a deadline (per month) will be INR 50,000 (~ USD 600). The request for extension shall be made before the expiry of the six months.

### Key change:

- Currently, only a limited number of specified timelines are extendable by 1 month.
- The draft proposed rule allows extension of all deadlines for a period of up to six months (at the discretion of the Controller)

- Currently, the request for extension was required to be filed before the expiry of the deadline.
- The draft proposed rule allows request for an extension to be filed any time during the 6 months extension time.
- Currently, the fee for petition under rule 138 is INR 8,000. The draft proposed fee is now sought to be increased to INR 50,000 (USD 600 approximately) per month.

### VIII. Patent of Addition – Fees

- Summary: Patent of Addition applications will be eligible for 50% reduction in filing fees.

#### Key change:

- Currently, no discount available for patent of addition applications.
- The draft proposed rule allows 50% reduction in filing fees for patent of addition applications.

### IX. Opposition – Fees

#### **First Schedule – entry 9**

- Summary: The fees for filing any opposition (pre-grant or post grant) will be the actual payment made by the applicant as Filing fee + expedited Publication fee, if applicable + RFE (request for examination) fee.

#### **First Schedule – entry 10**

- Summary: Both the applicant and Opponent are to pay a fee for attending the pre-grant hearing.
- Key change:
- Currently, no fee is required to be paid to attend the pre-grant hearing.
- The draft rule proposes to charge both applicant and opponent a fee of INR 7500 (~USD 100) for attending the pre-grant hearing.

### X. Mention of Inventor in Patent

- **First Schedule – entry 11**
- Summary: No fee applicable for mention of inventor in patent u/s 28(2).

### **Key concerns raised**

#### Dynamic and Exorbitant Fees for Pre-Grant Opposition

- The proposed amendments introduce fees for filing pre-grant oppositions, which is a departure from the current practice of not charging any fees for such filings.
- Advocacy groups argue that this could deter patient groups and other stakeholders from providing critical information to the patent office, potentially limiting the examination of patent applications.

#### Loss of Access to Peer Reviews

- Pre-grant opposition is equated to "peer reviews" in scientific circles, allowing stakeholders to review patent applications and oppose frivolous ones. Introducing fees for this process could make it inaccessible to patient groups and other organizations, limiting their ability to participate in the examination of patents.

#### Delaying the Patent Process

- Advocacy groups counter the argument that pre-grant oppositions cause delays by pointing out that a very small percentage of patent applications have faced opposition since the relevant Act was amended in 2005. They argue that these oppositions play a crucial role in ensuring the quality and validity of patents.

### **Way Ahead**

- The **balance between protecting intellectual property rights and ensuring access to essential medicines remains a crucial consideration** in the ongoing discussions surrounding these proposed changes.
- Public consultations and further dialogue are essential to address these concerns and strike an appropriate balance in India's patent system.



## 1.4 DIGITAL INDIA ACT 2023

### In News

- India's Digital India Act 2023 (DIA) is a **proactive step to regulate and shape the nation's digital future.**

### Need of DIA Act 2023

#### Limitations of IT Act 2000

The current IT Act has the following limitations, among others:

- Lack of comprehensive provisions on user rights, trust & safety;
- Limited recognition of harms and new forms of cybercrimes, without any institutional mechanism for awareness creation;
- Lack of distinct regulatory approaches for harmful and illegal content;
- Absence of adequate regulations to address the regulatory requirements of emerging technology, technology, assessments of high-risk automated decision making systems modern, digital businesses including monopolies and duopolies;
- Lack of adequate principles for data/privacy protection;
- Lack of a converged, coordinated & harmonized institutional regulatory body; a dedicated & efficacious investigatory/ enforceability and a swift adjudicatory mechanism;
- Lack of coordinated cyber security incident response mechanism

### What is the Digital India Act 2023?

- In the year 2022, the **Indian government proposed the enactment of the Digital India Act (DIA).**
- The proposed Digital India Act **aims to address the emerging challenges of the digital age, providing a regulatory framework for various aspects of cyberspace.**

### Goals of DIA

The new law should evolve through rules that can be updated, and address the tenets of Digital India

- Open Internet
- Online Safety and Trust
- Accountability and Quality of Service
- Adjudicatory mechanism
- New Technologies
- Urgent need for a specialized and dedicated adjudicatory mechanism for online civil and criminal offences. The adjudicatory mechanism should be easily accessible
- deliver timely remedies to citizens
- resolve cyber disputes
- develop a unified cyber jurisprudence
- enforce the rule of law online

1	<b>\$1 trillion digital economy</b> by 2025-26: <b>Atmanirbhar Bharat</b>
2	<b>Global innovation and entrepreneurship system</b>
3	India to be <b>Shaping the Future of Technologies</b>
4	India to be a <b>Significant Trusted Player in the Global Value Chains</b> for Digital Products, Devices, Platforms and Solutions.



## Inclusions and Scope of the Act

The Digital India Act, of 2023 encompasses a wide range of subjects, reflecting the intention to comprehensively regulate cyberspace activities. Some notable inclusions are:



**Open Internet:** The proposed Act aims to facilitate an open Internet where consumers and businesses alike have more freedom of action and access to more resources. It is anticipated that provisions will be made to ensure non-discriminatory access to digital services and to mandate interoperability of digital services like ad-tech platforms and mobile application stores in this principle. An open internet is deemed to encompass choice, competition, online diversity, fair market access and ease of doing business, and ease of compliance for startups. However, enabling an open internet is an aspiration that will require updating the provisions of legislation like the Competition Act, 2002.

**Data Protection and Privacy:** The act lays down provisions for the protection of personal data and privacy of individuals, aiming to establish a robust data protection regime. It emphasises the need for consent, data minimization, purpose limitation, and the rights of data subjects.

**Cybersecurity and Critical Infrastructure:** The act recognizes the importance of safeguarding critical infrastructure and establishes measures to strengthen cybersecurity. It introduces mandatory cybersecurity practices for entities handling sensitive data and sets up mechanisms to respond to cyber threats effectively.

**E-commerce and Consumer Protection:** The act seeks to regulate e-commerce activities, addressing issues such as unfair trade practices, counterfeit products, consumer data protection, and dispute resolution. It aims to promote transparency, trust, and consumer confidence in online transactions.

**Digital Payments and Financial Technology:** Recognizing the growth of digital payments and fintech, the act introduces regulations for ensuring secure and reliable digital transactions, protecting consumers from fraudulent activities, and promoting innovation in the financial sector.

### Exclusions and Potential Gaps:

While the proposed act covers several important areas, there are notable grey areas, exclusions and potential gaps that merit attention:

- **Freedom of Expression:** The act must strike a delicate balance between regulating harmful content and safeguarding the fundamental right to freedom of expression. Care should be taken to avoid overreach, ensuring that legitimate speech is not unduly restricted.
- **Intermediary Liability:** The act should clarify the liability of intermediaries, such as social media platforms and online marketplaces, to strike a fair balance between protecting user rights and holding platforms accountable for illegal content. Ambiguities may lead to unnecessary censorship or unjust burdens on intermediaries. The DIA tries to differentiate different types of intermediaries such as e-commerce, digital media, AI, OTT platforms, Ad Tech, etc. The Act calls for a separate rule for each of these intermediaries. This paves

the way to ponder upon questions like whether obligations may be expected from internet-based entities that are not necessarily performing intermediary functions and whether intermediaries performing and facilitating different functions will be under pressure to abide by multiple regulations.

### Regulatory Framework and Challenges

The proposed act lays down a regulatory framework, but challenges lie ahead in its implementation:

- **Enforcement Mechanisms:** The act should establish robust enforcement mechanisms to ensure compliance. This includes the creation of specialised cybercrime investigation units, training programs for law enforcement agencies, and cooperation with international entities to tackle cross-border cyber threats effectively.
- **Technological Advancements:** The evolving nature of technology necessitates a flexible

regulatory framework that can adapt to emerging challenges. The act should incorporate provisions to address future advancements, ensuring its relevance and effectiveness over time.

- **Amendments to relevant provisions for practical implementation:** The Act tries to provide a safe online environment which can only be done when crimes like doing, deep fakes are brought under the purview of crimes by making amendments to the IPC. Further, since the Act will replace the IT Act, 2000, there is a need for the proposed Act to fill the gaps that already exist with the earlier act **like inclusion of means to facilitate digital evidence and digital forensic across the country.**

### Criticism and Concerns

The Digital India Act 2023 has faced criticism on several fronts:

- **Surveillance and Privacy Concerns:** Critics argue that certain provisions of the **act may grant excessive surveillance powers to the government, potentially compromising privacy rights.** Robust safeguards should be incorporated to protect against abuse of power and violations of privacy.
- **Burdensome Compliance Requirements:** The act's regulations may place **a significant burden on businesses, particularly small and medium-sized enterprises (SMEs).** Simplified compliance procedures and provisions for capacity-building programs should be considered to alleviate these concerns.

### Impact on the Market and Intermediaries

The proposed act is likely to have a substantial impact on the market and intermediaries:

- **Market Growth and Trust:** The Digital India Act 2023 can foster market growth by instilling trust and confidence among consumers and businesses. **Clear regulations on e-commerce, consumer protection, and data privacy will enhance transparency,** leading to increased consumer participation and higher levels of trust in online transactions. This, in turn, can stimulate

market expansion and attract foreign investments in the digital economy.

- **Compliance Costs and Burdens on Intermediaries:** While the act aims to protect user rights and curb illegal activities, it may impose significant compliance costs on intermediaries. Online platforms and service providers may face the challenge of implementing complex systems and procedures to ensure adherence to regulatory requirements. This **could disproportionately impact small intermediaries,** hindering their growth and innovation potential.
- **Intermediary Liability and Censorship Concerns:** The act's provisions on intermediary liability need careful consideration. Striking a balance between **holding intermediaries accountable for illegal content and safeguarding freedom of expression is crucial.** If the liability framework is overly strict, intermediaries may resort to excessive content censorship to avoid legal risks. This could stifle free speech and hinder the vibrancy of online platforms as spaces for diverse opinions and public discourse.
- **Data Localization and Cross-Border Data Flows:** The act's approach to data localization is a point of contention. While localization can enhance data protection and security, **it may also disrupt cross-border data flows, impacting global businesses that rely on efficient data transfers.** Striking a balance between protecting data and facilitating cross-border data flows is essential to ensure the act does not hinder innovation and international collaborations.
- **Impact on Startups and Innovation:** The act's regulatory requirements may **pose challenges for startups and innovative businesses.** Compliance with stringent data protection and cybersecurity provisions can be resource-intensive, potentially impeding the growth of new entrants. **Encouraging a supportive environment for startups,** including exemptions or streamlined procedures for small businesses, is vital to fostering innovation and entrepreneurship.

## Conclusion

- The proposed Digital India Act 2023 represents a significant step towards regulating cyberspace activities in India.
- While it incorporates important provisions on data protection, cybersecurity, e-commerce, and consumer protection, there are concerns that need to be addressed.
- Striking a balance between regulations and preserving fundamental rights, particularly freedom of expression, is crucial.

- The act's impact on the market and intermediaries will depend on effective implementation, addressing compliance burdens, safeguarding privacy rights, and promoting an environment conducive to innovation and growth.
- By addressing these considerations, the act can contribute to a thriving digital ecosystem that benefits individuals, businesses, and the nation as a whole.

## 1.5 ELECTORAL BOND

### Context

- Between 2016-17 and 2021-22, the seven national and 24 regional parties received a total donation of ₹9,188.35 crore from Electoral Bonds according to the report by the Association of Democratic Reforms (ADR).

### What is an Electoral Bond?

- An electoral bond is like a financial tool used for making donations to political parties.
- It is like a promissory note that can be bought by any Indian citizen or company incorporated in India from select branches of the State Bank of India. The citizen or corporate can then donate the same to any eligible political party of his/her choice.
- The bonds are similar to bank notes that are payable to the bearer on demand and are free of interest.
- An individual or party will be allowed to purchase these bonds digitally or through a cheque.

### When was the Electoral Bond introduced?

- The electoral bonds were introduced with the Finance Bill (2017). The government notified the Electoral Bond Scheme 2018.

### How to use Electoral Bonds?

- The bonds are issued in multiples of Rs 1,000, Rs 10,000, Rs 100,000 and Rs 1 crore (the range of a bond is between Rs 1,000 to Rs 1 crore). These are available at some branches

of SBI. A donor with a KYC-compliant account can purchase the bonds and can then donate them to the party or individual of their choice. Now, the receiver can encash the bonds through the party's verified account.

- The electoral bond is valid only for fifteen days.

### When are the bonds available for purchase?

- The electoral bonds are available for purchase for 10 days at the beginning of every quarter.
- The first 10 days of January, April, July and October has been specified by the government for the purchase of electoral bonds.
- An additional period of 30 days shall be specified by the government in the year of the Lok Sabha elections.

### Electoral bonds: Conditions

- Any party that is registered under section 29A of the Representation of the Peoples Act, 1951 and has secured at least one percent of the votes polled in the most recent General elections or Assembly elections is eligible to receive electoral bonds.
- The party will be allotted a verified account by the Election Commission of India (ECI) and the electoral bond transactions can be made only through this account.
- The electoral bonds do not bear the name of the donor. Thus, the political party might not be aware of the donor's identity.

### Are Electoral Bonds taxable?

- In February 2017, the then finance minister Arun Jaitley said that the donations would be tax deductible. Hence, a donor will get a deduction and the recipient, or the political party, will get tax exemption, provided returns are filed by the political party.

### Why were Electoral Bonds introduced in India?

- According to the Government, electoral bonds were being introduced to ensure that all the donations made to a party would be accounted for in the balance sheets without exposing the donor details to the public.
- The government said that electoral bonds would keep a tab on the use of black money for funding elections. In the absence of electoral bonds, donors would have no option but to donate by cash after siphoning off money from their businesses, the government said.

### Why is there a controversy over Electoral Bond?

- Experts are of the view that if the electoral bonds scheme had been introduced to bring about greater transparency, the government must not restrain from allowing details of such donations to be made public.
- Experts and several politicians say that since neither the purchaser of the bond nor the political party receiving the donation is required to disclose the donor's identity, the shareholders of a corporation will remain unaware of the company's contribution. Voters, too, will have no idea of how, and through whom, a political party has been funded.
- Since the identity of the donor has been kept anonymous, it could lead to an influx of black money.

### Arguments against Electoral Bond

- The bonds increase the anonymity of political donations, Citizens will not be able to know who is donating how much money to which political party.
- Promoting corruption and lack of transparency in the accounts of all political parties.

- Some others allege that the scheme was designed to help big corporate houses donate money without their identity being revealed. According to civil rights societies, the concept of donor "anonymity" threatens the very spirit of democracy.
- The Congress party said that the donations made through electoral bonds were equivalent to money laundering.

### Restrictions that were done away with after the introduction of the electoral bond scheme

- Earlier, no foreign company could donate to any political party under the Companies Act.
- A firm could donate a maximum of 7.5 percent of its average three-year net profit as political donations according to Section 182 of the Companies Act.
- As per the same section of the Act, companies had to disclose details of their political donations in their annual statement of accounts.
- The government moved an amendment in the Finance Bill to ensure that this proviso would not be applicable to companies in the case of electoral bonds.
- Thus, Indian, foreign, and even shell companies can now donate to political parties without having to inform anyone of the contribution.

### Arguments in favor of the Electoral Bond

- It promotes transparency in funding and donation received by political parties.
- It is an important "electoral reform" toward a "cashless-digital economy".
- It is a tool to eradicate black money in political funding.

- The electoral bonds scheme has opened floodgates to unlimited corporate donations to political parties and anonymous financing by Indian as well as foreign companies which is a threat to Indian democracy.

**Benefits of Electoral Bonds**

- WILL BRING** substantial transparency in political donations against the present system of contributions in the election funding mechanism
- HOW MUCH** funding comes, what kind of funding it is, the source of funding and where it will be spent will be known clearly
- NON DISCLOSURE** of recipients will ensure people are free to donate to any political party of their choice
- WILL REINFORCE** the idea of moving away from a cash system towards clean money which cheque system could not achieve
- 15 DAYS** between buying and selling will ensure they don't turn into a parallel economy

**Arguments Against Electoral Bonds**

- NO INFORMATION** ON WHICH PARTY RECEIVES FUNDING FROM WHICH COMPANY
- NO CAP ON NET PROFIT** SIPHON FOR BLACK MONEY
- NO TRACKING** OF SALE OF BONDS SIPHON FOR BLACK MONEY
- PUBLIC DOES NOT KNOW** BANK KNOWS FINANCE MINISTRY KNOWS RULING PARTY KNOWS WHO DONATED WHO FUNDS
- INTIMIDATION** OF BUYER BY RULING PARTY FOR BONDS
- AMENDMENT IN REPRESENTATION OF PEOPLE ACT** NO SINGLE DONATION LEVEL DATA HAS TO BE SHARED BY THE PARTY
- AMENDMENT IN INCOME TAX ACT** PARTY DOES NOT NEED TO FILE THIS FOR IT RETURNS
- ANONYMITY IN POLITICAL FUNDING**

### Pleas challenging the scheme in the Supreme Court

- There are two petitions challenging the scheme – **one jointly filed in 2017 by ADR and non-profit Common Cause**, and another filed in 2018 by the **Communist Party of India (Marxist)** – both largely asking for the same relief. The Election Commission of India (ECI), which was a respondent to the petition, filed a counter-affidavit questioning the electoral bonds scheme in its current form.
- Since ADR's plea is due to be heard by the apex court soon, here are the grounds on which the petitioners oppose the scheme and the apprehensions expressed in ECI's affidavit:

#### Concerns about Electoral Corruption:

- They argued that the amendments made to multiple Acts to make way for the electoral bonds scheme would open the “floodgates” to unlimited political donations and anonymous funding of political parties by Indian and foreign companies, “legitimizing electoral corruption at a huge scale”, and would have “serious repercussions on the Indian democracy”.
- The Election Commission submitted that contrary to the government’s claims,

donations received through electoral bonds would cause a “serious impact” on transparency.

#### Amendments to Finance Acts:

- In order to bring in the scheme, the Centre had made multiple amendments by way of two Finance Acts– Finance Act, 2017 and Finance Act, 2016, **both passed as money bills (not necessitating the oversight of the Rajya Sabha)**.
- The petitioners challenged the amendments as being “unconstitutional”, “violative of doctrines of separation of powers” and violative of some fundamental rights. The ECI said that the amendments would pump in black money for political funding.

#### Amendment to the Representation of the People Act:

- The government amended Section 29C of the Representation of the People Act, 1951, effectively **exempting political parties from informing the ECI about the details of contributions made to them through electoral bonds**.
- ADR argued that this **would impact transparency and keep citizens from vital information** about how much contribution a political party received and **through what**

source, as the source or donor is **anonymous under electoral bonds**.

- The ECI said that would prevent it from ascertaining whether the donations were received illegally from government companies or foreign sources, calling it a “retrograde step” for transparency.

#### Companies Act amendment:

- The petitioners also objected to the amendment to the Companies Act 2013 such that no companies are required to give details of political contributions in their annual profit and loss accounts. The petitioners argued that this would increase “opacity” in political funding and the danger of “quid pro quo” in return for benefits passed to such companies by political parties.
- They also opposed the removal of the cap or ceiling for companies to make donations. Prior to 2017, companies were only permitted to make political donations of up to 7.5 % of net profits in the previous three years. This change, ADR argued, would allow even loss-making companies to make donations and result in the creation of unscrupulous companies only to route funds to political parties. The ECI too flagged similar concerns about shell companies.

#### Amendment to the FCRA Act:

- The petitioner opposed an amendment to the Foreign Contribution Regulation Act, 2010 (FCRA), allowing foreign companies with subsidiaries in India to fund Indian political parties, stating that it would expose “Indian politics and democracy to international lobbyists” having their own agendas.
- The ECI too flagged concerns about this, saying it would invite foreign corporate powers to influence Indian politics.

#### Income Tax Act amendment:

- The ECI also raised concerns about the amendment to the Income Tax Act 1961, allowing anonymous donations only less than Rs. 20,000.
- The poll panel said that due to this, many political parties had started “reporting a major portion of the donations received as being less than the prescribed limit of Rs. 20,000”.

#### Infringing the “Right to Know”:

- The petitioner ADR argued that the amendments infringed upon the citizen’s fundamental ‘Right to Know’, which various Supreme Court judgments have interpreted as part of the freedom of speech and expression.
- The plea said that the opacity and anonymity made political parties more “unanswerable and unaccountable” to the citizens at large.

#### Derailing of ECI guidelines:

- The ECI said that the amendments derailed its 2014 guidelines on the disclosure of expenditures and contributions received by political parties.
- It added that it had “time and again voiced the importance of the declaration of donations received by political parties” for “better transparency and accountability in the election process”.

#### **What does the Supreme Court have to say on Electoral Bonds?**

- On April 12, 2019, the Supreme Court asked all the political parties to submit details of donations received through electoral bonds to the Election Commission of India.
- It also asked the Finance Ministry to reduce the window of purchasing electoral bonds from 10 days to five days.
- The apex court is yet to fix a date for hearing other pleas against the electoral bonds.

#### **Election Commission of India's view on Electoral Bonds**

- The Election Commission told the Supreme Court of India that while it was not against the Electoral Bonds Scheme, it did not approve of anonymous donations made to political parties.
- The Election Commission of India filed an affidavit in 2019, saying the government’s scheme for political funding has legalized anonymity.

#### **Reserve Bank of India on Electoral Bonds Scheme**

- The RBI was critical of the scheme. The central bank had warned the government

that the bonds would "undermine the faith in Indian banknotes and encourage money laundering."

### Findings of the Association of Democratic Reforms (ADR)

- Between 2016-17 and 2021-22, the seven national and 24 regional parties received a total donation of ₹9,188.35 crore from Electoral Bonds out of which the BJP's share was ₹5,271.9751 crore, while all other national parties together amassed ₹1,783.9331 crore.
- The total donation declared by the BJP is more than three times the total donations declared by all other national parties.
- There is one major problem here. We know the incomes of these parties, but we don't know who funded them. Most parties reported an increase in income, but we don't know how they raised the money.
- This leads us to the main problem of Indian democracy - political corruption. Since there is no limit to donations and we don't know who the donors are, there is always a risk of parties pushing their donors' agenda instead of working for the benefit of the public.
- So, in this scenario, it is worth seeing how parties in other leading democracies fund themselves.

### Is Public Funding the Way Ahead?

- Public funding of political parties is followed by many democracies the world over.
- Nations like **Croatia, Sweden, Serbia, Georgia, Germany Israel and Russia** have various types of political funding.
- In each nation, there are different rules which deal with which party/candidate gets public funding, the amount they receive and how parties use this fund.
- In some nations like **Croatia and Georgia** there are many restrictions on private donations, while in Germany, the laws allow donations from individuals and corporates.
- In Russia, direct public funding is awarded to parties after the election on the basis of electoral performance.

- Parties and candidates also have free access to advertising. **Private contributions are restricted**, and a cap is in place for electoral spending by parties and candidates. However, various reports suggest many violations of these restrictions by the ruling party.
- Although public funding of political parties seems like an efficient and effective way to check political corruption, the question is whether India can afford to spend money on parties or not.

### Innovative Alternative

The following plan, though inspired by the 'Big-Bang-Demon.', envisages controlled implosion of cash:

- The government will print and supply adequate cash of a different kind, called E-notes, to all parties to fight elections in proportion to their vote share in the last election. The E-notes issued to each party will have its respective election symbol- no Gandhiji- and the party will be free to spend its E-notes for buying votes, rallies, or anything else. Upon a party or coalition forming a stable government, the E-notes become monetized for use, but those issued to the opposition bearing their election symbols will get auto-demonetized. So, those voting for the ruling party or coalition can spend their E-notes vacationing or partying, while others can just rue their choice.
- E-notes won't be replaced when they get aged and die; those holding the dying E-notes are plain unlucky.
- Since all E-notes die after use, effectively, no black money is used in elections.
- Government finances elections- not moneybags, - So, no cronyism of any kind.
- With auto-demonetization, PM's TV announcement time is saved.
- E-notes cannot be saved- only spent- so boost to the parallel economy.
- Parties will gladly join coalitions to ensure their voters' E-notes aren't auto-demonetized.
- Government formation easy- No instability.
- Before voting, voters will think for the sake of their E-notes.

### Closing Remarks

- It is **important to fill the gaps in the present laws** to make the entire electoral process more accountable and transparent.
- There is a **need for effective regulation of political funding** along with courageous reforms to break the vicious cycle of corruption and improve the quality of democratic polity in India.
- It is high time that the Parliament amends the existing laws so as to bring in greater transparency in political funding and **do away with anonymous funding except for smaller amounts of less than Rs. 1000 or so.**
- On the other hand, the ECI could think of creating a platform where **timelier & easily accessible information regarding political contributions & expenditure is made available for the public,** instead of just uploading scanned reports submitted by political parties.

## 1.6 SURROGACY (REGULATION) ACT, 2021

### Context

- The Delhi High Court recently raised concerns regarding the exclusion of single, unmarried women from accessing surrogacy procedures under the Surrogacy (Regulation) Act, 2021.

### Surrogacy

- Surrogacy **means the surrogate mother agrees to carry the child for another person.**
- After the birth of a child, the biological mother leaves the care and custody to the intended parent or parents.

### Surrogacy Act of 2021

- The Surrogacy Act of 2021 **prohibits and punishes commercial surrogacy, permitting it only in instances of altruism.**
- This provision has the effect of preventing surrogates from receiving any financial compensation for their role, with the exception of insurance and medical coverage.
- In addition, the **Surrogacy Act specifies the conditions under which surrogacy is permitted, the criteria for the surrogate and the intended parents, and a regulatory framework for surrogacy clinics.**

### Overview

- Under the Surrogacy (Regulation) Act 2021, a **widowed or divorced woman between the ages of 35 and 45, or a married couple, defined as legally married, can use surrogacy if she has a medical condition that requires this option.**
- It also **bans surrogacy for commercial purposes,** which is punishable with imprisonment for 10 years and a fine of up to Rs 10 lakh.
- The law **allows altruistic surrogacy only when there is no exchange of money and when the surrogate mother is genetically related to those looking for a child.**

### Important provisions of the Act

- This Act consists of eight chapters and 54 sections that deal with the regulation of surrogacy in India. The Surrogacy (Regulations) Act, 2021, received the President's assent on 25th December 2021.

### Definition clauses

#### Section 2 of the Act deals with the various definitions under the Act:

- **Section 2(b)** defines the term altruistic surrogacy which means that only medical expenses, insurance coverage and other prescribed expenses will only be provided to the surrogate mother irrespective of any extra charges, expenses, fees, remuneration or monetary incentives of any nature.
- **Section 2(g)** defines the term 'commercial surrogacy' which means providing all kinds of monetary incentives whether in cash or kind. However, the same is not allowed to be practised.



- **Section 2(h)** provides the meaning of 'couple' i.e., a legally married couple wherein a man and a woman must be aged above 21 years and 18 years.
- **Section 2(r)** provides the meaning of 'intending couple' i.e., the couples who are intending to become a parent through the procedure of surrogacy and they must be between the age of 23 to 50 years in case of female and between 26 to 55 years in case of male as per Section 4(iii)(c)(I).
- **Section 2(s)** describes the meaning of 'intending women'. The term includes women between the age of 35 to 45 years who is either a widow or divorced and the one who intends to avail of surrogacy.
- **Section 2(zd)** defines the term 'surrogacy' which means a procedure in which a woman carries the child and gives birth to a child of an intending couple and thereafter handovers the child to intending couples after the child is born.

#### Written consent of the surrogate mother

- As per Section 6, the **surrogate mother in question must be informed of all known side effects and effects of these procedures, and the surrogate mother must provide written informed consent in the language she understands.**

#### Prohibition to abandon a child

- Section 7 provides a prohibition to abandoning a child born out of surrogacy on the ground of a birth defect, any genetic defect or any other medical condition whether in India or outside India.

#### Rights of a surrogate child

- Section 8 of the Act provides that the child born out of surrogacy will be considered to be a biological child of the intending couple and shall have all the rights that a natural child shall have under any law for the time being in force.
- Section 10 of the Act describes that **no organization or person can force a surrogate mother to abort at any stage except under conditions that may be prescribed in certain circumstances.**

### **Loopholes in the Act**

#### Surrogate and child exploitation:

- It could be argued that the state must protect the child's right to be born and put an end to the exploitation of poor surrogate mothers. However, the current law fails to strike a balance between these two goals.

#### Reinforces patriarchal norms:


- The Act **reinforces the traditional patriarchal norms of our society** that do not attach any economic value to women's work and directly affect women's basic reproductive rights under Article 21 of the Constitution.

#### Denies legitimate income to surrogates:

- Banning commercial surrogacy also **denies surrogates a legitimate source of income**, further limiting the number of women who are willing to be surrogates. Overall, this move **indirectly denies children to couples who choose to adopt parenthood.**

#### Emotional Complications:

- In an altruistic surrogacy, having a friend or relative as a surrogate mother **can lead to emotional issues not only for the intended parents** but also for



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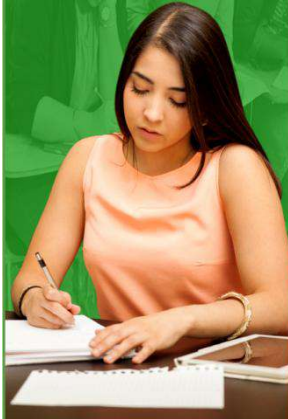
4  
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the surrogate child because there is a great risk to the relationship during the surrogacy process and after the birth.

- Altruistic surrogacy also **limits the intended couple's choice in choosing a surrogate, as very few parents are willing to go through the process.**

#### **No third-party involvement:**

- Altruistic surrogacy **does not involve any third party.** The involvement of a third party ensures that the expectant couple will bear and assist with medical and other miscellaneous expenses during the surrogacy.
- In general, a third party helps both the intended couple and the surrogate mother through a complex process that may not be possible in altruistic surrogacy.

### **Closing Remarks**

- Thus, the Surrogacy Act of India prohibits commercial surrogacy and the payment of monetary compensation to the surrogates. This ban **goes against the decision in Suchita Srivastava v. Chandigarh Administration, 2009,** which said that **Article 21 of the Constitution of India covers the right to choose one's own reproductive options.**
- The prohibition on commercial surrogacy **prevents women from using their reproductive abilities for financial gain by ignoring the mental, physical, and emotional labour and medical costs they face during and after the pregnancy.**
- In its 102nd report in the year 2016, the Parliamentary Standing Committee on Health and Family Welfare called for **adequate compensation for surrogates rather than the repeal of the ban on commercial surrogacy.**
- This argument, as well as Article 23 of the **Universal Declaration of Human Rights and Article 7 of the International Covenant on Economic, Social, and Cultural Rights,** which mandate a fair payment in exchange for human labour, are ignored by the Surrogacy Act.
- Since oocyte donors play a crucial role in the surrogacy process, **statutory reforms should protect their rights.**
- The Surrogacy (Regulation) Act, 2021, **must reflect the rights to equality and parenthood of members of the LGBTQIA+ community who wish to participate in surrogacy.**
- The **disclosure of donors' identities should be voluntary.** At last, it is important that **the arrangements for granting payment to proxies be made to safeguard the powerless against abuse.**

## **1.7 SHORT ARTICLES**

### **Special and Local Laws**

#### **Context**

- The recent criminal law Bills in India, while amending the Indian Penal Code and Code of Criminal Procedure, highlight the paramount significance of Special and Local Laws (SLLs).

#### **What exactly are Special and Local Laws?**

- Cognizable crimes are **classified as either 'Indian Penal Code (IPC)' or 'Special and Local Laws (SLL)'**.

- The SLL identifies illegal behaviours that are framed by the state government for specific reasons.
- Examples of these laws include the Excise, Opium, Cattle Trespass, Gambling, and Railway Acts. Since the Negotiable Instruments Act is a unique statute, its provisions take precedence over those of Cr PC, 1973.

#### **SLL Importance**

- **Quantitative Importance:** According to Crime in India Statistics, roughly 39.9% of all

cognizable offences reported in 2021 came under SLLs.

- **Relevance in terms of quality:** SLLs have sparked critical arguments about the limits of the state's role in criminalization, notably in terms of individual rights and freedoms.

#### Need for Reform in SLLs

- **Diverse Substantive Issues:** SLLs, such as the Unlawful Activities (Prevention) Act of 1967 (UAPA) and the Maharashtra Control of Organised Crime Act of 1999 (MCOCA), have imprecise and broad offence definitions, generating issues regarding their applicability to civil or regulatory wrongs.
- **Procedural Challenges:** SLLs have eroded internationally recognised due process standards, as seen by the UAPA's enhanced search and seizure powers and the MCOCA's acceptance of police-recorded confessions.
- **Bail Obstacles:** SLLs, such as Section 43(D)(5) of the UAPA and Section 37 of the Narcotic Drugs and Psychotropic Substances Act, 1985, make obtaining bail extremely impossible.

#### Transition from Complete Codification

- **The Original Vision of the IPC:** The Indian Penal Code (IPC), created in 1860, sought to codify all criminal laws in accordance with Jeremy Bentham's concept of a "Pannomion"—a single, comprehensive collection of regulations.
- **Changing Terrain:** Over time, there has been a trend away from the initial goal of total codification and towards enacting and using SLLs.
- **Unsatisfactory Aspects:** While the IPC is criticised for its outdated morality and colonial roots, its effectiveness in codifying criminal laws must be recognised.

#### A Second Generation of Reforms to address the Limitation

- **Incorporating SLLs:** All SLLs that criminalize or aim to criminalize particular activity should be included into the wider penal code as distinct chapters.
- SLLs developing different processes for reporting offences, arrests, investigations, prosecutions, trials, evidence, and bail should

be incorporated in the CrPC as independent procedures or as exceptions to its general rules.

#### Closing Remarks

- CAs India depends more on Special and Local Laws for a variety of reasons, **it is critical that these laws do not eclipse the initial purpose of codifying criminal laws, as contained in the IPC and CrPC.**
- A fundamental restriction is the failure to incorporate the substantive and procedural components of SLLs into current reform initiatives.
- As a result, a **second wave of reforms is required to close these gaps and preserve the integrity of India's criminal justice system.**



## **Freedom House**

#### Context

- According to a new report by Freedom House, global Internet freedom has declined for the 13th consecutive year.
- The report, is titled as '**Freedom on the Net 2023: The Repressive Power of Artificial Intelligence**'.

#### Findings of the Report

- As per the report, **the sharpest rise in digital repression was witnessed in Iran**, where authorities shut down Internet service, blocked WhatsApp and Instagram, and increased surveillance in a bid to quell anti-government protests.
- **China, for the ninth straight year, ranked as the world's worst environment for Internet freedom**, with Myanmar the world's second most repressive for online freedom.
- People faced legal repercussions for expressing themselves online in a record 55 countries this year, and the number of countries where authorities carry out widespread arrests and impose multi-year prison terms for online activity has risen sharply over the past decade, from **18 in 2014 to 31 in 2023.**

- The report also detailed how **elections were a trigger for digital repression**. Ahead of election periods, **“many incumbent leaders criminalised broad categories of speech, blocked access to independent news sites, and imposed other controls over the flow of information to sway balloting in their favour.”**
- India's Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules require large social media platforms to use AI-based moderation tools for broadly defined types of content – such as speech that could undermine public order, decency, morality, or the country's sovereignty, integrity, and security, or content that officials had previously ordered removed.
- Warning of adverse repercussions for Indian democracy, the report noted, **“As the country prepares for general elections in 2024, the government's expanding censorship regime is creating an uneven playing field by silencing criticism of and independent reporting on the ruling party.”**

#### Censorship Methods

- The report evaluates countries on five censorship methods – **Internet connectivity restrictions, blocks on social media platforms, blocks on websites, blocks on VPNs, and forced removal of content** – and India engaged in all of them except one (VPN blocking).
- India also figured among the list of countries that **“blocked websites hosting political, social, or religious content”**, deliberately disrupted ICT networks, used pro-government commentators to manipulate online discussions, and **conducted “technical attacks against government critics or human rights organisations”**.
- On a range of 1 to 100 where '100' represented highest digital freedom and '1' the worst repression, **India scored 50, while Iceland, with 94, emerged as the country with the best climate of Internet freedom.**
- Freedom House is a non-profit organization based in Washington, D.C. It is best known for **political advocacy surrounding issues of**

**democracy, political freedom, and human rights.**

## **Aadhaar**

### Context

- The government has termed Aadhaar “the most trusted digital ID in the world”.

### Aadhaar

- Aadhaar is a **12-digit unique identification number** given to all Indian residents by the **Unique Identification Authority of India (UIDAI)**.
- It was initiated in the year 2009 with the intent to provide a universal identity to every individual.
- During enrolment for Aadhaar, **demographic details of individuals along with their biometric fingerprints and iris scans are collected.**
- These details are stored in the Aadhaar database.
- The UIDAI is tasked with the responsibility of managing Aadhaar numbers, as well as developing, and setting up the necessary infrastructure for issuing Aadhaar cards.

### Rationale for Aadhaar

- It removes the hassle of repeatedly having to provide supporting identity documents each time a resident wants access to services, benefits and subsidies. Aadhaar is necessary for availing certain government welfare schemes and subsidies, such as LPG, kerosene and scholarships.
- Aadhaar authentication **helps to remove duplicates under different schemes and generate substantial savings to the government exchequer.**
- The objectives of UIDAI were to ensure that **all residents have a unique ID and to curb corruption in accessing welfare programmes by eliminating “ghost” and “fake” individuals.**
- **Example:**
- An individual is called a 'ghost' if they access rations in the name of a dead person, and a 'fake' if they access rations even though they are not officially entitled to it.

- To ensure that an individual accessing rations is not a ghost or a fake, the government-linked the database of ration card holders with the Aadhaar database. When an individual tries to access rations at a ration shop, they have to do so using their biometrics or iris scans with the ration dealer. These are then sent through the internet to the Aadhaar database for authentication.
- The government favours Aadhaar for **several other government-to-citizen cash transfer programmes.**
- **By removing ghosts and duplicates,** the government has claimed **substantial savings in welfare schemes through the usage of Aadhaar.**
- The government is provided with accurate data on beneficiaries, and the government departments/service providers can coordinate and optimize different schemes. Through Aadhaar, implementing agencies can verify beneficiaries **and make sure of targeted delivery of benefits.**

#### **Why is Aadhaar's use concerning?**

- **Can't prevent Quantity Fraud:** In the case of rations for example, several organizations and researchers have provided evidence demonstrating that the **main type of corruption is quantity fraud,** which happens when, say the entitlement for a ration card holder is 35 kg of rice but the dealer only gives 30 kg. **Aadhaar has no role in either detecting or preventing this fraud.**
- **Denial issues:** In many rural areas, people have to make multiple trips to ration shops, to authenticate with no guarantee that the authentication will work. **Lack of reliable internet, fading fingerprints among daily wage workers, lack of phone connectivity** to get an OTP etc. lead to denials.
- **Exclusion issues:** Older women, people with disabilities, or those living in remote areas are more prone to hardships and **exclusions due to such stringent biometric authentication requirements.**
- **Authentication errors:** The data on the number of attempts to authenticate and the extent of authentication failures are not

public. A report by the **Comptroller and Auditor General of India (CAG) from 2022 states "UIDAI did not have a system to analyse the factors leading to authentication errors."**

- **Payment Failures:** In Aadhaar-based payments, **errors in any step result in payment failures.**
- Different spellings in the job card and in the Aadhaar database can result in **authentication failures.**
- **Wage Diversion:** Most workers are unaware of which account their Aadhaar was last linked to as financial institutions in rural areas tend to coerce workers to link their Aadhaar with bank accounts without consent. This leads to **wages getting diverted to some account without the worker's knowledge.** For example, Aadhaar payments of people got redirected to Airtel wallets causing much havoc.
- **Misdirected payments:** **Misdirected payments through Aadhaar** are difficult to detect and are nearly impossible to resolve. These happen when one person's Aadhaar number gets linked to somebody else's bank account.
- Obtained through RTIs, the government has also claimed that **using Aadhaar in MGNREGA has reduced delays in wage payments.**
- **Delays in wage payments:** Easy harvesting of biometrics traits and publicly-available Aadhaar numbers increase the risk of banking fraud. In this light, the recent '**Aadhaar leaks scandal (whereby Aadhaar numbers of lakhs of people were displayed on government portals)** is significant. Even in the absence of data breaches, that is an alarming **breach of privacy.**
- **Invasive surveillance systems:** A biometric database of every citizen **shifts the balance of power dramatically in favor of the government - it's one of the most pervasive and invasive surveillance systems.**
- A single identifier - the Aadhaar number - links all databases and becomes a tool for profiling and surveillance. This is the most

significant aspect of 'privacy' in the Aadhaar debate.

- **No protections on Aadhaar data usage:** The government has reserved the right to share data "in the interest of national security", a term that is undefined.
- There are little to **no protections on how Aadhaar data is used, and no meaningful user consent.**
- It's easy for private companies to access the database and use the information as they wish.
- **Potential Abuse:** Many potential abuses of the Aadhaar are currently illegal, but are easily overcome using technology. For example, correlation of user behavior by Authentication User Agencies is currently illegal, but technically quite simple to obtain.

#### **What are the security concerns?**

- Banking correspondents using the AePS operate without any accountability framework. Some of them ask individuals to biometrically authenticate multiple times. Each authentication gives access to the banking correspondents to operate the individual's bank account.
- Several studies and news reports have highlighted how **using AePS, money from workers' accounts have been withdrawn or that they have been signed up for government insurance programmes without their knowledge.** These can also be found only through ground testimonies. The ₹10 crore scholarship scam in Jharkhand from 2020 exemplifies this.

#### **What is the current impasse?**

- The government's push to make Aadhaar-based payments mandatory in MGNREGA has faced much resistance from workers and field officials. To achieve 100% saturation of linking job cards with Aadhaar, reports show that **job cards of several alive and active rural workers have been deleted on grounds that they are dead or "ghosts."**
- Last year, 19% of MGNREGA workers got deleted, at least four times more than earlier years.

- The government has pushed for Aadhaar in other matters such as linking voter IDs with Aadhaar.
- A recent Court order has said that this is not mandatory.
- Critics are, however, apprehensive based on their experience of Aadhaar in welfare programmes that was pushed without pilots, disregarding evidence on how it has **spawned new forms of corruption, undermining transparency and accountability.**

#### **Way Ahead**

- Establish a **comprehensive law protecting citizens' individual privacy and security**
- India's **privacy law must be a national policy priority for India.**
- The **Supreme Court of India has unequivocally found that privacy is a right of all Indians guaranteed by the Constitution,** now it is up to the Government of India to enact privacy protections in law.
- The **Justice Srikrishna Committee** was set up to create recommendations for a new and robust privacy law - India's first comprehensive data protection law.
- The Supreme Court of India should continue to **enforce the right to privacy and other legal protections in ongoing litigation around Aadhaar.**
- A **strong and effective privacy law is vital to act as a check and balance to the far-reaching Aadhaar system.**
- The Indian government must release Aadhaar as true open-source software rather than use the language of open source, **and encourage the use, development, and adoption of open source as a pillar of the Aadhaar system.**
- The Government has an opportunity and responsibility for India to take its place as a global leader in protecting individual security and privacy.
- The users of **Digital-Identity Programs** must be kept central to the design of the system, i.e. to **be effective, digital identity must empower people, not governments.**

## Online filing of FIR

### Context

- The Law Commission of India received a reference from the Ministry of Home Affairs, requesting the Commission to study the feasibility of amending the Code of Criminal Procedure, 1973 (CrPC) in order to enable online registration of FIR.

### Details

- In this, the FIR can be filed online through the official website of the police department.
- It allows individuals to report a crime without having to physically visit the police station, making it a convenient and efficient way to seek justice.

### Benefits

- It allows for **quick and efficient communication between the police and the complainant**, potentially **reducing the time required for resolution**.
- It can **streamline the reporting process** and provide an easily accessible digital record.

- It can be done from the comfort of one's home, avoiding the need to visit the police station in person.

### Concerns

- The absence of face-to-face interaction **may lead to misunderstandings or incomplete information being provided**.
- There may be **concerns about the security and confidentiality of the information provided online**, especially in cases where sensitive personal information is involved.

### Conclusion

- The lack of tangible proof and the potential for fake complaints are two major downsides of online FIR filing that must be considered.
- It's **critical to comprehend these hazards and use caution**.
- Online FIR can be a helpful tool in the battle against crime, but it's **essential to use it properly and in conjunction with other conventional ways of reporting crimes to the police**.

## Panchnama

### Context

- The Supreme Court ruled that 'panchnamas' would be **deemed inadmissible in a court of law if they were prepared in a manner violative of Section 162 CrPC**.
- *'Panchnamas' are documents recording the proceedings of searches and seizures.*

### What does Section 162 CrPC say

- Section 162 of the CrPC provides for the **limited use of statements and prohibits the court from using them to support statements made in court**.
- The course of the investigation for the purpose of verification is complicated.
- The police cannot be relied upon to record the statement correctly and it is often deleted in an unspecified way amid the confusion.
- Cr.P.C. Section 162 **prohibits the use of statements made to the police during the course of the investigation**.
- It is assumed that you cannot rely on the correct recording of the statements by the police or rely on the statements, as the police can record statements for personal gain. The full use of statements made to the police is not prohibited by the officers.



**IN NEWS:** The Centre's fiscal deficit in the first five months of 2023-24 touched 36 per cent of the full-year target- data released by the Controller General of Accounts (CGA).

## Intelligent Grievance Monitoring System (IGMS) 2.0

### Context

- Recent Launch: IGMS 2.0 Public Grievance portal and Automated Analysis in Tree Dashboard portal of the Department of Administrative Reforms and Public Grievances (DARPG).



### Details

- The Intelligent Grievance Monitoring System (IGMS) 2.0 Dashboard has been implemented by IIT Kanpur following an MoU with DARPG on December 14, 2021 for upgrading DARPG Information Systems (CPGRAMS) with Artificial Intelligence capabilities.
- The Dashboard **provides instant tabular analysis of Grievances Filed and disposed, State-wise and district-wise Grievances Filed & Ministry-wise data. Besides, the Dashboard will also help the officials identify the root cause of the grievance.**



## Sankalp Saptaah

### Context

- The Government launched a unique week-long programme for Aspirational Blocks in the country called 'Sankalp Saptaah'.

### 'Sankalp Saptaah'

- 'Sankalp Saptaah' is **linked to the effective implementation of Aspirational Blocks Programme (ABP).**
- 'Sankalp Saptaah' is **being implemented in 500 Aspirational Blocks across 329 districts in the country.**
- For implementing the Aspirational Blocks Programme and to prepare an effective block development strategy, chintanshivirs were organised at village and block levels across the country.
- What does the Government aim to achieve from 'Sankalp Saptaah'?**
- 'Sankalp Saptaah' **aims to improve governance at the block level in order to enhance the quality of life of citizens.**
- It will be observed in all of the 500 Aspirational Blocks. Each day in 'Sankalp Saptaah', starting from October 3 till October 9, 2023, is dedicated to a specific development theme on which all Aspirational Blocks will work.
- The themes for the first six days include 'Sampoorna Swasthya', 'SuposhitPariwaar', 'Swachhta', 'Krishi', 'Shiksha', and 'Samridhi Diwas'.

## Guaranteed Pension System (GPS)

### Context

- The Andhra Pradesh government is planning to implement a Guaranteed Pension System (GPS) for its employees.
- It is a **hybrid model of the Old Pension Scheme (OPS) and the New Pension Scheme (NPS).**

### What is Guaranteed Pension System?

- Under the GPS, **all state government employees will be eligible for a guaranteed monthly pension of 50% of their last drawn basic salary and dearness allowance.**
- The government will make **a matching contribution to the employee's NPS account,** and the **employee will have the option to choose from different investment options.**
- Any shortfall in the pension amount from the NPS corpus will be borne by the state government. This ensures that employees are **guaranteed a minimum pension of 50% of their last drawn salary,** even if their NPS investment returns are lower.

### Response and Implications

- The GPS has been **welcomed by many state government employees, who have been demanding a return to the OPS.**
- The Andhra Pradesh government has **started the process of implementing the GPS.**
- The state government has **issued a notification to all departments and agencies,** asking them to provide details of their employees' NPS accounts. Reportedly, the



government is also in the process of appointing a pension fund manager for the GPS.

- The GPS is **expected to benefit over 3 lakh state government employees in Andhra Pradesh.**

#### What are NPS and OPS?

- OPS and NPS stand for Old Pension Scheme and National Pension System, respectively.
- Both are pension schemes for government employees in India.

#### Old Pension Scheme (OPS)

- The OPS is a defined benefit pension scheme, which **means that employees are guaranteed a fixed pension after retirement.**
- The **pension amount is calculated based on the employee's last drawn salary and service period.**
- The government is **responsible for funding the OPS.**

#### National Pension System (NPS)

- The NPS is a defined contribution pension scheme, which means that **employees and the government contribute a certain percentage of the employee's salary to the employee's NPS account.**
- The contributions are invested in a variety of financial instruments, such as **equity, debt, and government bonds.**
- The pension amount is **calculated based on the corpus accumulated in the employee's NPS account at the time of retirement.**
- Government employees make a **monthly contribution at the rate of 10% of their salary and government's contribution rate is 14%.**
- NPS was **launched in India in 2004.**

## **Curative Petition**

### Context

- The Supreme Court agreed to hear curative petitions filed by Vodafone Idea and Bharti Airtel.

### Curative Petition

- The Curative Petition is the last chance available for the protection from the compensation of injustice in the court **after**

**the review petition is dismissed or has been exhausted.**

- It is a concept that **evolved by the Supreme Court of India in the matter of Rupa Ashok Hurra vs. Ashok Hurra and Anr.** (2002).
- In this case, the question was whether an aggrieved person is entitled to any relief against the final judgment or order of the Supreme Court after the dismissal of a review petition.
- The Supreme Court held that **to prevent abuse of its process and to cure gross miscarriage of justice, it may reconsider its judgements in exercise of its inherent powers.**
- For that purpose, the court has devised what has been termed as a curative petition in which the petitioner is required to aver **specifically that the grounds mentioned therein had been taken in the review petition filed earlier and that it was dismissed by circulation, which must be certified by a senior advocate.**
- The curative petition is then **circulated to the three most senior judges and to the judges who delivered the impugned judgement if available.**
- **No time limit is given for filing curative petition.**
- It is **guaranteed under Article 137 of Constitution of India,** which gives the power to the Supreme Court to review of its own judgements and orders.

### Curative Petition vs Review Petition

- The main difference between the review petition and curative petition is the fact that the **Review Petition is inherently provided in the Constitution of India** whereas the **emergence of the Curative Petition is in relation to the interpretation of the review petition by the Supreme Court which is enshrined in article 137.**

### Requirements

- **To entertain a curative petition, the Supreme Court has laid down specific conditions:**
- The petitioner **must establish that there was a genuine violation of principles of natural**

- justice and fear of the bias of the judge and judgment that adversely affected him.
- The petition must state specifically that the grounds mentioned had been taken in the review petition and that it was dismissed by circulation.
  - The curative petition must accompany certification by a senior lawyer relating to the fulfillment of the above requirements.
  - The petition is to be sent to the three senior-most judges and judges of the bench who passed the judgement affecting the petition, if available.
  - If the majority of the judges on the above bench agree that the matter needs hearing, it is sent to the same bench if possible.
  - The court may impose "exemplary costs" to the petitioner if his plea lacks merit.

## Global Health Innovation Fellowship

### Context

- Union Minister for Science and Technology presided over Global Health Innovation Fellowship.

### Global Health Innovation Fellowship

#### About

- The World Intellectual Property Organization (WIPO) supported Global Health Innovation Fellowship offers a unique and exciting opportunity for young researchers and entrepreneurs to work with the Department of Biotechnology (Ministry of Science and Technology) as part of its **Biodesign Program in India**.
- As a fellow, she will have residency at the Indian Institute of Technology (IIT) campuses in New Delhi or Mumbai for two years.

#### What does the fellowship offer?

- **Exciting fellowship opportunity:** This two-year fellowship experience combines technology, public health, and intellectual property with the goal of training innovators to develop innovative medical technologies, creating a meaningful impact on global health.
- **International experience:** Join a diverse network of global young innovators and

experts to solve emerging health challenges, while being based in India for two years.

- **Prestigious collaboration:** Build meaningful networks at the Indian Department of Biotechnology, IIT Delhi and Bombay campuses, and WIPO.

#### What does the fellowship cover?

- The fellowship covers study visa processing fees; fellowship fees; IIT overhead fees; study material costs; accommodation costs (for accommodation provided or recommended by the Department of Biotechnology); living expenses; health insurance; local transportation within India; and international travel (return ticket from home country to IIT Delhi or IIT Bombay).

#### Eligibility Criteria:

- Candidates must meet the admission criteria of the Biodesign Program of the Department of Biotechnology. All conditions concerning the participation of WIPO-supported Global Health Innovation Fellows shall remain within the authority of the Department of Biotechnology in accordance with its applicable rules and policies.
- Open to all international candidates (**except Indian citizens**).
- Applicants from diverse educational backgrounds, including the engineering, science, computer science, product design, business, law, medical, or nursing fields, are welcome to apply.
- Experience in addressing global health challenges, in particular maternal and child health, non-communicable diseases (NCDs) and FemTech is required.
- Three years' work experience in the health technology industry or in related research positions.
- Preference will be given to those who have a track record in innovation (patents, licensed technologies/products).
- Interest in the relevance of intellectual property rights (patents, design rights, trademarks, and copyright) along the entire value chain for health technology from early research to distribution of a product or service to the end user.

- Strong leadership, problem solving, creativity, teamwork, and communication skills.
- Excellent interpersonal skills and ability to maintain effective partnerships and working relations in a multi-cultural environment with sensitivity and respect for diversity.
- Excellent knowledge of written and spoken English.

### WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO)

- The World Intellectual Property Organization (WIPO) is the global forum for intellectual property (IP) policy, services, information and cooperation. A specialized agency of the United Nations, WIPO assists its 192 member states in developing a balanced international IP legal framework to meet society's evolving needs. It provides business services for obtaining IP rights in multiple countries and resolving disputes. It delivers capacity-building programs to help developing countries benefit from using IP. And it provides free access to unique knowledge banks of IP information.

## Yuva Sangam

### Context

- The registration portal for Phase III of Yuva Sangam, under Ek Bharat Shreshtha Bharat (EBSB), was launched.

### Yuva Sangam

- Yuva Sangam is an initiative by the Government of India to strengthen people-to-people connections between youth belonging to different States/UTs of India.
- Interested youth in the age group of 18-30 years, mainly students, NSS/ NYKS volunteers, employed/self-employed persons, etc. may register through the YUVA SANGAM portal to participate in the forthcoming Phase.
- The Yuva Sangam Phase-III focuses on conducting exposure tours of the youths comprising mainly of students studying in Higher Educational institutions & some off-campus youngsters from across the Nation to various States of India.
- In a bid to promote cultural understanding and development among the youth, the Government of India has unveiled the "Yuva Sangam" initiative.
- This program is set to offer on-campus and off-campus students the opportunity to explore different states.
- The youth will receive comprehensive exposure in five key areas: Tourism, Traditions, Development, People-to-People Connect, and Technology.

## Ethics Committee

### Context

- Mahua Moitra's matter went to the Lok Sabha Ethics Committee.

### Ethics Committee

- The Ethics Committee was first constituted in the Rajya Sabha in 1997 and in the Lok Sabha in 2000.
- It was made a permanent committee in the Lok Sabha in 2015.
- The Ethics Committee in the Lok Sabha consists of 15 members. The Speaker appoints members of the committee for one year.
- The Ethics Committee in the Rajya Sabha consists of 10 members, including its Chairman, who is nominated by the Chairman of the Rajya Sabha.
- The primary role of the Ethics Committee is to oversee and maintain the moral and ethical conduct of members of Parliament. It examines cases of misconduct referred to it.
- The committee has the authority to entertain complaints against members of Parliament submitted by any person, including other members of Parliament.
- Complaints must be accompanied by evidence of misconduct and an affidavit stating that the complaint is not false, frivolous, or vexatious.
- Upon receiving a complaint, the committee conducts a preliminary inquiry to determine whether it should be examined further.

- If the committee decides to proceed, it provides the member concerned with an opportunity to be heard.
- After examining a complaint, the committee makes recommendations to the Speaker of the Lok Sabha or the Chairman of the Rajya Sabha. Based on these recommendations, the Speaker or the Chairman may take appropriate actions, which can include issuing warnings, admonishments, or recommending the expulsion of the member from the respective house.

## APAAR

### Context

- The Union Education Ministry recently notified the States to begin the process of introducing the Automated Permanent Academic Account Registry or 'APAAR'.

### Details

- The APAAR or EduLocker will be a lifelong ID number for students for seamless tracking of their academic journey and achievements.
- They will be able to digitally store their exam results, learning outcomes, co-curricular achievements such as ranking in Olympiads or receiving specialized skill training, and much more.
- In addition to that, students transferring from one school to another will face less hassle in obtaining admission to a new institution in any part of the country.
- The APAAR will give each student enrolled from pre-primary to higher education, a unique identification number. This will be in addition to the already existing Aadhaar ID that every individual has.
- The enrolment process will be carried out by the school, with the consent of their parents, who will also be able to withdraw their consent at any given point of time.
- The government assured that the data will be shared only with concerned government agencies if and when required.
- The data collected on each student by the schools will be stored in a centrally

functioning District Information for Education portal.

### Challenges and Concerns

- Given the ongoing concerns about Aadhaar's data security, and the numerous instances of data breaches, many people have raised concerns about the initiation of the APAAR registration process.
- School authorities have raised the issue of already pending Aadhaar verification of students, which is kept optional.
- The addition of the APAAR registry can increase the administrative burden on the teaching faculty.

## Gyan Sahayak Scheme

### Context

- Gujarat saw the announcement of the Gyan Sahayak Scheme.

### Details

- The Gyan Sahayak Scheme is a recent initiative launched by the Gujarat state government.
- Its main goal is to solve the problem of teacher shortages in government and grant-in-aid schools, especially in Mission Schools of Excellence.
- This scheme, plans to appoint teachers on a temporary, contractual basis until regular appointments are made.
- The basic aim of the Gyan Sahayak Scheme is to keep the education system functioning by filling teacher vacancies temporarily.
- The National Education Policy (NEP) 2020 is the starting point of this scheme, focusing on developing varied skills in teachers and reaching beyond their academic expertise.
- This approach fits with the greater educational purpose of developing communication, critical thinking, and problem-solving skills among students.

### The Scheme's Scope

- The Gyan Sahayak Scheme is available to government and grant-in-aid schools, including Mission Schools of Excellence.
- Statistics on Vacancies: The government declared that 15,000 Gyan Sahayaks will be

hired for elementary schools and 11,500 for intermediate and higher secondary institutions.

- **Gyan Sahaks are paid differently** according on their school level: Rs 21,000 for elementary, Rs 24,000 for secondary, and Rs 26,000 for upper secondary.
- **Vacancy Context:** According to Gujarat, there are around 32,000 teaching openings in government and grant-in-aid institutions, predominantly in elementary and secondary schools. Some secondary schools hire Pravasi teachers to fill staffing gaps.

#### Eligibility Criteria

- Candidates for Primary Gyan Sahayak **must have passed the Gujarat Examination Board's Teachers Eligibility Test (TET)-2.**
- Candidates for Secondary and Higher Secondary Gyan Sahayak **must have passed the Teacher Aptitude Test (TAT).**
- Primary and secondary school Gyan Sahayaks **must be under the age of 40, whereas higher secondary school Gyan Sahayaks can be up to the age of 42.**
- **Merit-Based Selection** entails creating a merit list based on percentile ranks from TET-2 results, then allocating Gyan Sahayak posts to School Management Committees (SMCs) via district education authorities.

## **National Medical Commission**

### Context

- A new regulation issued by the medical education regulator National Medical Commission (NMC) **put a hold on new medical colleges and expansion of existing colleges in states with more than 100 medical education seats per million population.**

### National Medical Commission (NMC)

- It is an **Indian regulatory body of 33 members that regulates medical education and medical professionals.**
- It replaced the Medical Council of India on 25 September 2020.
- The Commission **grants recognition of medical qualifications, gives accreditation to**

**medical schools, grants registration to medical practitioners, and monitors medical practice, and assesses the medical infrastructure in India.**

- The NITI Aayog recommended the **replacement of Medical Council of India (MCI) with the National Medical Commission (NMC).** The NMC bill was passed by parliament and approved by President on 8 August 2019.

### Boards

**The commission consists of four autonomous boards:**

1. Under-Graduate Medical Education Board (UGMEB),
2. Post-Graduate Medical Education Board (PGMEB),
3. Medical Assessment and Rating Board and
4. Ethics and Medical Registration Board

### Composition

**The NMC consists of 33 members, including:**

a) a chairperson (medical professionals only)

**b) 10 ex officio Members:**

- The President of the Undergraduate Medical Education Board.
- The President of the Post-Graduate Medical Education Board.
- The President of the Medical Assessment and Rating Board.
- The President of the Ethics and Medical Registration Board.
- The Director General of Health Services, Directorate General of Health Services, New Delhi.
- The Director General, Indian Council of Medical Research.
- Director of any of the All India Institutes of Medical Sciences.
- Two persons from amongst the Directors of Postgraduate Institute of Medical Education and Research, Jawaharlal Institute of Postgraduate Medical Education and Research, Tata Memorial Hospital, North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, and All India Institute of Hygiene and Public Health.

- One person to represent the Ministry of Health and Family Welfare.

#### **c) 22 Part-time Members:**

- Three Members appointed from amongst persons who have special knowledge and professional experience in such areas including management, law, medical ethics, health research, consumer or patient rights advocacy, science and technology and economics.
- Ten members appointed on rotational basis from amongst the nominees of the states/union territories in the Medical Advisory Council.
- Nine members appointed from amongst the nominees of the States and Union territories in the Medical Advisory Council.
- Of these at least 60% of the members must be medical practitioners.

## **Pradhan Mantri Krishi Sinchayee Yojana**

### Context

- The Cabinet Committee on Economic Affairs (CCEA) has approved inclusion of Jamrani Dam Multipurpose Project of Uttarakhand under Pradhan Mantri Krishi Sinchayee Yojana.

### PMKSY

- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched during the year 2015-16.
- **Aim:** To enhance physical access of water on farm and expand cultivable area under assured irrigation, improve on-farm water use efficiency, introduce sustainable water conservation practices, etc.

### Objectives

- Achieve convergence of investments in irrigation at the field level plans.
- Enhance the physical access to water on the farm and expand cultivable area under assured irrigation (Har Khet ko pani).
- Integration of water source, distribution, and its efficient use, to make best use of water through appropriate technologies and practices.

- Improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent.
- Enhance the adoption of precision - irrigation and other water-saving technologies (More crop per drop).
- Enhance recharge of aquifers and introduce sustainable water conservation practices.
- Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of groundwater, arresting runoff, providing livelihood options, and other NRM activities.
- Promote extension activities relating to water harvesting, water management, and crop alignment for farmers and grassroots level field functionaries.
- Explore the feasibility of reusing treated municipal wastewater for peri-urban agriculture.
- Attract greater private investments in irrigation.

### Scheme components

- PMKSY consists of three major components implemented by various ministries. They are as follows.

#### Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti

- **Component:** Accelerated Irrigation Benefits Programme (AIBP)
- **Component :** Har Khet Ko Pani (HKKP)
  - Sub component : Command Area Development (CAD)
  - Sub component : Surface Minor Irrigation (SMI)
  - Sub component : Repair, Renovation and Restoration (RRR) of Water Bodies
  - Sub component : Ground Water Development

#### Department of Land Resources, Ministry of Rural Development

- **Component :** Watershed Development

#### Department of Agriculture and Farmers Welfare, Ministry of Agriculture & Farmers Welfare

- **Component :** Per Drop More Crop

### Scheme duration

- Krishi Sinchayee Yojana duration is for a period of 5 years (2015-16 to 2019-20) with a financial outlay of Rs.50,000 crores.
- Accelerated Irrigation Benefit Programme (AIBP), Har Khet ko Paani (HKKP) and Watershed Development components have been approved for continuation during 2021-26 with a financial outlay of Rs. 93,068 crore, including Rs.37,454 crore central assistance to States.

## Guidelines for Designation of Senior Advocates in the SC

### Context

- Supreme Court designated 47 Former High Court Judges as Senior Advocates.

### What do the new guidelines say?

- The new guidelines prescribe the minimum age as 45 years to apply for the 'senior advocate' designation.
- This age limit may, however, be relaxed by the Committee, the Chief Justice of India, or a Supreme Court judge if they have recommended an advocate's name.
- However, no minimum age was prescribed under the 2017 guidelines or even the May 12 SC ruling.
- Although the 2017 guidelines say that the CJI along with "any judge" can recommend an advocate's name for designation, the 2023 guidelines specify that the CJI along with "any Judge of the Supreme Court" may recommend in writing the name of an advocate for designation.
- Previously, the guidelines stated that 15 marks were set aside for publications. However, the new guidelines state that only 5 marks will be given for "publication of academic articles, experience of teaching assignments in the field of law," and "guest lectures delivered in law schools and professional institutions connected with law" combined.
- Besides this, the weightage given to reported and unreported judgements (excluding orders that do not lay down any principle of law) has

increased from 40 to 50 points in the new guidelines.

## Pragati Platform

### Context

- Prime Minister Narendra Modi chaired the meeting of the 43rd edition of PRAGATI involving Centre and State governments.

### PRAGATI

- PRAGATI (Pro-Active Governance and Timely Implementation), as the name suggests, is aimed at starting a culture of Pro-Active Governance and Timely Implementation.
- It is also a robust system for bringing e-transparency and e-accountability with real-time presence and exchange among the key stakeholders. The platform was launched in 2015.

### About

- It is a multi-purpose and multi-modal platform that is aimed at addressing common man's grievances, and simultaneously monitoring and reviewing important programmes and projects of the Government of India as well as projects flagged by State Governments.
- The PRAGATI platform uniquely bundles three latest technologies: Digital data management, video-conferencing and geo-spatial technology.
- It also offers a unique combination in the direction of cooperative federalism since it brings on one stage the Secretaries of Government of India and the Chief Secretaries of the States.
- With this, the Prime Minister is able to discuss the issues with the concerned Central and State officials with full information and latest visuals of the ground-level situation.

### Key features

- It is a three-tier system (PMO, Union Government Secretaries, and Chief Secretaries of the States).
- Prime Minister will hold a monthly program where he will interact with the Government of India Secretaries, and Chief Secretaries

through Video-conferencing enabled by data and geo-informatics visuals.

- Issues to be flagged before the PM are picked up from the available database regarding Public Grievances, on-going Programmes and pending Projects.

## Rashtriya Gokul Mission

### Context

- Only the Gir indigenous cow breed is being promoted under Rashtriya Gokul Mission.

### Rashtriya Gokul Mission (RGM)

- The Rashtriya Gokul Mission is being implemented for development and conservation of indigenous bovine breeds since 2014.
- The scheme is important in enhancing milk production and productivity of bovines to meet growing demand of milk and making dairying more remunerative to the rural farmers of the country.
- The scheme is also continued under umbrella scheme **Rashtriya Pashudhan Vikas Yojna from 2021 to 2026** with a budget outlay of Rs.2400 crore.
- The RGM will result in **enhanced productivity and benefit of the programme, percolating to all cattle and buffaloes of India especially with small and marginal farmers.**
- This programme will also benefit women in particular since over 70% of the work involved in livestock farming is undertaken by women.

### Objectives

- To enhance productivity of bovines and increasing milk production in a sustainable manner using advance technologies.
- To propagate use of high genetic merit bulls for breeding purposes.
- To enhance Artificial insemination coverage through strengthening breeding network and delivery of Artificial insemination services at farmers doorstep.
- To promote indigenous cattle & buffalo rearing and conservation in a scientific and holistic manner.

### Funding Pattern

- All the components of Scheme will be implemented on **100% grant-in-aid basis except the components of:**
  - accelerated breed improvement programme under the component subsidy of Rs 5000 per IVF pregnancy will be made available to participating farmers as Gol share;
  - promoting sex sorted semen under the component subsidy upto 50% of the cost of sex sorted semen will be made available to participating farmers and iii) establishment of breed multiplication farm under the component subsidy upto 50% of the capital cost maximum upto Rs.2.00 crore of the project will be made available to entrepreneur.

### Components of RGM

#### 1. Availability of High genetic Merit Germplasm:

- a. Bull Production Programme
  - Progeny Testing
  - Pedigree Selection
  - Genomic Selection
  - Import of Germplasm
- b. Support to semen stations: Strengthening of existing semen stations.
- c. Implementation of IVF Technology
  - IVF Laboratories
  - Implementation of In Vitro Embryo Production Technology
  - Implementation of IVF technology for getting assured pregnancy
- d. Breed Multiplication Farms

#### 2. Extension of Artificial Insemination Network

- a. Establishment of MAITRIs
- b. Nationwide AI programme
- c. Using sex sorted semen for getting assured pregnancy
- d. Implementation of National Digital Livestock Mission (Livestock)

#### 3. Development and Conservation of indigenous Breeds

- a. Assistance to Gaushalas, Gosadans and Pinjarapoles
- b. Administrative expenditure/ operation of Rashtriya Kamdhenu Aayog

#### 4. Skill Development

#### 5. Farmers Awareness

#### 6. Research Development and Innovation in Bovine Breeding



## 1.8 SNIPPETS

### Rupay NCMC Prepaid Card

APTI PLUS

- State Bank of India has launched the “RuPay NCMC Prepaid Card”.
- The “RuPay NCMC Prepaid Card” will facilitate easy digital ticketing fare payments in metro, buses, water ferries, parking, etc., through a single card.
- In addition, individuals can also use the National Common Mobility Card (NCMC) for making retail and e-commerce payments, India’s largest bank said.
- The Nation First Transit Card, powered by RuPay and National Common Mobility Card (NCMC) technology, is set to revolutionize the commuting experience and is aligned with the national vision of “One Nation, One Card.”



### Ayushman Bhava

APTI PLUS

- Recently, the Ayushman Bhava campaign was launched.
- ‘Ayushman Bhav’ is a public health campaign set to be launched across India for people belonging to economically weaker sections.
- The campaign comprises three key components--Ayushman ApkeDwar 3.0, Ayushman Mela, and Ayushman Sabha.
- The program is aimed to enhance healthcare accessibility and raise health awareness across the nation.



अयुष्मन् भवः



### PM Vishwakarma Scheme

APTI PLUS

- The scheme aims to promote skill development and empowerment among the youth who are engaged in traditional artisan works such as weaving, goldsmithing, blacksmithing, laundry, barbering and others.
- The scheme will have an initial allocation of around ₹13,000 crore to ₹15,000 crore and was launched on the occasion of Vishwakarma Jayanti, which falls on September 17 this year.
- It will provide market linkages to the artisans and craftsmen through various platforms such as e-commerce portals, exhibitions, fairs, festivals etc. It will also facilitate branding, packaging etc.

**PM Vishwakarma**  
Central Social Scheme to support traditional artisans & crafts people of rural and urban India

**Highlights of the Programme:**

- Financial outlay of Rs. 15,000 crore
- 18 Traditional trades to be covered in 1st instance
- Artisans and Craftpeople to be provided recognition with PM Vishwakarma certificate and ID Card
- Credit support upto Rs. 1 lakh (not tranches) and Rs. 2 lakh (one tranche) with concessional interest rate of 5%
- Will provide Skill Upgradation, TechUp Incentive and Incentive for Digital Transactions and Marketing support

**18 Traditional trades to be covered in 1st Instance**

1. Carpenter (Culter)
2. Dool Maker
3. Jeweller
4. Blacksmith (Lohar)
5. Hammer and Tool/Tool Maker
6. Locksmith
7. Goldsmith (Dhawal)
8. Potter (Kumhar)
9. Sculptor (Murali, stone carver), Stone breaker
10. Cabinet (Murali)/Dhawal/Furniture artisan
11. Mason (Murali)
12. Basket/Man/Broom Maker/Cool Weaver
13. Cool & Dry Maker (Dhawal)
14. Barber (Shal)
15. Garment maker (Murali)
16. Watchman (Shik)
17. Tiler (Shal)
18. Fishing Net Maker

Cabinet Decision in August 2023

### Skill India Digital

APTI PLUS

- The Union Minister of Skill Development and Entrepreneurship has launched the Skill India Digital (SID), a comprehensive digital platform that aims to transform India’s skills, education, employment and entrepreneurship landscape.
- The primary mission of SID is to provide industry-relevant skill training, employment opportunities, and entrepreneurial support to empower Indians. Its ultimate objective is to enhance the prospects and future opportunities of individuals across the country.
- SID places a significant emphasis on digital technology and Industry 4.0 skills.
- The platform aligns itself with the G20 framework for establishing Digital Public Infrastructure (DPI) and promoting digital skills and literacy. This alignment reflects international best practices and standards.
- SID serves as an extensive information hub, consolidating data on government initiatives related to skill development and entrepreneurship.



**Skill India**  
कौशल भारत - कुशल भारत

## Free Movement Regime

APTI PLUS

- Manipur Chief Minister has expressed concerns about the free movement regime along the India-Myanmar border and has urged the Union Home Ministry to cancel it.
- The border between India and Myanmar runs for 1,643 km in the four states of Mizoram, Manipur, Nagaland, and Arunachal Pradesh.
- The FMR is a mutually agreed arrangement between the two countries that allows tribes living along the border on either side to travel up to 16 km inside the other country without a visa.
- The FMR was implemented in 2018 as part of India's Act East policy at a time when diplomatic relations between India and Myanmar were on the upswing.



## PM-WANI

APTI PLUS

- The PM-WANI scheme by the Department of Telecommunications aims to increase internet connectivity across the country by implementing a decentralized system of public access points.
- PM WANI (Wi-Fi Access Network Interface) is a scheme meant to increase Wi-fi access throughout the country.
- It is contemplated that the proliferation of public Wi-Fi networks throughout the country will greatly increase internet access at cheap prices.
- Furthermore, the decentralised nature of the WANI ecosystem is meant to address last mile connectivity and allow access points to grow organically in places that need them the most.



## 1.9 1 MAINS & 5 MCQs

**Q1. The Digital India Act 2023 has faced criticism on several fronts. Shed light on the concerns and challenges pertaining to the Act. Suggest a suitable way Forward.**

- Digital India Act 2023 aims to address the emerging challenges of the digital age, providing a regulatory framework for various aspects of cyberspace. While the proposed act covers several important areas, there are notable grey areas, exclusions and potential gaps that merit attention.

### Concerns

- **Surveillance and Privacy Concerns:** Critics argue that certain provisions of the act may grant excessive surveillance powers to the government, potentially compromising privacy rights. Robust safeguards should be

incorporated to protect against abuse of power and violations of privacy.

- **Burdensome Compliance Requirements:** The act's regulations may place a significant burden on businesses, particularly small and medium-sized enterprises (SMEs). Simplified compliance procedures and provisions for capacity-building programs should be considered to alleviate these concerns.

### Way Ahead

- **Freedom of Expression:** The act must strike a delicate balance between regulating harmful content and safeguarding the fundamental right to freedom of expression. Care should be taken to avoid overreach, ensuring that legitimate speech is not unduly restricted.
- **Intermediary Liability:** The act should clarify the liability of intermediaries, such as social

media platforms and online marketplaces, to strike a fair balance between protecting user rights and holding platforms accountable for illegal content. Ambiguities may lead to unnecessary censorship or unjust burdens on intermediaries.

- **Enforcement Mechanisms:** The act should establish robust enforcement mechanisms to ensure compliance. This includes the creation of specialised cybercrime investigation units, training programs for law enforcement agencies, and cooperation with international entities to tackle cross-border cyber threats effectively.
- **Technological Advancements:** The evolving nature of technology necessitates a flexible regulatory framework that can adapt to emerging challenges. The act should incorporate provisions to address future advancements, ensuring its relevance and effectiveness over time.
- **Amendments to relevant provisions for practical implementation:** The Act tries to provide a safe online environment which can

only be done when crimes like doxing, deep fakes are brought under the purview of crimes by making amendments to the IPC. Further, since the Act will replace the IT Act, 2000, there is a need for the proposed Act to fill the gaps that already exist with the earlier act like inclusion of means to facilitate digital evidence and digital forensic across the country.

### Conclusion

- Striking a balance between regulations and preserving fundamental rights, particularly freedom of expression, is crucial.
- The act's impact on the market and intermediaries will depend on effective implementation, addressing compliance burdens, safeguarding privacy rights, and promoting an environment conducive to innovation and growth.
- By addressing these considerations, the act can contribute to a thriving digital ecosystem that benefits individuals, businesses, and the nation as a whole.

**Q2. Consider the following statements with reference to Automated Permanent Academic Account Registry or 'APAAR'.**

1. APAAR will be a lifelong ID number for students for seamless tracking of their academic journey and achievements.
2. APAAR will give each student enrolled from pre-primary to higher education, a unique identification number replacing Aadhaar ID.
3. The enrolment process will be carried out by the school, with the consent of their parents, who will also be able to withdraw their consent at any given point of time.
4. The data will be shared with concerned government agencies if and when required.

**How many of the above-mentioned statements are correct?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**Q3. Consider the following statements with reference to Gyan Sahayak Scheme.**

1. The Gyan Sahayak Scheme is a recent initiative launched by Madhya Pradesh.
2. The basic aim of the Gyan Sahayak Scheme is to keep the education system functioning by filling teacher vacancies permanently.
3. Candidates for Secondary and Higher Secondary Gyan Sahayak must have passed the Teachers Eligibility Test (TET)-2.
4. Primary and secondary school Gyan Sahayaks must be under the age of 25.

**How many of the above-mentioned statements are incorrect?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**Q4. Consider the following statements with reference to the Surrogacy (Regulation) Act, 2021.**

1. The law allows altruistic surrogacy only when there is no exchange of money and when the surrogate mother is genetically related to those looking for a child.
2. The law provides the meaning of 'intending couple' i.e., the couples who intend to become a parent through the procedure of surrogacy and they must be between the ages of 23 to 50 years in case of females and between 26 to 55 years in case of male.

**Which of the above-mentioned statements is/are correct?**

- A) One only
- B) Two only
- C) Both
- D) None

**Q5. Consider the following statements with reference to Curative Petition.**

1. The concept of Curative Petition evolved by the Supreme Court of India in the matter of Rupa Ashok Hurra vs. Ashok Hurra and Anr.
2. Time limit is given for filing the curative petition.
3. Curative petition is inherently guaranteed under Article 137 of the Constitution of India.

4. The petition must state specifically that the grounds mentioned had been taken in the review petition and that it was dismissed by circulation.

**How many of the above-mentioned statements are correct?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**Q6. Setu Bandhan Scheme has been launched by which of the following Ministries?**

1. Ministry of Rural Development
2. Ministry of Tribal Affairs
3. Ministry of Road Transport and Highways
4. Ministry of Transport

**Select the correct answer using the codes given below:**

- A) 1
- B) 2
- C) 3
- D) 4

ANSWERS: 2) C, 3) D, 4) C, 5) B, 6) C

## 2. INTERNATIONAL RELATIONS

### 2.1 CHINA'S GEOPOLITICAL INITIATIVES IN NEPAL

#### Context

- Recently, China and Nepal have signed 12 agreements to enhance Bilateral Cooperation in sectors including trade, road connectivity, and information technology.



#### Details

- Nepal will continue to actively participate in China's Belt and Road Initiative (BRI), Prime Minister Pushpa Kamal Dahal Prachanda has said, laying to rest speculation that he would push Beijing for measures to safeguard Nepal from falling into a debt trap.
- Prachanda, who flew to Hangzhou from New York to witness the inaugural session of the Asian Games, has told Chinese President Xi Jinping that his government will further promote the Trans-Himalayan network as it will "greatly assist" Nepal's national economic development.
- The Trans-Himalayan network, an economic corridor between Nepal and China, is part of the BRI.

#### Agreements Signed between Nepal and China:

- **Cooperation between The National Planning Commission of Nepal and China's National Development and Reform Commission**
- Enhancing digital economy corporation,

- Cooperation on green and low-carbon development
- Cooperation in the fields of agriculture, livestock and fisheries,
- Cooperation in the field of science, technology and innovation; and in the field of Human Resources Development.
- Mechanism to review the Nepal-China trade and payment agreement.

#### How have been China Nepal relations so far?

- **Historical Ties:** China and Nepal have a history of friendly relations, and both countries have often emphasized their respect for each other's sovereignty and territorial integrity.
- **Economic Cooperation:** China has been involved in various infrastructure projects in Nepal, including road construction and hydropower projects. Economic cooperation has been a significant aspect of their relationship.
- **Geopolitical Significance:** Nepal holds geopolitical significance for China, particularly in the context of the Belt and Road Initiative (BRI), where Nepal is considered a key partner in the connectivity projects.
- **Political Engagement:** The political leadership of both countries has engaged in diplomatic dialogues, and high-level visits have taken place over the years to strengthen bilateral ties.
- **Border Issues:** There have been occasional border disputes and discussions between China and Nepal, but both countries have generally managed to address these issues through diplomatic means.

## IMPLICATIONS OF **CHINA'S GROWING PRESENCE** IN NEPAL FOR INDIA

### Strategic Encirclement

China's increased presence in Nepal raises concerns for India regarding the encirclement of its borders. China's involvement in infrastructure projects, particularly in areas close to the Nepal-India border, could have strategic implications.

### Belt and Road Initiative (BRI)

Nepal has expressed interest in participating in China's Belt and Road Initiative, which includes infrastructure projects aimed at enhancing connectivity. India has raised concerns about the strategic implications of BRI and its impact on regional dynamics.

### Security Concerns

The growing influence of China in Nepal may raise security concerns for India. It could impact the regional balance of power and influence, potentially leading to increased competition in South Asia.

### Economic Relations

China's economic investments in Nepal could provide an alternative to Indian investments and influence in the region. This may impact economic ties between Nepal and India, as Nepal seeks to diversify its economic partnerships.

### Trans-Himalayan Connectivity

China has been involved in infrastructure projects that enhance connectivity between Tibet and Nepal. This includes road and rail links that could have strategic implications for India's security concerns, particularly in the context of the Himalayan region.

### Diplomatic Relations

China's increasing influence in Nepal may impact the diplomatic relations between Nepal and India. Nepal's foreign policy choices and alignments may evolve based on its engagements with China.

### Water Resources

The shared water resources, including rivers flowing from Nepal into India, are critical for both countries. China's involvement in hydropower projects in Nepal could impact water-sharing agreements and the management of water resources.



### Cultural and People-to-People Ties

India and Nepal share strong cultural and people-to-people ties. China's increased presence may introduce new cultural and societal influences in Nepal, potentially impacting the traditional ties between India and Nepal.

Sources: xinhuanet.com, s.com.  
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## Concluding Remarks

- **To mitigate the challenges**, India needs to engage proactively with Nepal, enhance development assistance, strengthen economic ties, and foster people-to-people relations.
- **Additionally, India must work on multilateral initiatives** and regional cooperation to counterbalance the expanding Chinese influence in Nepal and ensure stability and prosperity in the region.
- **Diplomacy, dialogue, and collaboration** will be crucial in managing these challenges effectively.

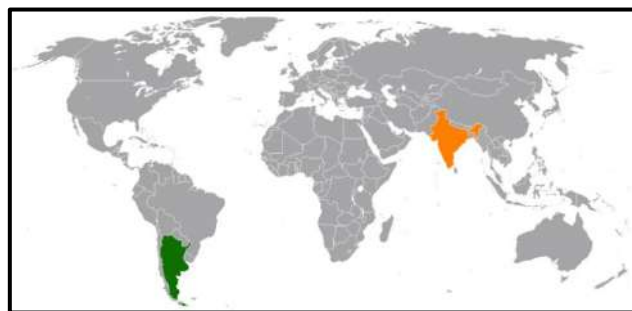
## 2.2 INDIA- ARGENTINA RELATIONS

### Context

- India and Argentina recently signed a 'Social Security Agreement(SSA)' aimed at safeguarding the legal rights of professionals in each other's domains.

### Details

- The Embassy of India said that the 'Social Security Agreement' is aimed at ensuring rights of the growing number of Indian nationals employed in various Indian and international concerns in Argentina as well as for Argentine nationals seeking employment in India.



- India and Argentina signed an agreement to ensure legal rights of professionals in each other's domain that will assist in risk-free international mobility.
- The Embassy of India in a statement said that the '**Social Security Agreement**' is aimed at ensuring rights of the growing number of Indian nationals employed in various Indian and international concerns in Argentina as well as for Argentine nationals seeking employment in India.

### About Social Security Agreement

- **The Social Security Agreement (SSA) between India and Argentina has created a legal framework which will enable professionals on both sides to claim old age and survivor's pensions.**
- That apart it also safeguards "**permanent and total disability pension for employed persons as well as to legislations in Argentina concerning contributory benefits of the Social Security System**".
- It also takes care of factors like "**rent, subsidy and lump sum payments**" as per national laws of both countries. India-Argentina trade ties have been expanding in recent years covering, IT, agriculture, automobile and pharmaceuticals sectors.
  - The agreement **provides rights and benefits to detached workers**, i.e., employees working in another country on a temporary basis, and their family members.
- These benefits include **cash allowances for retirement or pension**, rent, subsidy, or lump sum payments, all as per local legislation, without any reduction, modification, suspension, suppression, or retention.
  - The SSA establishes the legal framework for regulating the **insurance period**, which includes the period of services credited with contributions, contributory benefits, and their export for detached workers.
- This framework also covers crew members of airlines and ships.
  - The agreement addresses legislation concerning contributory benefits of the **Social Security System in Argentina**.
  - The agreement would protect the rights of professionals and workers against loss of benefits or contributions made towards social security in both countries and thus **facilitate greater movement of professionals** and the labour force.

### About India-Argentina Relations

#### Political Relations

- India-Argentina relations were **elevated to the level of Strategic Partnership in 2019** during the State Visit of the President of Argentina.
- The two countries have strengthened their ties in various areas, including political, economic, cultural, and scientific cooperation.
- India established a **Trade Commission in Buenos Aires in 1943**, which later became one of its first embassies in South America.
- Argentina also has diplomatic representations in India. The leaders of both countries have engaged in high-level visits and meetings to enhance bilateral relations.

#### Bilateral Exchanges



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- There have been significant exchanges at the highest level between India and Argentina.
- **Prime Minister Narendra Modi and President Alberto Fernandez had their first bilateral meeting in 2022**, and earlier, President Mauricio Macri and President Cristina Fernández de Kirchner had visited India.
- The foreign ministers of both countries have also held meetings and engaged in discussions to strengthen bilateral ties. These exchanges demonstrate the commitment of both nations to enhancing their relationship.

### Economic and Commercial Relations

- Bilateral trade between India and Argentina has witnessed steady growth.
- **In 2022, the trade volume reached a historic peak of USD 6.4 billion, with India becoming the fourth-largest trading partner of Argentina.**
- Major items of India's exports to Argentina include petroleum oils, agrochemicals, textiles, and organic chemicals, while India imports vegetable oils, leather, cereals, and chemicals from Argentina.
- Several Indian companies, including TCS, Mahindra Comviva, and Infosys, have established operations in Argentina, while Argentine companies such as Globant and OLX have a presence in India.
- Both countries have also signed agreements to promote cooperation in sectors like oil, energy, and defense.

### Cultural Relations and People-to-People Contact

- **India's culture, yoga, philosophy, and spiritual practices have had a significant impact in Argentina.**
- Indian organizations like Brahmakumaris, Art of Living, and ISKCON have a strong following in the country.
- Cultural programs, including India Weeks, India Days, and International Day of Yoga celebrations, are organized in Argentina to promote cultural exchanges.
- The Indian diaspora in Argentina, consisting of NRIs and PIOs, plays an important role in fostering people-to-people contact between the two nations.

### Technical and Development Cooperation

- India has been extending technical and economic cooperation to Argentina through scholarships, training programs, and capacity-building initiatives.
- The **Indian Technical and Economic Cooperation (ITEC) program** has provided opportunities for Argentine nationals to participate in various courses in India.
- Additionally, an **India-Argentina Center of Excellence in IT** has been established in Buenos Aires to promote cooperation in the IT sector.
- The two countries have also collaborated in the field of space research and agriculture.

### **Closing thoughts**

- India-Argentina relations offer ample scope for growth and cooperation, given their shared values as democratic nations committed to multilateralism and sustainable development. While there have been positive steps in various sectors, addressing the challenges and obstacles is essential to realize the full potential of this bilateral partnership.





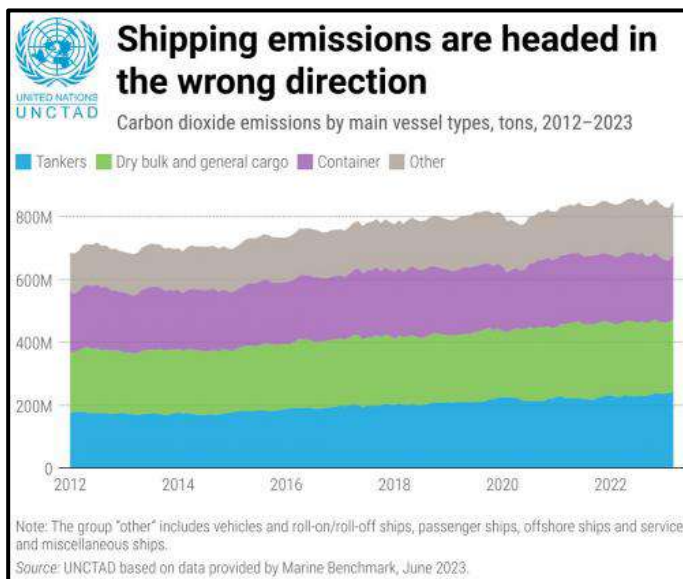
## 2.3 REVIEW OF MARITIME TRANSPORT 2023

### Context

- Recently, the United Nations Conference on Trade and Development (UNCTAD) has released the Review of Maritime Transport 2023, highlighting the Issue of Greenhouse Gas (GHG) Emissions from International Shipping and Challenges in Decarbonization.

### Details

- In 2023, greenhouse gas (GHG) emissions from international shipping were 20 per cent higher than 10 years earlier, according to the Review of Maritime Transport 2023 by the United Nations Conference on Trade and Development (UNCTAD).
- Overall, the shipping industry contributes to over 80 per cent of the world's trade volume and nearly three per cent of global greenhouse gas emissions.



### Key Highlights of the Review

- Due to a crunch in global supply chains as a result of COVID-19**, global maritime shipping volumes experienced a 0.4 drop in 2022. However, it is projected to grow by 2.4 per cent in 2023.
- Containerised trade, which had declined by 3.7 per cent in 2022**, is expected to grow by 1.2 per cent in 2023 and grow further by three per cent between 2024-2028. Oil and gas trade volumes showed robust growth in 2022, while tanker freight rates saw a strong revival driven by geopolitical events.
- Maritime transport needs to decarbonise** as soon as possible, while ensuring economic growth. Balancing environmental sustainability, regulatory compliance and economic demands is vital for a prosperous, equitable, and resilient future for maritime transport.
- Early in January 2023, commercial ships were on average 22.2 years old** and more than half of the world's fleet is over 15 years old. As the average age of the world fleet is increasing, UNCTAD expressed concern that alternative fuels are not yet available at scale

and are more costly, and the ships that can use them are also more costly than traditional ships.

- Ship owners face the conundrum of renewing their fleet without clarity** on technology and regulatory regimes, and port terminals also face similar challenges, particularly with regard to investment decisions.
- As the transition to alternative fuels is still in its infancy, a total of 98.8 per cent** of the global fleet in terms of number of vessels use conventional fuels such as heavy fuel oil, light fuel oil, and diesel/gas oil.
  - Only 1.2 per cent are using alternative fuels**, mainly liquefied natural gas (LNG), and to a lesser extent, battery/hybrid, liquefied petroleum gas (LPG), and methanol.
- Despite the conundrum faced by ship owners**, progress is under way as 21 per cent of vessels currently on order are designed to run on alternative fuels, notably LNG, LPG, battery/hybrid and methanol.
  - Of the 21 per cent of vessels on order**, LNG comprises 52.1 per cent, battery/hybrid: 39.9 per cent, LPG 5.5

- per cent, methanol 3.4 per cent, and hydrogen 0.3 per cent.
- In terms of active tonnage, nearly 6 per cent of the active fleet is operating on alternative fuels, mainly LNG, while one-third of the tonnage on order is designed to run on alternative fuels.
  - It should be noted that while LNG may have a lower carbon footprint than heavy fuel oils, it remains a fossil fuel and faces problems such as methane slip and 'well-to-tank' emissions.

As for batteries, these are more suited for use by vessels operating on shorter distances.

- Estimates show that decarbonising the world's fleet by 2050 could require \$8 billion to \$28 billion annually. The infrastructure for 100 per cent carbon-neutral fuels could need an even heftier \$28 billion to \$90 billion each year. If achieved, full decarbonisation could double yearly fuel costs, the UNCTAD report stated while calling for a bold just transition of the sector.

## 2.4 INDIA TANZANIA RELATIONS

### Context

- Recently, Prime Minister Modi worked to bring Global South together on one platform, and has ensured that the African Union has become a full member of G20: Shri Goyal.



### Details

- India will partner with Tanzania in different sectors like education, skill development, capacity building, culture, energy, climate action, trade settlement in local currencies and in technology.
- India has offered lines of credit to ensure infrastructure development and ensure creation of utilities in Tanzania.
- Tanzania is the biggest export destination of India in Africa and we look forward to making this another fast growing story, Shri Goyal said adding that we can work together to ensure mutual food security, and in pharma sector and the new and emerging space sector.

### About India-Tanzania Relationship

#### Background:

- Tanzania and India have traditionally enjoyed close, friendly, and cooperative relations.
- From the 1960s to the 1980s the political relationship was driven largely by shared

ideological commitments to anti-colonialism and socialism in various.

- Traditional ties and the spirit of mutual cooperation between Tanzania and India have been consistently reinforced through various international co-operations such as the Non-Aligned Movement (NAM) and later through the various initiatives of South-South Cooperation. The most recent example of such South-South solidarity was the 2008 India - Africa summit hosted by India to advance and strengthen the ties between India and Sub-Saharan Africa.
- The traditional ties between India and Tanzania have their historical roots in the migration of Indian traders to East Africa. The colonial dimension played a significant role in migratory patterns. It should be noted that Indian traders, mostly settled in the other British colonies of Kenya and Uganda and the British protectorate of Zanzibar.
- India is the second largest trading partner of Tanzania with bilateral trade of USD 2.37 billion in 2020-21.

#### MOU/agreements

- MOU on Cooperation in the field of water resource management and development;
- Agreement on Joint Action Plan between National Small Industries Corporation of India and Small Industries Development Organization of Tanzania;
- Visa waiver agreement for Diplomatic / Official passport holders (entered into force in December 2016);

- MOU for the Establishment of **Vocational Training Centre at Zanzibar**;
- Line of Credit of USD 92 million for rehabilitation and improvement of the **water supply system in Zanzibar**.

#### **Commercial and Economic Relations**

- India and Tanzania share **vibrant economic, commercial and business ties**.
- India is the **third largest trading partner of Tanzania** with bilateral trade of USD 4.58 billion in 2021-22 (as per DGCI&S data). India is also **among the top five investment sources in Tanzania** and as per Tanzania Investment Centre, Indian investments in Tanzania add up to USD 3.68 billion.
- At present major Indian companies in Tanzania are **Airtel (telecom); Tata Africa Holdings Ltd, Mahindra & Mahindra (tractors), Kamal Group (Steel), Kalpataru (power transmission), Tanzindia (insurance with significant share of Indian PSEs), Larsen & Toubro, Afcons, Hester Biosciences (animal vaccines), Mahashree Agro, Purandare Industries (sugar factory) etc.**
- Hester Biosciences Africa Limited is constructing a USD 18 million **veterinary Vaccines manufacturing factory in Kibaha, Coast Region**.

#### **Bilateral Treaties & Agreements**

**India and Tanzania have signed a number of bilateral Treaties/MOUs/Agreements. They are:**

- Agreement on Friendship & Technical, Economic and Scientific Cooperation (1966)
- Trade Agreements (1972)
- MOU on Technical Cooperation in the field of Posts and Telecommunications (1996)
- Agreement on the **establishment of Joint Business Council** (1997)
- Agreement on establishment of a Joint Trade Committee (2000)
- MOU for Co-operation in the field of Agriculture and Allied Sectors (2002)
- Agreement in the field of Health & Medicine (2002)
- MoU on **Exchange Programme on Co-operation in the field of Education** (2003)

#### **Defence& Security Cooperation**

- India and Tanzania signed a Memorandum of Understanding (MoU) on Defence Co-operation in Oct 2003. The MoU provides an over-arching framework for progressing various defence co-operation initiatives between the two countries.
- In recent years, India and Tanzania have been cooperating in the field of defence training in Indian institutions. Over 550 Tanzanian defence personnel have been trained in India.
- **Hydrography** is another advancing area of cooperation between the two countries. Indian naval survey ships have conducted **hydrographic surveys of Tanzanian ports** and prepared navigational charts.

#### **Culture**

- **Swami Vivekananda Cultural Centre (SVCC), Dar es Salaam** under the **Indian Council for Cultural Relations (ICCR)**, coordinates cultural outreach since its establishment in December 2010. SVCC offers classes in Yoga, vocal music, tabla and Hindi language by Indian teachers.
- In 2021, ICCR sponsored Baba Gorekhnath Gotipua Dance Association from Odisha to perform at prestigious **40th Bagamoyo International Festival in Bagamoyo**, Tanzania.
- An MoU for establishment of **ICCR chair at University of Dar es Salaam (UDSM)** was signed between ICCR and UDSM in 2021. Tanzanian siblings **Kili and Neema Paul** who **lip sync Indian songs**, have a huge following in India.

#### **Concluding Remarks**

- In addition to the booming trade, India and Tanzania have also strengthened their relations through cooperation in human resources, health, education and infrastructure, among other areas.
- The years to come will require increased movement of trade, capital and human resources from both India to Tanzania as well as vice versa.
- The flow of human capital and trade has laid the foundation for a relationship which continues to have a great scope for growth.

## 2.5 ISRAEL-PALESTINE CONFLICT

### Context

- India has issued a statement on the Palestine issue. This was after the Palestinian group Hamas launched rocket attacks on Israel.

### Details

- As Hamas, the militant group ruling the Gaza Strip, mounted one of the most audacious attacks on Israel – many have called it the worst inside the Jewish state's territory since its creation in 1948 – Prime Minister Narendra Modi expressed shock at what he called “terrorist attacks” and conveyed “solidarity with Israel”.
- While the Ministry of External Affairs is yet to come out with an official statement, the Prime Minister's words have been seen as siding with Israel. The horrific visuals of civilians being tortured and killed not as “collateral damage” but as “target” have shocked many.



### About the conflict

Over 200 Israelis and 232 Palestinians were killed in the deadliest escalation of the Israeli-Palestinian conflict in decades.

- After the Ottoman Empire** was defeated in World War I, Britain gained control of Palestine, which was inhabited by a Jewish minority and Arab majority.
- The international community** tasked Britain with creating a Jewish homeland in Palestine, which heightened tensions between the two groups.
- In the 1920s and 1940s**, the number of Jewish immigrants to Palestine increased significantly, as many Jews fled persecution in Europe and sought a homeland in the wake of the Holocaust.
- Friction between Jews and Arabs**, as well as resistance to British rule, intensified. In 1947, the United Nations voted to divide Palestine

into separate Jewish and Arab states, with Jerusalem under international administration. The Jewish leadership embraced the plan, but the Arab side rejected it, and it was never implemented.

- In 1948, unable to end the strife, British authorities** withdrew and Jewish leaders proclaimed the founding of Israel.
- Many Palestinians objected, and a war ensued. Neighboring Arab countries intervened with military force. Hundreds of thousands of Palestinians fled or were driven from their homes in what they call Al Nakba, or “**The Catastrophe**”.

### Emergence of Hamas:

- Over the years, Israel and Palestine have been involved in several skirmishes, some minor, some of catastrophic proportions that led to the deaths of thousands.
- In 1987, Hamas, an acronym for Harakat al-Muqawama al-Islamiya** (Islamic Resistance Movement), a political group with military capabilities, was launched by Palestinian cleric Sheikh Ahmed Yassin as a political arm of the Muslim Brotherhood, a transnational Sunni Islamist organization.
- The two Palestinian uprisings, or 'intifadas', profoundly impacted Israeli-Palestinian relations**, especially the second, which ended the 1990s peace process and ushered in a new era of conflict.
- Both the intifadas had the involvement of Hamas.
- US President Bill Clinton convened the Camp David Summit on July 11, 2000**, bringing together Israeli Prime Minister Ehud Barak and Palestinian Authority Chairman Yasser Arafat for intensive final status negotiations, but the summit ended in no resolution, further worsening relations between the two nations.

### Territorial Disputes of Israel

- Hamas has called on its fighters in the West Bank and the Arab and Islamic worlds to join the battle against Israel.

- In light of the latest conflict, tensions between Israelis and Palestinians in East Jerusalem, Gaza, and the West Bank remain high.
- Israel and Egypt maintain tight control over Gaza's borders in an effort to prevent Hamas from obtaining weapons. This has led to a humanitarian crisis in Gaza, with many people struggling to access basic necessities such as food and water.
- Palestinians in Gaza and the West Bank claim that they are suffering due to Israeli actions, such as the blockade of Gaza, the construction of the West Bank barrier, and the destruction of Palestinian homes.
- Israel contends that it is only acting to defend itself from Palestinian violence, citing the fact that Hamas has fired thousands of rockets into Israeli territory and that Palestinian militants have carried out numerous attacks on Israeli civilians.

#### Oslo Accords:

- **1993:** Under the Oslo Accords Israel and the PLO agree to officially recognize each other and renounce the use of violence. The Oslo Accords also established the Palestinian Authority, which received limited autonomy in the Gaza Strip and parts of the West Bank.
- **2005:** Israel begins a unilateral withdrawal of Jews from settlements in Gaza. However, Israel kept tight control over all border crossings (blockade).
- **2012-** UN upgrades Palestinian representation to that of "non-member observer state".

#### Implications of India with Israel:

- For India, there are wider implications as it raises questions not only about India-Israeli economic cooperation and partnership but also about the welfare and safety of almost 9 million Indians in West Asia.
- There are also concerns over how the conflict could affect the wider region, which is a key source of India's oil and gas, and impact their prices. Experts said rising oil prices could force an increase in the price of gold, which is seen as a more attractive investment hedge.

- There are already signs of a hike in oil prices and if it goes up further in the coming days, it could spur inflation in India and elsewhere.
- India's primary focus for now is the safety of 18,000 Indians currently living and working in Israel.
- Israel is one of India's most reliable strategic partners. In past crises, Israel has stood by India and tried to help it.
- Prime Minister Narendra Modi's prompt response in condemning the terrorist act of Hamas and reaffirming India's commitment to stand by Israel in its hour of crisis indicates how important the country has become for India in recent years.
- But this also raised an important question about India's stand in support of the Palestinian demand for a homeland.



#### **Closing thoughts**

- India's role in multilateral organizations requires "strenuous efforts in cooperation with all related parties to achieve security and stability in the Middle East and West Asia".
- India is currently serving as a non-permanent member of the United Nations Security Council for 2021-22 and was re-elected to the Human Rights Council for the 2022-24. India should use these multilateral forums to act as a mediator to resolve the Israel-Palestine issue.



## 2.6 CHINA-TIBET ISSUE

### Context

- During a recent discussion with reporters in Dharamshala, the Dalai Lama reaffirmed his stance that Tibetans seek greater autonomy within China, emphasizing their desire for self-governance while remaining part of the People's Republic of China.



### Details

- Tibetans are asking for more autonomy, but not political separation, asserted Tibetan leader the Dalai Lama, and said that while he wishes to revisit Lhasa, he would prefer to live on in Dharamshala. Speaking to journalists at his home in Dharamshala on Monday, ahead of what is expected to be a gruelling series of trips around India, including visits to Sikkim, Karnataka, and Bodh Gaya in Bihar this year, the Dalai Lama repeated some of the seemingly conciliatory remarks he has made in the past. China has, however rejected these remarks, accusing the Dalai Lama who has lived in exile in India since 1959 of being a “splittist” or separatist.

### About China-Tibet Issue

- Tibet has been occupied and ruled by China since 1951 in “a calculated and systematic strategy aimed at the destruction of their national and cultural identities.” This has often been described by the Tibetan people and third party commentators as “a cultural genocide”.

- The unsuccessful Tibetan Uprising of 1959, in which Tibetans rebelled in an attempt to overthrow the Chinese government, led to the fleeing of the 14th Dalai Lama to India. He has lived in exile ever since.
- A few hundred Tibetans initially followed the 14th Dalai Lama into exile, and since then hundreds of thousands have followed.

### Chinese Occupation:

- **1935** - The man who will later become the 14th Dalai Lama is born to a peasant family in a small village in Tibet.
- **1949** - Mao Zedong proclaims the founding of the **People's Republic of China (PRC)**, a communist state born out of a brutal and bloody civil war. Zedong threatens Tibet with “liberation”.
- **1950** - The Dalai Lama, now aged 15, officially becomes head of state. 1951 - Tibetan leaders are forced to sign a treaty dictated by China. The treaty, known as the **“Seventeen Point Agreement”**, professes to guarantee Tibetan autonomy and to respect the Buddhist religion but also allows the establishment of Chinese civil and military headquarters at Lhasa (Tibet's capital).
- **The Chinese government regards the Seventeen Point Agreement** as a legal contract that was mutually welcomed by both governments and by the Tibetan people. However, the Tibetan people - including the **14th Dalai Lama** - consider it invalid and as **having been signed under duress**.
- **1950s-** Gradually mounting resentment against Chinese rule leads to outbreaks of armed resistance.

### 1959 Tibetan uprising & its aftermath

- **1959** - Full-scale uprising breaks out in Lhasa. Tens of thousands die when the Chinese brutally suppress resistance.
- **1965** - Chinese government establishes **Tibetan Autonomous Region (TAR)**. The TAR is essentially the area of Tibet within the People's Republic of China. It is the second-largest and least densely populated

- provincial-level division of China. 1966 – Mao Zedong’s Cultural Revolution reaches Tibet and results in the destruction of a large number of monasteries and cultural artefacts.
- **A sociopolitical movement set into motion by Mao Zedong**, the Cultural Revolution’s stated goal was to preserve communist ideology in the country by purging remnants of capitalist and traditional elements and to re-impose Maoist thought as the dominant ideology. The movement paralysed China politically and negatively affected the country’s economy and society to a significant degree.
  - **1987 – The 14th Dalai Lama calls for the establishment of Tibet** as a zone of peace and continues to seek dialogue with China, with the aim of achieving genuine self-rule for Tibet within China.
  - **1988 – China imposes martial law after riots break out. 1989 – The 14th Dalai Lama is awarded the Nobel Prize for Peace.**

- **1993 – Talks between China and the Dalai Lama break down.**

Recent Development:

- **2007 – The Dalai Lama hints** at a break with the centuries-old tradition of selecting his successor, saying the Tibetan people should have a role in the process. He voices support for Tibet’s political leadership to be democratically elected.
- **2008 – Anti-China protests** escalate into the worst violence Tibet has seen in 20 years, five months before Beijing hosts the Olympic Games. Pro-Tibet activists in several countries focus world attention on the region by disrupting progress of the Olympic torch relay
- **In response to the Chinese government’s response**, the 14th Dalai Lama says he has lost hope of reaching an agreement with China about the future of Tibet. He suggests that his government-in-exile could now harden its position towards China.

**2.7 REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP**

**Context**

- Four years after India walked out of the Regional Comprehensive Economic Partnership (RCEP) agreement, neighbours Sri Lanka and Bangladesh are now considering their chances of membership in the 15-nation trading bloc.

**Details**

- Sri Lanka has already applied to join the RCEP. President Ranil Wickremesinghe, who begins a visit to China for the Belt and Road Initiative (BRI) Forum, is expected to seek support for his country’s candidacy in meetings with leaders there.
- The Sri Lankan Presidential Secretariat confirmed the government’s application for the RCEP membership in an August statement, saying that it recognised “the potential of this vast trade bloc comprising major economies like China, Japan, and [South] Korea”.

**About the Regional Comprehensive Economic Partnership**

The RCEP negotiations began in 2012. It was officially signed in November 2020, marking a major milestone in regional trade. It was entered into force on January 1, 2022.



- The Regional Comprehensive Economic Partnership (RCEP) is a landmark trade agreement that aims to promote economic cooperation and integration among countries in the Asia-Pacific region. It represents one of the largest free-trade areas globally and encompasses a significant portion of the world’s population and economic output.
- **Membership:** RCEP includes 15 member countries: The RCEP is a free trade agreement among the Asia-Pacific nations of Australia, Brunei, Cambodia, China, Indonesia, Japan,

South Korea, Laos, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, Thailand and Vietnam.

- RCEP negotiations on a framework for investment “to cover the four pillars of **promotion, protection, facilitation and liberalization**”.

**Purpose:**

- **Trade Liberalization:** RCEP aims to reduce or eliminate tariffs on a wide range of goods and services, facilitating smoother cross-border trade.
- **Market Access:** The agreement enhances market access by simplifying customs procedures, reducing barriers to investment, and promoting the freer movement of goods and services.
- **Economic Integration:** RCEP seeks to deepen economic integration by harmonizing trade rules and regulations, fostering a more seamless flow of goods and services within the region.
- **Supply Chain Connectivity:** The agreement promotes supply chain connectivity and regional economic cooperation, fostering greater efficiency and competitiveness.

**Significance:**

- **Economic Impact:** RCEP covers around 30% of the global economy and is expected to have a substantial economic impact, promoting growth, job creation, and increased business opportunities.

- **Counterbalance to Protectionism:** Against a backdrop of rising protectionism, RCEP symbolizes a commitment to free and open trade, countering the trend of trade barriers and tariffs.

- **Strategic Implications:** RCEP has strategic implications, influencing geopolitical dynamics in the Asia-Pacific region. It reflects a commitment to regional stability and cooperation.



**Challenges:**

- **Diverse Economies:** Member countries have diverse economic structures and levels of development, posing challenges in terms of aligning policies and interests.
- **Sensitivity of Issues:** Certain issues, such as intellectual property rights and agricultural subsidies, remain sensitive and require careful negotiation.

**Closing thoughts**

- The Regional Comprehensive Economic Partnership stands as a significant milestone in fostering economic collaboration in the Asia-Pacific region. Its successful implementation has the potential to reshape trade dynamics, spur economic growth, and contribute to regional stability in an increasingly interconnected global economy.

**2.8 CHINA’S AID TO SRI LANKA**

**Context**

- More than a year after Sri Lanka plunged into an economic crisis, it has reached an agreement with the Export-Import (EXIM) Bank of China to cover about \$4.2 billion of its outstanding debt, according to a statement from its finance ministry on October 11.



**Details**

- India is also involved in the process of negotiating the debt Sri Lanka owes to it, given the island nation’s economic woes.
- But China is the biggest bilateral creditor to Sri Lanka – having lent about \$7 billion of the country’s total foreign debt of \$42 billion (as of 2022).

**Why does Sri Lanka need assistance with its foreign debt?**

- In April 2022, Sri Lanka declared that it had failed to repay its debt of more than \$83



billion, with more than half of it owed to foreign creditors. It also decided to approach the International Monetary Fund (IMF) that month.

- The crisis was years in the making and many factors were responsible, such as President Gotabaya Rajapaksa's government pushing through the largest tax cuts in Sri Lankan history as part of the 2019 elections campaign, impacting the government's revenue sources. Another blow was dealt by the coronavirus pandemic, which hit the tourism industry.
- The war in Ukraine further contributed to fuel shortages. Skyrocketing inflation saw many Sri Lankans take to the streets to protest against their government. By July that year, then-President Rajapaksa resigned.

### How has Sri Lanka planned to tide over its economic crisis?

- In the interim, Rajapaksa had sought help from China and India, particularly assistance on fuel from the latter. A diesel shipment under a \$500 million credit line was signed with India. Later, a \$1 billion credit line for importing essentials, including food and medicine was also extended.
- In September 2022, Sri Lanka qualified for an IMF Extended Fund Facility of \$2.9 billion. Its first tranche of \$330 million came through in March 2023.
- However, the IMF had said that this loan would be based on a "prior action" of securing financing assurances for debt sustainability from its creditors.
- Simply, this meant that some of the debt owed to other countries had to be managed through negotiations (called debt restructuring), for the IMF to financially assist Sri Lanka.

### Concerns and Challenges in Sri Lanka's Debt Negotiations

#### Negotiations and Conditions:

- Sri Lanka has initiated negotiations with bondholders and key bilateral creditors, including China, Japan, and India, to fulfill

conditions set by the International Monetary Fund (IMF). While Sri Lanka received a USD 2.9 billion IMF Extended Fund Facility, it must secure financing assurances for debt sustainability through restructuring.

#### Debt Restructuring Efforts:

- In an effort to alleviate its financial burden, Sri Lanka has requested a 30% reduction in outstanding debt from foreign investors, aiming to reduce its overall debt by USD 16.9 billion.

#### International Participation and Challenges:

- The Paris Group aimed to involve China and India in negotiations collectively, ensuring no preferential terms for any nation. However, challenges arise as China traditionally prefers bilateral negotiations with confidential terms, and India is cautious about joining a platform that excludes China, considering potential implications for military and strategic interests in the Indian Ocean Region.

### China-Sri Lanka Ties: Economic and Strategic Dimensions

#### Largest Bilateral Creditor:

- China holds the position of being Sri Lanka's largest bilateral creditor, and the country heavily depends on Chinese credit to manage its foreign debt.

#### Infrastructure Investments:

- China has invested approximately USD 12 billion in Sri Lanka's infrastructure projects from 2006 to 2019, reflecting a significant economic partnership.

#### China's Presence in the Indian Ocean:

- China's strategic pursuits in the Indian Ocean are noteworthy, and the region provides a more favorable environment compared to Southeast Asia and the Pacific, where China faces geopolitical challenges.

#### India's Concerns:

- India has expressed concerns about China's influence in the region, particularly regarding Sri Lanka's economic crisis potentially aligning its policies more closely with China's interests.

#### Security and Growth Challenges:

- China's involvement in Sri Lanka, including the 99-year lease of the Hambantota port, raises concerns for India's national security. The establishment of a Special Economic Zone around the Colombo port city funded by China further intensifies worries.

#### Strings of Pearls Strategy:

- The strategic encirclement of India by China, often referred to as the Strings of Pearls Strategy, is evident in its economic and infrastructural engagements in the Indian Ocean region.

#### Regional Influence:

- China's influence extends beyond Sri Lanka, as other South Asian nations like Bangladesh, Nepal, and the Maldives turn to China for financing large-scale infrastructure projects.
- In navigating these complex dynamics, Sri Lanka faces the challenge of balancing economic imperatives with regional geopolitical considerations, while China's expanding influence continues to be a focal point for neighboring nations and beyond.

## 2.9 INDIA-MALDIVES TIES

### Context

- India's footprints in Maldives are deep-rooted, both historically and in contemporary relations.

### Details

- Change may occur to some extent due to the change in leadership in Maldives. However, it is unlikely to alter the fundamentals. From Maumoon Abdul Gayoom's years till today, our relations, despite a few hiccups, have been close and friendly. So, let's not judge the situation in a rush.
- Maldives has an area of 90,000 sq km that encompasses 99.6 per cent of the sea.
- The remaining land is distributed over more than 1,200 islands. Experts predict that 80 per cent of the Maldives will cease to exist by 2050 due to "Global Boiling".
- India is the closest neighbour at a distance of 70 nautical miles. Who else could come to assist Maldives in an hour of need?
- Ibn Khaldun, a Tunisian philosopher has said that geography is destiny, and it is true in the case of our two countries. The countries are entwined, not only through geography but also history.



*Maldives with 98 per cent literacy is a nation of contradictions and these pose challenges to democratic governance. These include a constitution that bars anyone non-Sunni to become a Maldivian citizen; a nascent civil society; a tradition of patronage, a problem of increasing drug abuse, a distorted labour market, growing inequality, and an economy dependent on external factors. Also concerning is the growing trend of religious extremism.*



## INDIA-MALDIVES RELATIONSHIP

**About**

- India and Maldives are neighbors as they share a maritime border. Relations have been friendly and close in strategic, economic and military cooperation. India continues to contribute to maintaining security on the island nation.

**Historical relations**

- Both nations' were Britain colonies.
- India was among the first to recognize Maldives after its independence in 1965 and to establish diplomatic relations with the country. India established its mission at Malé in 1972.
- India and Maldives share ethnic, linguistic, cultural, religious and commercial links steeped in antiquity and enjoy cordial and multi-dimensional relations.

**Political Relations**

- India and Maldives have consistently supported each other in multilateral fora such as the UN, the Commonwealth, the NAM and the SAARC.
- High connectivity: High People-to-People contacts, as Air India operates daily flights to Malé from Thiruvananthapuram, Bangalore and Chennai.
- Tourism: The proximity of location and improvements in air connectivity in recent years has led to a very substantial increase in the number of Indians visiting Maldives for tourism (around 33,000) and business.
- Soft diplomacy: India is a preferred destination for Maldivians for education, medical treatment, recreation and business.
- Diaspora: Indians are the second largest expatriate community in the Maldives.

**Importance for India**

- Strategic location: Maldives holds strategic importance for India under the Modi government's 'Neighborhood First' policy due to its location in the Indian Ocean.
- The Eight Degree Channel is one of the major maritime lanes of the world.
- Stability, maturity and democratic system in the Maldives can ensure peace and security in the Indian Ocean.



### Way forward

- Past learning:** Despite repeated calls for intervention, India firmly avoided military action against the Yameen regime. New Delhi thoughtfully coordinated its diplomatic response with other stakeholders, and put enormous pressure on Yameen to hold the presidential elections in a fair and transparent manner. This patience seems to have yielded a positive outcome as India finds itself in an advantageous situation now.
- Cautious approach:** India needs to remain careful if it wants to avoid a Nepal-like situation, where New Delhi's perceived interference in Nepal's internal affairs had turned the Nepali people against India. Having a lighter diplomatic footprint is the only way forward in the Maldives.'

## 2.10 INDIA-QATAR TRADE RELATIONSHIP

### Context

- Eight former personnel of the Indian Navy, who were detained in Doha in 2022, have been sentenced to death by a Qatari court.



### Details

- In the relationship between nations, trade plays a significant role. Central to the ties between New Delhi and Doha is LNG, the fuel on which India is critically dependent – and of which Qatar is the predominant supplier.

- This is the context in which diplomacy around the eight Indians on death row will take place.
- The death sentence given to eight former personnel of the Indian Navy by a court in Qatar presents the biggest challenge yet to New Delhi's historically friendly ties with Doha.
- In the relationship between nations, trade relations play a significant role.
- In the case of India and Qatar, the balance of trade is tilted heavily in the latter's favour – which means imports from Qatar far outweigh India's exports.

### About the India and Qatar Relationship

- Diplomatic relations between India and Qatar were established in 1973.
- India maintains an embassy in Doha, while Qatar maintains an embassy in New Delhi and a consulate in Mumbai.

### Political Relations:

- There has been a regular exchange of high-level bilateral visits. The Amir of Qatar
- H. Sheikh Tamim Bin Hamad Al Thani had paid a State Visit to India in March 2015.
- During this time five MoUs entailing co-operation in several fields were signed.
- Additionally, an agreement on prisoner repatriation was made.
- According to this agreement, citizens of India or Qatar who are convicted and sentenced for a crime can be extradited to their native country to spend the remaining years of their prison sentence.

### Bilateral Trade

- India's bilateral trade with Qatar in 2022-23 was US\$ 18.77 billion.
- India's export to Qatar during 2022-23 was US\$ 1.96 billion and India's import from Qatar was US\$ 16.8 billion.
- Qatar's key exports to India include LNG, LPG, chemicals and petrochemicals, plastics, and aluminum articles.
- India's key exports to Qatar include cereals, copper articles, iron and steel articles, vegetables, fruits, spices, and processed food products, electrical and other machinery, plastic products, construction material,

textiles & garments, chemicals, precious stones and rubber.

- Qatar is the largest supplier of LNG to India, accounting for over 48% of India's global LNG imports and 15% of Qatar's export of LNG.

### Diplomatic visits:

- Emir of Qatar Hamad bin Khalifa al Thani made diplomatic visits to India in April 1999, May 2005 and April 2012.
- In 2016, Prime Minister Narendra Modi arrived in Doha on a two-day visit which was focused on giving a new push to the economic ties, particularly in the hydrocarbon sector.

### Defence and Military relations:

- **During the first-ever diplomatic visit to Qatar** made by Prime Minister Manmohan Singh of India in November 2008, a maritime defence agreement was approved between the two countries.
- The agreement would permit mutual maritime defence training and facilitate mutual visits.
- **An agreement pertaining to law enforcement and national security** was also signed during the meeting.
- This agreement was made with the intent of exchanging classified information in order to assist in suppressing threats raised by extremist elements.
- **As part of these agreements, the inaugural India-Qatar Joint Committee on Defence Cooperation** meeting was hosted in the Qatari capital Doha in 2008.
- **India regularly participates in the biennial Doha International Maritime Defence Exhibition and Conference (DIMDEX)** in Qatar.
- **India has established two Defence Industrial Corridors**, one in Uttar Pradesh and another in Tamil Nadu. Qatari companies can invest in India's defence sector through these corridors.

### Closing thoughts

- Defence and renewable energy are two areas with the potential to forge stronger ties in the coming decades.

- **Emphasizing private partnerships** facilitated by the government is the way to go for the two countries.
- With the invention of cell **electric vehicles**, **hydrogen energy** is an emergent source of

clean fuel, one that holds prospects for bilateral cooperation in the near future.



## 2.11 INTERNATIONAL COMPETITION NETWORK

### Context

- The Competition Commission of India (CCI) has become a part of the prestigious 18-member steering committee of the International Competition Network (ICN) after "consistent efforts"

### Details

- The steering committee is the ICN's apex body.
- **The ICN, comprising 140 competition agencies**, typically provides antitrust authorities with a specialised, yet informal, venue for maintaining regular contacts and addressing practical competition concerns.
- **The ICN is the only global body devoted exclusively to competition law enforcement** and its members represent national and multinational competition authorities.
- **Members produce work through their involvement** in flexible project-oriented and results-based working groups, according to its website.
- **India hosted the bi-annual conference of the competition regulators** of the BRICS grouping after a decade to deliberate on new dimensions of antitrust regulations, among others.
- **The BRICS competition authorities discussed existing and emerging anti-trust issues**, including regulations for digital players and the leniency regime.

### About International Competition Network (ICN)

#### Origins and Recommendations

- The inception of the International Competition Network (ICN) traces back to the suggestions put forth by the International

**Competition Policy Advisory Committee (ICPAC), a committee forged in 1997.**

- This advisory group laid the groundwork for the formation of the ICN, setting the stage for collaborative efforts in the realm of competition policy.

#### Establishment and Global Collaboration

- **Formally established in October 2001**, the ICN arose from the collaborative initiatives of officials **representing 15 competition agencies spanning the globe.**
- This marked the beginning of an international alliance committed to fostering cooperation and addressing practical concerns in the field of competition.

#### Apex Body: The Steering Committee

- At the helm of the ICN is the Steering Committee, **servicing as the apex body guiding its endeavors.**
- This committee plays a pivotal role in steering the course of the network's activities, ensuring a cohesive and effective approach to global competition concerns.

#### Membership and Informal Collaboration

- **Comprising a formidable alliance of 140 competition agencies**, the ICN offers antitrust authorities a specialized and informal platform.
- **It serves as a venue for regular communication**, allowing members to navigate and collectively address practical challenges in the dynamic landscape of competition law enforcement.

#### Leadership and Governance

- **Leadership within the ICN is established through the election of a Chair** from among the representatives of the Steering Group. This election takes place at the ICN Annual Conference during odd-numbered years,

reinforcing the network's commitment to democratic governance and inclusivity.

#### Global Exclusivity and Representation

- As the sole global entity exclusively dedicated to the enforcement of competition law, the ICN boasts a membership that represents both national and multinational competition authorities.
- This inclusive representation underscores its significance as a unifying force in the pursuit of fair and competitive market practices worldwide.

#### Operational Dynamics

- Unlike traditional international bodies, the ICN operates without a formal Secretariat or dedicated premises.
- This unique approach emphasizes the network's agility and adaptability, allowing it to respond effectively to the evolving landscape of competition enforcement without the constraints of a bureaucratic structure.

### What is the Competition Commission of India?

- It is a statutory body **established under the Competition Act, 2002**, tasked with ensuring a fair and healthy competition in economic activities of the country.
- It is to **act as an antitrust watchdog** and ensure that there is no abuse of dominant position by a company in the market.

#### Composition of CCI:

- It is a **quasi-judicial body** which as **one chairperson and six other members**.
- They will all be appointed by the Central Government.
- The Chairperson and members shall be a person of ability, integrity and standing and who, has been, or is qualified to be a judge of a High Court, or, has special knowledge of, and professional experience of not less than fifteen years in international trade, economics, business, commerce, law, finance, accountancy, management, industry, public affairs, administration or in any other matter.

## 2.12 SHORT ARTICLES

### Freedom House Report

#### Context

- Freedom House, a Washington DC-based non-profit organization, has released a new report titled 'Freedom on the Net 2023: The Repressive Power of Artificial Intelligence,' which highlights a concerning trend of declining global Internet freedom for the 13th consecutive year.

#### Details

- **The report, the 13th edition of an annual study of human rights online**, covers developments between June 2022 and May 2023, evaluating Internet freedom in 70 countries, accounting for 88% of the world's Internet users.
- **According to the report, the environment for human rights online has deteriorated in 29 countries**, while only 20 countries registered net gains in Internet freedom. One of the key concerns raised in the report is the increasing use of artificial intelligence by governments for censorship and the spread of disinformation.
- **The report sheds light on the alarming ways in which governments and authoritarian actors are leveraging AI technologies to suppress internet freedom, manipulate information, and monitor citizens.**

#### Key highlights of the report:

#### AI-Powered Censorship Tools



- **Governments are increasingly relying on AI algorithms** to automate the process of content censorship. These tools scan vast amounts of online data and identify content that violates government-defined guidelines.
- **This content could include political dissent, criticism of the government,** or discussions about sensitive social issues. Once identified, this content is swiftly blocked, restricting citizens' access to information and stifling freedom of expression.

#### Identification and Removal of Dissident Content

- **AI algorithms are programmed to recognize keywords,** phrases, or even sentiments that are critical of the government. When such content is detected on social media platforms or websites, AI-powered systems automatically remove or flag it for human review.
- **This process allows authorities to suppress dissenting** opinions, control narratives, and prevent the spread of information that challenges their authority.

#### Generation and Spread of Disinformation

- **AI is employed to create and disseminate** disinformation on a massive scale. These algorithms analyze social and political trends to craft false narratives, which are then strategically spread online.
- **Disinformation campaigns** can manipulate public opinion, influence elections, and create confusion among citizens.
- **AI's ability to target specific demographics amplifies** the impact of these false narratives, making it challenging for the public to discern fact from fiction.

#### Surveillance of Online Activity

- **AI-driven surveillance systems** monitor citizens' online activities, including social media posts, messages, and browsing history.
- These systems analyze patterns in online behaviour, allowing governments to identify individuals who may pose a threat to the established order.
- **This pervasive surveillance creates** a climate of fear, leading to self-censorship as individuals refrain from expressing their opinions freely online to avoid repercussions.

## Transnational Organised Crime

### Context

- The Union Minister of State for Home Affairs participated in the two-day UN Convention against Transnational Organized Crime Ministerial Conference in Palermo, Italy.

### Details

- Minister of State for Home Affairs Shri Nityanand Rai attended two day conference to mark the 20th anniversary of United Nations Convention against Transnational Organised Crimes (UNTOC) at Palermo in Italy. The Ministerial Conference is organised by the Government of Italy and United Nations Office on Drugs and Crimes (UNDOC) Secretariat.
- Addressing a session on '**Legal and Judicial Instruments, National Actions and Challenges**', Minister of State for Home Affairs Shri Nityanand Rai said that India's

ancient philosophy of '**Vasudhaiva Kutumbakam**' - sees all creation as a family. **We are One Earth, One Family, and we share One Future.**

- Minister of State for Home Affairs said that India expresses its strong commitment towards combating and uprooting organized crimes in all its manifestations.
- **He said that organized crime signifies a major global threat.** Advances in technology have been leveraged by organized criminals to rapidly expand their networks. This includes serious challenges posed by illicit trafficking in arms, drug trafficking, organized cyber crimes, human trafficking, corruption, money laundering and international dispersal of proceeds of crime.

*Organised crime is a complex and multifaceted phenomenon that poses a serious threat to the security, stability and prosperity of societies around the world. It undermines the rule of law, erodes public*

trust in institutions, fuels conflict and violence, hampers economic development and violates human rights. Organised crime groups operate across national borders, exploiting legal loopholes, corrupting officials and using violence and intimidation to achieve their illicit goals.

### About the United Nations Convention against Transnational Organized Crime (UNTOC)

#### About

- The United Nations Convention against Transnational Organized Crime (UNTOC) is a landmark treaty that aims to combat the global threat of transnational organized crime.

#### Adoption

- The UNTOC was adopted by the **UN General Assembly in 2000**, after a series of negotiations that began in 1994.
- The treaty was opened for signature in Palermo, Italy, in December 2000, hence it is also known as the **Palermo Convention**.

#### Established

- The treaty entered into force in September 2003, after receiving the required 40 ratifications. As of October 2023, the UNTOC has 147 signatories and 190 parties, including India.

#### Comprehensive Scope

- The UNTOC is a global treaty that addresses a wide range of transnational organized crimes, including but not limited to drug trafficking, human trafficking, migrant smuggling, money laundering, cybercrime, environmental crime, arms trafficking, and terrorism.
- It recognizes the evolving nature of organized crime and provides a framework for dealing with various forms of criminal activities.

## **Asia-Pacific Institute for Broadcasting Development**

### Context

- India has been elected president of the Asia-Pacific Institute for Broadcasting Development (AIBD) General Conference (GC) for the third successive term.

### Details

- The Information & Broadcasting Ministry Secretary, Apurva Chandra, said this was a first in the history of AIBD. The move showed the confidence broadcasting organisations across the Asia Pacific and the world reposed in India.

### About Asia-Pacific Institute for Broadcasting Development:

#### About

- The Asia-Pacific Institute for Broadcasting Development (AIBD) is a **regional inter-governmental organization**.

#### Aim and Establishment

- **It was established in 1977**. Servicing countries of the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) in the field of electronic media development.

#### Purpose

- **The paramount aim of the Institute is to achieve a vibrant and cohesive electronic media environment in the Asia Pacific region through policy and resource development.**

#### Mission

- **Encourages regional dialogue** and cooperation in electronic media policy of the Asia Pacific region;
- **Provides an Asia-Pacific regional platform** for international cooperation in electronic media development;
- **Assists member countries in human resource development** in the electronic media, consistent with their development needs;
- **Assists member countries** with electronic media consultancy.

#### Founding organizations

- The International Telecommunication Union (ITU), the United Nations Development Programme (UNDP), and the United Nations Educational, Scientific and Cultural Organisation (UNESCO) are founding organizations of the Institute and they are non-voting members of the General Conference.
- **The Asia-Pacific Broadcasting Union (ABU) is a founding organization** of the Institute and is a non-voting member of the General Conference.



### Membership

- **Full membership of the AIBD** is confined to sovereign states and they are invited to designate the broadcasting authority of the country to be the beneficiary.
- **The AIBD currently has 26 Full Members (countries)**, represented by 34 organizations, and 67 Affiliate Members (organizations) with a total membership of 101 representing 48 countries and regions and over 50 partners in Asia, Pacific, Europe, Africa, Arab States, and **North America**.

### Headquarters

- It is hosted by the Government of Malaysia and the secretariat is located in **Kuala Lumpur**.

## Agreement on Cooperation in Energy Sector

### Context

- India and Saudi Arabia have signed a Memorandum of Understanding on cooperation in the field of energy.

### Details

- The MoU between the Government of the Republic of India and the Government of the Kingdom of Saudi Arabia was signed in New Delhi on 10th September, 2023, by Union Minister for New & Renewable Energy and Power, Government of India, Shri R. K. Singh for the Indian side and Minister of Energy for the Kingdom of Saudi Arabia, His Royal Highness Abdulaziz bin Salman Al-Saud for the Saudi side.

### According to the MoU, India and Saudi Arabia will cooperate in the following areas:

- **Renewable Energy, Energy Efficiency, Hydrogen, Electricity and Grid Interconnection** between the two countries, Petroleum, Natural Gas, Strategic Petroleum Reserves and Energy Security.
- **Encouraging bilateral investment** in the field of Renewable Energy, Electricity, Hydrogen and Storage; and Oil & Gas.
- **Circular Economy** and its technologies to reduce the effects of climate change, such as: carbon capture, utilization and storage.

- **Promoting digital transformation**, innovation and cyber-security and artificial intelligence in the field of Energy.
- Working on developing qualitative partnerships between the two countries to localize materials, products and services related to all sectors of energy, supply chains and its technologies.
- **Strengthening the cooperation** with companies specialized in the field of energy.
- Any other fields related to the energy field that the two countries agree upon.
- The MoU will develop a stronger partnership between India and Saudi Arabia in the field of energy. The MoU will support India's efforts for energy transition and transformation of global energy system towards combating climate change.

## Comprehensive Nuclear Test Ban Treaty

### Context

- A day after indicating that Russia might revoke its ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT), President Vladimir Putin said on Friday (October 6) that the country would do so to be on level terms with the United States, and not to resume nuclear testing.

### Details:

- **The CTBT is a multilateral treaty that bans all nuclear explosions**, whether for military or peaceful purposes. Although it was adopted by the United Nations General Assembly in 1996, it's still in the ratification stage – 18 countries are yet to ratify (the process by which a state indicates its consent to be bound to a treaty).
- **While Russia ratified the agreement in 2000**, the US is still to do so.
- The United States conducted the world's first successful nuclear weapons test in July 1945. Four years later, the Soviet Union tested their first nuclear weapon.
- **These tests triggered a decades-long arms race between the two superpowers**. Between 1945 and 1996, more than 2,000 nuclear

tests were carried out – 1,032 of them by the United States and 715 of them by the Soviet Union, according to the UN. Britain carried out 45 tests, France 210 and China 45.

### About the Comprehensive Nuclear Test Ban Treaty:

#### About

- The Comprehensive Nuclear-Test-Ban Treaty (CTBT) is an **international treaty** aimed at preventing all forms of nuclear explosions for both civilian and military purposes.

#### Objective

- **The primary goal of the CTBT** is to prohibit all nuclear explosions for both civilian and military purposes to prevent the testing and development of new nuclear weapons.

#### Negotiation and Adoption

- **Negotiations for the CTBT began in 1994** at the United Nations Conference on Disarmament. The treaty was adopted on September 10, 1996.

#### Verification and Monitoring

- **The CTBT establishes a global verification regime** to monitor compliance with the ban on nuclear testing. It includes a network of monitoring stations that detect seismic, hydroacoustic, and radionuclide signals associated with nuclear explosions.

#### Entry into Force

- **The CTBT has not entered into force because it requires ratification by 44 specific countries, including the P5** (the five recognized nuclear-armed states under the Nuclear Non-Proliferation Treaty: the United States, Russia, China, France, and the United Kingdom). Until all Annex 2 countries ratify, the treaty remains in a state of limbo.

## **United Nations World Tourism Organisation**

### Context

- The Prime Minister, Shri Narendra Modi, today hailed the Dhordo village in Kutch district of Gujarat for being awarded as the Best Tourism Village by the United Nations World Tourism Organization (UNWTO).

### Details:

- Absolutely thrilled to see Dhordo in Kutch being celebrated for its rich cultural heritage and natural beauty. This honour not only showcases the potential of Indian tourism but also the dedication of the people of Kutch in particular.

### About United Nations World Tourism

#### Organisation:

- The United Nations World Tourism Organization (UNWTO) is a specialized agency of the United Nations responsible for promoting responsible, sustainable, and universally accessible tourism. Established in 1974, UNWTO plays a crucial role in coordinating global efforts to ensure that tourism contributes positively to economic development, cultural preservation, and environmental sustainability.

#### Key Objectives:

- **Sustainable Tourism:** UNWTO advocates for sustainable tourism practices that minimize the negative impacts on the environment and local cultures while maximizing the positive contributions to host communities.
- **Global Collaboration:** Facilitates international cooperation and collaboration among member countries, private sector stakeholders, and non-governmental organizations to address common challenges and promote best practices.
- **Tourism as a Tool for Development:** Recognizes tourism as a driver of economic growth, job creation, and poverty alleviation, particularly in developing countries.
- **Research and Policy Development:** Conducts research, provides data, and develops policies to guide sustainable tourism practices globally. This includes addressing issues such as climate change, digital transformation, and innovation in the tourism sector.
- **Capacity Building:** Supports member countries in enhancing their tourism-related capacities, including training and skill development for local communities, governments, and businesses involved in the tourism industry.
- **Crisis Management:** Assists countries in managing tourism-related crises, such as

natural disasters, health emergencies, or geopolitical events, to minimize the impact on the industry and local communities.

#### Key Initiatives:

- **Global Code of Ethics for Tourism:** UNWTO has developed a Global Code of Ethics for Tourism, emphasizing responsible and sustainable tourism practices that respect the rights of local communities and preserve cultural heritage.
- **Tourism for SDGs (Sustainable Development Goals):** Aligns tourism efforts with the broader United Nations Sustainable Development Goals, ensuring that tourism contributes positively to poverty reduction, environmental sustainability, and social inclusivity.
- **UNWTO Academy:** Provides training programs, capacity-building initiatives, and educational resources to enhance the skills and knowledge of tourism professionals worldwide.
- **International Year of Sustainable Tourism for Development (2017):** Declared by the United Nations, this initiative aimed to raise awareness about the contribution of sustainable tourism to development and promote actions towards positive change.

## UN approved Multinational Security Mission in Haiti

#### Context

- Recently, the United Nations Security Council (UNSC) has approved the Multinational Security Mission (MSS), led by Kenya, to restore security, protect critical infrastructure and control spiraling violence in Haiti.

#### Details:

- Around a year after Haiti approached the United Nations seeking urgent help to combat deadly gang violence, the United Nations Security Council (UNSC) has approved international intervention in the form of a foreign security mission, led by Kenya, to restore security, protect critical infrastructure and control spiralling violence in the country.

- On October 2, the Council voted to adopt the resolution drafted by the United States and Ecuador, with 13 of the 15 members voting in favour of the mission.
- Condemning widespread violence, criminal activities and human rights abuses that have undermined the peace and security of the region, the member countries decided that the mission may adopt urgent temporary measures in coordination with the Haitian National Police.

#### Haiti's Urgent Appeal for Assistance Amidst Escalating Violence:

- Haiti is grappling with a surge in gang violence, particularly by the "G9 and Family" group, disrupting critical infrastructure such as the main fuel port and the capital city, Port-au-Prince. This has led to a nationwide crisis, resulting in significant human suffering.

#### Humanitarian Crisis:

- Between October 2022 and June 2023, nearly 2,800 people have lost their lives, with human rights groups noting a concerning increase in sexual violence and crimes against women. Widespread looting and house burnings have forced approximately 200,000 individuals to flee their homes, leaving almost half of the population in dire need of humanitarian assistance.

#### International Plea:

- In response to the escalating crisis, Haiti's Prime Minister has urgently sought assistance from the international community. The plea includes a request for specialized armed forces to counter the gangs and their supporters.

#### Multinational Security Mission (MSS):

- Unlike the previous UN peacekeeping mission in 2017, the new MSS is not under UN operation. Kenya has volunteered to lead the force, receiving support from other nations, including the Bahamas, Jamaica, and Antigua and Barbuda.

#### Role and Objectives:

- The MSS is tasked with providing operational support to the Haitian National Police, improving security conditions, safeguarding critical infrastructure, and facilitating the

conduct of elections. The force is authorized to make arrests in coordination with the Haitian police.

- Haiti's plea underscores the critical need for swift and coordinated international intervention to address the multifaceted challenges posed by the escalating violence and humanitarian crisis in the country.

## Inter-Parliamentary Union

### Context

- In an interaction with the President of the Inter-Parliamentary Union, Duarte Pacheco, Vice President Jagdeep Dhankhar focused on the importance of inter-parliamentary cooperation and the role of the IPU in providing a platform for Parliamentarians to discuss wide-ranging issues relevant to contemporary times.



### Details:

- The 147th Inter-Parliamentary Union (IPU) Assembly will take place in Luanda, Angola, from 23-27 October and WHO is actively engaged in this prestigious event.
- As a vital platform for parliamentary activity, the IPU Assembly provides an invaluable opportunity to foster collaboration and shape global health policies. At this year's Assembly, WHO will be organising two main events which will focus on two key priorities that hold great significance for the future of global health.

### About Inter-Parliamentary Union:

#### About

- The Inter-Parliamentary Union (IPU) is an international organization that serves as a

forum for parliamentary dialogue, cooperation, and diplomacy. Established in 1889, the IPU works to promote peace, democracy, and human rights by facilitating collaboration among national parliaments and parliamentarians across the globe.

### Objective

- **Promoting Dialogue:** The IPU provides a platform for parliamentarians to engage in dialogue, share experiences, and discuss common challenges and solutions.
- **Advancing Democracy:** It actively supports and promotes democratic governance, emphasizing the importance of parliamentary institutions in the democratic process.
- **Human Rights Advocacy:** The IPU is committed to upholding human rights and works to ensure that parliamentarians play a role in advancing these principles globally.

### Membership and Headquarters

- The IPU is made up of 179 Member Parliaments and 14 Associate Members.
- Geneva, Switzerland

### Activities and Initiatives

- **Global Parliamentary Summits:** The IPU organizes regular conferences and summits, bringing together parliamentarians to discuss global challenges, share insights, and build collaborative networks.
- **Capacity Building:** The IPU offers programs and initiatives to enhance the capacity and skills of parliamentarians, supporting their effective contribution to governance.
- **Women in Politics:** The organization actively advocates for the increased participation of women in politics and parliament, addressing gender imbalances and promoting inclusivity.

### Challenges and Opportunities

- While the IPU has played a crucial role in fostering parliamentary cooperation, challenges include addressing geopolitical tensions, ensuring equal representation, and responding effectively to global crises. Opportunities lie in leveraging parliamentary diplomacy to address pressing global issues, from climate change to human rights.

# International Migration Outlook 2023

## Context

- International Migration Outlook 2023 highlights developments in policy responses to climate change displacements.

## Details:

- India saw the highest migration flows to Organisation for Economic Co-operation and Development (OECD) countries in 2021 and 2022, according to the 'International Migration Outlook 2023' released on the evening of October 23.
- India replaced China as the main country of origin of new migrants to OECD countries in 2020.
- In 2021, for the second consecutive year, India, with 0.41 million new migrants, was the top country of origin. According to partial data, it was at the top in 2022 as well.

## Key highlights of the report:

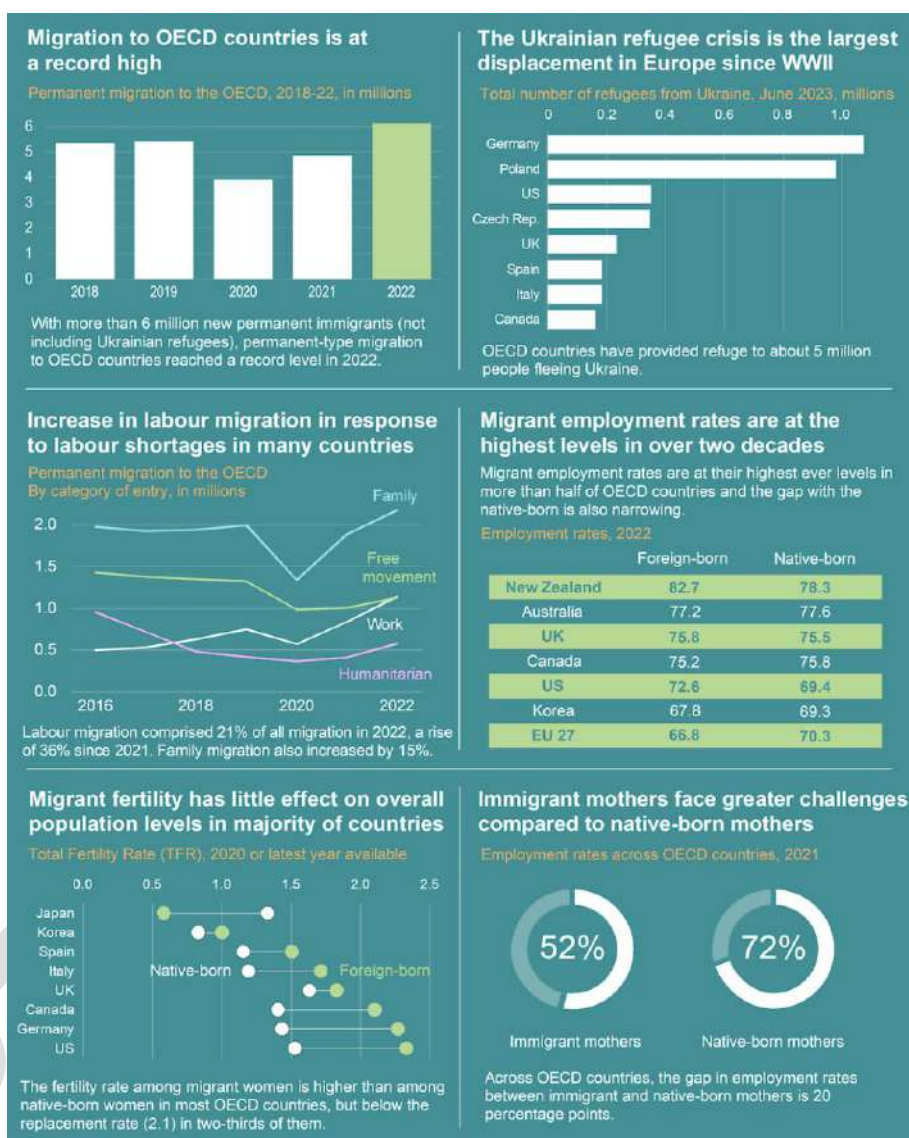
### Dominance in Migration

- In both 2021 and 2022, India emerged as the predominant source of migration to OECD countries, outpacing even China.
- With a consistent influx of 0.41 million new migrants each year, India took the lead, while China followed with 0.23 million new migrants.
- Romania secured the third spot with around 200,000 new migrants.

### Addressing Climate-Induced Displacement

- The report emphasizes the growing attention towards policy responses to climate-induced displacement.
- While few OECD countries have explicit policies in place, Colombia made significant strides by initiating discussions on a groundbreaking bill in April 2023.
- The bill aims to recognize and support climate-displaced individuals, offering provisions for housing, healthcare, education, and a comprehensive national register.

### Unprecedented Refugee Inflows and Worker Migration



- **The OECD region witnessed record refugee inflows** due to the Russia-Ukraine conflict, resulting in over 10 million people being internally displaced or seeking refuge.
- **Notably, India, Uzbekistan, and Turkey** witnessed substantial increases in worker migration, solidifying their positions as significant source countries alongside Ukraine.

#### Evolution of International Migration Trends

- **The top four destination countries**—The United States, Germany, the United Kingdom, and Spain—recorded substantial year-on-year increases ranging between 21% and 35%.
- **Canada, the fifth destination country**, experienced a comparatively smaller increase at 8%.
- **The United States alone accounted for 1.05 million new permanent-type migrants**, with the other top four countries hosting between 440,000 and 650,000 migrants each.

#### Shifts in Permanent-Type Migration Categories

- **In 2022, family migration retained its status as the primary category** for new permanent-type migrants, constituting 40% of all migration in this category—a relatively stable share over time.
- **Notably, the share of labour migration has witnessed an upward trajectory**, comprising 21% in 2022 compared to 16% in 2019.
- **Conversely, free movement migration within the EU-EFTA and between Australia and New Zealand** saw a decline, accounting for 21% in 2022, down from 28% in 2019.
- **This reflects an evolving landscape in migration patterns** within the OECD region.

## Montreux Convention

### Context

- Türkiye imposes restrictions on the passage of warships in its straits under the Montreux Convention.

### Details:

- The Turkish Ministry of National Defence recently announced that it will impose restrictions on the passage of warships belonging to countries not bordering the Black Sea within the framework of the Montreux Convention.

### About Montreux Convention:

- **The agreement pertaining to the Dardanelles Strait and the Bosphorus Strait**, commonly recognized as the Turkish Straits or the Black Sea straits, is outlined in the 1936 Montreux Convention Regarding the Regime of the Straits.
- This accord holds paramount importance as it designates Turkey as the custodian of the Turkish Straits, the sole maritime passage linking the Black Sea and the Mediterranean Sea.

### Turkish Control:

- **Enshrined within the Montreux Convention**, Turkey assumes control over the Turkish Straits. Notably, in times of war, this pact grants Turkey the authority to regulate the transit of naval warships and to potentially block the straits for warships affiliated with the nations engaged in the conflict.

### Freedom of Passage:

- **Merchant vessels are granted unhindered freedom** of passage through the Turkish Straits, a provision fundamental to international maritime trade.
- However, distinct regulations come into play for vessels of war, introducing a nuanced approach based on whether these vessels belong to the Black Sea littoral States or not.

### Restrictions on Vessels of War:

- **Vessels of war from non-littoral States encounter** specific constraints outlined in the Montreux Convention. These limitations encompass factors such as maximum aggregate tonnage and the duration of stay in the Black Sea.
- **These measures are in addition to general restrictions applicable to all naval vessels transiting** the Turkish Straits during times of peace or war.

### Dynamic Restrictions:

- The restrictions placed on vessels of war reflect a dynamic interplay between Turkey's sovereignty over the Turkish Straits and the geopolitical context.
- These measures aim to balance the strategic interests of the littoral States and the broader international community, ensuring the security and stability of the region.

### Contemporary Relevance

- The Montreux Convention remains a crucial instrument in the geopolitics of the Black Sea region.
- Its provisions, crafted in response to historical and geopolitical realities, continue to shape the dynamics of naval transit through the Turkish Straits, highlighting the enduring significance of this international agreement.

## 2.13 1 MAINS & 5 MCQs

**Q1.** *In the context of their 50-year diplomatic partnership, how can future areas of collaboration between India and Qatar be examined? Explain.*

### **Introduction**

- India and Qatar have forged a robust diplomatic partnership spanning five decades, marked by mutual respect and cooperation. As these two nations look ahead, examining potential areas of collaboration becomes imperative to further enhance their bilateral ties.

### **Body**

- **Economic Collaboration:** One promising avenue lies in the economic sphere. Strengthening trade ties and exploring joint investment opportunities can foster economic growth for both nations.
  - Leveraging India's technological expertise and Qatar's strategic investments can create a win-win scenario, particularly in sectors like energy, infrastructure, and technology.
- **Energy Security:** Given Qatar's prominence in the global energy market and India's ever-growing energy needs, a deeper collaboration in the energy sector holds immense potential.
  - Exploring partnerships in renewable energy, liquefied natural gas (LNG), and sustainable practices can not only address India's energy demands but also

contribute to Qatar's diversification efforts.

- **Cultural and Educational Exchanges:** Cultural and educational exchanges provide a foundation for people-to-people connections. Strengthening ties in areas like science, technology, and academic research can create a knowledge-sharing ecosystem.
  - This not only benefits both nations but also fosters a deeper understanding of each other's cultures.
- **Security Cooperation:** In an era of evolving geopolitical challenges, security cooperation is paramount. Collaborating on counter-terrorism efforts, cybersecurity, and maritime security can contribute to regional stability.
  - Joint military exercises and intelligence-sharing mechanisms can further solidify the security dimension of their partnership.

### **Conclusion**

- The future collaboration between India and Qatar holds vast potential across economic, cultural, and security domains. As they navigate the next phase of their diplomatic journey, a strategic focus on these areas can not only deepen their bilateral relations but also contribute to regional and global stability. The 50-year milestone serves as a foundation for an even more dynamic and mutually beneficial partnership in the years to come.

**Q2. Consider the following statements with reference to Asia-Pacific Institute for Broadcasting Development (AIBD)**

1. The Asia-Pacific Broadcasting Union (ABU) is a founding organization of the Institute.
2. It is hosted by the Government of China and the secretariat is located in Beijing.
3. Full membership of the AIBD is confined to sovereign states and they are invited to designate the broadcasting authority of the country to be the beneficiary.

**How many of the above statements are incorrect?**

- A) Only 1
- B) Only 2
- C) All 3
- D) None

**Q3. Consider the following statements with reference to the Inter-Parliamentary Union (IPU):**

1. The Inter-Parliamentary Union is a founding organization of the United Nations.
2. The IPU is headquartered in Geneva, Switzerland.
3. Full membership in the IPU is open to both sovereign states and regional parliamentary organizations.

**How many of the above statements are correct?**

- A) Only 1
- B) Only 2
- C) All 3
- D) None

**Q4. Consider the following statements regarding the United Nations World Tourism Organization (UNWTO):**

1. The UNWTO is a founding agency of the United Nations specialized in tourism.
2. The headquarters of UNWTO is located in Madrid, Spain.
3. Full membership in the UNWTO is open to both sovereign states and non-sovereign entities with a significant role in tourism.

**How many of the above statements are correct?**

- A) Only 1
- B) Only 2
- C) All 3
- D) None

**Q5. What international agreement, often referred to as the "key to the Black Sea," grants Turkey control over the Turkish Straits, allowing it to regulate the passage of naval warships in times of conflict?**

- A) Treaty of Sevres
- B) Treaty of Lausanne
- C) Montreux Convention
- D) Treaty of Ankara

**Q6. Consider the following statements about the International Competition Network (ICN):**

1. The International Competition Network is a global organization dedicated to addressing competition law and policy issues.
2. Its primary goal is to promote international cooperation among competition authorities to enhance the effectiveness of antitrust enforcement worldwide.

**Which of the statements given above is/are correct?**

- A. 1 only
- B. 2 Only
- C. Both 1 and 2
- D. Neither 1 nor 2

ANSWERS: 2) A, 3) B, 4) B, 5) C, 6) C



## 3. ECONOMY

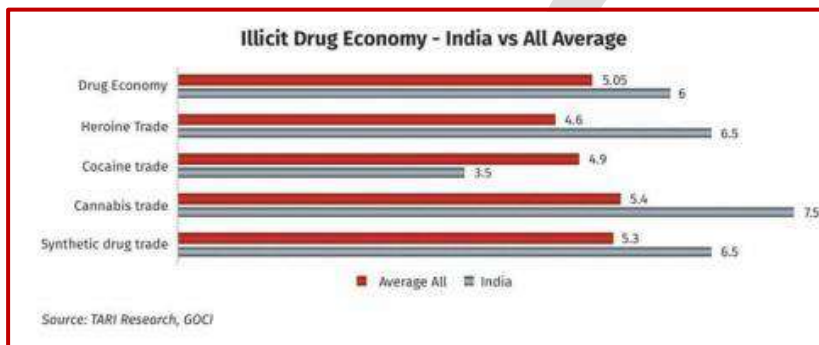
### 3.1 ILLICIT TRADE IN INDIA

#### Context

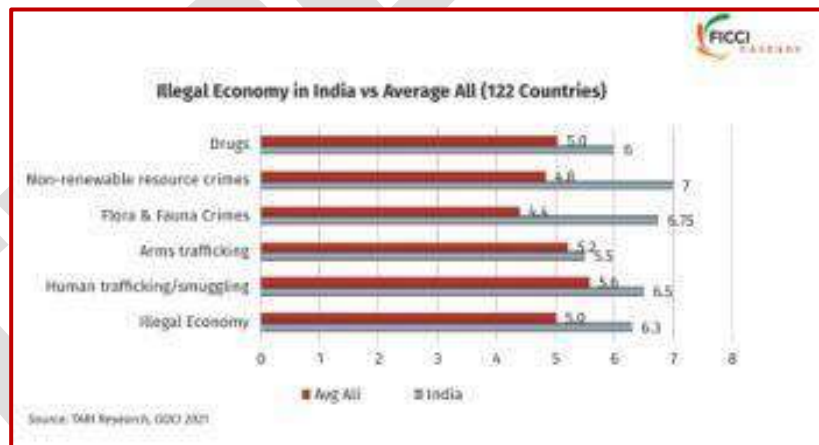
- In the last financial year, significant quantities of gold, cigarette sticks, red sanders, and heroin were seized, indicating the magnitude of illegal activities in the country.

#### Details

- According to the FICCI CASCADE report, **India's illegal economy scored 6.3, higher than the average score of 5 for 122 other countries.** Criminal networks, although fewer in number, are widespread in India and engage in various unlawful activities, generating substantial illicit financial flows.



- India faced potential revenue losses due to mis-invoiced imports and exports, amounting to \$13 billion.** Import mis-invoicing alone caused a financial loss of \$9 billion. The uncollected value-added tax (VAT) was \$3.4 billion.



- India's organized crime actors had a score of 4.3 out of 10, lower than the average benchmark of 5.2 for 122 countries. However,

**criminal networks in India had a significant influence**, scoring 6, higher than the average score of 5.8 for 122 countries.

- India's proximity to major drug-producing regions led to an increase in the illicit drug trade. The FICCI report recorded 3,172 cases of drug seizures during 2014-2022, involving 3.33 lakh kg of drugs worth Rs 20,000 crore.

#### Illicit Trade in India

- Illicit trade, encompassing a **variety of illegal activities such as smuggling, counterfeiting, tax evasion, and organized crime**, has emerged as a significant challenge for India. With a rich historical and cultural background, India's economic growth and global integration have also attracted various forms of illegal trade.

- Illicit trade is often **driven by the lure of high profits**. Criminal networks engage in smuggling and counterfeiting due to the significant financial gains involved.
- High demand for cheap goods, drugs, and other illicit products** fuels these markets. Poverty and lack of opportunities in certain regions create a supply of willing participants.
- Widespread corruption within law enforcement agencies** enables the smooth

#### Reasons behind Illicit Trade

movement of illegal goods. Corrupt officials provide safe passage for smugglers, perpetuating the cycle of illicit trade.

- **India's integration into the global economy** has increased the volume of legal trade, making it challenging to monitor all transactions effectively. Illicit goods can easily be camouflaged within legitimate trade flows.

#### Socio-Economic Impact of Illicit Trade

- **Illicit trade results in substantial revenue losses for the government** due to tax evasion and illegal activities. These losses hinder economic development and the government's ability to fund essential services and infrastructure projects.
- **Counterfeit medicines, alcoholic beverages, and other products pose significant health risks to consumers.** The consumption of adulterated or fake products can lead to illnesses and, in severe cases, fatalities.
- **Funds generated from illicit trade often flow into organized crime and terrorism.** These illegal funds finance extremist activities, posing a direct threat to national security and stability.
- **It distorts markets by flooding them with cheap counterfeit goods.** Legitimate businesses suffer as consumers are lured by lower prices, leading to unfair competition and market imbalances.
- **It undermines government initiatives for economic and social development.** Funds that could have been utilized for public welfare are

lost due to illegal activities, hindering progress in various sectors.

#### **Steps taken by India to combat Illicit Trade**

- **India has invested in training law enforcement agencies, equipping them with the necessary skills** and tools to combat smuggling and illicit trade effectively. Strengthening border security has been a priority to curb cross-border illegal activities.
- **India collaborates with international agencies such as Interpol and cooperates with neighbouring countries** to share intelligence and coordinate efforts against transnational crime networks.
- **Implementation of technology, including blockchain and digital tracking systems,** has been initiated to trace the movement of goods. These technological advancements help in identifying counterfeit products and tracing their origins.
- **The government has introduced policy reforms, such as stricter regulations and penalties for offenders,** to deter illegal trade activities. Trade policies are continuously reviewed and updated to address emerging challenges.
- **Public awareness campaigns** are conducted to educate consumers about the dangers of purchasing illicit products. These campaigns aim to reduce demand by informing the public about the risks associated with counterfeit and smuggled goods.

#### Challenges Faced in Combating Illicit Trade

- **India shares borders with multiple countries,** making it challenging to monitor and control illegal cross-border activities effectively. **Smugglers exploit these porous borders for the movement of goods.**
- Corruption within law enforcement agencies and customs offices provides a conducive environment for smugglers and criminals. Corrupt officials enable the smooth passage of illegal goods, making enforcement difficult.
- **Limited resources and manpower hinder effective monitoring and enforcement efforts.** The vast expanse of the country necessitates significant investments in infrastructure and human resources for efficient border control.
- **Criminals constantly adapt to new technologies,** making it necessary for law enforcement agencies to stay ahead. The rapid evolution of digital platforms and encrypted communication channels poses challenges in monitoring illegal activities online.

## Way Forward

- **Strengthening collaboration with neighbouring countries and international organizations** is crucial. Joint operations and intelligence sharing can help track and dismantle transnational criminal networks.
- **Continued investment in advanced technologies**, such as artificial intelligence, machine learning, and data analytics, is essential. These technologies enhance surveillance, detection, and analysis capabilities, enabling authorities to identify patterns and track illicit trade routes.
- **Implementing stricter penalties for offenders**, including both individuals and organizations, is necessary to deter participation in illicit trade. Additionally, strict enforcement of laws and regulations is vital to curb illegal activities effectively.
- **Collaboration between government agencies, private sector companies, and civil society organizations** can create a united front against illicit trade. Public-private partnerships can facilitate information exchange, resource sharing, and joint initiatives to combat illegal activities.
- **Enhancing cyber security measures is crucial to address the growing threat of online illegal activities.** Investing in cyber security infrastructure and expertise can help prevent cybercrimes related to illicit trade, including online fraud and identity theft.
- **Engaging local communities and educating them about the consequences of illicit trade** can create a network of vigilant citizens. Community members can act as informants, reporting suspicious activities to law enforcement authorities.
- **Developing a comprehensive policy framework that addresses the root causes of illicit trade is essential.** This includes not only law enforcement measures but also social and economic interventions to uplift marginalized communities and reduce the incentives for engaging in illegal activities.
- **Investing in research and data analysis can provide valuable insights into the dynamics of illicit trade.** Understanding market trends, supply chains, and consumer behaviour can aid authorities in formulating targeted strategies to combat specific types of illegal activities.

## Conclusion

- Illicit trade in India is a complex and multifaceted challenge that requires a holistic and coordinated approach. Addressing the root causes, strengthening law enforcement, enhancing international cooperation, and investing in technology are essential components of an effective strategy. By adopting a comprehensive and proactive approach, India can mitigate the socio-economic impact of illicit trade, ensuring sustainable development, national security, and public

## 3.2 GLOBAL INNOVATION INDEX 2023

### Context

- India has retained its 40th rank out of 132 economies in the Global Innovation Index 2023 rankings published by the World Intellectual Property Organization (WIPO).

### Factors contributing to India's achievement

- **India's emphasis on education and research has created a well-educated workforce, providing a strong foundation for innovation.** Skilled professionals are vital contributors to the country's innovative capabilities.
- **India's thriving start-up ecosystem has driven innovation with fresh and disruptive ideas**, enhancing the country's innovation profile. Start-ups have made significant contributions across various industries, adding to India's innovative landscape.
- **Public and private research organizations**, including government departments such as Science and Technology, Biotechnology, Space, and Atomic Energy, have supported innovation initiatives. Their contributions have spanned diverse sectors, fostering innovation and research.

- **Government departments and ministries have actively promoted innovation through policies and programs.** Support and funding have enabled innovative projects in electronics, telecommunications, agriculture, and healthcare sectors, among others.
- **The Atal Innovation Mission has nurtured innovative ideas among students and young entrepreneurs.** It has provided a platform for innovation and entrepreneurship, fostering a culture of creativity and initiative.
- **NITI Aayog has promoted policy-led innovation in critical sectors** such as electric vehicles, biotechnology, nanotechnology, space, and alternative energy sources. Expansion of innovation ecosystems to different regions has positively impacted India's innovation landscape.

### Highlights of the Global Innovation Index (GII) 2023

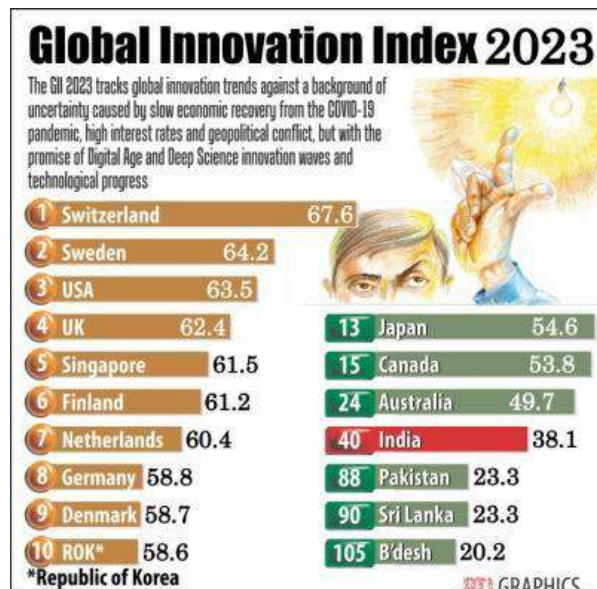
- It is **published by the World Intellectual Property Organization (WIPO)** in collaboration with Cornell University, INSEAD, and other institutions; the GI serves as a crucial benchmarking tool for policymakers, business leaders, and stakeholders to assess a country's progress in innovation.
- **GII 2023 ranking:**
  - **Switzerland ranked 1st**, followed by Sweden (2nd) and the United States (3rd).
  - China ranked 12th globally and remained the only middle-income economy in the top 30, securing the 3rd position in the Southeast Asia and Oceania region.

### Key Findings

<b>Mixed Performance in Innovation Investment</b>	<ul style="list-style-type: none"> <li>• Science and innovation investment exhibited mixed results due to challenges and a decline in innovation finance.</li> <li>• <b>Scientific publications increased</b>, albeit at a slower rate. Government budgets for R&amp;D were expected to rise, but uncertainties persisted due to inflation.</li> <li>• International patent filings stagnated, and venture capital investments decreased significantly.</li> </ul>
<b>Technological Progress</b>	<ul style="list-style-type: none"> <li>• <b>Advancements were notable in information technology, health, mobility, and energy sectors.</b></li> <li>• Computing powers improved significantly, and costs associated with renewable energy and genome sequencing declined, opening new global development opportunities.</li> </ul>
<b>Increasing Technology Adoption</b>	<ul style="list-style-type: none"> <li>• <b>Gradual rise in technology adoption</b>, leading to improved access to sanitation and connectivity.</li> <li>• Electric vehicle adoption increased, and automation desires were evident through rising robot installations.</li> <li>• Despite progress, penetration rates for many innovation indicators remained medium-to-low.</li> </ul>
<b>Limited Socioeconomic Impact</b>	<ul style="list-style-type: none"> <li>• <b>Socioeconomic impact of innovation remained relatively low.</b></li> <li>• The COVID-19 pandemic impacted labour productivity and led to a decline in life expectancy for the second consecutive year.</li> <li>• <b>Healthy life expectancy increased</b>, but carbon dioxide emissions continued to rise.</li> </ul>

## Conclusion

- The GII offers a comprehensive assessment of the innovation landscape, highlighting strengths and challenges throughout the innovation cycle. It serves as a vital resource for understanding global innovation trends, informing policy decisions, and fostering innovation for positive impacts on society and the economy.



## 3.3 CHALLENGES IN AGRICULTURE SECTOR

### Context

- The disparity between government estimates and trade estimates creates market uncertainties, leading to inflationary pressures.

### Details

- Attempts to stabilize prices, such as export bans and setting minimum prices, have unintended consequences, affecting both farmers and consumers. Dumping products at prices lower than production costs distorts the market and harms farmers' incomes.
- Abrupt export bans and stocking limits can disrupt the market. A more balanced and sustainable approach is needed, one that considers both domestic needs and international trade agreements.

### Challenges in Agriculture Sector

#### About

- Agriculture has been the backbone of India's economy for centuries, employing the majority of its workforce and providing sustenance to millions. Despite its historical significance, the agriculture sector in India faces multifaceted challenges that hinder its growth and development.

#### Reasons for Challenges in the Agriculture Sector

- Despite technological advancements, a considerable portion of Indian farmers still rely on traditional and outdated farming practices, leading to low productivity and inefficiency.
- Indian agriculture is characterized by small and fragmented land holdings, making it challenging to implement modern farming techniques, mechanization, and large-scale production.
- Unequal distribution of water resources and over-exploitation of groundwater sources have led to water scarcity issues, affecting crop yields and sustainability.
- Small and marginal farmers often lack access to formal credit, compelling them to borrow from informal sources at exorbitant interest rates, and trapping them in a cycle of debt.
- Farmers face difficulties in accessing markets, obtaining fair prices for their produce, and lacking proper transportation and storage facilities, leading to significant post-harvest losses.
- The agriculture sector is highly vulnerable to climate change, with unpredictable weather patterns, increased temperatures, and

extreme events affecting crop growth, leading

to reduced yields and economic losses.

### Impact of challenges on Agriculture Sector

- **Low agricultural productivity directly impacts the income of farmers, leading to poverty and financial distress.** This economic instability also affects the overall growth of the national economy.
- **The agrarian crisis has led to an increase in farmer suicides, migration from rural areas to urban centres in search of livelihood, and social unrest in many regions.**
- **Fluctuating agricultural production affects food security, leading to rising food prices and scarcity.** This, in turn, affects the nutrition and well-being of the population, particularly vulnerable communities.
- **Unscientific farming practices contribute to soil degradation, loss of biodiversity, and environmental pollution.** Excessive use of chemical fertilizers and pesticides also leads to water pollution and other ecological imbalances.
- **Inadequate and poorly implemented policies exacerbate the challenges faced by the agriculture sector.** Reforms often face resistance from various stakeholders, delaying the necessary changes needed for the sector's revitalization.



### Steps Taken to Address Challenges

- The Indian government has introduced several initiatives to support farmers, including the **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** scheme, providing direct income support, and the **Kisan Credit Card (KCC)** scheme, enabling farmers to access formal credit.
- India has been **promoting the adoption of technology in agriculture**, including the use of mobile apps for information dissemination, precision farming techniques, and the introduction of genetically modified (GM) crops to enhance productivity.
- Schemes like **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** aim to develop irrigation facilities and promote efficient water use through techniques such as drip and sprinkler irrigation.
- **The introduction of agricultural market reforms** through acts like the **Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020**, aims to **liberalize agricultural markets, reduce middlemen, and provide farmers with better pricing options.**
- **Investment in agricultural research and development** is crucial for developing climate-resilient crop varieties, efficient irrigation technologies, and sustainable farming practices. Research institutions work on developing pest-resistant and drought-tolerant crop varieties.

### Way Forward for Indian Agriculture

- Encouraging sustainable farming practices, organic farming, and agroecological approaches can enhance soil health, preserve biodiversity, and ensure long-term

- productivity. This includes promoting** natural pest control methods and reducing dependency on chemical inputs.
- **Increased investment in agricultural research** is imperative. Research institutions should focus on developing climate-resilient crop varieties, improving irrigation techniques, and developing efficient water management practices.
  - **Continued efforts are needed to reform agricultural markets.** This includes developing efficient supply chains, promoting farmer-producer organizations, and establishing direct farmer-consumer linkages through farmers' markets and e-commerce platforms.
  - **Providing training and technical knowledge to farmers regarding modern farming techniques,** efficient water management, and post-harvest technologies can significantly improve productivity. Farmer education programs should be tailored to the specific needs of different regions and crops.
  - **Ensuring easy access to formal credit for small and marginal farmers is essential.** Financial literacy programs can empower farmers to make informed financial decisions, and simplified loan application procedures can facilitate credit access.
  - **Implementing climate-smart agricultural practices,** such as crop diversification, rainwater harvesting, and adopting climate-resilient crop varieties, is vital. Government incentives and subsidies can encourage farmers to adopt these practices.
- **Investment in infrastructure, including storage facilities, transportation networks, and cold chains,** is critical. Proper infrastructure can significantly reduce post-harvest losses and ensure that farmers receive better prices for their produce.
  - **Involving local communities in decision-making processes,** encouraging the formation of cooperatives, and promoting community-based natural resource management can empower farmers and enhance their bargaining power. Community-driven initiatives can address specific challenges faced by different regions.

### Conclusion

- The challenges faced by the agriculture sector in India are vast and complex, but they are not insurmountable. By adopting a comprehensive approach that involves policy reforms, technological advancements, and active community engagement, India can transform its agriculture sector into a sustainable, productive, and resilient system. Collaboration between the government, research institutions, farmers, and civil society is key to implementing the necessary changes.

## 3.4 PERIODIC LABOUR FORCE SURVEY

### Context

- The National Statistical Office (NSO) released the Periodic Labour Force Survey (PLFS) Report 2022-2023 based on the survey conducted from July 2022 to June 2023.

### Details

- The Periodic Labour Force Survey (PLFS) is a comprehensive survey conducted by the **National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation (MoSPI).**
- It was launched in April 2017, the primary objective of PLFS is to measure the employment and unemployment situation in the country.

### Objectives of PLFS

- It aims to **estimate key employment and unemployment indicators,** such as Worker Population Ratio (WPR), Labour Force Participation Rate (LFPR), and Unemployment Rate (UR). These indicators provide crucial insights into the labour market dynamics and are essential for policy formulation.

- It collects data in a short time interval of three months specifically for urban areas under the 'Current Weekly Status' (CWS). This rapid data collection allows policymakers and researchers to have timely information on the employment situation in urban regions.
- **It conducts an annual survey covering both 'Usual Status' and CWS for both rural and urban areas.** This comprehensive approach provides a detailed understanding of the employment and unemployment trends across different segments of the population and geographical regions.

#### **Key employment and unemployment indicators**

- **Labour Force Participation Rate (LFPR):** This indicator measures the proportion of the working-age population (usually defined as ages 15 to 64) that is either employed or actively seeking employment. It is calculated as the percentage of the total labour force (employed + unemployed) in the population.
- **Worker Population Ratio (WPR):** WPR represents the percentage of employed persons in the total population. It calculates the proportion of the population that is currently employed.
- **Unemployment Rate (UR):** UR indicates the percentage of persons who are unemployed and actively seeking employment among the total labour force. It highlights the proportion of the workforce that is jobless and seeking employment opportunities.

#### **The survey distinguishes between two activity statuses:**

- **Usual Status (US):** It is determined based on the activities pursued by a person during the last 365 days preceding the date of the survey. It provides insights into the typical employment patterns of individuals.
- **Current Weekly Status (CWS):** CWS is determined based on the activities pursued by a person during the last 7 days preceding the date of the survey. This status gives a snapshot of the current employment situation and is useful for short-term labour market analysis.

### **Usual Status (US)**

#### **Labour Force Participation Rate (LFPR)**

- **Rural Areas:** There has been a substantial increase in LFPR from 50.7% in 2017-18 to 60.8% in 2022-23, indicating more people in rural areas are participating in the labour force.
- **Urban Areas:** LFPR has seen a moderate increase from 47.6% in 2017-18 to 50.4% in 2022-23, indicating a slight rise in urban labour force participation.
- **Gender Disparities:** Both male and female LFPR have improved. For males, LFPR increased from 75.8% to 78.5%, and for females, it increased significantly from 23.3% to 37.0%, indicating a positive shift towards gender equality in the labour force.

#### **Worker Population Ratio (WPR)**

- **Rural Areas:** WPR increased from 48.1% in 2017-18 to 59.4% in 2022-23, signifying more people within the working-age population are employed.

- **Urban Areas:** WPR increased from 43.9% in 2017-18 to 47.7% in 2022-23, reflecting a rise in employment opportunities in urban regions.
- **Gender Disparities:** Both male and female WPR have shown improvements, indicating a higher proportion of both genders are engaged in work.

#### **Unemployment Rate (UR)**

- **Rural Areas:** UR significantly decreased from 5.3% in 2017-18 to 2.4% in 2022-23, indicating a considerable reduction in rural unemployment.
- **Urban Areas:** UR decreased from 7.7% in 2017-18 to 5.4% in 2022-23, suggesting a positive trend in urban employment.
- **Gender Disparities:** Both male and female unemployment rates have decreased, reflecting improved employment opportunities for both genders.



## Current Weekly Status (CWS)

### Labour Force Participation Rate (LFPR)

- **Rural Areas:** LFPR increased from 48.9% in 2017-18 to 56.7% in 2022-23, indicating more people are participating in the labour force on a weekly basis.
- **Urban Areas:** LFPR increased from 47.1% in 2017-18 to 49.4% in 2022-23, showing a slight rise in weekly labour force participation.
- **Gender Disparities:** Both male and female LFPR increased, suggesting more individuals of both genders are participating in the labour market weekly.

### Worker Population Ratio (WPR)

- **Rural Areas:** WPR increased from 44.8% in 2017-18 to 54.2% in 2022-23, indicating a higher proportion of the working-age population is employed on a weekly basis.
- **Urban Areas:** WPR increased from 42.6% in 2017-18 to 46.0% in 2022-23, reflecting improved weekly employment opportunities in urban regions.
- **Gender Disparities:** Both male and female WPR increased, indicating a rise in weekly employment for both genders.

### Unemployment Rate (UR)

- **Rural Areas:** UR decreased from 8.4% in 2017-18 to 4.4% in 2022-23, indicating a significant reduction in weekly unemployment in rural areas.
- **Urban Areas:** UR decreased from 9.5% in 2017-18 to 7.0% in 2022-23, suggesting improved weekly employment opportunities in urban regions.
- **Gender Disparities:** Both male and female unemployment rates decreased, indicating improved weekly employment opportunities for both genders.

### Conclusion

- The findings from the PLFS Annual Report for the period 2017-18 to 2022-23 depict an encouraging picture of India's labour market. The increase in LFPR and WPR coupled with a decrease in UR, both for usual status and current weekly status, reflects positive trends in employment generation and labour



## 3.5 NOBEL PRIZE IN ECONOMICS

### Context

- The 2023 Nobel Prize in Economics was awarded to Claudia Goldin for her work on the economics of gender.

### Details

- The Nobel Prize in Economic Sciences was established in 1968. It is **not one of the original Nobel Prizes** mentioned in Alfred Nobel's will but is awarded alongside the Nobel Prizes in other categories.
- **Claudia Goldin (USA) the winner of the 2023 Nobel Prize in Economic Sciences**, has made significant contributions to understanding the status of women in the workforce and the persistence of the gender pay gap.

### About Claudia Goldin's research

<p><b>Historical Perspective</b></p>	<ul style="list-style-type: none"> <li>• Before industrialization, women contributed to family incomes through activities like agriculture and cottage industries, but the concentration of work in factories during industrialization posed challenges for women in leaving their homes to work.</li> <li>• Her research highlighted how <b>women's economic roles evolved in response to changing economic structures</b>, emphasizing the impact of historical context on</li> </ul>
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	women's participation in the labour market.
<b>Role of Marriage</b>	<ul style="list-style-type: none"> <li>In the early 20th century, only around 20% of women worked, and married women constituted merely 5% of this group.</li> <li>She identified "<b>marriage bars</b>" in certain careers, where <b>informal and formal rules discouraged or prohibited married women from working</b>, particularly in teaching and office roles. These bars were most pronounced during the Great Depression and played a role in perpetuating the gender pay gap.</li> </ul>
<b>Women's Expectations</b>	<ul style="list-style-type: none"> <li><b>Women frequently base their career decisions on the experiences of their mothers.</b> This influence often leads women to anticipate and plan for career interruptions or reduced work commitments after marriage or childbirth, mirroring their mothers' choices.</li> <li><b>The influence of maternal experiences on women's career decisions contributes to gender disparities in the workplace.</b> They may opt for fields of study or careers that they believe are more accommodating to family life, potentially limiting their long-term career prospects.</li> <li>Women's decisions to prioritize family life can result in fewer women in leadership roles and higher-paying positions, reinforcing gender inequalities in career trajectories and earnings when compared to men.</li> </ul>
<b>Contraceptive Pills</b>	<ul style="list-style-type: none"> <li>The easy availability of contraceptive pills in the late 1960s empowered women by giving them control over family planning, enabling them to make strategic decisions about childbirth and career choices.</li> <li>With the ability to plan when to have children, women pursued higher education and entered traditionally male-dominated fields like law, economics, and medicine, leading to a significant increase in their participation and influence in these professions.</li> <li><b>The transformative effect of contraception on women's lives expanded their career opportunities</b>, allowing them to pursue fulfilling professions, contributing to gender equality and changing societal perceptions about women's roles in the workforce.</li> </ul>
<b>Gender Pay Gap and Parenthood</b>	<ul style="list-style-type: none"> <li>The gender pay gap widened as a result of parenthood. In traditional factory jobs, where pay was tied to measurable output, earnings differences between men and women were relatively small. <ul style="list-style-type: none"> <li>However, with the introduction of monthly pay contracts and the arrival of children, the pay gap expanded. Women, who often took on more responsibilities for parenting, experienced a fall in earnings.</li> <li><b>Even when women had the same level of education and worked in similar professions as men, their income did not increase at the same rate as that of men.</b></li> </ul> </li> <li>The gender pay gap persisted and continued to be influenced by parenthood and caregiving responsibilities.</li> </ul>

## Conclusion

- Claudia Goldin's work sheds light on the complex factors contributing to the gender pay gap, including historical, societal, and economic influences. Her research underscores the importance of addressing not only workplace policies but also societal norms and expectations to achieve greater gender equality in the labour market.



## 3.6 WORLD ECONOMIC OUTLOOK

### Context

- The International Monetary Fund (IMF) in its World Economic Outlook (WEO) report revised India's economic growth forecast for the fiscal year 2023-24 upwards from 6.1% to 6.3%.

### Details

- The World Economic Outlook (WEO) is a biannual report published by the International Monetary Fund (IMF) that assesses the global economic outlook and provides forecasts for key economic indicators, such as GDP growth, inflation, and unemployment.

### Key Highlights of the Report

<b>Inflation Outlook</b>	<ul style="list-style-type: none"> <li>• The IMF expects <b>retail inflation in India to increase to 5.5% in the fiscal year 2023-24</b> before decreasing to 4.6% in 2024-25.</li> <li>• In comparison, the Reserve Bank of India (RBI) projected consumer price index (CPI)-based inflation for the current fiscal year at 5.4%.</li> </ul>
<b>Monetary Policy and Resilience</b>	<ul style="list-style-type: none"> <li>• The RBI Governor mentioned that India's domestic economic activity showed resilience, primarily due to strong domestic demand, which contrasted with global economic trends.</li> <li>• The IMF stated that <b>India's monetary policy projections align with the RBI's inflation targets</b> over the medium term, indicating stability in the policy framework.</li> </ul>
<b>Other Economic Indicators</b>	<ul style="list-style-type: none"> <li>• <b>India's current account deficit is expected to remain at 1.8% of GDP</b> in both the fiscal years 2023-24 and 2024-25, according to the IMF. A current account deficit at this level suggests that the value of goods and services India imports exceeds the value of exports but is within manageable limits.</li> </ul>
<b>Global Economic Context</b>	<ul style="list-style-type: none"> <li>• The IMF expects <b>global GDP growth to be 3% in 2023</b>. This forecast remains the same as the one issued in July 2023.</li> <li>• The global GDP growth forecast for 2024 has been reduced by 10 basis points to 2.9% compared to the July forecast. This indicates a slightly moderated outlook for the global economy in the following year.</li> <li>• <b>China's economy is expected to grow at 5% in 2023</b>. This is higher than the 3% growth it achieved in 2022.</li> <li>• The IMF expects <b>global inflation in 2024 to rise to 5.8%</b>. This projection is faster than the 5.2% estimated three months prior.</li> <li>• Global growth has been affected by tight monetary policies implemented by central banks to combat inflation, which rose to 8.7% in 2022. This indicates that controlling inflation has come at the expense of economic growth in some regions.</li> </ul>

	<ul style="list-style-type: none"> <li>• The uneven recovery from the pandemic and supply chain disruptions caused by Russia's invasion of Ukraine has also contributed to challenges in the global economy.</li> <li>• <b>Investment levels remain lower than pre-pandemic levels</b>, influenced by higher interest rates and stricter lending conditions. This can have a dampening effect on economic growth.</li> <li>• The IMF advises countries to rebuild fiscal buffers to prepare for potential future economic shocks or challenges.</li> <li>• The report suggests that there is a 15% chance of global growth falling below 2% in 2024, with more downside risks than upside risks. This indicates a degree of uncertainty and concern about the economic outlook.</li> </ul>
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### Conclusion

- India's economic growth is expected to remain strong, primarily due to robust domestic demand and favourable monetary policy. The inflation outlook, while showing an increase, is expected to ease in the following fiscal year. Globally, economic conditions vary, with the U.S. showing a strong recovery, China and the euro area facing challenges, and the overall global growth outlook slightly moderating for 2024.



## 3.6 REFORMS FOR MULTILATERAL DEVELOPMENT BANKS

### Context

- The G20 expert panel advocates for a shift in Multilateral Development Banks' approach, emphasizing the prioritization of sector-focused programs and long-term transformation plans identified by national governments, moving away from financing individual projects.

### Multilateral Development Banks (MDBs)

- These institutions play a crucial role in **supporting economic and social development in member countries by providing funding, technical expertise, and policy advice.**
- MDBs are typically **created by multiple countries and operate globally** to address various developmental challenges.
- These banks **collaborate with governments, non-governmental organizations, and the private sector** to implement projects that can have a significant impact on the lives of people in the borrowing countries. They also facilitate knowledge sharing and promote best practices to enhance development outcomes.
- They work on projects related to infrastructure, poverty reduction, education, healthcare, environmental conservation, and more.

#### Examples of Multilateral Development Banks

- **World Bank Group:** Comprising five institutions, including the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), the World Bank provides financial and technical assistance to developing countries for development programs.
- **International Monetary Fund (IMF):** While not exclusively a development bank, the IMF provides financial assistance, policy advice, and technical assistance to its member countries to help them stabilize their economies and foster sustainable growth.
- **Asian Development Bank (ADB):** Focused on Asia and the Pacific region, ADB provides loans, grants, and technical assistance for various development programs, including infrastructure, education, and healthcare.

## Why reform Multilateral Development Banks (MDBs)?

### Tackling Global Challenges

- The primary global challenge highlighted is the climate crisis. While the necessary steps to mitigate climate change are understood globally, there's a lack of effective mechanisms to implement these measures, particularly in emerging markets and developing economies.

### Enhancing Coordination

- **Greater coordination between multiple stakeholders, including national governments, is deemed crucial.** Coordination failures can hinder progress, so the involvement of governments is emphasized. This involvement is not just about financial contributions but also about developing unified visions encompassing goals, policies, investments, and financing.

### Aligning with National Development Priorities

- Reforms aim to align MDB operations with the specific developmental priorities of individual nations. This alignment ensures that the efforts and resources of MDBs are tailored to meet the unique needs and challenges faced by each country.

### Promoting Private Sector Engagement

- MDBs are often perceived as bureaucratic and risk-averse. To encourage private sector participation, reforms suggest breaking away from the culture of limited operational interaction between the private and sovereign financing arms of MDBs.
- **To facilitate private sector involvement, MDBs are encouraged to manage risks effectively.** This includes handling credit risks (risks of borrower default) and policy risks (risks associated with changes in government policies or regulations). Proper risk management is essential for attracting private sector investments.

### Increasing Financing

- **MDBs need to ramp up financing to \$390 billion by 2030 to meet global development goals.** Private sector involvement is crucial in achieving this financial target, especially in emerging markets and developing economies.

- Reversing the trend of low private financial flows to these economies involves MDBs embracing partnerships with the private sector. These partnerships can take various forms, including co-financing projects or providing guarantees to private sector investors, making investments in these economies more attractive.

### Steps taken by India

- **India has been an active member of several MDBs since their inception.** It has been both a borrower and a contributor to these institutions. India has also been a leader in advocating for reforms within MDBs to make them more responsive, inclusive, and effective.

### Hosting the G20 Summit and Advocating MDB Reforms

- **India, as the host of the G20 summit, provided a platform for international leaders to discuss crucial issues, including the reform of MDBs.** By hosting this summit, India actively participated in high-level dialogues, advocating for the alignment of MDBs with the changing global landscape.
- **India facilitated discussions among experts and stakeholders to explore the various dimensions of MDB reforms.** These consultations likely involved policymakers, economists, and representatives from MDBs, fostering a comprehensive understanding of the challenges and opportunities in the reform process.

### Participating in New MDBs and Shaping Governance

- India's membership in institutions like AIIB and NDB signifies its recognition of the importance of **alternative sources of financing.** These memberships not only provide access to funds but also grant India a voice in the decision-making processes of these banks.
- **Actively participating in the governance structures of these new MDBs,** India played a role in shaping their policies and operational frameworks. By doing so, India ensures that

these institutions are aligned with its development priorities.

**Supporting Regional Cooperation and Integration**

- India's involvement in regional MDBs like the SAARC Development Fund and BIMSTEC Development Fund emphasizes its commitment to regional cooperation. These funds often support projects that foster economic integration, infrastructure development, and social progress in neighbouring countries.
- Initiatives like the BBIN Motor Vehicles Agreement and the IMT Trilateral Highway Project demonstrate India's commitment to enhancing connectivity and cooperation at a sub-regional level. These initiatives improve trade, tourism, and people-to-people exchanges among participating nations.

**Leveraging MDB Resources for Flagship Programs**

- Partnering with MDBs, India strategically utilizes their financial resources and technical expertise to implement flagship programs. For instance, the Smart Cities Mission benefits from MDB support in developing urban infrastructure, while the National Solar Mission receives funding to promote renewable energy projects.
- MDBs often provide technical assistance and capacity-building programs, enhancing the skills and knowledge of Indian professionals involved in various projects. This knowledge transfer ensures the sustainable implementation of initiatives.

**Challenges that MDBs face**

<p><b>Inadequate Resources and Capacity</b></p>	<ul style="list-style-type: none"> <li>• The demand for financing from developing countries, especially for <b>achieving Sustainable Development Goals (SDGs) and addressing climate change</b>, far exceeds the available resources of MDBs. Meeting these demands requires substantial funding, which often outstrips the capacity of these institutions.</li> </ul>
<p><b>Lack of Coordination and Coherence</b></p>	<ul style="list-style-type: none"> <li>• <b>Lack of effective coordination among different MDBs and development partners</b> can lead to duplication of efforts and fragmentation of resources. This inefficiency hampers the overall impact and effectiveness of development initiatives.</li> <li>• When different organizations work on similar projects without coordination, resources can be wasted, and projects might not reach their full potential. Streamlining efforts and coordinating strategies are crucial to maximizing impact.</li> </ul>
<p><b>Insufficient Alignment with National Priorities</b></p>	<ul style="list-style-type: none"> <li>• <b>Projects that do not align with the national priorities</b> and needs of borrowing countries might face challenges in terms of ownership and sustainability. When projects are not locally relevant or when there is insufficient local buy-in, their long-term success is jeopardized.</li> <li>• <b>Projects that are not tailored to the specific needs of the country</b> might not have the desired impact on the local communities they are meant to serve. Understanding and aligning with the unique context of each country is essential for meaningful and sustainable development.</li> </ul>
<p><b>Limited Engagement with the Private Sector and Civil Society</b></p>	<ul style="list-style-type: none"> <li>• Engaging with the private sector is essential for mobilizing additional financial resources for development projects. Public-private partnerships can provide innovative solutions and funding sources that traditional financing methods might not cover.</li> </ul>

	<ul style="list-style-type: none"> <li>Involving civil society ensures accountability and transparency in the development process. Lack of engagement can lead to a lack of oversight, potentially resulting in misuse of funds or projects that do not effectively address community needs.</li> </ul>
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## Way forward

### Building Consensus and Trust

- Regular dialogues involving all stakeholders**, including member countries, civil society, and private sector representatives, are vital. These discussions should focus on the necessity and direction of reforms, ensuring that diverse perspectives are considered.
- Foster an atmosphere of mutual respect, acknowledging the diversity of views and interests. Respectful dialogue encourages open communication and understanding among stakeholders.

### Enhancing Cooperation and Coordination

- Encourage cooperation and coordination among MDBs and other development partners. Establish mechanisms for information sharing, joint projects, and mutual support to avoid duplication and inefficiency.
- Harmonize policies, standards, and practices across MDBs.** Alignment ensures consistency and coherence in approaches, making it easier for countries to work with multiple institutions seamlessly.

### Fostering Innovation and Flexibility

- Promote innovative approaches in project design and implementation.** Encourage projects that are adaptable and responsive to changing needs and preferences. This might involve incorporating new technologies, sustainable practices, or community-driven solutions.
- Create an environment that encourages experimentation.** Learning from both successes and failures is crucial. MDBs can establish platforms for sharing best practices and experiences, fostering a culture of continuous improvement.

### Strengthening Capacity and Resources

- Invest in building the internal capacity of MDBs.** This includes enhancing technical

expertise, project management skills, and knowledge dissemination capabilities. Well-trained staff are essential for effective project implementation and evaluation.

- Actively mobilize capital and investment from various sources.** Engage shareholders, private sector entities, civil society organizations, and philanthropic foundations. Diversifying funding sources ensures financial stability and flexibility.

### Ensuring Transparency and Accountability

- Implement transparent practices in decision-making processes, fund allocation, and project selection.** Transparency builds trust among stakeholders and ensures that MDB actions are accountable to the public and member countries.
- Regularly report on the progress of projects and their impact.** Accountability measures, including independent evaluations, enhance the effectiveness of MDB initiatives.

### Promoting Social and Environmental Sustainability

- Strengthen environmental and social safeguards to ensure that development projects are sustainable and inclusive. Responsible and ethical practices safeguard the well-being of communities and protect the environment.



## Conclusion

- Proposed reforms for Multilateral Development Banks prioritize aligning with national priorities, emphasizing sectoral focus, private sector engagement, and enhanced coordination to promote sustainable development and address global challenges, especially the climate crisis.

### 3.7 SUSTAINABLE AGRI-FOOD SYSTEMS

#### Context

- The 16th Agricultural Science Congress (ASC) held in Kochi, Kerala, featured discussions led by prominent figures in the agricultural sector, including Union Minister of Fisheries, Animal Husbandry and Dairying.

#### Key points discussed during the Congress include

- There was a call to infuse greater mechanization in agricultural production and to develop specialized farm implements, especially for women in agriculture.
- **Concerns were raised about the serious effects of marine and inland water pollution on aquatic life and coastal ecology.** Scientists were urged to find sustainable solutions to address this threat.
- **Traditional farm products like pokkali rice were highlighted, and measures were suggested to ensure profitability for farmers.** Minimizing post-harvest losses was stressed as a way to boost production through advanced technological interventions.
- Research on genomics and genome editing was identified as a core focus for technological breakthroughs in agriculture, especially in areas where traditional breeding methods may not yield the desired results.
- **Ensuring food and nutritional security for all citizens** while maintaining the health of the ecosystem and environment intact was emphasized. The need for carbon-neutral development pathways and attention to the post-harvest sector was stressed.

#### Sustainable Agri-food system

- Sustainable agri-food systems balance ecological integrity, economic viability, and social equity, ensuring food production today

without compromising resources for tomorrow.

- **By conserving natural resources, minimizing waste, and promoting biodiversity,** these systems secure a nourished future, honouring the principle of meeting present needs without compromising the ability of future generations to meet their own.

#### Background

- **Food systems are intricate networks encompassing a wide range of activities,** from production to disposal, involving actors in agriculture, forestry, and fisheries. These systems interact with various economic, societal, and natural environments.
- **Food systems consist of sub-systems like farming, waste management, and input supply,** which work together to produce and distribute food products. Changes in one sub-system can have far-reaching impacts on the entire food system.
- **Food systems are not isolated; they interact with other key systems, such as the energy system, trade system and health system.** Changes in these external systems, like promoting biofuels in the energy sector, can influence the food system.
- **The food system faces increasing food demand, environmental degradation,** and the challenges of climate change. This necessitates urgent transformation towards sustainability through innovative scientific solutions.
- **Achieving sustainability in agri-food systems is crucial to address these challenges.** Scientific innovations play a pivotal role in driving this transformation, promoting more efficient and environmentally friendly food production and distribution methods.

#### Features of Sustainable Agri-food Systems

**Environmental Sustainability**

- **Emphasizes minimizing the use of non-renewable resources** like fossil fuels and synthetic chemicals, while maximizing the efficient use of renewable resources like water and soil.



	<ul style="list-style-type: none"> <li>• <b>Promotes practices such as crop rotation</b>, agroforestry, and the preservation of natural habitats to support diverse ecosystems and protect biodiversity.</li> <li>• <b>Aims to reduce soil erosion, water pollution</b>, and greenhouse gas emissions associated with farming practices through more sustainable agricultural methods.</li> </ul>
<b>Economic Sustainability</b>	<ul style="list-style-type: none"> <li>• <b>Focuses on providing fair wages and decent working conditions</b> for agricultural workers to ensure their well-being.</li> <li>• Ensures that farmers and agricultural businesses have access to markets and are not disadvantaged in terms of market opportunities.</li> <li>• <b>Aims to add value to agricultural products through processing and marketing</b>, which can lead to higher returns for producers and increased economic viability.</li> </ul>
<b>Social Sustainability</b>	<ul style="list-style-type: none"> <li>• <b>Provides income support and social protection for farmers and rural communities</b> to safeguard their livelihoods during challenging times.</li> <li>• <b>Strives to improve rural livelihoods, reduce poverty, and address income inequality</b> in agricultural areas.</li> <li>• Works towards enhancing food security and nutrition for all members of society while addressing issues of undernourishment and malnutrition.</li> <li>• <b>Respect and Support cultural diversity</b> by acknowledging and preserving traditional farming practices and local food systems.</li> </ul>

## Significances of Sustainable Agri-food Systems

### Improving Food Security and Nutrition

- Sustainable agriculture ensures a consistent supply of food by adopting practices that maintain soil fertility and prevent overexploitation.
- By promoting local, sustainable farming, communities have easier access to fresh produce and essential nutrients.
- **Sustainable practices can make high-quality food more affordable**, especially in local markets where transportation costs are reduced.
- Environmentally friendly farming methods often result in healthier, more nutritious crops, enhancing the overall quality of the food supply.

### Enhancing Resilience to Climate Change

- Sustainable practices such as crop diversification and efficient water use make farming systems more resilient to climate-related challenges like droughts and floods.
- **Agroforestry and other sustainable methods can mitigate** the impact of extreme weather events, preserving both crops and soil integrity.

### Contributing to Environmental Conservation

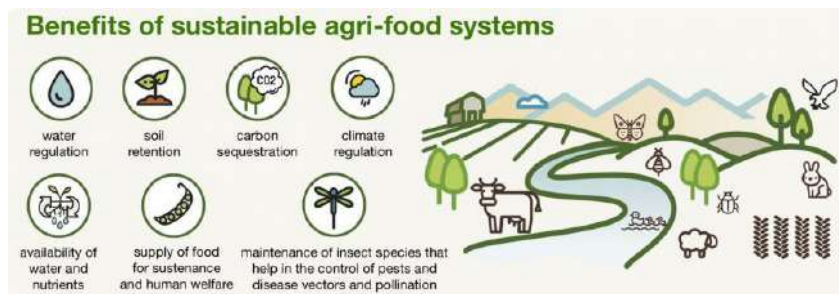
- Sustainable agriculture minimizes the use of harmful chemicals, preserving soil health and preventing water pollution.
- **Biodiversity is protected through sustainable farming**, as diverse crop varieties and reduced pesticide use promote healthy ecosystems.
- Conservation tillage and cover cropping practices prevent soil erosion, maintaining the fertility of agricultural land.

### Supporting Economic Development

- Sustainable agriculture creates jobs, not only in farming but also in related sectors such as food processing, distribution, and marketing.
- **Farmers adopting sustainable practices often have higher yields** and can command better prices for their produce, leading to increased income.
- Sustainable practices can lead to the development of value-added products, promoting local industries and entrepreneurship.

### Promoting Social Justice

- Sustainable agriculture can empower marginalized communities by providing them with the knowledge and resources needed for sustainable farming.
- **Sustainable farming practices often empower women**, providing them with equal opportunities in decision-making processes and income generation.
- By ensuring fair wages, safe working conditions, and ethical treatment, sustainable agriculture respects the basic human rights of all involved in the food production chain.



### **Steps taken to foster Sustainable Agri-food systems**

- **The National Mission for Sustainable Agriculture (NMSA)** aims to promote sustainable agriculture practices by enhancing soil health, optimizing water use, and ensuring the efficient use of inputs.
- **Paramparagat Krishi Vikas Yojana (PKVY)** promotes organic farming in the country by encouraging farmers to adopt eco-friendly practices and avoid chemical pesticides and fertilizers.
- **National Mission on Sustainable Agriculture (NMSA)** focuses on promoting climate-resilient agricultural practices, soil health management, and water use efficiency to enhance agricultural sustainability.
- **Pradhan Mantri Fasal Bima Yojana (PMFBY)** is a crop insurance scheme that protects farmers from crop failures due to natural calamities, ensuring financial stability and encouraging sustainable agricultural practices.
- **Under the Soil Health Card Scheme**, farmers receive soil health cards containing information about the health of their soil and recommendations for suitable crop choices and fertilizer use, promoting sustainable farming practices.
- **National Food Security Mission (NFSM)** aims to increase the production of rice, wheat, and pulses by promoting better agricultural practices, enhancing soil fertility, and ensuring sustainable water use.
- **Rashtriya Krishi Vikas Yojana (RKVY)** provides financial support to states for promoting sustainable agriculture through various initiatives, including organic farming, efficient water use, and crop diversification.
- **Integrated Pest Management (IPM)** practices are promoted to reduce the use of chemical pesticides, encouraging natural pest control methods and ensuring the sustainability of agricultural ecosystems.
- **Promotion of Drip and Sprinkler Irrigation techniques like drip and sprinkler systems** are encouraged to conserve water, reduce wastage, and enhance agricultural productivity sustainably.
- **Zero Budget Natural Farming (ZBNF)** is a farming practice that eliminates the use of chemical fertilizers and pesticides, relying on natural processes and local resources. **The Indian government has been promoting ZBNF** to enhance sustainability and reduce input costs for farmers.

## Challenges

- **Low productivity and profitability of agriculture** due to factors such as small and fragmented land holdings, inadequate irrigation facilities, low adoption of improved seeds and technologies, high input costs, pest and disease outbreaks etc.
- **High post-harvest losses and wastage of food** due to lack of adequate storage, processing, and transportation facilities, poor quality standards, and inefficient supply chains.
- **Limited access to credit, insurance, and markets for farmers**, especially small and marginal ones, due to lack of collateral, information, and bargaining power.
- **Climate change impacts** such as erratic rainfall patterns, droughts, floods, heat waves, cyclones etc. affect crop production and food security.
- **Environmental degradation** such as soil erosion, water scarcity, pollution, loss of biodiversity etc. affects the natural resource base and ecosystem services.
- **Social issues** such as poverty, inequality, gender discrimination, migration, land conflicts etc. affect the livelihoods and well-being of rural communities.

## Way forward

### Strengthening Research and Innovation

- Research and innovation are pivotal in developing agricultural practices that are both sustainable and resilient. This involves not only developing new technologies but also ensuring that these technologies are accessible and adaptable for farmers across various regions.

### Enhancing Investment and Infrastructure

- Improving post-harvest management and reducing food losses are critical steps. Infrastructure development, such as cold storage facilities and efficient transportation networks, ensures that produce reaches markets in optimal conditions, reducing wastage.

### Financial Inclusion and Risk Management

- Access to credit and insurance mechanisms provides a safety net for farmers, especially during unpredictable weather patterns or market fluctuations. This financial stability enables them to invest in sustainable practices without the fear of an immediate economic downturn.

### Policies and Regulations

- Government policies play a significant role in shaping agricultural practices. By promoting crop diversification, organic farming, and sustainable contracts, the government can guide the sector towards more sustainable practices. Regulations ensure that these practices are followed uniformly.

### Increasing Awareness and Capacity Building

- Farmers and consumers need to understand the benefits of sustainable agriculture. Training programs and awareness campaigns can empower farmers to adopt these practices. Similarly, consumers need to be educated about the importance of supporting sustainable agriculture through their choices.

### Partnerships and Collaboration

- Agriculture is a complex system involving various stakeholders.

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Collaboration between government bodies, private sector enterprises, NGOs, and research institutions can create a synergy that propels the sector forward. Sharing of knowledge, resources, and best practices among these stakeholders can be immensely beneficial.

## Conclusion

- India's commitment to sustainable agri-food systems is pivotal for ensuring food security, preserving the environment, and fostering economic growth. Through collaborative efforts and innovative strategies, a holistic approach can address existing challenges, aligning with the 2030 Sustainable Development Goals, thus paving the way for a prosperous and sustainable future for the nation and the world.

## 3.8 BLUE ECONOMY

### Context

- The Prime Minister of India inaugurated the third edition of the Global Maritime India Summit 2023 in Mumbai via video conferencing.

### Details

- **The 'Amrit Kaal Vision 2047' unveiled by the Prime Minister at the Global Maritime India Summit 2023** focuses on the development and sustainability of the Indian maritime blue economy through strategic initiatives, including port facility enhancements, sustainable practices, and international collaboration.
- The blueprint outlines various strategic initiatives, such as the development of Next Generation Mega Ports, International Container Trans-shipment ports, island development, inland waterways, and multi-modal hubs.
- These initiatives aim **to reduce the cost of doing business and environmental degradation.**
- The Prime Minister highlighted the importance of sea routes in global trade, emphasizing the need for a reliable global supply chain in a post-COVID-19 world, he also laid the foundation stone for projects worth over ₹23,000 crore that align with the growth of India's maritime blue economy.

### India's Maritime Blue Economy

- India's maritime blue economy encompasses oceanic resources and human-made economic infrastructure in marine, maritime, and coastal

areas. This includes fisheries, aquaculture, tourism, shipping, ports, and marine renewable energy among others.

- **The objective is to boost the blue economy's contribution to India's Gross Domestic Product (GDP).** By tapping into marine resources and developing coastal infrastructure, the country aims for sustainable economic growth and job creation in maritime-related sectors.
- **An essential focus is on improving the lives of coastal communities.** Through various initiatives, the goal is to enhance livelihood opportunities, provide better access to education and healthcare, and ensure overall socio-economic development in these regions.
- The blue economy strategy also **emphasizes the preservation of marine biodiversity and the sustainable use of ocean resources.** Additionally, it plays a vital role in ensuring national security by safeguarding marine areas and resources, thereby protecting India's strategic maritime interests.

### Significance of India's blue economy for its development

#### Diverse Sectors

- The blue economy encompasses a wide array of sectors, ranging from fisheries and aquaculture to shipping, ports, tourism, renewable energy, biotechnology, seabed mining, and coastal development. This diversity ensures a holistic approach to economic growth.

**Economic Opportunities**

- It presents significant opportunities for employment generation, export promotion, innovation, and value addition. By tapping into these sectors, India can create jobs, boost its exports, foster innovation, and add value to its marine resources.

**Livelihood Support**

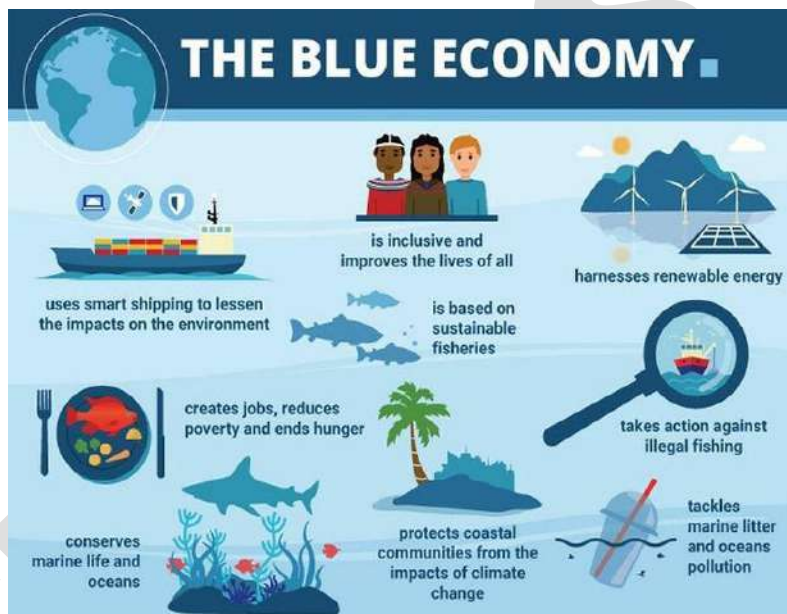
- Millions of people rely on the ocean for their livelihoods, whether it's for food through fishing, income through tourism, or recreation. The blue economy plays a crucial role in supporting these communities and improving their socio-economic conditions.

**Ecosystem Services**

- Beyond economic benefits, the blue economy provides essential ecosystem services. It regulates the climate, sequesters carbon dioxide, cycles nutrients, and reduces the risk of disasters. These services are vital for environmental sustainability and the well-being of coastal communities.

**Strategic Importance**

- By enhancing India's maritime capabilities and investments in the blue economy, the country strengthens its strategic interests and geopolitical influence in the Indian Ocean Region (IOR) and beyond. This not only ensures national security but also establishes India as a key player in the global maritime landscape.



**Steps taken to harness the potential of the Blue Economy**

<b>Flagship Schemes</b>	<ul style="list-style-type: none"> <li>• Launching initiatives like Blue Revolution, and PMMSY signals a focused approach towards <b>enhancing fisheries and aquaculture, ensuring sustainable practices, and improving the livelihoods of coastal communities.</b> These schemes provide financial support and infrastructure development, encouraging the growth of the fisheries sector.</li> </ul>
<b>Strategic Vision</b>	<ul style="list-style-type: none"> <li>• <b>'Amrit Kaal Vision 2047'</b> provides a long-term roadmap. Having a clear vision aids in aligning policies, investments, and efforts towards sustainable growth. It outlines initiatives not only for economic development but also for environmental conservation and social welfare, ensuring a balanced approach.</li> </ul>
<b>International Trade Agreements</b>	<ul style="list-style-type: none"> <li>• <b>Agreements like the India-Middle East-Europe Economic Corridor foster international trade,</b> reviving historical routes and enhancing economic partnerships. This promotes global economic integration, leading to increased trade opportunities and economic growth.</li> </ul>
<b>Infrastructure Development</b>	<ul style="list-style-type: none"> <li>• The development of mega ports and modern infrastructure under projects like <b>Sagarmala and Maritime India Vision 2030</b> enhances connectivity, trade</li> </ul>

	efficiency, and economic competitiveness. Efficient ports and logistics are crucial for the growth of maritime economies.
<b>Promotion of Renewable Energy</b>	<ul style="list-style-type: none"> <li>• <b>Emphasizing renewable energy sources in the maritime sector</b> aligns with global efforts to combat climate change. Offshore wind, wave, and tidal energy contribute to a sustainable energy future, reducing environmental impact and promoting energy security.</li> </ul>
<b>Technological Innovation</b>	<ul style="list-style-type: none"> <li>• <b>Exploring biotechnology, seabed mining, and deep-sea exploration</b> through initiatives like Deep Ocean Mission and participation in organizations like the International Seabed Authority fosters technological innovation. These initiatives can lead to discoveries, economic opportunities, and advancements in marine science and technology.</li> </ul>
<b>Maritime Security Cooperation</b>	<ul style="list-style-type: none"> <li>• <b>Strengthening cooperation through regional and international mechanisms enhances maritime security.</b> Collaborative efforts with neighbouring and like-minded countries promote stability, ensuring the safety of sea routes, trade, and investments in the maritime domain.</li> </ul>

### Challenges in Realizing Blue Economy Vision

- **Lack of adequate data, research and innovation** to support evidence-based policymaking and decision-making.
- Inadequate coordination and integration among various stakeholders such as central and state governments, the private sector, civil society and academia.
- **High vulnerability to natural disasters,** climate change impacts and marine pollution due to anthropogenic activities.
- Limited capacity and resources to monitor regulate and enforce compliance with national and international laws and norms.
- Growing competition and conflicts with other countries over access to ocean resources and strategic locations.

### Ways forward

#### Developing Comprehensive National Policy

- Invest in extensive research to understand the local marine ecosystems, biodiversity, and the economic potential of the blue economy.
- Involve fishermen, environmentalists, scientists, and local communities in policy discussions to ensure inclusivity.
- **Develop regulations that prevent overfishing,** encourage sustainable aquaculture, and

manage coastal development to protect marine habitats.

- **Implement a robust system for monitoring the implementation** of policies and evaluating their impact on marine life and local economies.

#### Establishing a Dedicated Ministry/Department

- Facilitate collaboration between ministries of fisheries, environment, trade, and transport to ensure a holistic approach to the blue economy.
- Establish a body that oversees policy coherence, ensuring that various policies align with the objectives of the blue economy.
- Allocate resources efficiently, focusing on research, infrastructure, and community development.

#### Investment in Human Capital Development

- Develop educational programs focusing on marine biology, fisheries management, and sustainable aquaculture.
- Provide vocational training for fishermen and aquaculture farmers to adopt modern, sustainable practices.
- Involve communities in decision-making processes and educate them about the importance of sustainable practices.

#### Leveraging Digital Technologies

- Utilize big data analytics to study marine patterns, predict overfishing, and understand market demands for fisheries products.
- **Implement blockchain technology for supply chain traceability**, ensuring the authenticity of seafood products and preventing illegal fishing.
- Use Internet of Things (IoT) devices to monitor water quality, track fish migrations, and manage aquaculture facilities efficiently.

#### Fostering Regional Cooperation

- Collaborate with neighbouring countries on joint research initiatives to understand shared marine resources better.
- **Work towards harmonizing policies and regulations across borders** to prevent illegal fishing and promote sustainable practices.

- Collaborate on disaster response and management, especially concerning issues like oil spills and natural disasters affecting marine life.

#### **Conclusion**

- India's maritime blue economy is a vital component of its economic growth, social development and national security. By harnessing its potential sustainably and responsibly, India can emerge as a global leader in the blue economy arena.



### 3.9 FOREIGN CONTRIBUTION REGULATION ACT

#### **Context**

- According to data from the Union Home Ministry, in the past five years, the government has cancelled the registration of 1,827 NGOs.

#### Key Highlights

- **The Foreign Contribution (Regulation) Act (FCRA) mandates that NGOs seeking foreign donations must register under specific categories** like cultural, economic, educational, religious, or social programs. This registration is essential for receiving foreign funds and is mandatory for NGOs.
- Some NGOs are explicitly religious, like Christian or Hindu organizations, while others might not overtly state their religious purposes but could be perceived to work in religious spaces.
- **The government grants FCRA registrations**, but there is a significant number of denials. In some years, nearly half of the registration requests were denied, indicating a stringent approach to approving foreign funding for NGOs.
- Some FCRA registrations were cancelled due to violations. Notably, in the provided data, all cancellations were related to Christian

organizations, with allegations involving religious conversion and building churches.

- **The government introduced new rules requiring NGOs to declare assets created from foreign contributions.** Previous amendments included bans on domestic transfers of foreign funds and reduced administrative expense limits, all aimed at regulating and monitoring foreign funding effectively.
- **Certain civil society groups and former civil servants have criticized the FCRA**, claiming that it is being used to restrict foreign funding for NGOs. They argue that these regulations disproportionately affect civil society organizations.

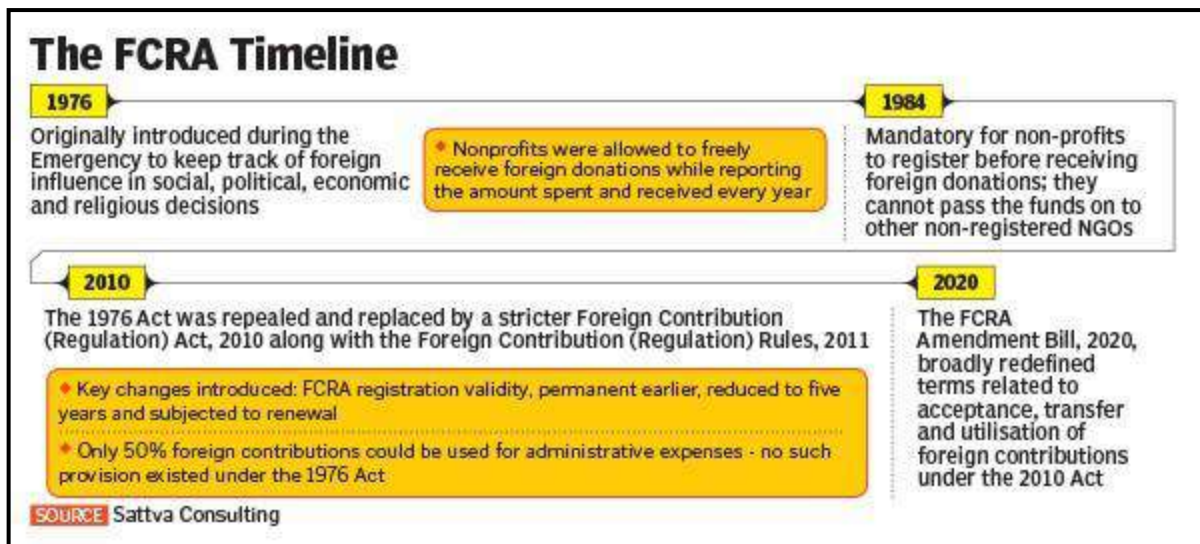
#### **Foreign Contribution Regulation Act (FCRA)**

- FCRA was enacted in 1976 to regulate the acceptance and utilization of foreign contributions and foreign hospitality by individuals, associations, and companies.
  - Its main objective is to ensure that such contributions and hospitality do not adversely affect the sovereignty and integrity of the country.
- **In 2010, amendments to the FCRA were introduced to enhance transparency,**

accountability, and regulatory oversight of foreign contributions by imposing additional restrictions and compliance requirements on organizations receiving such funds.

- The 2020 FCRA amendment aimed to redefine key terms, and increase scrutiny,

oversight, and penalties, all to ensure foreign contributions are used for genuine charitable activities and do not disrupt domestic interests.



### Foreign Contribution (Regulation) Amendment Act, 2020 (FCRA Amendment Act)

<b>Regulation of Foreign Contributions</b>	<ul style="list-style-type: none"> <li>• The Act regulates the <b>acceptance and utilization of foreign contributions</b> by individuals, associations, and companies.</li> <li>• Foreign contributions include any donation or transfer of currency, security, or article from a foreign source, provided it exceeds a specified value.</li> </ul>
<b>Prohibition on Certain Persons</b>	<ul style="list-style-type: none"> <li>• The Act <b>prohibits certain individuals and entities from accepting foreign contributions</b>. This includes election candidates, editors or publishers of newspapers, judges, government servants, members of any legislature, political parties, and now, public servants as defined under the Indian Penal Code.</li> </ul>
<b>Transfer of Foreign Contributions</b>	<ul style="list-style-type: none"> <li>• Foreign contributions cannot be transferred to any other person unless that person is also registered to accept foreign contributions or has obtained prior permission under the Act to receive such contributions.</li> </ul>
<b>Aadhar for Registration</b>	<ul style="list-style-type: none"> <li>• <b>Any person seeking registration or renewal of registration for receiving foreign contributions must provide the Aadhar number of all its office bearers, directors, or key functionaries as an identification document.</b></li> <li>• Foreigners are required to provide a copy of their passport or Overseas Citizen of India (OCI) card for identification.</li> </ul>
<b>FCRA Account</b>	<ul style="list-style-type: none"> <li>• <b>Foreign contributions must be received only in an account designated by the bank as an "FCRA account" in a branch of the State Bank of India, New Delhi, as notified by the central government.</b></li> <li>• No funds other than foreign contributions should be received or deposited in this account. The person can open another FCRA account in a scheduled bank of their choice for keeping or utilizing the received contributions.</li> </ul>
<b>Restriction on Utilization</b>	<ul style="list-style-type: none"> <li>• The government may restrict the usage of unutilized foreign contributions for persons who have been granted prior permission to receive such contributions.</li> </ul>



<b>Renewal of License</b>	<ul style="list-style-type: none"> <li>Those who have been granted a certificate of registration must renew it within six months of expiration. The government has the authority to conduct an inquiry before renewing the certificate.</li> </ul>
<b>Reduction in Administrative Expenses</b>	<ul style="list-style-type: none"> <li>The amendment reduces the permissible utilization of foreign contributions for administrative expenses to 20% (formerly 50%) of the contribution received.</li> </ul>
<b>Suspension of Registration</b>	<ul style="list-style-type: none"> <li>The government can suspend the registration of a person, entity, or NGO for a period not exceeding 180 days. The Act allows for an extension of this suspension for an additional 180 days.</li> <li>The government also has the authority to cancel the FCRA registration of an NGO if it is found to violate the Act. Once the registration is cancelled, re-registration is not allowed for three years.</li> </ul>
<b>Legal Challenge</b>	<ul style="list-style-type: none"> <li>All orders of the government related to FCRA registration and actions can be challenged in the High Court.</li> </ul>

## Challenges in implementing and enforcing the FCRA

### Lack of Awareness and Understanding

- Many stakeholders, including NGOs, businesses, and the general public, might not be fully aware of the FCRA regulations and their implications.
- A limited understanding of complex legal procedures and requirements might lead to unintentional violations.

### Non-compliance and Lack of Cooperation

- Some organizations might deliberately avoid compliance due to various reasons, such as political motivations, financial gain, or ideological differences.
- Lack of cooperation from stakeholders makes it difficult for regulatory authorities to enforce the FCRA effectively.

### Inadequate Resources and Infrastructure

- Regulatory bodies often struggle with limited resources and infrastructure, hindering their ability to effectively administer and monitor FCRA compliance.
- Insufficient funding can affect the training of staff and the implementation of advanced monitoring systems.

### Lack of Uniformity and Consistency

- Interpretation of FCRA provisions might vary among different regulatory authorities, leading to inconsistent enforcement.

- A lack of standardized guidelines can create confusion, making it challenging for stakeholders to comply with the regulations.

### Transparency and Accountability Issues

- Lack of transparency in the approval process and fund utilization can lead to suspicions and allegations, eroding public trust.
- Insufficient accountability measures can result in mismanagement and misuse of funds, undermining the integrity of organizations operating under the FCRA.

## Way forward

- Implementing stricter penalties for non-compliance discourages organizations from violating FCRA provisions intentionally.
- Providing regulatory bodies with adequate resources, training, and technology to enhance their monitoring and enforcement capabilities.
- Developing clear and standardized guidelines for interpreting and applying FCRA provisions, ensuring uniformity in enforcement.
- Implementing transparent approval processes and establishing mechanisms for regular audits to ensure funds are utilized appropriately.
- Encouraging collaboration between regulatory bodies, NGOs, businesses, and the



public to address concerns, gather feedback, and promote mutual understanding.

### Conclusion

- The FCRA in India is a regulatory framework that oversees the flow of foreign funds to

NGOs. While it aims to prevent misuse and monitor foreign contributions, its implementation has sparked debates and criticisms, particularly regarding its impact on civil society organizations and their ability to receive funding for their activities.

## 3.10 DIGITAL CROP SURVEY

### Context

- The Indian government plans to modernize its agricultural crop survey system by adopting a Digital Crop Survey system in July 2024. This move aims to overcome the limitations of the current manual system, which is prone to delays and errors.

### Key Highlights

#### Digitization of Crop Survey

- Digital crop survey refers to the use of digital technologies, such as satellite imagery, Geographic Information Systems (GIS), and data analytics, to assess and monitor crop production and agricultural activities.
- The Digital Crop Survey system involves automating and digitizing the process of collecting crop data at the field level. The guidelines require states and Union Territories to adopt this system starting from the 2024-25 Agricultural Year, which begins in July.

#### Use of GPS-Enabled Mobile Applications

- States and UTs are expected to use GPS-enabled mobile applications to collect data on crop sowing for each plot during each season. This data is then aggregated at the village level and shared with the Department of Agriculture & Farmers' Welfare (DA&FW) through APIs (Application Programming Interfaces).

#### Limited Current Implementation

- Currently, crop data collection and compilation in India are largely manual, leading to delays and errors. Only a few states, such as Karnataka, Telangana, and Andhra Pradesh, have implemented digital data collection systems using mobile applications, primarily for crop area and Cost

of Cultivation and Returns (CCEs) data collection.

#### Objective

- The primary goal of this initiative is to improve the accuracy and timeliness of agricultural production estimates. Reliable data is essential for decision-making, policy formulation, and addressing challenges in the agricultural sector.

#### Data Parameters

- The Digital Crop Survey will collect information on various parameters, including village name, year, season, farmer and farm IDs, crop details (including variety and sown area at the farm plot level), geotags for crop photos and farm boundaries, sowing/planting dates, irrigation details (type and source), and more.

### Features

#### Satellite Imagery

- High-resolution satellite images offer a comprehensive view of agricultural lands. This data is invaluable for assessing crop health, identifying areas of concern, and planning irrigation strategies. It also aids in monitoring land usage changes and potential environmental impacts.

#### Geographic Information Systems (GIS)

- GIS technology provides spatial intelligence, allowing farmers to create accurate maps of their fields. This enables precise planning for planting, irrigation, and harvesting. It also assists in analyzing soil properties, optimizing land use, and understanding the impact of geographical factors on crop growth.

#### Data Analytics

- Advanced algorithms process vast amounts of data to extract meaningful patterns. This

analysis helps in predicting crop yields, detecting early signs of diseases or pest attacks, and optimizing agricultural practices. Data-driven insights empower farmers to make informed decisions for maximizing productivity.

### Real-time Monitoring

- Real-time monitoring allows farmers to respond promptly to changing conditions. For instance, if a pest infestation is detected early, farmers can take targeted measures, reducing the need for widespread pesticide use. Continuous monitoring also aids in assessing the effectiveness of implemented strategies in real time.

### **Significance**

#### Precision Agriculture

- Precision agriculture maximizes resource efficiency. By applying the right amount of water, fertilizers, and pesticides only where and when they are needed, farmers can reduce costs and minimize environmental impact. This approach enhances overall productivity while conserving vital resources.

#### Early Warning Systems

- Timely detection of crop diseases and pests is critical for preventing extensive damage. Early

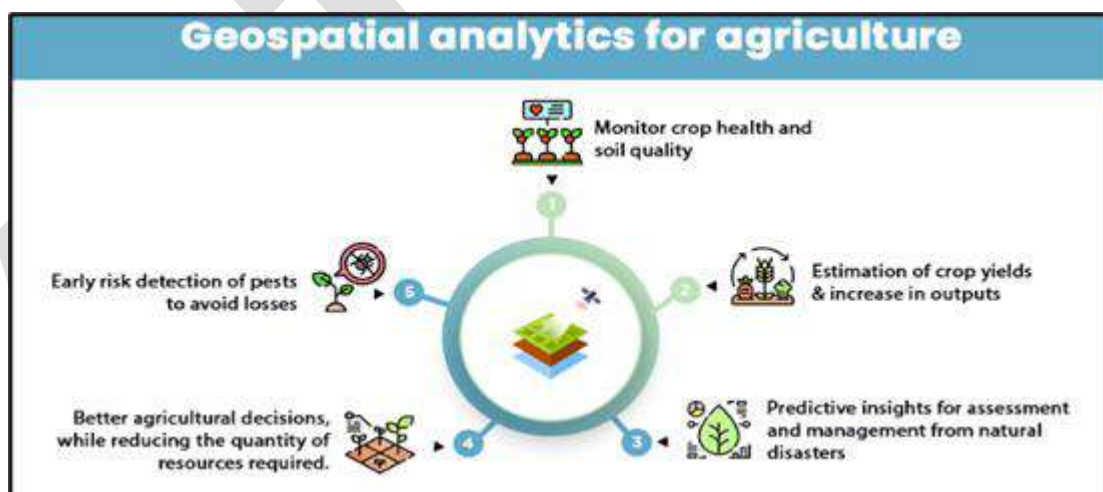
warning systems, facilitated by digital surveys, enable farmers to take preventive measures, curbing the spread of diseases and ensuring the health of crops. This is vital for maintaining food security by preserving harvests.

### Data-Driven Decision Making

- Accurate and reliable data is the foundation of informed decision-making. Policymakers can utilize agricultural data to formulate policies that support sustainable farming practices and food security. Farmers, armed with precise information, can make strategic choices about crop selection, pest control, and resource allocation, leading to improved outcomes.

### Sustainable Agriculture

- Sustainable agriculture aims to meet the current demand for food without compromising the ability of future generations to meet their own needs. Digital surveys and precision farming play a key role in this by minimizing resource wastage. By optimizing inputs and reducing environmental impact, these technologies promote the long-term viability of agriculture.



### **Challenges**

- Limited access to technology in rural areas hampers the widespread adoption of digital crop surveys.
- Ensuring the security of agricultural data is crucial to prevent misuse or unauthorized access.
- Inadequate internet connectivity and outdated hardware pose obstacles to seamless digital implementation.

- Farmers and agricultural workers may lack the necessary skills to effectively utilize digital tools.

## Way Forward

### Infrastructure Development

- **Ensure reliable and high-speed internet connectivity in rural areas.** Collaborate with telecommunication companies to expand broadband coverage.
- Introduce smart farming equipment connected to the internet (IoT devices) for real-time data collection and analysis, aiding farmers in decision-making processes.
- **Establish training centres in rural areas** where farmers can learn about the use of digital tools and technologies for farming.

### Skill Enhancement

- **Conduct regular workshops and training sessions focusing on digital literacy.** These sessions should cover basic computer skills, smartphone usage, and understanding agricultural apps.
- **Develop user-friendly mobile applications that provide agricultural advice,** weather forecasts, market prices, and pest control methods. Ensure these apps are available in local languages.
- Create online forums or helplines where farmers can seek immediate assistance regarding any issues related to digital tools or applications.

### Data Governance

- **Enforce stringent data protection laws and regulations to safeguard farmers' data.** Involve legal experts and technologists to formulate policies that ensure data security and privacy.
- **Establish transparent practices regarding the collection and utilization of agricultural data.** Farmers should be informed about how their data is being used and should have the option to opt out if they wish.
- Conduct regular audits of data management systems to identify and rectify potential

vulnerabilities. Involve third-party auditors for unbiased assessments.

### Research and Development

- Allocate research grants and funding to universities and research institutions working on agricultural technology. Encourage research on developing affordable and sustainable digital tools.
- **Facilitate the testing of prototypes on actual farms.** Collaborate with farmers for real-time feedback, allowing developers to refine their products based on practical needs.
- Encourage the sharing of non-sensitive agricultural data among researchers and developers. Open data initiatives can foster collaboration and innovation.

### Public-Private Partnerships

- **Organize innovation challenges and hackathons where startups and tech companies** can showcase their agricultural solutions. Provide financial incentives and support for the winners to implement their ideas.
- **Facilitate knowledge transfer sessions where successful agricultural technology companies** share their experiences and best practices with budding entrepreneurs and farmers.
- Provide subsidies and tax incentives for private companies investing in agricultural technology research and development. This can attract more private-sector participation.

## Conclusion

- Digital crop surveys have the potential to revolutionize agriculture, enhancing productivity, sustainability, and food security. Addressing challenges through strategic planning and concerted efforts can pave the way for a technologically advanced and prosperous agricultural landscape in India and beyond.

### 3.11 SUBSIDY MECHANISM FOR FERTILIZERS

#### Context

- The Indian government has approved a ₹22,303 crore subsidy for Phosphatic and Potassic (P&K) fertilizers, ensuring affordable prices and supporting farmers during the Rabi season from October 2023 to March 2024, shielding them from rising international prices.

#### Fertilizer Subsidy in India

- Fertilizer subsidies play a crucial role in ensuring that essential nutrients such as nitrogen, phosphorus, potash, and sulphur are accessible to farmers at affordable prices. These nutrients are vital for plant growth and are necessary for enhancing agricultural productivity.
- By making fertilizers affordable, subsidies enable farmers, especially small and marginal ones, to access these essential nutrients. This accessibility enhances the overall productivity of crops, leading to increased yields and better agricultural outcomes.
- A consistent and affordable supply of fertilizers, facilitated by subsidies, contributes significantly to food security in the country. By promoting higher agricultural yields, these subsidies help maintain a stable food supply and meet the demands of the growing population.
- Subsidies bridge the economic gap, making fertilizers financially viable for small and marginal farmers. By empowering these farmers to invest in necessary agricultural inputs, subsidies promote inclusive growth in the agricultural sector, fostering economic stability and prosperity among rural communities.

Organic Fertilizers	Inorganic Fertilizers
<p><b>Advantages:</b></p> <ol style="list-style-type: none"> <li>Provides the soil with organic nutrients.</li> <li>Improves the soil structure, or tilth, and increases its ability to hold both water and nutrients.</li> <li>Buildup of toxicity in the soil is unlikely, as long as the amount of organic material incorporated into the soil is fully decomposed.</li> </ol> <p><b>Disadvantages:</b></p> <ol style="list-style-type: none"> <li>Not immediately available to plants. This "slow release" feature can be an advantage. However, if there is an immediate need for nutrients, organic fertilizer cannot supply them in a hurry.</li> <li>Less exact way of providing for a plant's nutritional needs because amount of nutrients and exact type of elements can only be guessed at.</li> <li>Possibility of nitrogen depletion. Because of complex bacterial action, addition of a large amount of organic material can cause a temporary nitrogen depletion in the soil and therefore in the plants.</li> </ol>	<p><b>Advantages:</b></p> <ol style="list-style-type: none"> <li>Readily available to plants.</li> <li>A more exact way of providing for a plant's nutritional needs because type and amount of any given nutritive element in the fertilizer formulation are known.</li> </ol> <p><b>Disadvantages:</b></p> <ol style="list-style-type: none"> <li>Subject to leaching when washed by rain or irrigation water down below the level of the plant roots.</li> <li>Can burn seedlings and young plants through process of drying out or desiccation due to presence of chemical salts within the mineral fertilizers.</li> <li>Overly heavy applications can build up toxic concentrations of salts in the soil and create chemical imbalances.</li> </ol>

#### Components of Fertilizer Subsidy

- The subsidy system in India includes urea subsidy, which is provided for urea fertilizers, and nutrient-based subsidy (NBS) for phosphatic and potassic (P&K) fertilizers. Urea, a nitrogenous fertilizer, is widely used and subsidized to make it affordable for farmers. The NBS scheme was introduced to rationalize the subsidy on P&K fertilizers, ensuring a balanced use of nutrients.
- In 2015, the government introduced neem coating of urea to enhance its efficiency and reduce diversion and black marketing. Neem-coated urea releases nitrogen slowly, improving nutrient absorption by crops and reducing wastage.
- The Direct Benefit Transfer (DBT) system, implemented in 2018, aims to ensure transparent and timely subsidy payments to fertilizer manufacturers and importers. This system utilizes point of sale (PoS) devices to track actual sales to farmers, preventing leakage and ensuring that subsidies reach the intended beneficiaries.

## Impact of Fertilizer Subsidy

- Fertilizer subsidies have significantly contributed to increasing agricultural productivity by providing essential nutrients to crops, leading to higher yields and improved farm incomes.
- While **subsidies strain the government's finances**, they have contributed to reducing the fiscal deficit by promoting self-sufficiency in food production and reducing the need for food imports.
- By improving farm incomes and livelihoods, fertilizer subsidies have played a **role in rural development, poverty reduction, and improving the standard of living for millions of farmers.**

## Challenges and Considerations

- **Generous fertilizer subsidies have led to a dependency among farmers, particularly large and medium-scale farmers.** Small and marginal farmers often face challenges in accessing subsidized fertilizers, creating disparities.

Fertilizer	
Pros	Cons
<ul style="list-style-type: none"> <li>▪ Using fertilizer can increase your crop yields</li> <li>▪ Plant growth can be enhanced</li> <li>▪ Plants will be better able to protect against pests</li> <li>▪ Important to use farming space efficiently</li> <li>▪ Crucial to ensure the livelihood of farmers</li> <li>▪ Can help to overcome poverty</li> <li>▪ More stable and predictable yields</li> <li>▪ Proven concept over many hundreds of years</li> <li>▪ Fertilizer is quite cheap</li> <li>▪ Can help to optimize the pH-value of the soil</li> <li>▪ Supply of plants with everything they need</li> <li>▪ Multiple crop yields a year</li> <li>▪ Fertilizer is easy to transport and to store</li> <li>▪ Less soil erosion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Soil pollution</li> <li>▪ Groundwater pollution</li> <li>▪ Soil will become less fertile over time</li> <li>▪ Short-term gains vs. long-term losses</li> <li>▪ Chemical fertilizers are especially harmful</li> <li>▪ Using fertilizers cannot be considered to be natural</li> <li>▪ Harmful elements in our food</li> <li>▪ Plants may grow too fast</li> <li>▪ Alteration of ecosystems</li> <li>▪ Agricultural workers may suffer as well</li> <li>▪ Incorrect use can do more harm than good</li> <li>▪ Overfertilization is a problem</li> <li>▪ Fertilizers can harm microorganisms in the soil</li> </ul>

- **Subsidies can distort market prices**, leading to imbalances in supply and demand. This distortion affects the efficient allocation of resources and can encourage activities like smuggling, adulteration, and hoarding.
- **Overuse and misuse of fertilizers, especially urea, can lead to soil degradation, nutrient imbalances, water pollution, and contribute to greenhouse gas emissions.**

## Way Forward for Reform

- **Phasing out urea subsidy gradually and aligning its price with the market value** can ease the fiscal burden and promote the judicious use of fertilizers.
- **Targeting subsidies to small and marginal farmers** based on factors like landholding size, income, and cropping patterns can minimize leaks and promote equity. Income-based support through direct fund transfers empowers farmers to choose inputs based on their specific needs.
- **Reallocating funds to crucial public goods** like irrigation systems, research, extension services, and market connections can enhance agricultural productivity and sustainability.
- **Utilizing technology for efficient subsidy targeting ensures** that support reaches those who need it most, reducing inefficiencies and leakages.
- **Encouraging organic farming and sustainable practices** reduces reliance on chemical fertilizers, fostering environmental conservation and long-term soil fertility.
- **Learning from successful fertilizer management practices** in other countries through collaborations can provide valuable insights and help implement effective strategies.

## Conclusion

- The fertilizer subsidy system in India is vital for agriculture and food security but requires ongoing reforms to address challenges related to fiscal sustainability, environmental impact, and social equity. A balanced approach that promotes efficiency, sustainability, and equity is essential for the effective functioning of the subsidy system and the overall development of the agricultural sector in India.



## 3.12 PRIMARY AGRICULTURAL CREDIT SOCIETY

### Context

- The Union Home and Cooperation Minister recently addressed the "National Symposium on Production of Improved and Traditional Seed through Cooperative Sector," emphasizing the need for India to increase its share in the global seed market.

### Highlights of the Speech

- He mentioned that **India's share in the global seed trade is only 4.5%**, leaving significant room for improvement. Additionally, **India's share in the world seed export is a mere 0.6%**.
- He emphasized that it is the **responsibility of cooperatives to ensure that scientifically produced certified seeds reach every farmer in the country**. He also spoke about the role of Bharatiya Beej Sahkari Samiti Limited (BBSSL) in making India self-reliant in seed conservation, promotion, and research.
- He stressed the **need to conserve these indigenous seeds for the future**, as they play a crucial role in producing healthy grains, fruits, and vegetables.
- He called for setting a time-bound target for India to gain a larger share of the global seed market, aligning with the Prime Minister's vision of increasing farmers' income.
- He unveiled BBSSL's logo, website, and brochure and distributed membership certificates to its members. BBSSL is expected to play a significant role in advancing India's cooperative efforts in the seed sector.

### Primary Agricultural Credit Society (PACS)

- Primary Agricultural Credit Societies (PACS) are a **type of cooperative credit institution**

that was established to provide financial services to farmers.

- They are considered the basic unit and the smallest in the cooperative credit sector in India, with a long history dating back to 1904.
- Its primary role is **to serve as the crucial link between rural borrowers (farmers and individuals in rural areas) and higher financial institutions** such as Central cooperative banks, state cooperative banks, and the Reserve Bank of India.
- They **provide short-term and medium-term credit to farmers**, enabling them to finance various agricultural activities such as purchasing seeds, fertilizers, and machinery.
- By operating at the local level, PACS plays a vital role in providing financial support and services to rural communities, contributing significantly to the agricultural sector and rural development in India.

### Structure

- PACS operate at the grassroots level, forming the foundation of a three-tier cooperative credit structure in India.
- Members of PACS are individual farmers, and the societies are managed by elected office-bearers, including a General Body, Management Committee, Chairman, Vice-Chairman, Secretary, and office staff.

### Functions

- PACS offer short-term crop loans to farmers at a subsidized interest rate, often as low as 2%, making credit affordable and accessible.
- They borrow funds from higher cooperative banking institutions** and lend them to farmers for agricultural purposes.

- They facilitate the supply of essential agricultural inputs like seeds, fertilizers, insecticides, and other equipment.
- **They assist farmers by providing marketing facilities** and ensuring the sale of agricultural products at fair prices.
- They promote savings habits among their members, encouraging financial stability.

#### Funds and Borrowing

- PACS raise funds through various sources, including share capital from members, deposits, loans, donations, and entrance fees.
- Crop loans provided by PACS are subsidized by the government, with a significant portion of the interest rate being covered by subsidies, making the loans highly affordable for farmers.

#### Challenges and Reorganization

- **Many PACS suffer from inadequate coverage and weak management**, leading to challenges in their functioning.
- Factors such as defaults in loan repayment, lack of security, and inadequate credit limits contribute to low borrowing membership.
- **Large over-dues pose a problem** for PACS, impacting their ability to circulate loanable funds effectively.

#### Computerization and Modernization

- The government has initiated the computerization of all PACS to enhance

efficiency, transparency, and accountability in their operations.

- Computerization aims to improve service delivery, outreach, and digitalization in rural areas. It also facilitates PACS in becoming nodal service delivery points for various services and inputs.



#### Future Directions

- **PACS need to diversify their services**, providing forward and backward linkages to farmers, thereby supporting various aspects of agricultural activities.
- **They can transform into Multi-Service Centers**, offering a wide array of services, including financial services, technology-supported activities, and marketing support.
- **Collaboration with leading agricultural universities and institutes** can expose PACS members to best practices, fostering agricultural innovation and growth.

#### **Conclusion**

- PACS are vital components of the rural credit system in India, and their transformation, modernization, and expansion are essential for the holistic development of agriculture and rural communities.

### 3.13 SHORT ARTICLES

## **Insolvency and Bankruptcy Code**

### Context

- The Ministry of Corporate Affairs (MCA) notified exempting aircraft, aircraft engines, airframes, and helicopters from the moratorium provisions under the Insolvency and Bankruptcy Code (IBC).

### About Insolvency and Bankruptcy Code (IBC)

- The IBC was enacted in 2016 to revamp India's insolvency and bankruptcy framework. Before the IBC, the process of resolving insolvency was cumbersome and time-consuming, taking an average of 4.3 years. The IBC aimed to streamline this process,

providing a clear and time-bound mechanism for resolving insolvency cases.

### Mandate and Objectives

- The IBC mandates a time-bound resolution process. Typically, companies undergoing insolvency must complete the process within 180 days, extendable in certain cases.
- By providing a predictable and efficient process for dealing with insolvency, the IBC encourages entrepreneurship and risk-taking.
- It seeks to **balance the interests of creditors, debtors, and employees**, ensuring a fair and transparent resolution process.

### Key Components of the IBC



- The **primary objective is resolution, where distressed companies are restructured or acquired by new owners. If resolution is not possible, the assets are liquidated to repay creditors.**
- The National Company Law Tribunal (NCLT) and the National Company Law Appellate Tribunal (NCLAT) are the main adjudicating authorities under the IBC. They hear cases and pass orders related to insolvency resolution and liquidation.
- **Insolvency Professionals** are licensed professionals who play a crucial role in the insolvency resolution process. They **act as intermediaries between the creditors and the debtors and manage the resolution process.**
- When a corporate debtor defaults on its payment obligations, financial creditors, operational creditors, or the corporate debtor itself can initiate the Corporate Insolvency Resolution Process (CIRP).
  - During this process, the management of the corporate debtor is temporarily handed over to a resolution professional, and a **resolution plan is formulated within a specified timeframe (usually 180 days, extendable by 90 days).**
  - If a resolution plan is not agreed upon within the specified time frame or the plan fails to meet the requirements, the corporate debtor goes into liquidation. In the liquidation process, the assets of the corporate debtor are sold, and the proceeds are distributed among the creditors based on the priority of their claims.
- It also provides for insolvency resolution and bankruptcy processes for individuals and partnership firms.
- It empowers the Central Government to enter into agreements with other countries for enforcing the provisions of the IBC and the Insolvency and Bankruptcy Code (Cross Border Insolvency) Rules, 2017 were introduced for this purpose.



### Conclusion

- The IBC has brought a paradigm shift in the way insolvency and bankruptcy cases are dealt with in India, providing a robust legal framework that promotes entrepreneurship, protects the interests of creditors, and ensures the efficient resolution of distressed assets.

## **Project Mariana**

### Context

- The central banks of Singapore, France, and Switzerland, in partnership with the Bank for International Settlements (BIS), conducted Project Mariana, a joint experiment to test cross-border trading and settlement of wholesale central bank digital currencies (wCBDCs).

### About Project Mariana

#### Collaborative Effort

- Project Mariana, a **collaborative effort involving three BIS (Bank for International Settlements) Innovation Hub centers: the Swiss, Singapore, and Eurosystem Hub Centers.**
- It also involved the participation of prominent financial institutions, including the Bank of France, the Monetary Authority of Singapore, and the Swiss National Bank.

#### Utilization of Decentralized Finance Technology

- The project **focused on the application of decentralized finance (DeFi) technology concepts on a public blockchain.**
- It aimed to facilitate the trading and settlement of hypothetical wholesale Central Bank Digital Currencies (wCBDCs) denominated in euro, Singapore dollar, and Swiss franc between simulated financial institutions.

#### Role of Automated Market Makers (AMMs)

- Automated Market Makers (AMMs) were used **to provide liquidity and price discovery in the trading of wCBDCs.**
- This approach showcased the adaptability of DeFi mechanisms in the context of wCBDCs, which is essential for ensuring the creation of a dynamic and responsive market.

#### Risk Reduction and Benefits

- Project Mariana aimed to settle trades more quickly and securely, which could reduce risks associated with cross-border transactions, such as currency fluctuations and counterparty risks.
- The potential for wCBDCs to expedite cross-border payments and reduce costs holds the promise of enhancing financial inclusivity, benefiting businesses and individuals, especially in regions with limited access to traditional banking services.

#### International Cooperation

- The collaborative approach among central banks in Project Mariana emphasizes international cooperation in exploring new financial technologies.
- This cooperation is seen as essential for fostering a harmonized global financial system, acknowledging the significance of cross-border financial transactions.

#### Experimental Nature

- It's important to note that Project Mariana is purely experimental. The participating central banks clarified in a joint statement that the project does not indicate any intention to issue wCBDCs or endorse specific technological solutions or DeFi concepts. It serves as a testbed to explore the potential and challenges of using blockchain and DeFi technology for central bank digital currencies.

#### Conclusion

- Project Mariana represents a significant step forward, but there are likely challenges to address, such as regulatory frameworks, security concerns, and international standards. Continued research, development, and collaboration among central banks and regulatory bodies will be crucial in realizing the full potential of wCBDCs in cross-border payments.

## National Turmeric Board

#### Context

- The Government of India notified the constitution of the National Turmeric Board.

#### National Turmeric Board

- The Board was established with a focus on increasing awareness and consumption of turmeric, developing international markets, promoting research and development, and enhancing value-added turmeric products in line with global health trends.
- The Board conducts market research to identify potential international markets for turmeric and facilitates the participation of Indian turmeric exporters in global trade fairs and exhibitions. Collaboration with the Ministry of Commerce & Industry ensures favorable trade agreements benefiting turmeric exports.
- Investment in R&D to create new turmeric-based products, exploring both culinary and medicinal applications. Traditional knowledge related to turmeric is documented and preserved for ethical use and future generations.
- The Board organizes training programs for turmeric growers, focusing on modern cultivation techniques, sustainable farming practices, and post-harvest handling. Workshops are provided to enhance skills in areas like organic farming, pest management, and irrigation practices.
- The Board develops and enforces quality standards for turmeric and its products to meet international regulations. Stringent food safety measures are implemented across the turmeric supply chain to ensure high-quality standards are met.
- The Board consists of a Chairperson appointed by the Central Government, a Secretary appointed by the Department of Commerce, and various representatives including Ministry officials, State Government representatives, research and industry experts, and turmeric stakeholders.
- The Board aims to increase turmeric exports to USD 1 Billion by 2030.

#### Conclusion

- The Board's activities are expected to boost exports, maintain high-quality standards, foster innovation, and empower local farmers and



entrepreneurs, ensuring sustainable growth in

the turmeric sector.

### Turmeric

- Turmeric is **primarily cultivated in tropical countries** like India, Indonesia, and China. However, it can also be grown in subtropical regions such as the United States and southern Europe.
- It **requires a warm temperature range of 20-35°C for optimal growth**. Temperatures below 20°C can stunt growth, while temperatures above 35°C can cause damage to the plant.
- It needs an **annual rainfall of 1500 mm or more**, but the rainfall must be well-distributed throughout the growing season. It grows best in well-drained sandy or clay loam soils with a pH range of 4.5-7.5.
- It has been used for centuries in traditional Indian medicine. Its popularity has grown globally due to its numerous health benefits. Some key health benefits of turmeric include its ability to boost the immune system, protect the brain from damage, potentially prevent and treat Alzheimer's disease and cancer, reduce inflammation in the body, and lower cholesterol levels.
- **In 2022-23, India contributed to over 75% of global production**. Turmeric is grown in more than 30 varieties across 20 states, with Maharashtra, Telangana, Karnataka, and Tamil Nadu being the largest producing states.
- During 2022-23, India holds over 62% share of the world trade in turmeric.

## **National Investment and Infrastructure Fund (NIIF)**

### Context

- The National Investment and Infrastructure Fund (NIIF) and the Japan Bank for International Cooperation (JBIC) are collaborating to create a \$600 million India-Japan Fund.

### Details

- **The primary objective of the India-Japan Fund is to invest in projects that promote environmental sustainability and reduce carbon emissions**. This focus aligns with global efforts to combat climate change and encourages the development of renewable energy, energy efficiency, clean technology, and other green initiatives.
- **The Government of India will contribute 49% of the total corpus for the India-Japan Fund**, and JBIC will provide the remaining 51% of the target corpus.
- NIIF Limited (NIIFL) will be responsible for managing the India-Japan Fund.

### About the National Investment and Infrastructure Fund (NIIF)

- The idea for NIIF was introduced in the Union Budget of 2015-16, to create a fund dedicated to financing infrastructure projects in India. It was formally launched in December 2016.
- **NIIF is structured as an Alternative Investment Fund (AIF) under the regulatory framework of the Securities and Exchange Board of India (SEBI)**. It is India's first sovereign wealth fund.
- **NIIF consists of three funds:**
  - **Master Fund:** This fund primarily invests in core infrastructure sectors such as transportation, energy, water, sanitation, and urban infrastructure.
  - **Fund of Funds:** This fund invests in other funds managed by third-party managers that focus on infrastructure and related sectors like green energy, affordable housing, and digital infrastructure.
  - **Strategic Opportunities Fund:** This fund focuses on sectors adjacent to infrastructure, including logistics, industrial parks, and special situations.
  - NIIF has a unique business model that involves a partnership with the Government of India (GoI). **The GoI holds a 49% stake in each fund, acting as a minority shareholder. The remaining 51% is owned by various leading global and domestic institutional investors**, including pension funds, sovereign wealth funds, insurance companies, and banks.

- NIIF has attracted international investments. For example, the Abu Dhabi Investment Authority (ADIA) committed to investing \$1 billion in NIIF's Master Fund, signifying international interest in the fund.
- NIIF plays a crucial role in funding projects that cover economic infrastructure and social infrastructure, for the overall development of the nation.

### Conclusion

- NIIF's multifaceted approach, supported by strategic collaborations, regulatory incentives, and specialized fund launches, makes it a robust and credible platform for infrastructure financing in India, playing a pivotal role in the nation's economic growth and development.



## Yak Churpi

### Context

- The Geographical Indication (GI) tag awarded to Arunachal Yak churpi.

### About Arunachal Yak Churpi

- Arunachal Yak churpi is a **traditional cheese made from the milk of yaks**, which are a breed of cattle adapted to high-altitude regions. These yaks are primarily found in Arunachal Pradesh.
- The **cheese is prepared through a natural fermentation process**, resulting in a unique flavour profile characterized by a slightly sour and salty taste. It has been a staple in the diet of the local tribal communities of Arunachal Pradesh for generations.
- The GI tag for Arunachal Yak churpi signifies its deep connection to the geographical, cultural, and traditional aspects of Arunachal Pradesh.
  - Its purpose is to prevent the production of similar or imitation products in other regions, preserving the uniqueness and identity of Arunachal Yak churpi.
  - A Geographical Indication (GI) tag is a form of intellectual property protection used to recognize and protect products with specific geographical origins and unique qualities.
- **Arunachal Yak churpi is highly valued for its nutritional content**, particularly its protein content. Its nutritional richness makes it an essential dietary component for those living in these high-altitude regions.
- Churpi holds deep **cultural significance** in the daily lives and traditions of the people of Arunachal Pradesh. It is also used in traditional recipes, and its preparation and consumption are woven into the fabric of local customs and rituals.
- Churpi is an **integral part of the tangible cultural heritage** of the region and plays a vital role in preserving and passing on the cultural heritage of Arunachal Pradesh.



### Conclusion

- Arunachal Yak Churpi represents the intersection of culinary traditions, geographical identity, and cultural heritage in the region, making it a unique and essential component of Arunachal Pradesh's heritage.



## Pink Bollworm

### Context

- The severe problem faced by cotton farmers in Rajasthan and neighbouring regions due to the infestation of the Pink Bollworm (PBW) poses a significant threat to the cotton industry and the livelihoods of farmers.

- The cotton belt in northern Rajasthan, Haryana, and Southwestern Punjab has experienced persistent Pink Bollworm (PBW) infestation since 2021, with the current outbreak causing widespread and serious damage. PBW larvae penetrating cotton bolls have significantly reduced both the weight

### Details

and quality of the harvest, leading to a substantial decrease in cotton yield.

- **Decreased yield coupled with rising costs for labour, seeds, fertilizers, and insecticides have rendered cotton farming unprofitable for many farmers.** Despite the use of Bt cotton, engineered with genes from soil bacteria to combat pests, its effectiveness against PBW has diminished.

### Pink Bollworm

- Pink Bollworm (*Pectinophora gossypiella*) is a **highly destructive pest of cotton**, leading to significant economic losses for cotton growers globally.
- **Originally native to India**, Pink Bollworm has spread to almost all cotton-growing countries worldwide.
- **Adult Pink Bollworm moths are small, measuring around 3/8 inch in length.** They are dark brown with distinct markings on their forewings.
- Despite a short **lifespan of two weeks, female moths can lay over 200 eggs.** These eggs are laid directly on cotton bolls.
- After hatching, Pink Bollworm larvae feed on cotton seeds and fibres within the boll. This feeding damages both yield and cotton quality.
  - As larvae mature, they cut out the cotton boll and fall to the ground. They then pupate in a cocoon near the soil surface.
- Pink Bollworms have been observed attacking plants like hibiscus, okra, and hollyhock, but their primary economic impact is on cotton crops.
- **Control methods include integrated pest management, involving insecticides**, planting genetically modified Bt cotton varieties resistant to the pest, and cultural and biological control measures.
- Controlling Pink Bollworm is essential for maintaining cotton production and securing the livelihoods of cotton farmers worldwide.



### Conclusion

- The pink bollworm continues to pose a substantial challenge to cotton agriculture,

necessitating ongoing efforts in research and pest management. Collaboration between scientists, farmers, and policymakers remains vital in developing effective strategies to minimize its impact. Sustainable practices and innovation are essential to safeguarding cotton crops and ensuring long-term agricultural resilience.

## **India-Japan Fund (IJF)**

### Context

- The National Investment and Infrastructure Fund (NIIF) collaborated with the Japan Bank for International Cooperation (JBIC) to create a \$600 million India-Japan Fund.

### About India-Japan Fund

#### Focus on Environmental Sustainability and Carbon Emission Reduction

- The India-Japan Fund **prioritizes investments in renewable energy, energy efficiency, clean technology, and other environmentally friendly projects**, emphasizing the importance of promoting sustainable practices and technologies.
- By supporting initiatives that reduce carbon emissions and promote environmental sustainability, the fund plays a vital role in fostering a more sustainable future, aligning with global efforts to combat climate change and promote eco-friendly development.

### Funding Structure

- India's commitment to infrastructure development and sustainability projects is evident through its substantial contribution of 49% to the India-Japan Fund, showcasing its dedication to fostering green initiatives and sustainable economic growth within the country.
- **JBIC's provision of the remaining 51% of the fund's capital** underscores Japan's keen interest in investing in India's infrastructure and sustainability initiatives, highlighting the strong partnership between the two nations and their joint efforts to promote eco-friendly development.

### Management by NIIF Limited (NIIFL)

- **NIIF Limited, an experienced entity in managing infrastructure investments in India,** will be responsible for managing the India-Japan Fund.
- NIIFL has a track record of financing and promoting infrastructure development in the country. Their expertise will be crucial in ensuring the efficient allocation of funds and the successful execution of projects.

#### **Strategic and Economic Partnership**

- The establishment of the Fund marks a significant milestone in the strategic partnership between Japan and India, indicating a joint commitment to addressing crucial issues related to infrastructure development and sustainability. This collaboration signifies a shared vision for a greener and economically stronger future.
- **By fostering green initiatives and collaborating on sustainable projects, the partnership strengthens the economic ties between India and Japan.** This cooperation not only promotes environmental sustainability but also enhances bilateral trade, investment, and overall economic growth for both nations.

#### **National Investment and Infrastructure Fund (NIIF)**

- **NIIF is India's first sovereign wealth fund** and operates as an **Alternative Investment Fund under SEBI regulations.**
- It serves as a platform for national and international investors to invest equity capital in domestic economic and social infrastructure projects.
- **NIIF was proposed in the Union Budget 2015-16** to finance infrastructure projects in India. Formally launched in December 2016 with the signing of the first investment agreement with the Abu Dhabi Investment Authority (ADIA).
- NIIF invests in core infrastructure sectors like transportation, energy, water, sanitation, urban infrastructure, as well as adjacent sectors like logistics and industrial parks.
- **The Government of India holds a 49% stake,** and the rest is held by global and domestic institutional investors. NIIF also partners with

experienced operators and developers for high-quality projects.

#### **Significance of NIIF**

- **NIIF mobilizes long-term capital from domestic and international sources,** addressing India's infrastructure financing gap. It provides stable financing for development projects.
- **Investments in infrastructure drive economic growth by creating business opportunities,** enhancing connectivity, and increasing productivity, leading to higher GDP growth and improved living standards.
- Infrastructure projects create jobs, benefiting both skilled and unskilled labour. This contributes significantly to reducing unemployment and poverty.
- **Improved infrastructure directly impacts citizens' lives** by providing better transportation, clean water, sanitation, and reliable energy, enhancing overall social welfare.
- NIIF attracts FDI by offering attractive returns, risk mitigation, and co-investment opportunities, boosting investor confidence in India's infrastructure potential.
- NIIF's collaborations facilitate the transfer of knowledge and technology to Indian companies, ensuring infrastructure projects adhere to global best practices and utilize cutting-edge technology.

#### **Conclusion**

- The India-Japan Fund stands as a testament to the collaborative spirit of nations in addressing pressing global issues. By investing in environmental sustainability and carbon emission reduction, India and Japan are not only fostering a greener future but also reinforcing their strategic partnership and contributing to global environmental well-being.



## 52<sup>nd</sup> GST Council Meeting (Recommendations)

### Context

- The 52nd GST Council meeting chaired by the Union Minister for Finance and Corporate Affairs, led to recommendations on GST rate changes, trade facilitation measures, and compliance streamlining.

### Key Highlights of the recommendations:

#### Changes in GST rates of goods

- GST rates on "Food preparation of millet flour in powder form, containing at least 70% millets by weight" were prescribed as follows:
  - 0% if sold in other than pre-packaged and labelled form.
  - 5% if sold in pre-packaged and labelled form.
- **Imitation zari thread or yarn** made out of metallised polyester film/plastic film falls under the entry for imitation zari thread or yarn, **attracting a 5% GST rate.**
- Foreign-going vessels are liable to pay 5% IGST on the value of the vessel if it converts to a coastal run. Conditional IGST exemption was recommended subject to reconversion to foreign-going vessels in six months.
- **Extra Neutral Alcohol (ENA) used for the manufacture of alcoholic liquor for human consumption was recommended to be kept outside GST.**
- **GST on molasses was reduced from 28% to 5%** to increase liquidity with mills and enable faster clearance of cane dues to sugarcane farmers.
- A separate tariff Harmonized System (HS) code was created to rectify the spirit of industrial use, attracting an 18% GST rate.

#### Other changes relating to Goods

- Job work services for processing of barley into malt attract GST at 5% under "job work in relation to food and food products.
- Liability to pay GST on bus transportation services supplied through Electronic Commerce Operators (ECOs) was placed on the ECO. Bus operators organized as companies were excluded from this provision.

- **District Mineral Foundations Trusts (DMFT)** set up by State Governments in mineral mining areas were clarified to be Governmental Authorities, **eligible for GST exemptions.**
- All goods and services supplied by Indian Railways were taxed under the Forward Charge Mechanism to enable them to avail of the Input Tax Credit (ITC) and reduce costs.

#### Changes in GST rates of services

- Pure and composite services provided to Central/State/UT governments and local authorities in relation to functions entrusted to Panchayat/Municipality under the Constitution of India were exempted from GST.
- Services of water supply, public health, sanitation conservancy, solid waste management, and slum improvement supplied to Governmental Authorities were exempted from GST.

#### Other changes relating to Services

- Corporate guarantees provided between related parties were recommended to be taxed at 1% of the amount of such guarantee offered, or the actual consideration, whichever is higher.
- Provision for automatic restoration of provisionally attached property after completion of one year was recommended.
- A circular was recommended to clarify the admissibility of export remittances received in the Special INR Vostro account for considering the supply of services as an export of services.

#### Other measures pertaining to law and procedures

- Amendments in the Central Goods and Services Tax (CGST) Act, 2017 were recommended to align provisions with the Tribunal Reforms Act, 2021 for the appointment of President and Member of the proposed GST Appellate Tribunals.



#### Conclusion

- The 52nd GST Council Meeting recommended amendments to the appointment conditions for the GST Appellate

Tribunals, nil GST rate for loose millet flour, exclusion of Extra Neutral Alcohol from GST, reduction of GST on molasses to 5% for cane farmers' benefit, and conditional IGST exemption for foreign vessels converting to coastal run to boost tourism.

## Exporter Status Certificates

### Context

- The Union Ministry of Commerce and Industry has launched a new initiative to issue automatic 'Status Holder' certificates under the Foreign Trade Policy (FTP) 2023, aligning with the Digital India vision.

### Key points about this new system:

#### Automatic Status Holder Certificates

- **Exporters are no longer required to apply to Directorate General of Foreign Trade (DGFT) for a Status Certificate.** The new system autonomously assesses an exporter's status by utilizing merchandise export electronic data and risk parameters sourced from *Directorate General of Commercial Intelligence and Statistics (DGCI&S)*.
- The exporter's status is determined based on real-time data, including electronic export records and risk analysis, eliminating the need for manual applications and providing a streamlined, efficient process for exporters.

#### Reduced Compliance Burden

- This system aims to **reduce the compliance burden on exporters, making it easier for them to conduct business.**
- The initiative highlights the importance of collaboration within the government and recognizes the need to streamline and simplify trade procedures.

#### Status Modification

- **Exporters eligible for a higher status based on additional export data**, such as services export or deemed exports, can apply for a status modification at a later date.

#### Privileges for Status Holders

- **Status Holder certification boosts the credibility of Indian exporters in global markets**, signalling their reliability and

trustworthiness to international partners and stakeholders.

- Status Holders enjoy benefits such as streamlined processes under FTP 2023, priority customs clearances based on self-declaration, exemption from mandatory document negotiation through banks, and relief from filing bank guarantees for FTP schemes, facilitating smoother and more efficient trade operations.

#### Increased Number of Status Holders

- With the launch of this new system, the Ministry of Commerce and Industry plans to recognize around 20,000 exporters as Status Holders under FTP 2023, a significant increase from the previous number of 12,518 exporters.

#### Focus on Small Exporting Entities

- **The 1 Star category targets smaller exporting entities**, aiming to support and uplift their participation in international trade activities.
- To qualify for the 1 Star category, exporters must demonstrate a consistent export performance, requiring a minimum of US\$ 3 million in exports over the last three financial years, including the ongoing financial year.

#### Conclusion

- The implementation of this system is aimed at creating a more streamlined and efficient export ecosystem, supporting small exporters, and working towards the goal of reaching a US\$ 2 trillion export target by 2030.

## Goan Cashew

### Context

- The Geographical Indication (GI) tag for Goan cashews signifies their unique quality and origin, providing a boost to the cashew industry in Goa.

### Key Highlighting

- **The GI tag ensures that cashews with this label are genuine products originating from Goa.** It protects consumers from counterfeit or substandard products, allowing them to make informed choices about the quality and origin of the cashews they purchase.



- By promoting authentic Goan cashews, the GI tag can enhance the demand for these products. Increased demand benefits local cashew producers, manufacturers, and the overall economy of the state. **It encourages sustainable agricultural practices and supports the livelihoods of local communities** involved in cashew cultivation and processing.
- The GI tag can also serve as a tool for promoting tourism and cultural experiences related to Goan cashew cultivation. Tourists often seek authentic local products as souvenirs, and the GI tag can help in identifying and promoting genuine Goan cashew products to tourists.

### Historical Context

- **Cashew was introduced to Goa by the Portuguese in the 16th century**, initially for afforestation and soil conservation purposes.
- The edible value of cashew nuts was discovered by Goan prisoners in Portuguese Africa during Goa's freedom movement in the mid-18th century, sparking commercial interest.
- The first cashew factory in Goa began operations in 1926, leading to organized processing. Cashew production transitioned to a large-scale industry, driven by demand, especially from the United States.
- Before Goa's liberation in 1961, the region became a significant exporter of processed cashew nuts, both locally grown and imported. The industry accounted for about 60% of industrial production, contributing significantly to Goa's economy and international trade.

### Cashew

#### Global Cultivation and Climate Requirements

- Cashew trees (*Anacardium occidentale*) are cultivated globally in tropical and subtropical regions.
- They thrive in regions with **temperatures between 25 and 30 degrees Celsius and annual rainfall ranging from 1,000 to 1,500 millimetres**, providing the necessary warmth and water for growth.

- Cashew trees prefer **well-drained sandy soils with a pH level between 6.0 to 7.0**, ensuring proper drainage and nutrient availability for healthy development.

#### Leading Producer and Processing Centers

- **India tops global cashew production with over 20% of the total output**, while Vietnam tops in cashew processing, defining their roles in the global cashew industry.
- **Maharashtra leads cashew nut production in India**, with Andhra Pradesh and Odisha following closely, showcasing regional diversity in cultivation.

#### Versatility and Nutritional Benefits

- Cashew apples, the fruit of the cashew tree, are edible and **nutrient-rich**, providing substantial amounts of vitamin C, vitamin A, and iron, making them valuable for a balanced diet.
- Cashew nuts are nutritionally dense, and rich in protein, dietary fibre, and healthy fats, while also providing essential minerals like magnesium, copper, manganese, and phosphorus, making them a wholesome and nutritious snack choice.

#### Industrial Use and Byproducts

- Cashew shell liquid, extracted from cashew shells, is utilized in varnishes, paints, and industrial products for its versatile chemical properties.
- Cashew shell liquid is also employed in creating cashew nut butter, a product with culinary and commercial applications. This enhances the economic value of cashew cultivation by utilizing multiple parts of the tree, promoting sustainability in the industry.

#### Conclusion

- The GI tag for Goan cashews not only protects the interests of consumers but also contributes significantly to the economic, cultural, and agricultural sustainability of the region. It fosters a sense of pride among local communities and helps in the global promotion of Goan cashews as a premium agricultural product.



## Navratna Status

### Context

- Indian Railways' Public Sector Enterprises (PSUs), RITES Ltd and IRCON International Limited, have been granted "Navratna" status by the Ministry of Finance.

#### RITES Ltd (RITES)

- RITES Ltd is a leading transport infrastructure consultancy and engineering firm in India. It is involved in various sectors, including transportation, railways, export of rolling stock, highways, airports, metros, urban engineering and sustainability, ports and waterways, and energy management.

#### IRCON International Limited (IRCON)

- IRCON specializes in railways, highways, and extra-high-tension substation engineering, demonstrating proficiency in diverse areas such as electrification, tunneling, signaling, and telecommunication.
- IRCON is actively engaged in various projects, including leasing locomotives, and constructing roads, highways, buildings, airports, metros, and mass rapid transit systems, showcasing its versatility in infrastructure development.

### Benefits of Navratna Status

- Navratna PSUs can invest up to Rs 1,000 crore or 15% of their net worth on a single project without seeking government approval. They also have the freedom to enter joint ventures, form alliances and float subsidiaries abroad.
- They have the freedom to set their own human resources policies, including recruitment, compensation and promotion. They also have the freedom to determine their own marketing and pricing strategies.
- They are encouraged to compete in the global market and to expand their international operations. They are also given preferential treatment in the allocation of foreign exchange and the grant of government contracts.

### To be eligible for Navratna status, a PSU must meet the following criteria:

- It must have a net worth of at least Rs 5,000 crore.
- It must have made a profit in the last three consecutive years.
- It must have a good corporate governance record.
- It must be listed on at least one stock exchange.

### Conclusion

- Navratna status is a recognition of these companies' performance and capabilities. It bestows them with certain financial and operational autonomy, allowing them to make decisions and investments more efficiently. This, in turn, enables them to take on larger projects and compete more effectively in the global market.



#### Navratna PSUs in India

- |  |   |
|--|---|
| 1. Bharat Electronics Limited                          | 9. NMDC Limited                               |
| 2. Container Corporation of India Limited              | 10. Rashtriya Ispat Nigam Limited             |
| 3. Engineers India Limited                             | 11. Shipping Corporation of India Limited     |
| 4. Hindustan Aeronautics Limited                       | 12. Rail Vikas Nigam Limited                  |
| 5. Mahanagar Telephone Nigam Limited                   | 13. ONGC Videsh Ltd                           |
| 6. National Aluminium Company Limited                  | 14. Rashtriya Chemicals & Fertilizers Limited |
| 7. National Buildings Construction Corporation Limited | 15. IRCON International Limited               |
| 8. Neyveli Lignite Corporation Limited                 | 16. RITES Limited                             |

## Bima Vahak

### Context

- The Insurance Regulatory and Development Authority of India (IRDAI) has introduced guidelines for Bima Vahak, a women-centric insurance distribution channel.

### About Bima Vahak

#### Bima Vahak Guidelines

- The IRDAI has developed guidelines for **Bima Vahak, a dedicated distribution channel focused on enhancing insurance inclusion, creating awareness, and improving accessibility and availability of insurance in villages and gram panchayats (local self-governance units in India).**
- The guidelines for Bima Vahak will be implemented from the date of the launch of Bima Vistaar, an all-in-one standard insurance product that is currently under development by IRDAI.

#### Objectives of Bima Vahak

- **The primary objective of Bima Vahak is to establish a women-centric distribution channel.** It aims to identify and develop local resources who understand the needs of their communities and have the trust and confidence of the local population.

#### Deployment of Bima Vahaks

- According to the norms, **every insurer is required to engage individual Bima Vahaks and/or Corporate Bima to achieve coverage of every gram panchayat.** Insurers are directed to deploy Bima Vahaks in each gram panchayat before December 31, 2024.

#### Activities of Bima Vahaks

- Bima Vahaks will be responsible for activities such as filling proposal forms, fulfilling KYC (Know Your Customer) requirements through handheld electronic devices, issuing insurance policies, and providing coordination and support in policy and claims-related servicing.
- Bima Vahaks will carry handheld devices that allow policyholders to make premium payments electronically. These devices facilitate direct remittance of premiums to designated bank accounts.

### Conclusion

- The IRDAI has introduced Bima Vahak guidelines to create a women-centric insurance distribution channel coinciding with the launch of Bima Vistaar, an all-in-one insurance product. The initiative aims to improve insurance accessibility in every village by deploying Bima Vahaks in each gram panchayat before December 31, 2024, using handheld devices for efficient services.

## General Provident Fund

### Context

- The Department of Personnel and Training (DoPT) has issued a letter outlining the procedures for All India Service (AIS) officers on central deputation to claim General Provident Fund (GPF) payments when they retire.



### General Provident Fund (GPF)

#### Eligibility Criteria

- Individuals serving as temporary government employees continuously for at least one year are eligible to participate in the GPF.
- Re-employed pensioners, except those eligible for the contributory provident fund, can also subscribe to the GPF.
- Permanent government employees are automatically enrolled in the GPF.

#### Contribution

- **Government employees are required to contribute a specific percentage of their salary** to the GPF account.
- These contributions are deducted from the employee's monthly salary.
- The accumulated amount in the GPF account earns interest at a predetermined rate.
- Employees have the option to increase their GPF deductions according to their preferences.

#### Withdrawal Options

- Employees can access their GPF savings upon retirement or resignation from government service.
- GPF allows partial withdrawals



for specific reasons such as marriage, education, and medical emergencies.

- **Employees can take loans against their GPF account**, subject to certain conditions.
- **If an employee transfers to another government department or changes jobs**, they can either withdraw their GPF balance or transfer it to their new employer.
- In the unfortunate event of the employee's demise, the GPF sum will be paid to the nominee.

#### Interest Rate and Administration

- GPF offers a competitive interest rate, which is revised quarterly.
- The scheme is administered by the Department of Pension and Pensioners' Welfare, under the Ministry of Personnel, Public Grievances and Pensions.

#### Benefits and Advantages

- GPF contributions qualify for tax savings under Section 80C of the Income Tax Act, providing a financial incentive for government employees.
- **GPF is considered a low-risk investment avenue**, ensuring the safety of the employee's savings.
- The fund offers guaranteed returns on the accumulated amount, providing financial security to employees after retirement.

#### Conclusion

- The General Provident Fund (GPF) is a robust savings platform for government employees, providing a secure and flexible way to save for retirement, emergencies, and other essential life events. With competitive interest rates and tax benefits, it's an attractive option for government servants seeking reliable long-term savings.

## **CBDT Directives on Angel Tax**

#### Context

- The recent tax directive issued by the Central Board of Direct Taxes (CBDT) addresses concerns related to the angel tax for recognized start-ups in India.

#### Key points regarding the CBDT directive

- **Recognized start-ups, as acknowledged by the Department for Promotion of Industry and Internal Trade (DPIIT)**, are exempt from verification by Assessing Officers for cases related to Section 56(2)(viib) of the Income-tax Act. This exemption pertains to scrutiny notices related to angel tax.
- **The directive outlines two scenarios:**
  - If a start-up is selected for scrutiny solely on the issue of the applicability of Section 56(2)(viib), no verification will be carried out, and the start-up's position on the matter will be accepted.
  - If a start-up is selected for scrutiny on multiple issues, including Section 56(2)(viib), the applicability of Section 56(2)(viib) will not be pursued during the assessment proceedings.

#### Amendments made in the Finance Act 2023

- **Angel tax is a tax imposed on unlisted companies when they issue shares to investors at a price higher than their fair market value.** In the Finance Act 2023, the scope of angel tax was expanded to include non-resident investors, with the amendment of Section 56(2)(viib) of the Income-tax Act.
- The Finance Ministry introduced valuation rules for both foreign and domestic investors in unlisted companies, including start-ups. These rules specify various valuation methods, depending on the type of investor.
- In May, the Finance Ministry exempted investors from 21 countries, including the US, UK, and France, from the levy of angel tax for non-resident investments in unlisted Indian start-ups. However, investments from certain other countries, like Singapore, Netherlands, and Mauritius, were not exempted from angel tax.

#### Key Points related to angel tax:

- **Angel tax is an income tax payable on capital raised by unlisted companies through the issuance of shares where the share price exceeds the fair market value of those shares.** This excess realization is treated as income and subject to taxation.
- Angel tax was introduced in the 2012 Union Budget by then Finance Minister Pranab

Mukherjee to prevent the misuse of funds and curb tax evasion. It is primarily governed by section 56(2)(viib) of the Income Tax Act, 1961.

- Angel tax is imposed on investments made by resident investors in unlisted Indian companies, where the investment amount is valued above the fair market value.
- **The government has provided exemptions for angel tax on investments made by domestic investors in startups that meet specific criteria.** These criteria typically include a cap on the paid-up capital and share premium, minimum net worth and income requirements for investors, and approval from an inter-ministerial board.
- Angel tax is levied at a rate of 30.9% on net investments that exceed the fair market value.
- To address industry concerns, changes have been proposed, including expanding the valuation methods for shares and simplifying the compliance procedure. Rule 11UA under the Income Tax Act, which deals with valuation methods, is expected to be amended.
- **The goal of angel tax was to prevent the overvaluation of shares during investment rounds and to ensure that the tax system was not abused to launder money.** However, it has faced criticism and concerns, and the government has been taking steps to address these issues, as mentioned in the changes proposed recently.

#### Conclusion

- The purpose of these amendments and the tax directive is to provide clarity and relief to recognized start-ups facing scrutiny notices related to angel tax, particularly in cases involving non-resident investors. This is intended to support the growth and investment in the start-up ecosystem in India by reducing regulatory hurdles and uncertainties related to angel tax.



## Withholding Tax

### Context

- The Supreme Court's ruling in favour of the tax department has significant implications for companies making payments under dividends, interest, royalties, and technical services to overseas entities covered by Double Taxation Avoidance Agreements (DTAAs) with the Netherlands, Switzerland, or France.

### Key points from the ruling are as follows:

- **The Supreme Court held that companies cannot automatically claim a lower withholding tax rate of 5% under the Most Favored Nation (MFN) clause of DTAAs with the Netherlands, Switzerland, or France without a specific notification issued by the government.**
- The court clarified that for the benefits under the MFN clause to apply, the government must issue a specific notification. In the absence of such a notification, the standard withholding tax rate of 10% as per the original DTAAs with these countries will be applicable.
- **This ruling is likely to impact companies involved in international transactions,** as they will now have to adhere to the higher withholding tax rate of 10% instead of the desired 5% without specific notification.
- The ruling applies to payments made under dividends, interest, royalties, and technical services to overseas entities covered by the DTAAs with the Netherlands, Switzerland, or France.

### Most Favored Nation (MFN) clause in Double Taxation Avoidance Agreements (DTAAs)

- The MFN clause ensures equal treatment of taxpayers in both contracting countries, preventing discrimination based on nationality or income source.
- If a country signs a new tax treaty with a third nation offering more favourable terms, the existing treaty's terms automatically adjust to match those better terms, promoting fairness and preventing preferential treatment.
- By allowing treaties to be updated automatically, the MFN clause promotes

fairness, encourages international investments, and maintains flexibility in adapting to changing global tax standards and bilateral relations.

### How the MFN Clause Works

#### Equal Treatment

- The MFN clause ensures that taxpayers of one country are not treated less favourably than taxpayers of another country in terms of taxation. If Country A and Country B have a DTAA with an MFN clause, and Country B signs a new treaty with Country C with better terms, Country A can claim those better terms for its taxpayers as well.

#### Avoiding Discrimination

- The clause prevents discrimination against taxpayers based on their nationality or the source of their income. It ensures that citizens or companies of one country are not subject to more burdensome tax treatment compared to those from another country.

#### Promoting Fair Competition

- By ensuring that businesses and individuals are taxed fairly and equally, the MFN clause

promotes fair competition and encourages cross-border investments and trade between the treaty countries.

#### Flexibility

- Countries can negotiate tax treaties with different nations independently. The MFN clause provides flexibility by allowing countries to benefit from favourable terms negotiated by their treaty partners with third countries without having to renegotiate their existing treaties.

#### Updating Treaty Terms

- Tax laws and international relations change over time. The MFN clause allows existing treaties to remain relevant by automatically updating their terms to reflect changes in global tax standards or bilateral relations.

#### Conclusion

- The MFN clause in DTAAs ensures that taxpayers of both countries are treated equally and prevents discrimination. It promotes fairness, encourages international investments, and keeps tax treaties up-to-date with changing global dynamics.

## Regional Rapid Transit System

### Context

- The Regional Rapid Transit System (RRTS) project was inaugurated by the Prime Minister in the National Capital Region (NCR).

### What is RRTS?

- The Regional Rapid Transit System (RRTS) is India's first mass rapid transit system dedicated to regional connectivity.
- It is an integrated mass transit network designed for fast commuter trains connecting various locations in the NCR.
- It aims to ensure balanced and sustainable urban development through improved connectivity and access.
- The project was initiated based on a study



commissioned by the Indian Railways in 1998-99 and further developed by the National Capital Region Planning Board (NCRPB).

- Recently, the 17-km priority section of the Delhi-Ghaziabad-Meerut corridor was inaugurated by the Prime Minister. The entire 82-km Delhi-Ghaziabad-Meerut corridor is expected to be operational by 2025.

### Key Features

- RRTS trains can operate at speeds up to 180 km/hour, significantly faster than existing metro systems.
- The project aims to **enhance inter-state connectivity and serve regions around Delhi**, reducing travel time between major cities like Delhi and Meerut to less than an hour.
- The RRTS is modelled after successful systems like RER in Paris, Regional-Express trains in Germany and Austria, and SEPTA Regional Rail in the United States.



### Benefits to NCR

- The RRTS will significantly reduce travel time between cities in the NCR, making it convenient for commuters to travel longer distances in a short time.
- By encouraging public transportation, **RRTS aims to reduce congestion on roads and existing metro and railway networks in the NCR.**
- Shorter travel times are expected to increase economic productivity by allowing more economic activities in suburban locations. It will promote employment generation and the development of commercial hubs in the region.
- RRTS will enhance multi-modal connectivity at existing transportation hubs**, providing seamless transfers between different modes of transport.

### Conclusion

- The RRTS project is a significant step toward transforming the NCR's transportation landscape, offering faster, more efficient, and sustainable regional connectivity, thereby fostering economic development and easing urban congestion.

## Minimum Support Price

### Context

- The Cabinet Committee on Economic Affairs (CCEA), chaired by the Prime Minister has approved the decision to increase the minimum support price (MSP) for all mandated rabi crops.

### Details

- MSP for wheat increased by ₹150 per quintal, raising it to ₹2,275 per quintal for the 2024-25 marketing season, which runs from April to March.
  - Wheat is a significant rabi (winter) crop in India, with sowing typically starting in October and harvesting in April.
- The **CCEA approved an increase in MSP for all mandated rabi crops** for the 2024-25 marketing season based on the recommendations of the Commission for Agricultural Costs and Prices (CACP).

Rabi Crops	Kharif Crops
Rabi crops are sown at the end of monsoon or the beginning of winter. They are also known as winter crops.	Kharif crops are sown at the beginning of the rainy season and are also known as monsoon crops.
Flowering requires a long day length.	Flowering requires a short day length.
These crops need a warm climate for seed germination and cold climate for growth.	These crops require a lot of water and hot weather to grow. They depend on rainfall.
Unseasonal rainfall can damage Rabi crops.	Kharif crops depend on rainfall patterns.
The harvesting months are March and April.	These crops are harvested in September and October
Examples: Mustard, wheat, cumin, coriander etc.	Examples: Rice, bajra, groundnut.

### Minimum Support Price (MSP)

- MSP in India was initiated during the 1960s as part of the Green Revolution strategy. This period witnessed a significant increase in food production due to modern agricultural practices and high-yielding seeds.

- It was designed to ensure food security by providing farmers with a guaranteed minimum price for their crops. It acted as a safety net, protecting farmers from market fluctuations and preventing distress sales.
- The MSP system, managed by government agencies, stabilizes market prices and ensures that farmers receive the promised minimum price. This stability encourages farmers to invest in their crops, promoting agricultural development and contributing to the overall economy.

### Process of Announcing MSP

- The Commission on Agricultural Costs and Prices (CACP) assesses factors like input costs, production costs, market demand, and supply conditions for different crops. Based on this assessment, it recommends MSP to the government.
- The final decision on MSP is made by the Cabinet Committee on Economic Affairs (CCEA), considering these recommendations and broader economic factors.
- Once approved, MSP rates are announced before the sowing season.
- Government agencies set up procurement centres in agricultural regions, where farmers can sell their produce at MSP, ensuring a stable income.

### Features and Significance of MSP

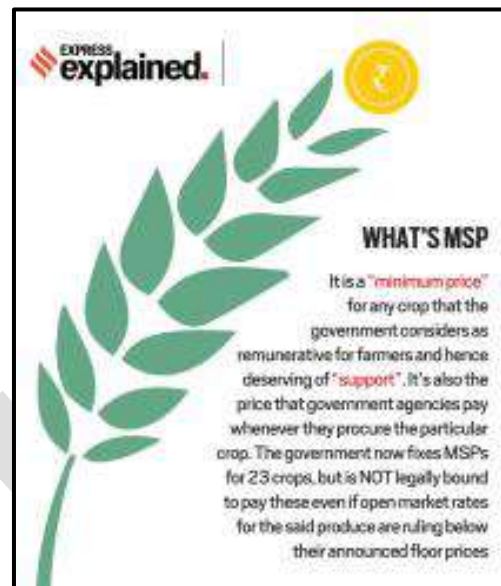
- MSP guarantees a minimum price for 23 different crops, protecting farmers from volatile market prices.
- It covers cereals, pulses, oilseeds, and commercial crops. Announcements are made before each planting season.
- MSP is determined by evaluating production costs, demand-supply dynamics, and domestic and international prices.
- Government agencies step in with price support operations if market prices fall below MSP, stabilizing agricultural commodity prices.
- It ensures economic stability, motivating farmers to sustain agricultural production.
- Grains procured at MSP are distributed through the Public Distribution System (PDS), ensuring food security.
- MSP is revised periodically considering input costs and market conditions, encouraging increased productivity and supporting agricultural growth.

### Challenges related to MSP

- MSP primarily covers staple crops, leaving farmers of other crops vulnerable to market fluctuations. This discourages diversification and sustainable farming practices.
- States with limited procurement face challenges, contributing to regional disparities in farmer income. Infrastructure deficits limit the reach and effectiveness of MSP.
- It can disrupt market dynamics, discouraging private sector participation. Excess procurement can lead to storage issues and misallocation of resources.
- It can lead to the overuse of natural resources and promote monocropping, impacting soil quality and biodiversity.

### Way Forward

- Broaden MSP coverage to include various crops, encouraging crop diversification and sustainable farming practices.
- Invest in storage facilities, improve transportation networks, and enhance market linkages to ensure MSP benefits reach farmers efficiently.





- **Strengthen monitoring mechanisms**, minimize intermediaries, and ensure transparent procedures to enhance trust in the system.
- **Encourage food processing units and agro-industries** to add value to agricultural products, providing alternative income sources for farmers.
- Implement data-driven reforms, balancing the interests of farmers with broader economic considerations, ensuring MSP policies remain sustainable and effective.

### Conclusion

- For the sustainable implementation of Minimum Support Price (MSP) in India, it is crucial to address challenges by promoting crop diversification, investing in infrastructure, ensuring fair price realization, and encouraging agro-industries. This balanced approach should consider the diverse needs of farmers and the complexities of the agricultural market to safeguard farmers' income security.



## **Vizhinjam International Seaport Project**

### Context

- The Vizhinjam International Seaport Project is one of the major infrastructural projects in India aimed at enhancing maritime trade and connectivity.

### Details

- Adani Ports and SEZ Private Limited, a leading Indian port infrastructure company, is responsible for the construction of the seaport.
- The Kerala government has actively supported the project by allocating 500 acres of land for its development.

### Significance of the Project

#### Addressing Infrastructure Gap

- India previously lacked deepwater ports capable of handling ultra-large container ships, which resulted in a reliance on foreign ports for such operations.
- Vizhinjam offers a natural depth of over 18 meters, scalable to 20 meters, making it suitable for accommodating large vessels and mother ships effectively.

#### Transshipment Traffic

- Historically, **India heavily relied on transshipment services provided by foreign ports**, including Colombo, Singapore, and Klang, leading to significant foreign exchange expenditure.
- Developing Vizhinjam as a transshipment hub enables India to retain its transshipment business domestically, reducing the need to

divert traffic to foreign ports and resulting in forex savings.

#### Economic Impact

- The project's modern infrastructure attracts Foreign Direct Investment (FDI), injecting capital into the economy and fostering economic growth.
- **Vizhinjam generates revenue through transshipment operations, taxes, and fees**, contributing significantly to the finances of both the state and central governments.
- The development of supporting logistics infrastructure stimulates economic activities in related sectors, creating a multiplier effect on the economy.

#### Competitive Advantage

- Vizhinjam's strategic location makes it an attractive choice for shipping companies, given its proximity to international shipping routes.
- **The port's capability to handle Megamax container ships, some of the largest vessels in the world**, gives it a competitive edge and makes it a preferred choice for international shipping lines, ensuring a steady flow of maritime traffic.

#### Job Creation

- **The project is expected to create 5,000 direct job opportunities**, providing employment to the local population and boosting the region's economic stability.
- Improved logistics infrastructure leads to the growth of industrial corridors around the port, creating additional jobs in manufacturing, transportation, and related sectors.

- **Enhanced port facilities also benefit cruise tourism**, creating employment opportunities in the tourism sector, including hospitality, entertainment, and travel services.

#### Project Progress and Challenges

- As of the latest assessment, 65.46% of the project is complete.
- The project has faced delays due to various factors, including the 2017 Ockhi cyclone, the COVID-19 pandemic, the shortage of granite boulders for breakwater construction, and protests by fishermen.
- The first phase, which was initially promised to be operational by 2020, is now scheduled for completion in December 2024.

#### Conclusion

- The Vizhinjam International Seaport Project holds promise for enhancing India's maritime infrastructure, reducing foreign exchange expenditures, and fostering economic development in the region. However, addressing the challenges and ensuring timely completion will be crucial for the project's success.



## Dollar-Rupee Swap Auction

#### Context

- The Reserve Bank of India (RBI) conducted a \$5 billion forex swap with banks last year, which has matured recently.

#### Dollar-rupee swap auction

- A dollar-rupee swap auction is a **monetary policy instrument used by the Reserve Bank of India (RBI) to manage liquidity in the banking system and support the rupee.**
- In a dollar-rupee swap auction, the **RBI sells dollars to banks in exchange for rupees, with an agreement to buy back the dollars at a later date.** This helps to inject liquidity into the banking system and support the rupee.

#### Why does the RBI Conduct Dollar-Rupee Swap Auctions?

- **To increase liquidity in the banking system.** This can be done to offset liquidity tightness caused by factors such as heavy government borrowing or outflows of foreign capital.

- **To support the rupee when it is under pressure** due to factors such as a global risk-off sentiment or a widening current account deficit.
- **To manage its foreign exchange reserves.** By selling dollars in exchange for rupees, the RBI can reduce its foreign exchange reserves and increase its rupee reserves. This can be helpful in times of rupee depreciation, as the RBI can use its rupee reserves to buy dollars and support the rupee.

#### Impact of dollar-rupee swap auctions

- **It can help to increase liquidity in the banking system.** This can boost lending and investment activity, and support economic growth.
- **It can help to support the rupee.** This can make imports cheaper and exports more competitive, and boost trade and investment.
- **It can reduce the RBI's foreign exchange reserves.** This can make it more difficult for the RBI to defend the rupee in times of depreciation. However, the RBI can also buy dollars back from the market at a later date, replenishing its foreign exchange reserves.

#### Conclusion

- Dollar-rupee swap auctions are a useful tool that the RBI can use to manage liquidity in the banking system and support the rupee. However, it is important to note that dollar-rupee swap auctions can also have some negative impacts, such as reducing the RBI's foreign exchange reserves.

## Small Savings Instruments

#### Context

- The Public Provident Fund (PPF) interest rate in India has been fixed at 7.1% since April 2020, but the formula-based rates regime indicates it should have been 7.51% for the current quarter, as per RBI calculations.

#### Small Savings Instruments

- Small savings instruments are **government-backed financial products designed to encourage savings among individuals and promote financial inclusion.**

- These instruments are typically characterized by their **low risk, accessibility, and relatively modest investment requirements, making them attractive to a wide range of investors, especially those with lower incomes.**

Some of the popular small savings instruments in India include:

Recurring Deposit Accounts

- In a Recurring Deposit (RD) account, investors deposit a fixed amount of money at regular intervals, typically monthly, for a specified tenure. The interest is typically higher than regular savings accounts. RDs are a good choice for people looking to save a fixed amount regularly for specific goals, like a vacation or down payment on a home.

Time Deposit Accounts

- Time Deposit accounts, similar to fixed deposits, offer higher interest rates than savings accounts. However, the deposited amount is locked in for a fixed period, and premature withdrawal may result in a penalty. These are suitable for individuals who can afford to invest their money for a longer duration.

National Savings Certificates (NSCs)

- **NSCs are fixed-income savings instruments with two maturity options: 5 years and 10 years.** The interest rate is determined by the government and is compounded annually. NSCs are a good choice for long-term savings and are often used to save for goals such as a child's education or retirement.

Kisan Vikas Patras (KVPs)

- **KVPs are designed for shorter-term savings goals.** They have a lock-in period of 124 months (approximately 10 years and 4 months) and offer competitive interest rates. KVPs are often used for goals like saving for a down payment on a house or car.

Public Provident Fund (PPF)

- The PPF is a long-term savings scheme with a maturity period of 15 years. It offers tax benefits under Section 80C of the Income Tax Act, and the interest earned is tax-free. PPF is an excellent choice for retirement planning, as well as other long-term financial goals. Additionally, it allows for partial withdrawals

and can be extended in 5-year blocks after maturity.

Sukanya Samridhi Yojana

- This government-backed savings scheme is exclusively for the benefit of the girl child. It provides a high rate of interest and offers tax benefits under Section 80C. The account **can be opened for a girl child up to 10 years of age, and the maturity period is 21 years** from the date of account opening. It's an excellent choice for securing a girl child's financial future.

Senior Citizens' Savings Scheme (SCSS)

- **The SCSS is designed for senior citizens aged 60 and above.** It offers a high rate of interest and has a relatively short maturity period of 5 years. Interest income from SCSS is taxable, but it provides regular income to retirees and can be extended for another 3 years after maturity.

Conclusion

- Small savings instruments are government-backed, offering security and stability for saving and investing. They come with different interest rates, liquidity, and tax advantages, catering to diverse financial goals and risk preferences.



## Leniency Plus' Norms

Context

- The Competition Commission of India (CCI) has introduced a new regulatory framework known as the "Leniency Plus" regime, which is part of the Competition (Amendment) Act 2023.

About the "Leniency Plus" regime:

- **The Competition (Amendment) Act 2023 introduced the "Leniency Plus" regime in India.** This is an enhanced version of the existing leniency program under the Competition Act 2002.

Incentivizing Multiple Cartel Disclosures

- The Leniency Plus regime **encourages companies that are already under investigation for one cartel to come forward and report other cartels that are unknown to**

the competition regulator. This incentivizes companies to provide information about multiple cartels, which can save time and resources for the CCI.

#### Additional Reduction in Penalties

- Under the Leniency Plus regime, a cartel cooperating with the CCI can disclose the existence of another unrelated cartel in the course of original leniency proceedings. In exchange for this additional disclosure, they can receive a further reduction in the penalty imposed on them for the first cartel.

#### Global Best Practices

- The Leniency Plus regime is already recognized in several jurisdictions worldwide, including the UK, the US, Singapore, and Brazil. It aligns India's competition law enforcement with global best practices in cartel detection and enforcement.

#### Consideration of Detection Likelihood

- The CCI is entitled to consider the likelihood of how the **newly disclosed cartel would have been detected without the leniency plus application**. This factor helps ensure that the primary aim of the Leniency Plus regime, which is to incentivize the disclosure of additional cartels, is not lost sight of.

#### Market Correction and Whistleblower Rewards

- The revised regulations also introduce an increase in overall penalties that the CCI can levy on a company's global turnover. Additionally, there is an attractive settlement and commitment mechanism.
- The Leniency Plus regime rewards whistleblowers who self-report another cartel with further reductions in their penalties, which can lead to a quick and effective market correction.

#### Conclusion

- The introduction of the "Leniency Plus" regime is a significant development in India's antitrust enforcement efforts. It is expected to strengthen the CCI's leniency program, promote transparency, and help in effectively addressing cartels in multiple markets.

## Floating Rate Savings Bonds

### Context

- The Reserve Bank of India, in consultation with the Government of India, expanded the basket of products offered through the Retail Direct Portal, allowing retail investors to subscribe to Floating Rate Savings Bonds (FRSBs).

### Key points

- The RBI has launched the Retail Direct Scheme, which **allows retail investors to invest in various government securities through an online portal called the Retail Direct Portal**. This portal simplifies the process of investment and brings government securities within easy reach of retail investors.
- Retail investors can now subscribe to Floating Rate Savings Bonds (FRSBs), 2020 (Taxable) in addition to other available products.
- **The RBI-Retail Direct Scheme (RDS) was launched in November 2021**. It allows individual investors to open a Retail Direct Gilt account with the RBI through the online portal, which enables them to invest in government securities in both the primary and secondary markets.

### Floating Rate Savings Bonds (FRSBs)

- Floating Rate Savings Bonds (FRSBs) are unique investment options **offered by the Government of India through the Reserve Bank of India (RBI)**.
- They **provide investors with the opportunity to earn a floating interest rate** that can be advantageous in a changing interest rate environment.
- Investors interested in FRSBs can approach authorized bank branches and post offices to purchase these bonds.

### Features of FRSBs

- **The interest rate on FRSBs is not fixed but is adjusted every six months** based on the prevailing rate of National Savings Certificates (NSCs) plus a spread of 35 basis points. This feature allows investors to potentially benefit from rising interest rates.
- **FRSBs have a fixed maturity period of seven years**. While they are not tradable or

transferable, senior citizens have the option of liquidating the bonds after a shorter lock-in period.

- The **minimum investment amount is ₹1,000**, making it accessible to a wide range of investors.
- **The interest income from FRSBs is taxable.**
- FRSBs do allow for premature redemption, subject to penalties. Senior citizens may be exempt from these penalties, providing them with added flexibility.

#### **Benefits of Investing in FRSBs**

- FRSBs offer a floating interest rate, which can protect investors from interest rate fluctuations. When market interest rates rise, the FRSB's interest rate also increases, potentially providing higher returns.
- They often offer a competitive interest rate compared to other fixed-income investments like fixed deposits and savings accounts.
- **They are backed by the Government of India**, which enhances their safety and makes them a relatively secure investment option.

#### **Conclusion**

- Floating Rate Savings Bonds are an attractive investment option, especially for those who prefer a floating interest rate and the safety of a government-backed instrument. However, individuals should carefully assess their financial goals, risk tolerance, and tax considerations before investing in FRSBs.



## **National Cooperative Exports Limited**

#### **Context**

- The Indian government has decided to route 12 lakh metric tonnes (LMT) of non-basmati white rice to 11 countries through the National Cooperative Exports Limited (NCEL).

#### **Details**

- The countries to which the rice is being exported include the UAE, Bhutan, Mauritius, Singapore, Nepal, Cameroon, Côte d'Ivoire, Republic of Guinea, Malaysia, Philippines, and Seychelles.

- This export is allowed based on the permission granted by the Government of India to meet other countries' food security needs and their respective government requests.

#### **National Cooperative Exports Limited (NCEL)**

- It is a cooperative organization established to serve as an umbrella organization for exports within the cooperative sector of the country.
- It was established and officially registered under the Multi-State Cooperative Society Act, 2002, in January 2023, with the approval of the Union Government. This registration allows it to operate at a national level and across multiple states in India.
- It is jointly promoted by several prominent cooperative societies in India. These include:
  - Gujarat Cooperative Milk Marketing Federation (GCMMF), known as AMUL
  - Indian Farmers Fertilizer Cooperative Limited (IFFCO)
  - Krishak Bharati Cooperative Limited (KRIBHCO)
  - National Agricultural Cooperative Marketing Federation of India Limited (NAFED)
  - National Co-operative Development Corporation (NCDC), which is a Statutory Corporation under the Ministry of Co-operation.

#### **Mission and Focus**

- The primary objective of NCEL is to **harness the strengths of cooperative organizations and transform them into successful and dynamic business enterprises**. It encourages cooperatives to have a global perspective while also addressing local needs.
- It operates in various sectors, including agriculture, horticulture, dairy, poultry, livestock, fisheries, sugar, spices, organic products, fertilizers, handloom, handicrafts, textiles, tea/coffee, minor forest produce, ayurvedic/herbal medicines, processed food, leather, and more.
- **It is committed to ensuring that the benefits of exports reach the member farmers of cooperative organizations**. To achieve this, the cooperative shares approximately 50% of

the export profit with member farmers, which is in addition to the minimum support price (MSP).

### Conclusion

- NCEL's approach underscores the importance of collaboration and cooperation among various cooperative societies in India to expand their reach in international markets and contribute to the growth of the cooperative sector as a whole. This cooperative's efforts align with India's focus on promoting cooperative initiatives to enhance agricultural and rural development.



## **Integrated Ombudsman Scheme**

### Context

- The Delhi High Court has criticized the RBI Ombudsman for issuing an unreasoned order and emphasized that the Reserve Bank-Integrated Ombudsman Scheme 2021.

### About Integrated Ombudsman Scheme (IOS)

- **The Integrated Ombudsman Scheme (IOS) launched by the Reserve Bank of India (RBI) in 2021** was a significant step toward enhancing the grievance redressal mechanism for customers of banks, non-banking financial companies (NBFCs), and insurance companies.
- This comprehensive scheme simplifies and streamlines the process of addressing customer complaints and grievances.

### Key features and benefits of the IOS:

#### Single Point of Contact

- The IOS provides customers with a **single point of contact for addressing grievances related to banking, NBFC, and insurance services.** This "one customer, one ombudsman" principle simplifies the process and reduces confusion for customers who have complaints against multiple entities.

### Two Levels of Redressal

- The scheme **offers a two-tier system for grievance resolution.** Customers can initially approach the ombudsman of the specific entity against which they have a complaint (Level 1). If the issue remains unresolved at Level 1, customers can escalate it to Level 2, where an independent ombudsman can address grievances related to all three types of entities.

### Comprehensive Coverage

- The IOS covers a wide range of issues, including banking services (e.g., account-related matters, loans, credit cards), NBFC services (e.g., loans, mutual funds, insurance), and insurance services (e.g., life insurance, health insurance, general insurance).

### Ease of Filing Complaints

- **Customers have multiple options for filing complaints.** They can visit the website of the Banking Codes and Standards Board of India (BCSBI), call the toll-free number, or write to the ombudsman of the entity in question. This provides flexibility and convenience for customers.

### Resolution of Grievances

- The IOS acts as an effective tool for customers to seek redress for their grievances. It helps in resolving disputes, promoting transparency, and instilling confidence in the financial and insurance sectors.

### Conclusion

- The Integrated Ombudsman Scheme plays a vital role in protecting the rights and interests of consumers in the financial services sector. It serves as a mechanism to hold banks, NBFCs, and insurance companies accountable for providing quality services and addressing customer concerns promptly. This initiative aligns with the broader goal of ensuring a fair and transparent financial system in India.

### 3.14 SNIPPETS

#### White Goods

APTI PLUS



- The revised Production Linked Incentive (PLI) scheme for white goods in India introduces substantial changes to enhance oversight, clarity, and flexibility for participating companies.
- White goods refer to large home appliances that are typically white in colour, although they can be found in various colours nowadays. It includes essential household appliances like refrigerators, washing machines, dishwashers, ovens, and stoves.
- They are designed to be durable and long-lasting. They are built to withstand regular use and are generally considered long-term investments for households.
- Modern white goods are designed with a focus on energy efficiency. Manufacturers use advanced technologies to reduce energy consumption, which not only saves money for consumers but also contributes to environmental conservation by lowering overall energy demand.

#### Pusa-44 Paddy Variety

APTI PLUS



- Punjab's ban on the cultivation of the PUSA-44 paddy variety is motivated by concerns regarding water consumption, environmental impact, and stubble burning.
- Developed by the Indian Council of Agricultural Research (ICAR) in 1993, is known for its exceptionally high yield, ranging from 34 to 40 quintals per acre, significantly surpassing the average yield of other paddy varieties (28 to 30 quintals per acre).
- Its lengthy maturity period of approximately 160 days, significantly longer than other varieties and requiring 5-6 additional irrigation cycles, exacerbates water scarcity issues in affected regions.
- It generates approximately 2% more stubble than short-duration varieties. Stubble burning not only contributes to air pollution but also poses health risks to residents.

#### Bombay Stock Exchange

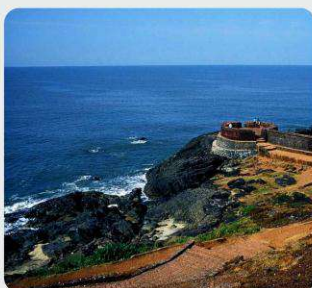
APTI PLUS



- Established in 1875 as the Native Share and Stock Brokers' Association, BSE is Asia's first and largest securities market in India, and also the 10th oldest in the world.
- It operates on an electronic trading system, listing various securities including stocks, stock futures, stock options, index futures, index options, and weekly options.
- BSE's performance is measured by the Sensex, a benchmark index of 30 of its largest and most actively traded stocks representing 12 sectors.
- BSE is located in Mumbai, a major financial centre in India, comparable to Wall Street in the United States.

#### Caravan Park in Kerala

APTI PLUS



- Kerala plans its first public sector caravan park at Bekal Fort in Kasaragod.
- Bekal was selected for cinema tourism, showcasing film locations from hit movies, including the iconic song "Uyire" from Bombay.
- Bekal Fort, built in 1650 AD by Shivappa Nayaka of Keladi in Kerala, showcases distinctive laterite stone construction and spans 40 acres, making it the largest fort in the state.
- The fort's keyhole-shaped structure and its strategic positioning near the Arabian Sea create a visually stunning effect. It incorporates wide moats, bastions, and watchtowers, displaying both defensive prowess and aesthetic beauty.
- With disputed origins predating its official construction, Bekal Fort gained historical significance during Tipu Sultan's era, undergoing significant expansions and transformations, solidifying its role as a vital military outpost.

### 3.15 1 MAINS & 5 MCQs

**Q1. What is the role of the blue economy in India's economic development, and what initiatives and challenges are associated with harnessing its potential for sustainable growth and national security?**

India's maritime blue economy plays a crucial role in the country's economic development, social progress, and national security. It aims to boost GDP by developing marine resources and coastal infrastructure. It focuses on improving livelihoods and socio-economic development in coastal communities while preserving marine biodiversity and enhancing national security in strategic maritime areas.

#### **Role of Blue Economy in India's Economic Development**

1. **Diverse Sectors:** The blue economy encompasses various sectors such as fisheries, aquaculture, shipping, ports, tourism, renewable energy, and more. This diversity ensures a holistic approach to economic growth, providing numerous opportunities for employment, export promotion, innovation, and value addition.
2. **Economic Opportunities:** By investing in the blue economy, India can create jobs, boost exports, foster innovation, and add value to its marine resources. These sectors offer significant economic potential, contributing to the country's GDP and economic prosperity.
3. **Livelihood Support:** Millions of people, especially in coastal communities, depend on the blue economy for their livelihoods. It supports these communities by providing income through activities like fishing and tourism, thus improving their socio-economic conditions.
4. **Ecosystem Services:** The blue economy provides essential ecosystem services, regulating climate, sequestering carbon dioxide, cycling nutrients, and reducing the risk of disasters. These services are vital for

environmental sustainability and the well-being of coastal communities.

5. **Strategic Importance:** By enhancing maritime capabilities and investments in the blue economy, India strengthens its strategic interests and geopolitical influence in the Indian Ocean Region (IOR) and beyond. This ensures national security and establishes India as a key player in the global maritime landscape.

#### **Initiatives to Harness Blue Economy's Potential**

1. **Flagship Schemes:** Initiatives like Blue Revolution and PMMSY focus on enhancing fisheries and aquaculture, ensuring sustainable practices, and improving the livelihoods of coastal communities.
2. **Strategic Vision:** Long-term roadmaps like 'Amrit Kaal Vision 2047' align policies, investments, and efforts towards sustainable growth, economic development, environmental conservation, and social welfare.
3. **International Trade Agreements:** Agreements like the India-Middle East-Europe Economic Corridor promote international trade, reviving historical routes and enhancing economic partnerships, leading to increased trade opportunities and economic growth.
4. **Infrastructure Development:** Projects like Sagarmala and Maritime India Vision 2030 enhance connectivity, trade efficiency, and economic competitiveness through the development of mega ports and modern infrastructure.
5. **Promotion of Renewable Energy:** Emphasizing renewable energy sources in the maritime sector, such as offshore wind and tidal energy, contributes to a sustainable energy future, reducing environmental impact and promoting energy security.
6. **Technological Innovation:** Exploring biotechnology, seabed mining, and deep-sea exploration fosters technological



advancements and economic opportunities in marine science and technology.

7. **Maritime Security Cooperation:** Strengthening cooperation through regional and international mechanisms enhances maritime security, promoting stability, and ensuring the safety of sea routes, trade, and investments in the maritime domain.

### Challenges in Harnessing Blue Economy's Potential:

- Inadequate data and research hinder evidence-based policymaking and decision-making in the blue economy sector.
- Inadequate coordination among various stakeholders, including governments, the private sector, civil society, and academia, poses challenges to the effective implementation of policies.
- High vulnerability to natural disasters, climate change impacts, and marine pollution due to anthropogenic activities pose significant challenges to the sustainable development of the blue economy.
- Limited capacity and resources to monitor, regulate, and enforce compliance with national and international laws and norms hinder sustainable practices.
- Growing competition and conflicts with other countries over access to ocean resources and strategic locations create challenges in harnessing the blue economy's potential.

### Strategies for Sustainable Growth and National Security:

- Invest in extensive research, involve local communities, and develop regulations to prevent overfishing, encourage sustainable practices, and manage coastal development to protect marine habitats.
- Facilitate collaboration between ministries, establish a body overseeing policy coherence, and allocate resources efficiently to promote a holistic approach to the blue economy.
- Develop educational programs, provide vocational training, involve communities in decision-making processes, and educate them about sustainable practices.
- Utilize big data analytics, implement blockchain technology, and use IoT devices to monitor marine patterns, prevent illegal fishing, and manage aquaculture efficiently.
- Collaborate with neighbouring countries on joint research initiatives, harmonize policies and regulations, and work together on disaster response and management.

### Conclusion

- In conclusion, India's blue economy holds immense potential for economic development, social progress, and national security. By addressing challenges through comprehensive policies, technological innovation, and regional cooperation, India can harness this potential sustainably and emerge as a global leader in the blue economy arena.

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### Q2. Consider the following statements in the context of the Global Innovation Index 2023:

1. India ranked 40th out of 132 economies in the Global Innovation Index 2023 rankings.
2. The Index was published by the World Intellectual Property Organization (WIPO).
3. The United States (USA) ranked 1st in the Index.
4. China remained the only middle-income economy in the top 30.

How many of the above statement is/are correct?

- A) Only one
- B) Only two
- C) Only three
- D) All four

### Q3. Consider the following statements in the context of the Insolvency and Bankruptcy Code (IBC):

1. The IBC was enacted in 2016 to revamp India's insolvency and bankruptcy framework.

- By providing a predictable and efficient process for dealing with insolvency, the IBC encourages entrepreneurship and risk-taking.
- It seeks to balance the interests of creditors, debtors, and employees, ensuring a fair and transparent resolution process.
- The National Company Law Tribunal (NCLT) and the National Company Law Appellate Tribunal (NCLAT) are the main adjudicating authorities under the IBC.
- The IBC also provides for insolvency resolution and bankruptcy processes for individuals and partnership firms.

**How many of the above statement is/are correct?**

- Only two
- Only three
- Only four
- All five

**Q4. Consider the following statements in the context of the Project Mariana:**

- The central banks of Singapore, France, and Switzerland, in partnership with the Bank for International Settlements (BIS), conducted Project Mariana.
- It is a joint experiment to test cross-border trading and settlement of wholesale central bank digital currencies (wCBDCs).
- The project utilized new decentralized finance technology concepts on a public blockchain to facilitate trading and settlement.
- The Project is purely experimental. The participating central banks emphasized in a

joint statement that the project does not indicate any intention to issue wCBDCs.

**How many of the above statement is/are correct?**

- Only one
- Only two
- Only three
- All four

**Q5. Consider the following statements in the context of the "Yak churpi":**

- It is a traditional cheese made from the milk of yaks, which are a breed of cattle adapted to high-altitude regions.
- It has been a staple in the diet of the local tribal communities of Uttarakhand for generations.
- It recently received the GI tag.

**How many of the above Statements is/are correct?**

- Only one
- Only two
- All three
- None

**Q6. What was the focus of Claudia Goldin's work that led to her being awarded the 2023 Nobel Prize in Economics?**

- Economic development in developing countries
- Economics of Gender
- Environmental economics
- Behavioral economics

ANSWERS: 2) C 3) D 4) D 5) B 6) B

## 4. DEFENSE & SECURITY

### 4.1 ARTIFICIAL INTELLIGENCE (AI) IN DEFENCE SECTOR

#### Context

- Artificial Intelligence is revolutionizing India's defence capabilities, offering operational advantages and bolstering border security through advanced surveillance and intelligence technologies.

#### AI in the Defence Sector

- Artificial intelligence (AI) is the **ability of a machine to simulate human intelligence**. AI systems can learn from data, identify patterns, and make decisions without being explicitly programmed. AI is used in a wide range of applications, including defence and security.
- India has long recognized the importance of staying technologically advanced in defence capabilities. With the rapid advancement in AI technologies, India's defence sector has embraced AI applications to enhance its operational efficiency, strategic planning, and overall security measures.

#### Significance of AI in India's Defense:

- **AI-powered surveillance systems**, such as unmanned aerial vehicles (UAVs) and satellites, enable real-time monitoring of vast border areas. These systems use computer vision to detect and track movements, providing crucial data to military strategists.
- **AI algorithms process massive datasets from various sources**, including communication intercepts, social media, and satellite imagery. These algorithms identify patterns and potential threats, allowing intelligence agencies to make informed decisions swiftly.
- **Machine learning algorithms analyze data from military equipment sensors** to predict maintenance needs accurately. This proactive approach ensures that military assets are always operational, minimizing downtime during critical situations.

- **AI-driven cybersecurity systems continuously monitor network traffic**, detecting and countering cyber threats in real time. These systems use machine learning to identify anomalous behaviour, helping safeguard military networks and sensitive information.
- **Autonomous AI-driven weaponry systems that can independently identify and neutralize threats**. However, ethical considerations and international regulations are crucial in the development and deployment of such technologies.
- **AI-based simulations create realistic training environments for military personnel**. These simulations adapt to the trainee's actions, providing dynamic and challenging scenarios. It enhances the effectiveness of training exercises and prepares soldiers for diverse real-world situations.
- **It can reduce operational costs by minimizing human intervention**, optimizing resource allocation, and prolonging the lifespan of military equipment through predictive maintenance.

#### Challenges

- **Safeguarding sensitive defence data from cyber threats and ensuring secure data transmission** are ongoing challenges. Encryption technologies and rigorous cybersecurity protocols are essential in addressing this issue.
- The **development and deployment of autonomous AI-driven weapons raise ethical concerns**. India must navigate these concerns, adhering to international regulations and ensuring the responsible use of AI technologies in the defence sector.
- There is a **significant skill gap in the defence sector concerning AI technologies**. Training programs and educational initiatives are essential to bridge this gap and create a

skilled workforce capable of harnessing AI's full potential.

- **Ensuring seamless integration of AI systems with existing defence infrastructure and**

**technologies** is a challenge. Standardizing protocols and interfaces is crucial to achieving interoperability and maximizing the efficiency of AI applications.

**Steps taken by India**

**Establishment of Task Force (2018-2019)**

- The establishment of a task force in 2018 demonstrates India's proactive approach to AI implementation in defence. By analyzing and providing recommendations on policy, institutional mechanisms, capacity building, research and development, as well as ethical and legal concerns, India laid the foundation for a structured and well-informed AI strategy.

**Innovations for Defence Excellence (iDEX) Program (2018)**

- The iDEX program showcases India's commitment to fostering innovation and entrepreneurship in the defence sector. By providing funding, mentoring, and market access to startups and innovators, iDEX stimulates the development of innovative AI solutions. The Defence India Startup Challenges (DISC) further enhance problem-solving by identifying and supporting solutions for specific defence issues, ensuring practical applications of AI technologies.

**Defence Artificial Intelligence Agency (DAIA) (2019)**

- The creation of DAIA signifies the centralization of AI efforts in the defence sector. By coordinating and implementing AI projects across the armed forces and collaborating with academia and industry, DAIA facilitates a collaborative ecosystem. This collaboration ensures that the latest advancements in AI technology are applied to defence, enhancing the country's defence capabilities significantly.

**Defence Artificial Intelligence Dialogue with the United States (2021)**

- The agreement with the United States reflects India's commitment to international collaboration in the field of AI. By initiating a Defense Artificial Intelligence Dialogue and expanding joint cyber training, India gains access to global best practices. This exchange fosters cooperation, allowing both countries to leverage shared knowledge and expertise, leading to mutual advancements in AI applications for defence.

**Launch of AI Technologies (2021)**

- The launch of 75 AI technologies, including robotics, automation tools, and intelligence surveillance products, demonstrates India's rapid progress in AI applications. These technologies not only enhance operational efficiency but also provide the armed forces with cutting-edge tools for intelligence gathering, surveillance, and strategic decision-making.

### Way Forward

- **Continued investment in AI research and development** is essential to stay at the forefront of technological advancements. Funding research institutions and startups foster innovation in defence applications of AI.
- **Collaborating with other nations** allows India to share knowledge, resources, and best practices. International partnerships facilitate collaborative research and development,

accelerating progress in AI-driven defence technologies.

- **Developing international agreements and regulations governing the use of AI in defence**, particularly concerning autonomous weaponry, is crucial. India should actively participate in shaping global norms to ensure responsible AI use.
- **Focus on educational programs and training initiatives** to develop a skilled workforce proficient in AI technologies. This includes both military personnel and civilian

professionals working in defence research and development.

- **Encourage innovation through incentives, grants, and competitions.** Fostering a culture of creativity and problem-solving in defence applications of AI promotes the development of novel solutions to complex security challenges.

## Conclusion

- India's integration of artificial intelligence in defence represents a significant leap forward in ensuring national security. By addressing challenges, fostering innovation, and collaborating internationally, India can continue to harness the potential of AI, enhancing its defence capabilities and safeguarding its borders effectively.

## 4.2 THEATERISATION OF ARMED FORCES

### Context

- The Indian Armed Forces are in the process of establishing integrated theatre commands, which would combine the resources and operational capabilities of the Army, Navy, and Indian Air Force in specific geographical regions.

### Key Highlights

#### Integrated Theater Commands

- Integrated theatre commands signify a revolutionary shift in India's military organization, constituting a **fundamental transformation aimed at modernization**.
- These commands seek to **dismantle traditional barriers and service-specific divisions** between the Army, Navy, and Air Force, **fostering a more collaborative and cohesive approach to defence strategy**.
- The primary objective is **to establish unified operational units that can work seamlessly and synergistically**, specializing in particular regions and operational roles, ultimately enhancing India's military readiness and effectiveness.

#### Government Approval

- The formation of integrated theatre commands in India is **currently pending government approval**, and this approval is of paramount significance in finalizing their structure and functions.
- Any required adjustments, whether related to geographical scope or specific operational responsibilities, will be executed based on government directives, highlighting the government's central role in determining the future of India's military structure.

#### National Defense Committee

- The **proposed national defence committee is a high-level body with the intended purpose of overseeing the activities of theatre commanders**, ensuring effective coordination and decision-making in the Indian military.
- The committee **may be chaired by the Defense Minister**, giving it substantial authority in the decision-making process related to defence matters.
- Its core functions include **offering strategic guidance, making critical decisions, and ensuring the smooth and efficient functioning of the theatre commands**, underscoring its pivotal role in India's national defence structure.

#### Chiefs of Staff Committee (COSC)

- The Chiefs of Staff Committee (COSC), composed of the service chiefs of the Army, Navy, and Air Force, along with the Chief of Defense Staff (CDS), holds a crucial position within the Indian military's decision-making structure.
- The COSC is anticipated to have a significant role in supervising theatre commanders, particularly in matters related to higher defence strategies and coordination, further emphasizing its importance in the military's leadership and decision-making processes.

### Location of Theater Commands

- India's plan includes the establishment of **three initial theatre commands** strategically located to address specific security challenges: **one facing Pakistan in Jaipur, one opposite China in Lucknow, and a maritime theatre command in Karwar (Karnataka).**
- The locations are selected based on India's security priorities and potential conflict zones, aiming to enhance the country's military readiness and effectiveness in responding to security threats in these key regions.

### Cross-Postings and Jointness

- **Limited cross-postings have been initiated to promote jointness and cooperation among the services**, enabling personnel exchange between the Army, Navy, and Air Force for a more integrated approach.
- A comprehensive restructuring of headquarters and personnel assignments will be undertaken once final government approval is secured, signalling a more extensive effort to enhance collaboration and coordination among the different branches of the armed forces.

### Leadership of Theater Commands

- The choice of leadership for theatre commands remains unresolved, as previous proposals like an air defence command were contested by the Indian Air Force, underscoring the contentious nature of this decision.
- The choice of leadership structure for theatre commands will greatly influence their capacity to effectively handle security challenges and conflicts, making this decision crucial for their overall operational efficiency.

#### Current Command Structure

- **India's military structure comprises separate commands for the Army, Air Force, and Navy**, each responsible for their respective operational domains, ensuring specialization and expertise within each service.
- Additionally, there are two tri-service commands and the Headquarters Integrated Defense Staff (HQIDS), which function as coordinating bodies to enhance jointness, synergy, and interoperability among the three services for more effective and efficient military operations.

### **Significance of integrated theatre commands in the Indian Armed Forces**

#### Enhanced Military Capability

- Integrated theatre commands **improve the coordination and synergy among different branches of the armed forces**, allowing them to work together seamlessly. This synergy enhances the overall military capability and readiness to respond to various threats effectively.
- By combining resources and operational capabilities in specific geographical regions, **India can respond more effectively to regional threats and security challenges.** This ensures that the country maintains a strategic advantage and can protect its interests in different theatres of operations.
- Theatre commands **streamline decision-making and resource allocation**, resulting in quicker response times during crises or conflicts. This increased operational efficiency allows for a more agile and timely military response.

#### Resource Optimization and Modernization

- Integrating forces **minimizes duplication of assets and infrastructure**, leading

## **DAILY PRELIMS QUIZ**

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to better resource utilization and cost-effectiveness. This optimization of resources helps in saving budgetary resources that can be reinvested in modernization efforts.

- The establishment of theatre commands **encourages the integration of modern technology and advanced weapons systems**. This ensures that the armed forces stay current and maintain a technological edge in a rapidly evolving security landscape, contributing to their overall modernization.

### Conclusion

- The creation of integrated theatre commands in the Indian Armed Forces is a significant step toward bolstering national security and military readiness, allowing for more coordinated and effective responses to a wide range of threats and challenges.

## 4.3 SHORT ARTICLES

### Project Udbhav

#### Context

- Project Udbhav is an initiative undertaken by the Indian Army in collaboration with the United Service Institution of India to rediscover India's rich heritage.

#### Project Udbhav

- Project Udbhav is an initiative led by the Indian Army in collaboration with the United Service Institution of India.

#### Key objectives and areas of focus

##### Rediscovering Ancient Texts

- The primary goal of Project Udbhav is **to rediscover and study ancient Indian texts related to statecraft, warcraft, diplomacy, and grand strategy**. This initiative recognizes the rich heritage of strategic wisdom in India and aims to tap into this wisdom.

##### Military Heritage Festival

- **As part of this initiative, the United Service Institution of India hosted a Military Heritage Festival**. This festival serves as a platform to educate future thought leaders on various aspects of national security, India's strategic culture, military heritage, modernization of security forces, and the concept of Atmanirbhar Bharat, which translates to a self-reliant India.

##### Exploring Historical Narratives

- It seeks to **explore India's historical narratives in diverse areas, including indigenous military systems, historical texts, regional texts, kingdoms, thematic studies, and Kautilya Studies**. This exploration is intended to bridge the gap between India's historical wisdom and contemporary strategic thinking.

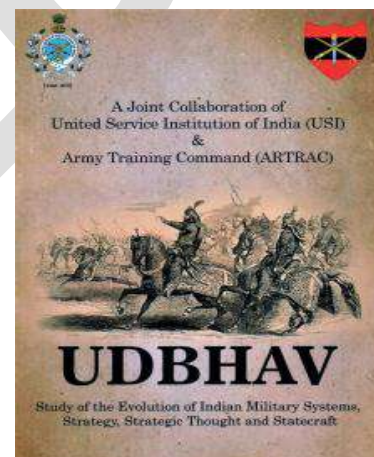
##### Studying Ancient Texts

- It involves a deep study of ancient texts dating from the 4th century BCE to the 8th century CE. Particular emphasis is placed on works by prominent figures like Kautilya, Kamandaka, and the Kural. These texts are considered valuable sources of knowledge on strategy, governance, and statecraft.

##### Developing Indigenous Vocabulary

- It aims to **create an indigenous strategic vocabulary deeply rooted in India's philosophical and cultural heritage**. This vocabulary is intended to be integrated into modern military pedagogy, enabling officers to apply ancient knowledge in contemporary military and strategic contexts.

##### Insights into International Relations



- Through the study of ancient texts, the project **aims to provide insights into international relations and foreign cultures**. This deeper understanding of global dynamics is expected to enhance the Indian Army's capabilities in the modern context, as it equips officers with a broader perspective.

• Ongoing research has led to the **publication of "Paramparik Bhartiya Darshan... Ranniti aur Netriyta ke Shashwat Niyam,"**

### Conclusion

- Project Udbhav is a comprehensive initiative that seeks to leverage India's ancient strategic wisdom to enhance the capabilities and understanding of the Indian Army in contemporary military and strategic affairs. It is a bridge between the past and the present, aiming to enrich modern military thinking with the insights and knowledge derived from classical Indian texts and heritage.



## **Iron Dome**

### Context

- Israel's Iron Dome system, a top-tier air defence system, was activated in response to an unprecedented attack by the Hamas group, showcasing its effectiveness in the conflict.

### Iron Dome System

- The Iron Dome is a sophisticated missile defence system developed by Israel to intercept and destroy short-range rockets and artillery shells fired from distances of 4 kilometres (2.5 miles) to 70 kilometres (43 miles) away.
- It is designed to protect populated areas in Israel from rocket attacks, particularly those launched by militant groups in the Gaza Strip and Lebanon.

### Key Components of Iron Dome

#### Radar System

- The Iron Dome system is **equipped with a radar unit that detects and tracks incoming rockets and artillery shells**. This radar system provides crucial data about the speed, trajectory, and impact point of the incoming projectiles.



#### Control Center

- The radar data is processed by a control centre, where advanced algorithms assess the threat level. If a projectile is determined to be heading toward a populated area, the control centre initiates interception procedures.

#### Interceptor Missiles

- The system uses interceptor missiles, named Tamir, to neutralize incoming threats.** Once a threat is confirmed, the control centre launches an interceptor missile to intercept and destroy the incoming rocket or artillery shell in mid-air.

#### Launcher

- Interceptor missiles are launched from mobile platforms equipped with launchers.** These launchers can be quickly deployed to different locations based on the assessed threat level, ensuring a rapid response.

### Key Features

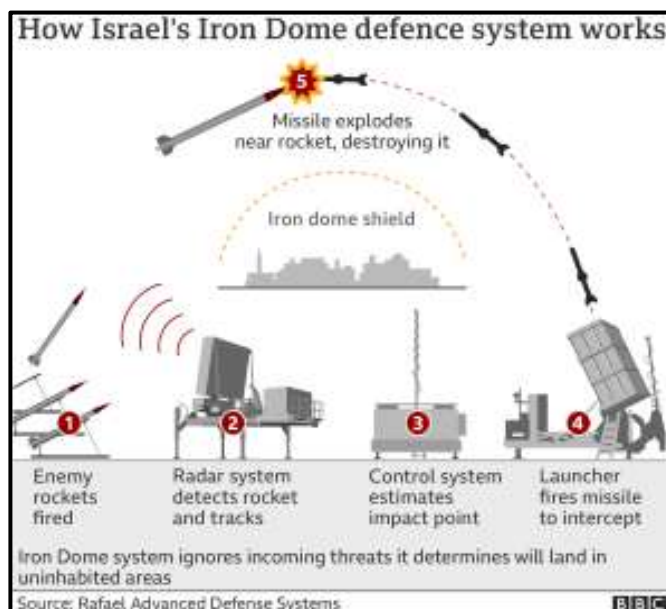
- It is **highly mobile and can be deployed to different locations** within Israel relatively quickly, providing flexibility in responding to changing threat scenarios.
- Its **ability to assess the trajectory of incoming threats and selectively intercept** those that pose a risk to populated areas. This selective targeting helps conserve interceptor missiles and reduces costs.
- It has **demonstrated a high success rate**, intercepting and destroying the majority of incoming rockets and artillery shells targeted by the system.



- The development and funding of the Iron Dome system have involved collaboration with the United States, which has provided significant financial support for the program.

#### Operational Significance and Impact

- The system has been **operational since 2011** and has played a crucial role in protecting Israeli civilians from rocket attacks. It has been particularly effective during conflicts with militant groups in Gaza, intercepting rockets aimed at populated areas and minimizing casualties.
- It saved lives and also provided a sense of security to the Israeli population, especially in areas vulnerable to rocket attacks. Its effectiveness has made it a prominent example of modern missile defence technology, garnering international attention and interest from other nations facing similar threats.



## Veer Gatha Project 3.0

### Context

- The Veer Gatha Project 3.0 is a nationwide initiative launched by the Ministry of Defence (MoD) in collaboration with the Ministry of Education (MoE) in India.

### Veer Gatha Project 3.0

- The Veer Gatha Project was **launched in 2021 as an initiative under the Gallantry Awards Portal (GAP)**.
- The primary aim of the project is **to inspire patriotism among the youth by sharing the remarkable stories of Gallantry Awardees**, highlighting their acts of bravery and sacrifice in the line of duty.
- The core objective of the Veer Gatha Project is to raise awareness about the courageous deeds of Gallantry Awardees, individuals who have displayed exceptional courage and selflessness, and to instil these values in the hearts of young students.

### Participation and Activities

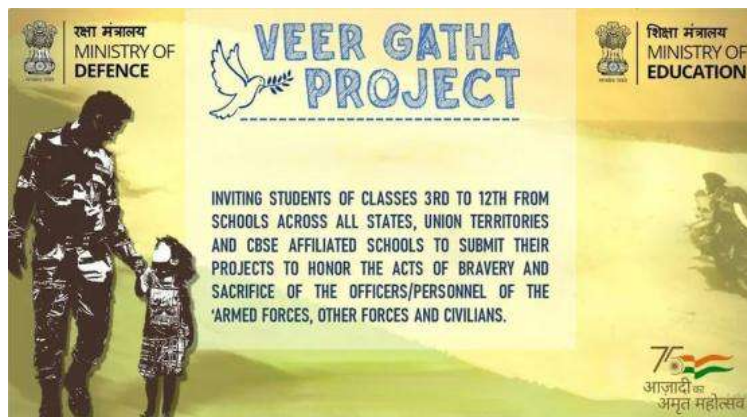
- In the 3rd edition, an impressive 1.36 crore (13.6 million) school students from all states and union territories across India actively participated.
- Students showcased their creativity through various forms of expression, including poems, paintings, essays, videos, and more. These creative works were dedicated to paying tribute to the courageous acts of the Armed Forces personnel.

### Evaluation and Recognition

- From the pool of participants, 100 winners were selected at the national level. These top winners, known as the Super 100, were felicitated jointly by the Ministry of Education and the Ministry of Defence in New Delhi.
- Each of the national-level winners received a cash prize of Rs. 10,000** in recognition of their outstanding contributions.
- In addition to the national-level recognition, there were also winners at the district level. Similarly, there were winners at the State/UT level. These winners were honoured by their respective districts and States/UTs for their significant contributions to the project.

### Conclusion

- The Veer Gatha Project 3.0 stands as a robust initiative that not only honours the gallantry award winners but also actively engages and educates the youth of the country. By encouraging creative expression and research, the project achieves its goal of inspiring patriotism and instilling vital civic values in the hearts and minds of the students, contributing positively to the nation's future.



## Chanakya Defence Dialogue

### Context

- The Chanakya Defence Dialogue is a significant initiative by the Indian Army aimed at fostering discussions and collaborations on important security matters.

### About Chanakya Defence Dialogue

- The Chanakya Defence Dialogue **initiative by the Indian Army**, in collaboration with the Centre for Land and Warfare Studies (CLAWS), represents a significant step towards fostering international cooperation and understanding in the realm of defence and security.
- By bringing together experts and thought leaders from various countries, this forum aims to address critical security challenges facing not only India but the broader Indo-Pacific region.

### Goals and Objectives

- The forum **facilitates the exchange of insights, strategies, and intelligence** among top minds in the global defence and strategic sectors.
- Discussions covered a wide array of topics including Neighbourhood Forces, the Indo-Pacific frontier, and the influence of emerging technologies on defence and security.
- Participants from nations such as Australia, France, Japan, and the United States, fostering international collaboration on security matters.
- Emphasis was placed on pivotal regions like South Asia and the Indo-Pacific, **addressing region-specific challenges and strategies**.
- Apart from regional challenges, topics like defence technology cooperation, joint military exercises, and concerns related to nuclear proliferation were discussed.

### Significance

- By involving nations with significant stakes in the Indo-Pacific region, **the initiative can foster stronger strategic partnerships among countries**.
- Insights generated from these discussions can contribute to policy formulation, enabling nations to respond effectively to emerging security challenges.
- By addressing security concerns collectively, the forum can contribute to peace and stability in the region**, deterring potential conflicts through open dialogue and mutual understanding.
- Discussions around emerging technologies can encourage innovation in defence strategies, ensuring nations are prepared for future security threats.
- The forum provides an excellent networking opportunity for defence and strategic experts**, potentially leading to future collaborations and joint initiatives.

### Conclusion

- The Chanakya Defence Dialogue holds the promise of fostering international collaboration, knowledge sharing, and mutual understanding among nations invested in the security and stability of the Indo-Pacific region. Through open dialogue and collaboration, the forum can play a crucial role in shaping effective defence strategies and promoting peace in the region.

## Yard 12706

### Context

- The Mazagon Dock Shipbuilders Limited (MDL) delivered the third stealth destroyer, Yard 12706 (IMPHAL), to the Indian Navy. This vessel is part of the Project 15B class-guided missile destroyers and represents a remarkable achievement in indigenous naval shipbuilding.

### About Yard 12706 (IMPHAL)

- **Constructed using Indigenous Steel DMR 249A, IMPHAL is one of the largest destroyers built in India**, measuring 164 meters in length and having a displacement of over 7500 tons.
- It is a highly versatile platform capable of various tasks and missions in maritime warfare, including **anti-submarine warfare, surface combat, anti-ship missiles, and air defence**.
- **It is armed with supersonic Surface-to-Surface 'Brahmos' missiles and 'Barak-8' Medium Range Surface Air Missiles**. It also features indigenous anti-submarine weapons and sensors, including the Hull-mounted Sonar Humsa NG, Heavyweight Torpedo Tube Launchers, and ASW Rocket Launchers.
- The ship **can accommodate a crew of 312 persons** and has an endurance of 4000 Nautical Miles. It can carry out missions lasting up to 42 days with extended mission time in out-of-area operations.
- It is **powered by a Combined Gas and Gas Propulsion Plant (COGAG)** consisting of four reversible Gas Turbines, allowing it to achieve a speed of over 30 knots (approx 55 Kmph).
- The ship features high levels of automation with sophisticated digital networks such as Gigabyte Ethernet-based Ship Data Network (GESDN), Combat Management System (CMS), Automatic Power Management System (APMS), and Integrated Platform Management System (IPMS).
- **The indigenous content in P15B Class Destroyers is 72%**, aligning with the Indian Government's focus on the 'Atmanirbhar Bharat' (Self-reliant India) initiative.
- **It is the first Naval Warship commissioned with accommodation for women officers and sailors**, indicating a step towards greater inclusivity in the Indian Navy.



Indian Navy gets Third Guided Missile Destroyer Imphal

### Project 15B Timeline

- **Visakhapatnam:** The first ship of the P15B class was commissioned in Nov 2021.
- **Mormugao:** The second ship was commissioned in Dec 2022.
- **IMPHAL:** The third ship (IMPHAL) was delivered to the Indian Navy in Oct 2023.
- **Surat:** The fourth ship (Surat) is in an advanced stage of outfitting.

### Conclusion

- IMPHAL's delivery signifies India's leap in naval power, boasting advanced technology, indigenous strength, and self-reliance, bolstering the nation's defence and maritime capabilities significantly.

**4.4 SNIPPETS**

**Exercise SAMPRITI** APTI PLUS



- India and Bangladesh commenced the 11th edition of joint military exercise, SAMPRITI, on 03rd October 2023 in Umroi, Meghalaya.
- It aims to deepen defence cooperation, cultural understanding, and mutual benefits between India and Bangladesh.
- The exercise centres on Sub-Conventional Operations as per the UN mandate and includes a Command Post Exercise, Field Training Exercise, and Validation Exercise.

**Autonomous Weaponised Boat Swarms** APTI PLUS



- Indian Navy approves 12 autonomous weaponised boat swarms (Mata Matangi) developed by Sagar Defence Engineering, enhancing surveillance at Pangong Lake and coastal regions.
- Pangong Lake is a high-altitude saltwater lake nestled amidst the trans-Himalayan region of Ladakh.
- Boats equipped with advanced cameras, day-night radar tracking, 12.7 mm SRCG guns, UAVs, and remote control, offering 48-hour operation, situational awareness, and ISRO's NaVIC navigation system.
- The Navy to retain 10 boats, and allocate two for the Indian Army's Pangong Lake operations, countering increased PLA patrol boats in the area since the 2020 standoff.
- The Navy also ordered 30 Autonomous Underwater Vehicles (AUVs) for mine detection, employing collaborative underwater strategy, enhancing surveillance, mine neutralization, hydrographic survey, and asset monitoring.

**VSHORAD Missile System** APTI PLUS



- India is procuring 30 units of indigenous VSHORAD missile systems, transitioning from prototypes to full-scale production for enhanced air defence capabilities.
- Developed by DRDO's Research Centre Imarat (RCI), Hyderabad, in collaboration with other DRDO labs and Indian Industry Partners.
- The Man Portable Air Defence System (MANPAD) features cutting-edge technologies, including a miniaturized Reaction Control System (RCS) and integrated avionics, with a maximum range of 8 kilometres and the ability to engage targets at altitudes of 4.5 kilometres.
- Key features include a dual-thrust solid motor for agility, precision targeting, and optimized design for portability, ensuring effective deployment in various scenarios.
- Indian Army to utilize VSHORAD missile systems to protect ground forces and critical assets from short-range aerial threats, including helicopters and low-flying aircraft.

**BUREVESTNIK Missile** APTI PLUS

Russian new cruise missile of global range 9M730 "BUREVESTNIK"

Engine	NUCLEAR TURBOJET
Range	UNLIMITED (months of continuous flight)
Speed	850 - 1300 km/h
Flight Altitude	25 - 100 m
Combat Unit	SPECIAL (nuclear)



- Russian intercontinental-range nuclear-powered cruise missile designed to evade missile defences with claimed unlimited range, posing a challenge for interception.
- Created in response to the US "Star Wars" program, aiming to bypass ballistic missile defences and enhance Russia's nuclear strike capability.
- The exact design is undisclosed, but experts propose a ramjet or turbojet engine, with dimensions similar to the Kh-101 missile but vastly extended operational range.
- Burevestnik's potential to change the strategic power balance draws international attention, raising concerns about its implications for global security.

## Territorial Army

APTI PLUS



- The Indian Army is considering converting logistics and transport units into the Territorial Army (TA) to optimize manpower and reduce financial burden.
- It was constituted by the Territorial Army Act of 1948 in the Dominion of India as a successor to the Indian Defence Force (1917–1920) and the Indian Territorial Force (1920–1948).
- It is a volunteer reserve component of the Indian Army, comprising civilians who serve in infantry battalions and units while maintaining their civilian professions.
- TA recruits Indian citizens, including civilians and ex-servicemen, based on specified age and educational qualifications, allowing ex-servicemen to bring their prior military experience to the force.
- TA personnel undergo specialized training for diverse roles, enabling them to perform internal security, disaster relief, and support functions for the regular Army during war, national emergencies, or government mandates, showcasing their versatile capabilities.

## Exercise CHAKRAVAT

APTI PLUS



- It is a Humanitarian Assistance and Disaster Relief (HADR) exercise hosted by the Indian Navy, emphasizing multi-agency collaboration.
- It involves the Indian Army, Navy, Air Force, Coast Guard, Paramilitary Forces, disaster response organizations, NGOs, academic institutions, and international organizations for a comprehensive disaster response strategy.
- The exercise includes participation from friendly foreign countries and agencies like the National Disaster Management Authority (NDMA), National Disaster Response Force (NDRF), etc, focusing on collective and coordinated responses to regional humanitarian crises.
- It reflects India's commitment to being the 'first responder' in the Indian Ocean Region (IOR), addressing the rising challenges posed by climate change, emphasizing the importance of a whole-of-government approach for disaster preparedness and response.

## Operation Ajay

APTI PLUS



- Operation Ajay was initiated to ensure the safe and efficient return of Indian citizens who were in Israel and wished to come back to India during the Israel-Hamas war.
- A 24-hour control room was set up to manage the operation. This control room monitors the situation in Israel, coordinating with relevant authorities, and providing assistance and support to Indian nationals wanting to return home.
- The operation's efforts were crucial in ensuring the well-being and safe return of Indian nationals caught in the conflict.

## Setu Bandhan Scheme

APTI PLUS



- The Scheme was launched in 2022 by the Union Ministry of Road Transport and Highways.
- It aims to improve inter-state connectivity, especially in rural areas at state borders, and replace railway line Level Crossings (LCs) with safer alternatives.
- It includes the construction of various types of bridges, such as Road Over Bridges (ROBs) and Road Under Bridges (RUBs).
- It is implemented through the Central Road and Infrastructure Fund (CRIF), with the central government providing financial assistance to state governments and Union Territories for the construction and maintenance of bridges.
- It has improved connectivity, safety, efficiency, and economic activity in rural areas while enhancing access to essential services.

## Milan Exercise

APTI PLUS



- The Mid Planning Conference (MPC) for MILAN 24, a multilateral naval exercise scheduled to be hosted by the Indian Navy at Visakhapatnam (Andhra Pradesh) in February 2024, was conducted via video conference.
- MILAN is a biennial multilateral naval exercise initiated by the Indian Navy in 1995. Originally, it was in line with India's 'Look East Policy', but over the years, it expanded to include participation from other Friendly Foreign Countries (FFCs), in alignment with the 'Act East Policy' of the Government of India and Prime Minister's 'Security and Growth for All in the Region' (SAGAR) initiative.
- The previous edition, MILAN 22, was held off Visakhapatnam from 25th February to 4th March 2022 and witnessed participation from 39 countries.

## Jericho Missile System

APTI PLUS



- Developed by Israel, Jericho missiles consist of Jericho I (short-range), Jericho II (medium-range), and Jericho III (Intercontinental Ballistic Missile, ICBM), enhancing Israel's military capabilities since the 1960s.
- It is believed to carry nuclear warheads; Jericho missiles play a vital role in Israel's unconfirmed nuclear deterrence strategy, raising regional security concerns, particularly with Iran.
- Ranging from 500 km (Jericho I) to 6,500 km (Jericho III), these missiles enable Israel to target areas across the Middle East, sparking tensions and accusations from neighbouring nations.
- Israel's refusal to sign the Nuclear Non-Proliferation Treaty (NPT) and its policy of ambiguity regarding its nuclear arsenal has led to regional tension.

## Meteor Missile

APTI PLUS



- The Indian Air Force (IAF) is strategically enhancing its Meteor missile acquisition, a European active radar-guided beyond-visual-range air-to-air missile (BVRAAM).
- Manufactured by MBDA Systems, the missile's versatility in engaging multiple target types in diverse weather conditions is paramount for modern air warfare, utilized by six European nations.
- It has a length of 3.65 meters, a diameter of 0.178 meters, a combat range of 200 kilometres, and a speed exceeding Mach 4, with a substantial no-escape zone for effective target engagement.
- Its ramjet propulsion system, coupled with its active radar target seeker and two-way datalink, ensures reliable target engagement and enhances accuracy through real-time information exchange.

## Exercise Harimau Shakti

APTI PLUS



- The exercise involves the Indian and Malaysian armies, taking place in Umroi Cantonment, India, the previous edition was held in Pulai, Kluang, Malaysia, in November 2022.
- The objective is to enhance the military capabilities of both armies for conducting Multi-Domain Operations in sub-conventional scenarios.
- The exercise includes the establishment of a Joint Command Post, the creation of an integrated surveillance grid and a Joint Surveillance Centre.
- It aims to strengthen defence cooperation between the Indian and Malaysian armies, fostering closer bilateral relations between the two nations.

## Intelligence Bureau

APTI PLUS



- The Delhi High Court ruled that the Intelligence Bureau (IB) is exempt from the provisions of the Right to Information (RTI) Act under Section 24.
- Section 24 of the RTI Act exempts certain intelligence and security organizations from the provisions of the Act.
- It is India's oldest internal security and counter-intelligence agency, established in 1887 as the Central Special Branch and currently operating under the Ministry of Home Affairs.
- They engage in tasks such as security clearances, intelligence sharing, and warrantless wiretapping, with limited declassification of their activities.
- In 1968, the Research and Analysis Wing (R&AW) was formed to handle foreign intelligence, and the IB was primarily assigned the role of domestic intelligence and internal security.

## Operation Chakra II

APTI PLUS



- This is an initiative launched by the Central Bureau of Investigation (CBI) to combat transnational organized cyber-enabled financial crimes.
- The objective is to tackle and address fraudulent activities that occur online, causing financial harm to victims.
- The CBI has established partnerships with technology giants Microsoft and Amazon to leverage their expertise and resources in combating cyber-enabled financial crimes.
- The CBI is collaborating with both national and international law enforcement agencies to combat and dismantle the infrastructure of illegal call centres involved in these crimes.

## 4.5 1 MAINS & 5 MCQs

**Q1. How is Artificial Intelligence (AI) being utilized in India's defence sector to bolster national security and military capabilities, and what initiatives has the country undertaken to promote the responsible and effective use of AI in defence applications?**

### Answer

- India's strategic adoption of Artificial Intelligence in defence exemplifies its dedication to strengthening national security. Through AI applications, India has markedly improved operational efficiency, strategic planning, and overall security measures, showcasing its commitment to cutting-edge military capabilities and safeguarding the nation.

### Utilization of AI in India's Defense Sector

1. **Surveillance and Intelligence:** AI-powered surveillance systems, including unmanned aerial vehicles (UAVs) and satellites, enable real-time monitoring of border areas. Computer vision algorithms help detect and track movements, providing valuable data for military intelligence.
2. **Data Analysis:** AI algorithms process large datasets from diverse sources such as communication intercepts, social media, and satellite imagery. These algorithms identify patterns and potential threats, enabling intelligence agencies to make informed decisions swiftly.
3. **Predictive Maintenance:** Machine learning algorithms analyze data from military equipment sensors to predict maintenance needs accurately. Proactive maintenance ensures that military assets remain operational, minimizing downtime during critical situations.
4. **Cyber security:** AI-driven cyber security systems continuously monitor network traffic, detecting and countering cyber threats in real time. Machine learning algorithms identify

anomalous behaviour, helping safeguard military networks and sensitive information.

5. **Autonomous Systems:** AI-driven autonomous systems are being explored for tasks like patrolling and surveillance, reducing the need for human intervention in certain situations.
6. **Training and Simulation:** AI-based simulations create realistic training environments for military personnel. These simulations adapt to the trainee's actions, providing dynamic and challenging scenarios. It enhances the effectiveness of training exercises and prepares soldiers for real-world situations.
7. **Operational Efficiency:** AI minimizes human intervention, optimizes resource allocation, and prolongs the lifespan of military equipment through predictive maintenance, reducing operational costs and improving efficiency.

#### Initiatives Promoting Responsible AI Use

1. **Task Force (2018-2019):** India established a task force to analyze and provide recommendations on policy, institutional mechanisms, capacity building, research and development, and ethical and legal concerns related to AI implementation in defence. This laid the foundation for a structured AI strategy.
2. **Innovations for Defence Excellence (iDEX) Program (2018):** The iDEX program fosters innovation and entrepreneurship in the defence sector. It provides funding, mentoring, and market access to startups and innovators, stimulating the development of innovative AI solutions.
3. **Defence Artificial Intelligence Agency (DAIA) (2019):** DAIA centralizes AI efforts in the defence sector. It coordinates and implements AI projects across the armed forces, academia, and industry, fostering a collaborative ecosystem and ensuring the latest AI advancements are applied to defence.
4. **Launch of AI Technologies (2021):** India launched 75 AI technologies, including robotics, automation tools, and intelligence surveillance products. These technologies

enhance operational efficiency and provide cutting-edge tools for intelligence gathering and strategic decision-making.

5. **Defence Artificial Intelligence Dialogue with the United States (2021):** India initiated a Defence Artificial Intelligence Dialogue with the United States, fostering international collaboration. Joint efforts in cyber training and knowledge exchange facilitate mutual advancements in AI applications for defence.

#### Challenges and Future Outlook

1. **Cyber security:** Safeguarding sensitive defence data from cyber threats and ensuring secure data transmission are ongoing challenges. Encryption technologies and rigorous cyber security protocols are essential in addressing this issue.
  2. **Ethical Use of AI:** The development and deployment of autonomous AI-driven weapons raise ethical concerns. India must navigate these concerns, adhering to international regulations and ensuring the responsible use of AI technologies in the defence sector.
  3. **Skill Development:** There is a significant skill gap in the defence sector concerning AI technologies. Training programs and educational initiatives are essential to bridge this gap and create a skilled workforce capable of harnessing AI's full potential.
  4. **Integration Challenges:** Ensuring seamless integration of AI systems with existing defence infrastructure and technologies is a challenge. Standardizing protocols and interfaces is crucial to achieving interoperability and maximizing the efficiency of AI applications.
- In summary, India has made significant strides in integrating AI into its defence sector, enhancing national security and military capabilities. Through strategic initiatives, responsible implementation, and ongoing research and development, India continues to harness the power of AI for defence applications while addressing challenges and ensuring the ethical and effective use of this transformative technology.



**Q2. What is the primary objective of Project Udbhav initiated by the Indian Army?**

- A) Rediscovering ancient Indian texts on various subjects
- B) Exploring modern military technologies
- C) Studying international relations and foreign cultures
- D) Rediscovering ancient Indian texts on statecraft, warcraft, diplomacy, and grand strategy

**Q3. Consider the following statements in the context of the Iron Dome System:**

1. The Iron Dome is a sophisticated missile defence system developed by Turkey.
2. It intercepts and destroys short-range rockets and artillery shells fired from distances of 4 to 70 kilometres away.
3. It is equipped with a radar unit that detects and tracks incoming rockets and artillery shells.
4. The system uses interceptor missiles, named Tamir, to neutralize incoming threats.

**How many of the above statement is/are correct?**

- A) Only one
- B) Only two
- C) Only three

D) All four

**Q4. What is the primary focus of Exercise CHAKRAVAT?**

- A) Military Combat Training
- B) Humanitarian Assistance and Disaster Relief (HADR)
- C) Cyber security Exercises
- D) Maritime Border Security

**Q5. Why was Operation Ajay in the news recently?**

- A) To rescue stranded tourists in a natural disaster
- B) To combat piracy in international waters
- C) To evacuate Indian citizens from conflict-stricken regions
- D) To distribute humanitarian aid during a global pandemic

**Q6. "Operation Chakra II" is frequently seen In the News, what is the main objective of Operation Chakra II?**

- A) To combat transnational drug trafficking
- B) To address cyber-enabled financial crimes
- C) To promote environmental conservation
- D) To investigate political corruption

**ANSWERS:** 2) D, 3) C, 4) B, 5) C, 6) B

## 5. ENVIRONMENT & ECOLOGY

### 5.1 CLIMATE POLYCRISIS

#### Context

- Indian scientists have developed the first ever low-pungent mustard that is pest and disease-resistant. It is based on CRISPR/Cas9 gene editing, while being non-GM and transgene-free.

#### Key details:

- The climate 'polycrisis' encompasses the physical impacts of climate change (rising temperatures, sea-level rise, and extreme weather events) and the social, economic, and political challenges that arise from these impacts.
- In India, one can see the interconnections between seemingly different sectors such as energy, infrastructure, health, migration and food production that are being impacted by climate change.
- Recognising the complexity and interconnectedness of the climate polycrisis, it is crucial in developing a holistic approach that takes into account the diverse perspectives and priorities of different stakeholders, while ensuring resilience, equity, and justice.
- While it seems easier to pursue our response to climate change in a sectoral fashion, the very nature of a polycrisis means that tweaking one corner of the climate challenge leads to unexpected consequences elsewhere.

The climate 'polycrisis' – a term made popular by Adam Tooze – refers to the interconnected and compounding crises related to climate change that are affecting the planet not just in a few sectors but across several sectors and domains.

**CAUSES OF CLIMATE POLYCRISIS**

- Climate Change and Global Warming**
  - Human activities, primarily the burning of fossil fuels and deforestation, have led to an increase in greenhouse gas emissions. This has resulted in global warming, causing shifts in weather patterns, rising temperatures, and disruptions to ecosystems.
- Extreme Weather Events**
  - The Earth is experiencing more frequent and intense extreme weather events such as hurricanes, droughts, floods, wildfires, and heatwaves. These events are often linked to climate change and can have severe consequences for human societies and the environment.
- Bio-diversity Loss**
  - Climate change, habitat destruction, pollution, and other human activities contribute to a loss of biodiversity. The decline in species diversity can disrupt ecosystems and reduce their resilience to environmental changes.
- Ocean Acidification**
  - Increased carbon dioxide levels in the atmosphere also lead to higher absorption of CO<sub>2</sub> by the oceans. This causes ocean acidification, negatively impacting marine life, particularly organisms with calcium carbonate shells, like corals and some plankton.
- Sea Level Rise**
  - Melting polar ice caps and glaciers contribute to rising sea levels. This poses a threat to coastal communities and low-lying areas, leading to increased flooding and saltwater intrusion.

## Effects of Climate Polycrisis

- **Rising Sea Levels:** Melting glaciers and polar ice caps contribute to rising sea levels. This poses a threat to coastal areas, leading to increased flooding, erosion, and salinization of freshwater sources.
- **Food Insecurity:** Changes in temperature and precipitation patterns, along with extreme weather events, can affect agricultural productivity. This, coupled with other factors like soil degradation, contributes to food insecurity, particularly in vulnerable regions.
- **Ocean Acidification:** The absorption of excess carbon dioxide by the oceans leads to acidification. This negatively impacts marine life, particularly organisms with calcium carbonate shells, such as corals and shellfish.
- **Health Impacts:** Climate change affects human health directly and indirectly. Direct effects include heat-related illnesses, while indirect effects include the spread of vector-borne diseases and the exacerbation of respiratory conditions due to air pollution.
- **Displacement and Migration:** Rising sea levels, extreme weather events, and other climate-related impacts can lead to the displacement of communities. This can result in climate-induced migration and exacerbate existing social and economic challenges.
- **Conflict Over Resources:** Climate change can contribute to resource scarcity, such as water and arable land, leading to conflicts over these essential resources. This can exacerbate existing geopolitical tensions.

## How to Tackle Climate Polycrisis?

- **Implement National Carbon Accounting (NCA):** Establish a comprehensive NCA system that measures and tracks carbon emissions from individuals to the entire nation, including businesses and households.
- **Promote Carbon Awareness:** Educate the public about the importance of carbon emissions and the impact on climate change. Make carbon emissions and their effects more visible to the general population.
- **Introduce Carbon Taxation:** Implement a progressive carbon tax system based on NCA data. Penalize large emitters more than average consumers to incentivize carbon reduction efforts.
- **Set Realistic Reduction Targets:** Use the NCA system to set specific, science-based carbon reduction targets for the nation. These targets should align with global climate goals, such as achieving net-zero emissions.
- **Predict and Track Progress:** Utilize NCA data to make predictions about future emission reductions and continuously track progress toward meeting carbon reduction targets. Adjust policies and strategies as needed.



## 5.2 METHANE EMISSIONS FROM LIVESTOCK

### Context

- FAO report outlines sustainable ways to deal with livestock methane emissions.

### Details

- About 32 per cent of global anthropogenic methane emissions result from microbial processes that occur during the enteric fermentation of ruminant livestock and manure management systems, while another 8 per cent comes from rice paddies, a new report showed.
- To tackle this, the Food and Agriculture Organization (FAO) of the United Nations suggested four strategies (discussed later) for better management of livestock.

- The report, put together by a multidisciplinary team composed of 54 international scientists and experts of the Livestock Environmental Assessment and Performance Partnership, was released during FAO's first ever 'Global Conference on Sustainable Livestock Transformation' from September 25-27, 2023.

### Key findings of the report

- **The Sixth Assessment Report of the Intergovernmental Panel on Climate Change** had found that methane emissions from all anthropogenic activities currently contribute about 0.5 degrees Celsius to observed global warming, making their reduction an important pathway to achieve the Paris Agreement.
- **Besides agrifood systems**, other human activities that generate methane emissions include landfills, oil and natural gas systems, coal mines and more.
- Among ruminants, the highest daily emitters on a per animal basis are cattle, followed by sheep, goats and buffalo.
- **Meat and milk from ruminant livestock** provide an important source of protein and other nutrients for human consumption. **By 2050, the global demand for animal products** is projected to increase by 60-70 per cent, with developing countries accounting for the majority of this increase.
- **The study noted four broad strategies in mitigating methane emissions:**
  - Animal breeding and management;
  - Feed management, diet formulation and precision feeding;
  - Forages and
  - Rumen manipulation
- **In the recent past, there has been a lot of discussion** about feed improvement for reducing absolute methane emissions and the report also talked about improving feed efficiency, which is defined as the ratio of animal product to feed intake (kilogram of meat or milk per kilogram dry matter intake), in reducing methane emission intensity.

### What is Methane?

Methane is a short-lived greenhouse gas (GHG), which has an atmospheric lifetime of around a decade, as against the dominant GHG carbon dioxide, which affects the climate for hundreds of years. However, methane is more than 25 times as potent as carbon dioxide at trapping heat in the atmosphere.

- **Methane accounts for about a fifth of global greenhouse gas (GHG) emissions** and is about 25 times as potent as carbon dioxide in trapping heat in the atmosphere.
- **In the last two centuries**, methane concentrations in the atmosphere have more than doubled, mainly due to human-related activities.
- **Methane is emitted from a variety of anthropogenic** (human-influenced) and natural sources.
- **The human sources include landfills**, oil and natural gas systems, agricultural activities as well as livestock rearing, coal mining, stationary and mobile combustion, wastewater treatment, and certain industrial processes.
- **Sources of methane can be harnessed for energy** and in principle reduce



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dependence on energy sources that emit high carbon dioxide.

### Initiatives to Tackle Methane Emissions

#### 'Harit Dhara' (HD):

- Indian Council of Agricultural Research (ICAR) has developed an anti-methanogenic feed supplement 'Harit Dhara' (HD), which can cut down cattle methane emissions by 17-20% and can also result in higher milk production.

#### The National Mission on Sustainable Agriculture (NMSA):

- It is implemented by the Ministry of Agriculture and Farmers Welfare, involves climate resilient practices including methane reduction practices in rice cultivation.
- These practices contribute to substantial reduction of methane emissions.

#### National Innovations in Climate Resilient Agriculture (NICRA):

- Under the NICRA project, the Indian Council of Agricultural Research (ICAR) has developed technologies to mitigate methane emissions from rice cultivation. These technologies include:
- **System for Rice Intensification:** This technique can increase rice yield by 36-49%

while using 22-35% less water compared to conventional transplanted rice.

- **Direct Seeded Rice:** This method reduces methane emissions by eliminating the need for raising nurseries, puddling, and transplanting. Unlike traditional paddy cultivation.
- **Crop Diversification Programme:** By shifting from paddy cultivation to alternative crops like pulses, oilseeds, maize, cotton, and agroforestry, methane emissions are minimized.

#### Bharat Stage-VI Norms:

- India shifted from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission norms.

### Closing remarks

- Addressing methane emissions is a crucial part of efforts to mitigate climate change and improve air quality. By addressing rising methane levels, we can better navigate Earth's ongoing climate transition and work towards a more balanced and resilient planet.

## 5.3 INVISIBLE E-WASTE

### Context

- A new study found that consumers fail to recognise almost one-sixth of electronic waste generated globally, amounting to nearly 9 billion kilogrammes per year.

### Key details

- These items dubbed as "**invisible e-waste**" include cables, e-toys, e-cigarettes, e-bikes, power tools, smoke detectors, USB sticks, wearable health devices and smart home gadgets.
- **Brussels-based organisation Waste Electrical and Electronic Equipment (WEEE) Forum** organises International E-Waste Day on October 14 every year. It commissioned the United Nations Institute for Training and

Research (UNITAR) to calculate the annual quantities of "**invisible**" e-waste items in millions of kgs, in millions of pieces, and in kg and pieces per capita.

- The study findings were published on WEEE website on October 12, 2023, two days ahead of the occasion to focus on "invisible e-waste" this year.
- The term "invisible e-waste" refers to e-waste that goes unnoticed due to its nature or appearance, leading consumers to overlook its recyclable potential.

*The total amount of e-waste generated in 2022, according to the global e-waste monitor 2020, is 59.4 billion kg, the study findings stated. The share is approximately 15 per cent on the basis of weight.*

### Key highlights of the study

- The “invisible” category of e-waste in one place would equal the weight of almost half a million 40-tonne trucks, enough to form a 5,640 kilometre bumper-to-bumper line of trucks from Rome to Nairobi.
- Some 3.2 billion kg or 35 per cent of the roughly 9 billion kg of invisible e-waste are in the e-toy category: Race car sets, electric trains, music toys, talking dolls and other robotic figures, biking computers, drones, etc.
- -In all, some 7.3 billion individual items discarded annually, an average of about one e-toy for every man, woman and child on earth.
- An estimated 844 million vaping devices thrown away each year amount to a mountain of e-waste equal to three times the weight of New York’s Brooklyn Bridge or six Eiffel Towers.

UNU-KEY	Description	Million kg	Million pieces	kg/inh	pieces/inh
0205	Personal Care equipment (e.g. toothbrushes, hairdryers, razors)	391	711	0.051	0.1
0301	Small IT equipment (e.g. routers, mice, keyboards, external drives & accessories)	763	1891	0.10	0.25
0401	small Consumer Electronics (e.g. headphones, remote controls)	347	910	0.046	0.12
0405	Speakers	620	280	0.082	0.04
0501	Small lighting equipment (excl. LED & incandescent)	365	4118	0.048	0.5
0601	Household Tools (e.g. drills, saws, high pressure cleaners, lawn mowers)	1047	421	0.138	0.06
0701	Toys (e.g. car racing sets, electric trains, music toys, biking computers, drones)	3234	7294	0.426	1.0
0801	Household medical equipment	3	14	0.000	0.002
0901	Household Monitoring & Control equipment (alarm, heat, smoke, excl. screens)	1336	5476	0.176	0.7
Cables (in the other UNU-KEYs)		950	n/a	0.125	n/a
<b>Total of above</b>		<b>9055</b>		<b>1.19</b>	
Vapes ^		42	844	0.006	0.11

- About 950 million kg of cables containing precious, easily recyclable copper were discarded in 2022. This was enough cable to circle the earth 107 times.
- Many people don’t realise this waste could be recycled – a huge sleeping resource at a time when demand for copper is forecast to rise six-fold by 2030 in Europe alone. This, to meet the needs of strategic sectors such as renewable energy, electric mobility, industry, communications, aerospace and defense.

### Need for raising awareness

- We need to change that and raising awareness is a large part of the answer. Much effort and progress was made around plastic pollution and people are now more conscious about it, especially with a United Nations treaty on plastics in the works by 2024. We hope the same will occur in the e-waste field
- In Europe, thanks to 20 years of Extended Producer Responsibility (EPR) legislation, 55 per cent of e-waste generated is now officially collected and reported. Still, according to the UN global e-waste monitor, other parts of the world show much slower growth rates in its collection, and globally, the reported average collection rate is just over 17 per cent.
- The ongoing expansion in electronic device production and consumption has significant environmental and climate repercussions. Introducing EPR in e-waste legislation two decades.

- The European Commission considers lithium a 'strategic raw material' crucial to Europe's economy and green energy transition, but supplies are at risk. Most of these materials are thrown away in household bins and elsewhere, the study findings highlighted.
- According to the UN, eight kg of e-waste per person will be produced worldwide in 2023. "Only 17.4 per cent of this waste, containing harmful substances and precious materials, will be recorded as properly collected, treated, and recycled globally.
- Even in Europe, which leads the world in e-waste recycling, only 55 per cent of e-waste is officially reported as properly collected and recycled and the lack of public awareness is among the factors preventing countries from developing circular economies for electronic equipment.

## 5.4 TRAVEL FOR LIFE INITIATIVE

### Context

- Ministry of Tourism will set up a PATA desk to strengthen engagement with PATA on Travel for LiFE and other areas of cooperation in tourism sector.



Destinations and Tourists to make Travel for LiFE a mass movement.

- Travel for LiFE Program will position India as leader in promoting sustainable and responsible tourism and using tourism as a vehicle for achieving Sustainable Development Goals by 2030.

### Details

- This is the first major international partnership for Travel for Life program after its global launch on September 27, 2023, world tourism day. Ministry of Tourism is already working with UNEP and UNWTO on strengthening the TFL program.
- The Travel for LiFE program has identified an illustrative list of actions that are designed in line with the eight themes of Travel for LiFE – Save Energy, Save Water, Say No to Single Use Plastic, Reduce Waste, Empower Local Businesses and Communities, Respect Local Culture and Heritage, Consume Local Foods and Conserve Nature.
- Travel for LiFE Program also aims to inspire the Tourism Businesses to deepen their sustainability practices by observing adherence to Travel for LiFE- Signed up badge. Subsequently the tourism businesses can go for the Travel for LiFE certification in bronze, silver and gold.
- Ministry of Tourism is working with all the stakeholders in tourism ecosystem including the State Governments, Industry,

### What is Travel for LiFE?

- Travel for LiFE embodies the spirit of the Pro Planet People and functions on the basic principles of "Lifestyle of the planet, for the planet and by the planet". It aspires to bring large-scale behavioral change amongst tourists and tourism businesses, which will have a significant impact on environment protection while ensuring socio-cultural sustainability.

### Key components of the initiative

- Environmental degradation and climate change are global phenomena where actions in one part of the world impact ecosystems and populations across the globe.
- Estimates suggest that if requisite action is not taken against the changing environment, **approximately 3 billion people globally could experience chronic water scarcity. The global economy could lose up to 18% of GDP by 2050.**
- Over the last two decades, several macro measures have been implemented globally to address environmental degradation and climate change, including policy reforms, economic incentives and regulations.

- Despite their enormous potential, actions required at the level of individuals, communities and institutions have received limited attention.
- Changing individual and community behaviour alone can make a significant dent in the environmental and climate crises.
- According to the United Nations Environment Programme (UNEP), if one billion people out of the global population of eight billion adopt environment-friendly behaviours in their daily lives, global carbon emissions could drop by approximately 20 per cent.

#### About Mission LiFE:

- **Aim:** Mission LiFE seeks to translate the vision of LiFE into measurable impact.
- **Objective:** It is designed with the objective to mobilise at least one billion Indians and other global citizens to take individual and collective action for protecting and conserving the environment in the period 2022–28.

#### Closing remarks

- Addressing methane emissions is a crucial part of efforts to mitigate climate change and improve air quality. By addressing rising methane levels, we can better navigate Earth's ongoing climate transition and work towards a more balanced and resilient planet.

## 5.5 KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

### Context

- The 25th meeting of SBSTTA in Nairobi, Kenya concluded with recommendations for the transition to action under the Kunming-Montreal Global Biodiversity Framework (KMGBF) adopted in December 2022.

### Key details

- The outcome is important considering that only six years remain to ensure that the targets of the Framework are achieved.
- The latest IPBES report pointed out the role invasive species play in extinction of plants and animals. The Methodological Assessment Report on the Diverse Values and Valuation of Nature; and the Thematic Assessment Report on the Sustainable Use of Wild Species by IPBES were also discussed.

*The meeting primarily focused on creating a progress monitoring mechanism, while also addressing the implications of assessments conducted by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR6), among other matters.*

### About Kunming-Montreal Global Biodiversity Framework (GBF)

- The Kunming-Montreal Global Biodiversity Framework (GBF) was adopted during the fifteenth meeting of the Conference of the Parties (COP 15) following a four-year consultation and negotiation process.
- This historic Framework, which supports the achievement of the Sustainable Development Goals and builds on the Convention's previous Strategic Plans, sets out an ambitious pathway to reach the global vision of a world living in harmony with nature by 2050. Among the Framework's key elements are 4 goals for 2050 and 23 targets for 2030.

#### Implementation:

- The implementation of the Kunming-Montreal Global Biodiversity Framework will be guided and supported through a comprehensive package of decisions also adopted at COP 15.
- This package includes a monitoring framework for the GBF, an enhanced mechanism for planning, monitoring, reporting and reviewing implementation, the necessary financial resources for implementation, strategic frameworks for capacity development and technical and



scientific cooperation, as well as an agreement on digital sequence information on genetic resources.

#### Adoption:

- In adopting the Kunming-Montreal Global Biodiversity Framework, all Parties committed to setting national targets to implement it, while all other actors have been invited to develop and communicate their commitments.
- At the next meeting of the Conference of the Parties, the world will take stock of the targets and commitments that have been set.

### **What Was the Recent SBSTTA-25 Meeting About?**

#### IPBES Reports on Invasive Species and Biodiversity Valuation:

- The recent SBSTTA-25 meeting delved into the implications of the IPBES report, emphasizing the pivotal role invasive species play in driving plant and animal extinctions. Discussions also centered on the Methodological Assessment Report on Diverse Values and Valuation of Nature and the Thematic Assessment Report on the Sustainable Use of Wild Species.

#### IPCC AR6 Findings on Biodiversity and Climate Change:

- The meeting highlighted key findings from the IPCC AR6 report, underscoring climate change as the primary driver of biodiversity loss. Emphasis was placed on the symbiotic

relationship between biodiversity and climate factors, with implications for adaptation, resilience, mitigation, and disaster risk reduction.

#### Converging Crises:

- Experts at SBSTTA-25 acknowledged the interconnected nature of biodiversity loss, climate change, ocean acidification, desertification, land degradation, invasive alien species, and pollution. Recognizing these converging crises, the meeting finalized 15 key recommendations for presentation at COP16 to the CBD.

#### Recommendations for Global Action:

- The meeting concluded with 15 key points aimed at addressing the interconnected crises effectively. These recommendations, to be presented at COP16, align with the goals of the Convention, the Kunming-Montreal Global Biodiversity Framework, and global initiatives such as the UN Framework Convention on Climate Change and the 2030 Agenda on Sustainable Development.

#### Utilizing Multilateral Agencies for Guidance:

- Emphasizing collaboration, the meeting highlighted the importance of leveraging the expertise of multilateral agencies, including the World Health Organization and the Food and Agriculture Organization. This collaboration aims to enhance scientific and technical guidance in implementing the Kunming-Montreal Global Biodiversity Framework.

## **5.6 GREEN CREDIT PROGRAM**

### **Context**

- The Government has introduced a special program where an individual or entity can earn green credit and trade it on a dedicated exchange.

### **Details**

- **Green Credit refers to a unit of an incentive** provided for a specified activity; delivering a positive impact on the environment.

- **This program will cover 8 types of activities.** Tree plantation which is meant to promote activities for increasing the green cover across the country. Water management is meant to promote water conservation, water harvesting, and water use efficiency or water savings, including treatment and reuse of wastewater.
- **Sustainable agriculture is meant to promote natural and regenerative agricultural** practices and land restoration to improve

productivity, soil health, and nutritional value of food produced. Waste management is meant to promote circularity, sustainable and improved practices for waste management, including collection, segregation, and environmentally sound management.

- **Air pollution reduction is meant to promote measures** for reducing air pollution and other pollution abatement activities. And mangrove conservation and restoration, which is meant to promote measures for conservation and restoration of mangroves.



### What is the Green Credit program?

- **A Green Credit program** is being launched at the national level to leverage a competitive market-based approach for green credit for incentivizing environmental actions of various stakeholders," the Environment, Forest, and Climate Change Ministry said in a notification. This program is a follow-up action of the 'LiFE'-(Lifestyle for Environment) campaign. The notification further added that the new program is a voluntary one.

### Key components under the initiative

#### Tree Plantation:

- Under the Green Credit program, a key focus is on planting trees to expand green cover and counteract deforestation, contributing to environmental sustainability.

#### Water Management:

- The program includes activities that involve the implementation of strategies to efficiently manage and conserve water resources,

fostering sustainable practices for long-term environmental health.

#### Sustainable Agriculture:

- A significant component of the Green Credit program is the promotion of eco-friendly and sustainable agricultural practices, ensuring the integration of environmental considerations into farming methods.

#### Waste Management:

- The program prioritizes the establishment of effective waste management systems to mitigate environmental pollution, emphasizing responsible disposal and recycling practices.

#### Air Pollution Reduction:

- Initiatives under the Green Credit program target the reduction of air pollution and enhancement of air quality, aligning with broader efforts to combat environmental degradation.

#### Mangrove Conservation and Restoration:

- The Green Credit program recognizes the importance of mangrove ecosystems and includes activities focused on their conservation and restoration to maintain ecological balance and biodiversity.

### About Mission LiFE

- **Aim:** Mission LiFE seeks to translate the vision of life into measurable impact.
- **Objective:** It is designed to mobilize at least one billion Indians and other global citizens to take individual and collective action to protect and conserve the environment in the period 2022-28.

#### Earning Green Credit:

- To acquire Green Credits, individuals must register their environmental initiatives on a designated website. After registration, these activities undergo verification by an authorized agency.

#### Verification Process:

- A designated agency thoroughly reviews the environmental activities submitted for Green Credits. Upon completion of the verification process, the administrator issues a Green Credit certificate to the applicant.

#### Calculation Methodology:

- The computation of Green Credits is contingent upon several factors, including resource requirements, scale, scope, size, and other pertinent parameters crucial for attaining the intended environmental outcomes. The approach ensures a comprehensive evaluation of the environmental impact of each registered activity.

### Closing remarks

- To propel the Green Credit Mechanism forward, a comprehensive strategy is

imperative. This entails emphasizing standardization, transparency, regional tailoring, and regulatory supervision. Simultaneously, a steadfast commitment to long-term sustainability and fostering public awareness is crucial. Such an approach aligns with the United Nations Sustainable Development Goals, particularly SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 15 (Life on Land).

## 5.7 BIO-DECOMPOSER TO ADDRESS STUBBLE BURNING

### Context

- The Delhi Government has launched the application of Bio-Decomposer to address the issue of stubble burning.

### Details

- Farmers emphasize the crucial role of timing in determining the microbial solution's effectiveness.
- Contrary to popular belief, stubble burning in Delhi has not been a significant contributor to pollution levels, with minimal reported instances in recent years.

### About Bio-Decomposer for Stubble Burning

- *Bio-Decomposer is an eco-friendly microbial solution designed to address the issue of stubble burning in agriculture. Developed as a sustainable alternative, it aims to decompose crop residues effectively, reducing the need for traditional burning methods.*

### Key Features

- **Microbial Composition:** Bio-Decomposer contains a blend of beneficial microbes, including fungi and bacteria, which accelerate the decomposition of crop residues.
- **Organic Decomposition:** The solution promotes the natural breakdown of crop stubble into organic matter, enriching the soil with essential nutrients.
- **Reduced Air Pollution:** By eliminating the necessity for stubble burning, Bio-Decomposer helps in curbing air pollution, a significant environmental concern during post-harvest seasons.



**BURNING ISSUE**

**PUSA BIO-DECOMPOSER**

- > Developed by Indian Agricultural Research Institute (ARI) to decompose stubble into manure; field validation started in 2019; being used in Delhi since 2020
- > The product, a set of four capsules, mixed in 10 or 25 liters of water to prepare solution
- > 10 litres of solution takes 5 days, 25 litres takes 10-12 days to form concentrated solution
- > The solution is mixed with 200 litres of water to prepare spray for one acre of stubble (approx 2.5 tonnes)
- > Stubble is then mulched or mixed with soil
- > Field lightly irrigated
- > Scientists claim it takes 15 to 25 days for decomposing, later field is prepared for winter crops
- > It increases soil fertility

## Application Process

- **Spraying:** Farmers apply the Bio-Decomposer solution by spraying it on the crop residues in the fields.
- **Timely Application:** The effectiveness of Bio-Decomposer depends on the timely application, typically after the harvest season when stubble remains in the fields.
- **Microbial Action:** Once applied, the microbes in the solution start breaking down the crop residues, converting them into beneficial organic matter.

## What is the Issue of Stubble Burning?

- Stubble burning, a prevalent practice in North West India, particularly in Punjab, Haryana, and Uttar Pradesh, involves setting on fire straw stubble left after the harvest of crops like paddy and wheat. This method, commonly practiced from September to November, poses various environmental and agricultural challenges.

### Environmental Consequences:

- Stubble burning contributes significantly to air pollution, releasing toxic pollutants like methane, carbon monoxide, volatile organic compounds, and carcinogenic polycyclic aromatic hydrocarbons. The resulting smog adversely affects human health, creating a thick blanket in the atmosphere.

### Agricultural Impact:

- The practice harms soil fertility by destroying nutrients and leads to heat penetration into the soil. The heat generated adversely affects moisture levels and beneficial microbes crucial for a healthy soil ecosystem.

## Alternatives to Stubble Burning

### In-Situ Treatment of Stubble:

- Implementing crop residue management through tools like zero-tiller machines.
- Utilizing bio-decomposers to break down stubble in the field.

### Ex-Situ (Off-Site) Treatment:

- Repurposing rice straw as cattle fodder, providing a sustainable alternative to burning.

### Technological Solutions:

- Adoption of advanced technologies such as the Turbo Happy Seeder (THS) machine, capable of uprooting stubble and sowing seeds while leaving the residue as mulch.

## Way forward

### Adoption of Alternative Farming Practices:

- Encouraging farmers to embrace alternative farming methods such as zero tillage, direct seeding, and crop diversification is vital. These approaches not only minimize crop residue generation but also diminish the necessity for resorting to stubble burning.

### Promotion of Modern Harvesting Machinery:

- Advocating the utilization of modern harvesting equipment, such as combine harvesters, that cut crops at a lower height is essential. This method results in reduced stubble left behind, offering a practical solution to mitigate the need for stubble burning.

### Awareness Campaigns and Farmer Education:

- Conducting targeted awareness campaigns to educate farmers about the detrimental impacts of stubble burning is a key initiative. Engagement with farmer groups, agricultural universities, and local communities is crucial for disseminating information effectively and promoting the adoption of sustainable alternatives.

## 5.8 UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION DATA

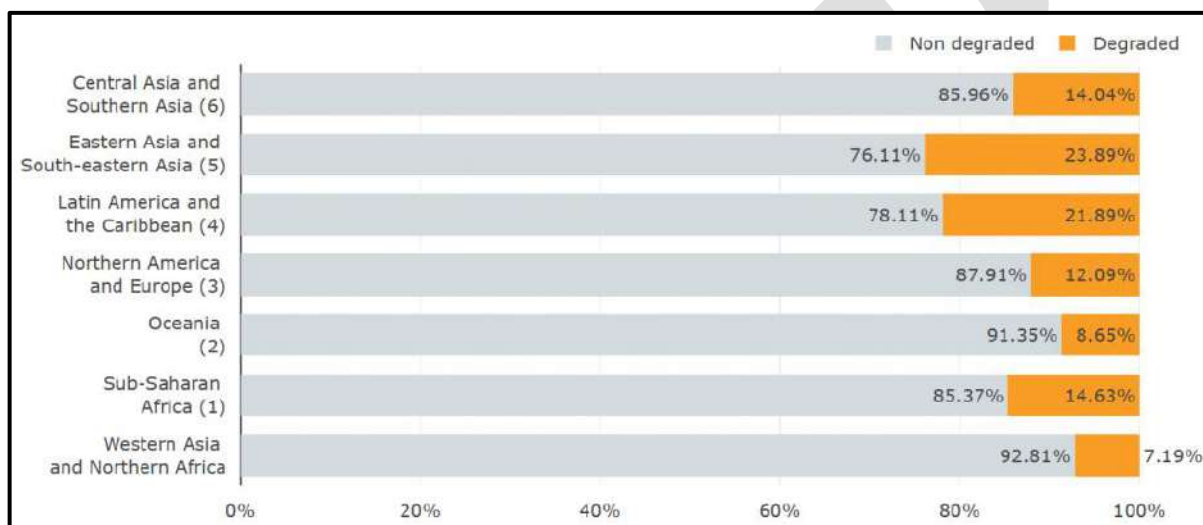
### Context

- Recently, the UN Convention to Combat Desertification (UNCCD) has announced the launch of its first-ever Data Dashboard.

### Key details

- Land degradation across all regions of the world is becoming worse at an astonishing rate, according to UNCCD's first data dashboard compiling national figures from 126 countries.
- The launch, UNCCD stated, comes at a critical juncture as world leaders and experts will soon gather in Samarkand, Uzbekistan from November 13-17, 2023 for the 21st session of the committee.

From 2015 to 2019, the world lost at least 100 million hectares of healthy and productive land each year, according to the United Nations Convention to Combat Desertification (UNCCD) data. This is twice the size of Greenland.



### Key Highlights of the UNCCD Data on Land Degradation

- Between 2015 and 2019, the world witnessed a staggering annual loss of over 100 million hectares of productive land, a figure equivalent to twice the size of Greenland.
- This alarming trend signals a rapid exacerbation of land degradation on a global scale.

#### Regional Variances:

- Certain regions bear a disproportionate burden of land degradation.
- Eastern and Central Asia**, **Latin America**, and the **Caribbean** grapple with severe degradation affecting at least 20% of their total land area.
- Sub-Saharan Africa**, **Western and Southern Asia**, and **Latin America** experience

degradation rates surpassing the global average.

- Notably, **sub-Saharan Africa**, **Latin America**, and the **Caribbean** have seen **163 million hectares** and **108 million hectares** succumb to land degradation since 2015.

#### Bright Spots:

- Amidst these challenges**, some countries showcase **positive strides** in combating land degradation.
- Botswana**, for instance, significantly reduced land degradation from 36% to 17% of its territory.
- The Dominican Republic** saw a decrease from 49% to 31% in degraded land between 2015 and 2019, with ongoing restoration efforts.
- Uzbekistan**, despite reporting the highest proportion of degraded land in **Central Asia**,

demonstrated a notable decrease from 30% to 26%, emphasizing the impact of focused initiatives such as saxaul planting.

### India's Statistics

- India, however, faces an alarming increase in degraded land area, rising from 4.42% in 2015 to 9.45% in 2019, underscoring the urgency of targeted interventions.

### UNCCD Recommendations

- The **United Nations Convention to Combat Desertification (UNCCD)** advocates for the restoration of 1.5 billion hectares of degraded land by 2030 to achieve **Land Degradation Neutrality (LDN) targets** outlined in the United Nations Sustainable Development Goals.
- **Despite concerning global trends, the UNCCD emphasizes** the feasibility of meeting or surpassing LDN goals by halting further

degradation and accelerating restoration efforts.

- Many countries, including India, have set **voluntary LDN targets for 2030**, emphasizing the critical role of funding in realizing these ambitious goals.

### Conclusion

- **Addressing the global challenge of land degradation** requires concerted international efforts. While stark trends and regional variations highlight the urgency, success stories from countries like Botswana, the Dominican Republic, and Uzbekistan provide valuable insights and inspiration for effective strategies.
- **The UNCCD's recommendations underscore the importance of collective action** to achieve LDN targets and ensure a sustainable and resilient future for our planet.

## 5.9 WORLD ENERGY OUTLOOK-2023

### Context

- The World Energy Outlook 2023 was released by the International Energy Agency (IEA) recently.

critical insights into global energy supply and demand in different scenarios and the implications for energy security, climate change goals, and economic development.

### Details

- This Outlook assesses the evolving nature of energy security fifty years after the foundation of the IEA.
- It also examines what needs to happen at the COP28 climate conference in Dubai to keep the door open for the 1.5 °C goal.
- And, as it does every year, the Outlook examines the implications of today's energy trends in key areas including investment, trade flows, electrification, and energy access.
- This flagship publication of the International Energy Agency is the energy world's most authoritative source of analysis and projections.
- Published each year since 1998, its objective data and dispassionate analysis provide

### About this report

- *The World Energy Outlook 2023 provides in-depth analysis and strategic insights into every aspect of the global energy system. Against a backdrop of geopolitical tensions and fragile energy markets, this year's report explores how structural shifts in economies and energy use are shifting the way that the world meets rising demand for energy.*

### Key Highlights of the Report

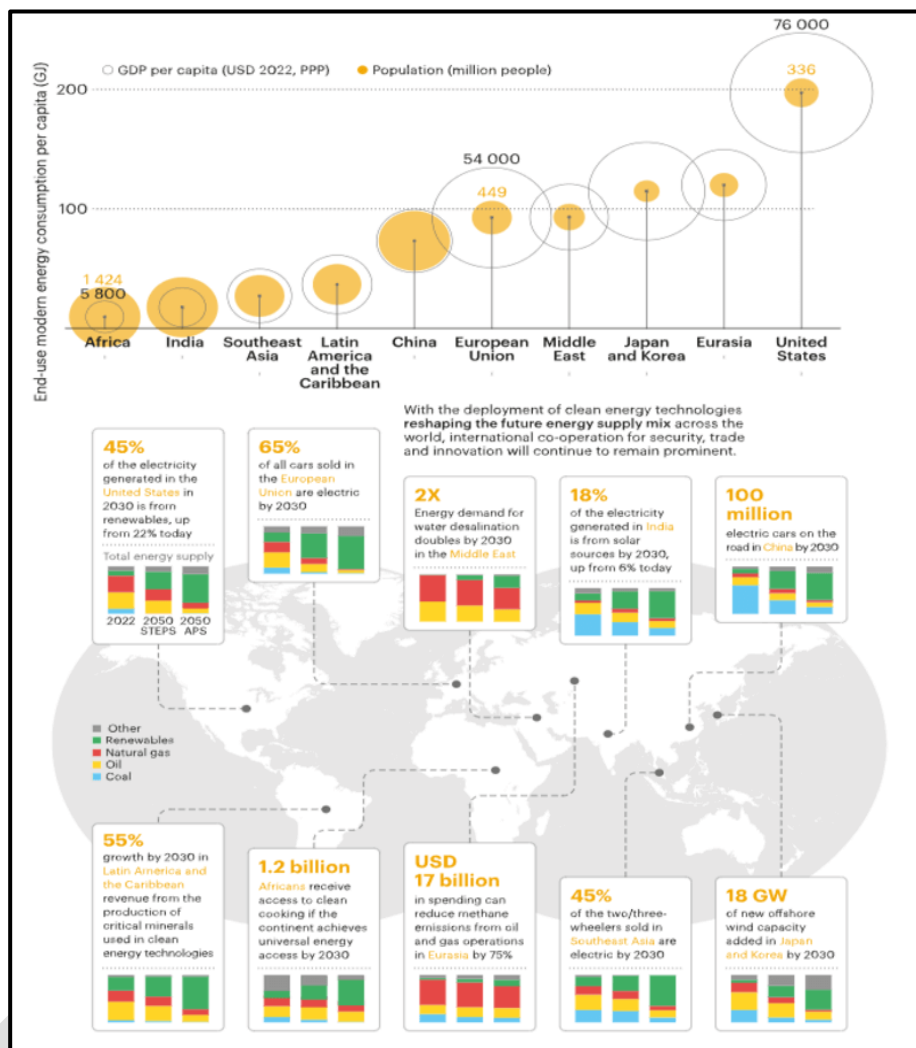
- The report under consideration offers a thorough and detailed analysis of the global energy markets, delving into present dynamics, future forecasts, and potential scenarios that could shape the world's energy systems.

**Energy Market Analysis:**

- The assessment encompasses a holistic view of the global energy market, encompassing the production, consumption, and trade of diverse energy sources, ranging from traditional ones like oil, natural gas, and coal to the burgeoning realms of renewables and nuclear energy.

**Energy Projections:**

- The World Energy Outlook goes beyond mere observation, presenting projections and scenarios for forthcoming energy demands, production patterns, and consumption trends. Factors like population growth, economic development, policy shifts, and technological breakthroughs are meticulously considered in crafting these projections.



**Energy Transition:**

- A pivotal focus lies on the ongoing transition toward a more sustainable and clean energy paradigm. The report investigates the pivotal roles of renewable energy sources, energy efficiency, and the reduction of greenhouse gas emissions in reshaping the global energy mix.

**Energy Access and Affordability:**

- Addressing equity concerns, the report explores issues surrounding energy access for marginalized populations and the affordability of energy, with particular emphasis on developing countries. It strives to explore avenues to enhance access to modern and sustainable energy sources.

**Environmental Impact:**

- The environmental consequences of energy production and consumption are given due diligence. The report evaluates the potential outcomes of diverse energy scenarios on air quality, climate change, and other ecological factors.

**Energy Security:**

- A critical aspect involves scrutinizing the security of energy supplies and the resilience of energy systems in the face of geopolitical and natural disruptions, ensuring a robust understanding of potential vulnerabilities.

### Policy and Regulation:

- Insights into global energy policies and regulations take center stage, elucidating their impacts on energy markets and environmental sustainability. The report aims to offer actionable recommendations for policymakers to fortify energy security and sustainability.

### Technology Innovation:

- The transformative role of technological advancements in the energy sector is a key focal point. The report critically assesses the influence of emerging technologies in reshaping the energy landscape.

### Scenarios and Pathways:

- Diverse future scenarios, including the "New Policies Scenario" grounded in current policy trajectories and the "Sustainable Development Scenario" envisioning an environmentally conscious future, provide a nuanced understanding of potential trajectories.

### Investment and Financing:

- Examining the financial landscape, the report explores investment needs and financing mechanisms required to meet burgeoning energy demands while aligning with environmental objectives.

### Regional Analyses:

- With a commitment to granularity, the report offers detailed regional and country-level analyses. These insights shed light on regional nuances, providing a comprehensive understanding of energy trends and challenges across the globe.

## About World Energy Outlook

- **The World Energy Outlook is an annual report published by the International Energy Agency (IEA), an autonomous agency within the framework of the Organisation for Economic Co-operation and Development (OECD).**
- Published each year since 1998, its objective data and dispassionate analysis provide critical insights into global energy supply and demand in different scenarios and the implications for energy security, climate change goals, and economic development.

## 5.10 SHORT ARTICLES

### Platypus

#### Context

- The research conducted after the Black Summer bushfires in 2019-20 in eastern Australia sheds light on the impact of these mega-fires on platypuses and their habitats.

#### Details

- Platypuses can be challenging to study and monitor in the wild due to their elusive nature. Detecting their presence in waterways can be difficult. Researchers used environmental DNA (eDNA) sampling to detect the presence of platypuses in waterways. This technique involves analyzing genetic material (e.g., DNA traces) left behind by animals in their environment.
- The study pointed out that there was little prior research on how platypuses and other

aquatic or semi-aquatic animals respond to fires, which made it challenging to draw direct comparisons before and after the fires.

- Researchers identified that site with watersheds where at least 25% of the area was burnt at high severity and experienced high rainfall had less than a 10% chance of platypuses occupying those areas.

#### About Platypus

##### About

- Platypuses, along with echidnas, are the only two extant (living) **monotreme species**.
- Monotremes are a primitive group of mammals known for their **egg-laying reproduction**, a trait they share with their ancestors from the distant past.

#### Physical Characteristics



- They have a streamlined body adapted for an aquatic lifestyle. Their body length can range from 30 to 45 centimetres (12 to 18 inches).
- They have dense, waterproof fur that helps them stay warm in the water. The fur traps a layer of air close to their skin, providing insulation.
- They have webbed front limbs that make them excellent swimmers. Their partially webbed hind feet act like rudders, aiding in steering.
- The platypus's bill is a remarkable feature. It's soft and sensitive, containing electroreceptors that can detect the electrical signals produced by the muscles and nerves of prey in the water.
- Male have a venomous spur on their hind legs. This spur is capable of delivering a painful venomous sting to potential threats or rivals during the breeding season.

#### Habitat

- They are highly adaptable and can be found in a variety of freshwater environments, including rivers, streams, and lakes. They are particularly well-suited to habitats with plenty of submerged vegetation and access to burrows for shelter.
- Platypus ancestors can be traced back to fossil records in Australia. They are believed to have originated and evolved in the ancient supercontinent of Gondwana, making them one of the oldest lineages of mammals.

#### Conservation status

- Platypuses are listed as "Near Threatened" by the International Union for Conservation of Nature (IUCN).
- Their conservation status is of concern due to habitat destruction, pollution of waterways, and climate change. Protecting their freshwater habitats is crucial for their survival.



## Hirakund Wetland

### Context

- As per the recent study, High carcinogenic risk at Hirakud for adults and children; Heavy

metals can enter crops through soil, get consumed by humans.

### Key findings of the report

- High levels of cancer-causing heavy metals such as lead and chromium have been found in eight wetlands in Odisha, including Hirakud. The Hirakud reservoir is one of the largest human-made reservoirs in India.
- The findings were recorded in a new study published in the journal Scientific Reports on September 28, 2023.
- In the modern world, anthropogenic activities such as urbanisation, industrialisation and agricultural practices deposit heavy metals in wetlands, which act as heavy metal sinks.

*Heavy metal pollutants that commonly accumulate in wetlands as a result of human activity include lead, chromium, cadmium, copper, mercury, nickel, zinc, manganese and arsenic. These metals can enter crops through the soil, which are then consumed by humans.*

- The heavy metals can also enter the environment indirectly through the food chain.
- Since the water from these wetlands is not being drawn directly for human consumption, the only way for people in the surrounding community to indirectly consume it is by consuming various foods from that wetland, such as fish, rice, some vegetables and spinach.
- They selected eight wetlands: Natural ones such as Chandaneswar, Chilika, Daringbadi and Koraput as well as constructed ones like Bhadrak, Hirakud, Talcher and Titlagarh. Next, the researchers collected 144 samples from the eight identified wetlands.
- They recorded the highest concentrations of lead (51.25 micrograms per gram) and chromium (266 micrograms per gram) in Hirakud.
- They found the highest concentration of copper at the Bhadrak site, with 34.27 micrograms per gram. Koraput showed a higher abundance of zinc. All the sites, according to the findings, had a higher

concentration of chromium than other studies had previously shown.

- **The researchers also calculated the ecological risk** posed by heavy metal accumulation. The ecological risk index measures the potential ecological risk (RI) factor of all metals tested together.
- **The highest RI was found in Hirakud**, followed by Talcher, Bhadrak, Titlagarh, Chilika, Chandaneswar, Koraput and Daringbadi.

#### About Hirakud Reservoir:

- **Location:** Sambalpur town in the state of Odisha
- **River:** Mahanadi.
- **Background:** Commencing operations in 1957, it represents one of the earliest significant multipurpose river valley projects initiated following India's independence.
- **It is built across the Mahanadi River** by a combination of earth and modern dams with a total length of almost 26 kilometers.
- It thereby **moderates the impact of floods** in the Mahanadi Delta.
- It was designated a **Ramsar site in 2021**.

## Pygmy hog

### Context

- The world's smallest and rarest wild pig, the pygmy hog, which was almost wiped out from the alluvial grasslands running across the southern edge of the Himalayas, is being released in western Assam's Manas National Park and Tiger Reserve.

### Details

- Eighteen captive-bred pygmy hogs, the smallest and rarest pigs on earth, were released in western Assam's Manas National Park and Tiger Reserve.
- It was the fourth such exercise undertaken under the Pygmy Hog Conservation Programme (PHCP) annually since 2020, helping up the total number of this critically endangered species released at the park to 54.
- The PHCP target is to reintroduce 60 pygmy hogs in Manas, its historical habitat, by 2025.

- The release of more pygmy hogs in their original home will boost the rewilding of Manas, where we are investing more in the scientific management of grasslands.
- Apart from securing the future of the reintroduced pygmy hog, the management will also help grassland-associated species such as the Bengal florican, hispid hare, hog deer, and rhino.

### About Pygmy hog

*The pygmy hog (Porculasalvania) is a small wild pig species native to the grasslands and wetlands of the Himalayan foothills in India and Nepal. It is the smallest and rarest pig species in the world.*

### Size and Appearance

- **The pygmy hog is tiny compared to other wild pig species**, with a body length of about 55 to 71 centimeters (22 to 28 inches) and a shoulder height of 25 to 30 centimeters (10 to 12 inches).
- It has a stout and compact build with a relatively short snout.

### Behaviour

- **Pygmy hogs are generally solitary animals**, and they are known for their secretive and elusive nature.
- **They are primarily diurnal** (active during the day).

### Habitat

- **Pygmy hogs prefer tall**, dense grasslands and wetlands. They are often found in areas with tall, elephant grass.

### Conservation status

- The pygmy hog is listed as **"Endangered" on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species**.
- The population has faced significant declines due to habitat loss, fragmentation, and hunting.

### Diet

- Their diet consists mainly of grasses, roots, tubers, and occasionally insects.

### Reproduction

- **Female pygmy hogs have a unique breeding behavior** known as "creeping." The female

builds a nest by bending tall grasses to form a concealed shelter for the piglets.

## Dancing Frogs

### Context

- Dancing frogs are the most threatened amphibian genus of India- Findings of Global Amphibian Assessment Report by the Wildlife Trust of India.

### About Platypus

- Micrixalus kottigeharensis** (commonly known as **Kottigehar Dancing Frog** or **Kottigehar torrent frog**) is a species of frog in the family **Micrixalidae**.

### Endemic

- It is endemic to the Western Ghats in Karnataka.

### Physical Characteristics

- Male Micrixalus kottigeharensis** grow to a snout-vent length of 22-24 mm (0.87-0.94 in) and females to 28-33 mm (1.1-1.3 in).

### The Act of Foot Flagging

- The dancing frogs that are found near the streams do a unique display to mate.
- The males stretch up their hindlegs one at a time and wave their webbed toes in the air in a rapid motion akin to a dance.
- This is to attract mates as well as ward off competition, probably preferred because their mating calls are drowned out by the

gurgling of the streams. This act is called “foot flagging” and gives the species their name.

### Habitat

- The preferred habitat of **Micrixalus kottigeharensis** is fast-flowing streams in primary and secondary forests.
- The species are found to prefer habitats in areas with thick canopy cover of at least 70-80 percent.



### Threats

- It is threatened by habitat loss.
- It is also threatened by invasive species like the mosquito fish, land use change, variation in temperature and humidity, extreme weather events such as floods and excess rainfall, infectious diseases, water pollution, light pollution, and infrastructure projects such as dams.

### Conservation Status

- Of the 24 species of frogs belonging to the **Micrixalus** genus that were assessed, two were found to be critically endangered and 15 were endangered.
- This makes them the most threatened of all Indo-Malayan genera.
- It is also the fifth most threatened genus in the world with 92 percent of its species in the threatened category.

## Carbon Accounting Framework

### Context

- There is a need for a comprehensive carbon accounting system to address the interconnected and multifaceted challenges of climate change.

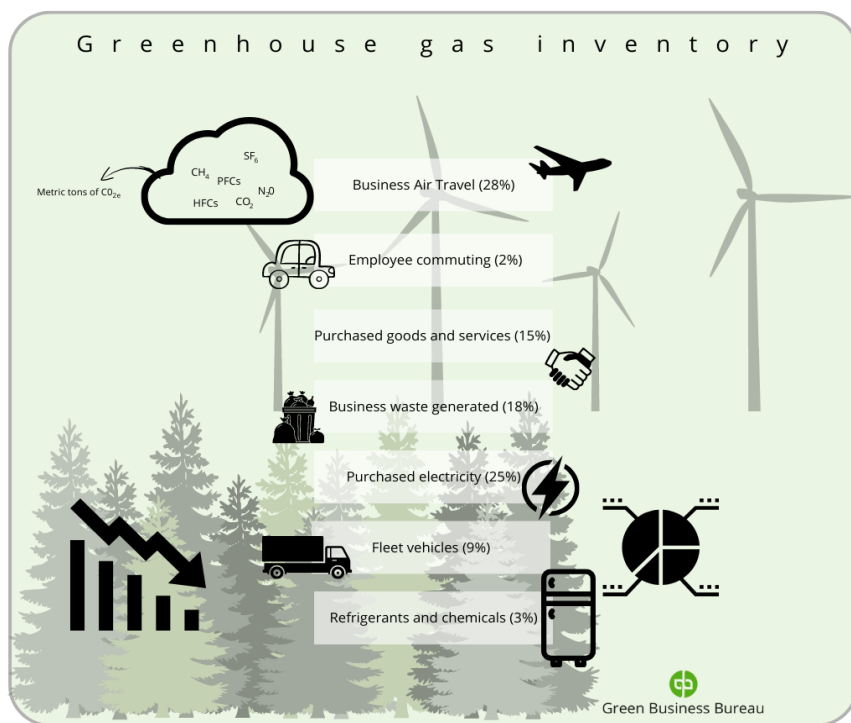
### Details

- Instead of addressing climate issues sector by sector, they propose a profound transformation, akin to building a “carbon infrastructure”.

*The climate ‘polycrisis’ – a term made popular by Adam Tooze – refers to the interconnected and compounding crises related to climate change that are affecting the planet not just in a few sectors but across several sectors and domains.*

- It encompasses the physical impacts of climate change (rising temperatures, sea-level rise, and extreme weather events) and the social, economic, and political challenges that arise from these impacts.
- In India, one can see the interconnections between seemingly different sectors such as energy, infrastructure, health, migration and food production that are being impacted by climate change.

- Recognising the complexity and interconnectedness of the climate polycrisis, it is crucial in developing a **holistic approach** that takes into account the diverse perspectives and priorities of different stakeholders, while ensuring resilience, equity, and justice.
- **While it seems easier to pursue our response to climate change** in a sectoral fashion, the very nature of a polycrisis means that tweaking one corner of the climate challenge leads to unexpected consequences elsewhere.



#### About Carbon accounting:

- **Carbon accounting** – also known as a carbon or greenhouse gas inventory – is the process of measuring the amount of carbon dioxide, or other greenhouse gas (GHG), an organization emits. The aim is to help the entity understand its climatic impact.
- **Carbon accounting (or greenhouse gas accounting) is a framework of methods to measure and track how much greenhouse gas (GHG) an organization emits.**
- It can also be used to track projects or actions to reduce emissions in sectors such as forestry or renewable energy. Corporations, cities and other groups use these techniques to help limit climate change.
- **Organizations will often set an emissions baseline**, create targets for reducing emissions, and track progress towards them. The accounting methods enable them to do this in a more consistent and transparent manner.

## **Project Nilgiri Tahr**

### Context

- Recently Project Nilgiri Tahr has been launched by the Government of Tamil Nadu.

### Details

- Tamil Nadu Chief Minister M.K. Stalin launched this project.
- The objective of this project is to provide conservation to the state animal Nilgiri Tahr.
- The Nilgiri Tahr, locally known as 'Varai Aadu', is an endangered species of the Western Ghats known for its skill in defying gravity while climbing steep cliffs.

- These mountain goats are also called 'Mountain Monarch'.
- This project will be implemented from the year 2023 - 2027.

### About Nilgiri Tahr

#### Distribution

- Nilgiri Tahrs are found in the high-altitude montane grasslands and shrublands of the Western Ghats in the states of Kerala and Tamil Nadu in South India. They inhabit the Nilgiri Hills, the Anaimalai Hills, and the Palni Hills.

### Size and Appearance

- NilgiriTahrs are characterized by their stocky build with a thick, bristly coat. The coat is dark brown to reddish-brown in color, and males typically have a darker coloration than females. They have a distinctive "mane" of coarse hair on their neck and shoulders.

### Habitat

- They are adapted to the rocky terrain of the Western Ghats and are often found in steep, rugged landscapes. Nilgiri Tahrs are excellent climbers and are known to navigate steep cliffs with ease.

### Conservation status

- Conservation efforts include habitat protection, establishment of wildlife sanctuaries, and monitoring of populations. The Nilgiri Tahr is legally protected in India.

### Social Structure

- Nilgiri Tahrs are social animals that live in groups known as herds. The herds are typically segregated by sex, with males forming bachelor groups and females leading family groups.

### Endemism

- The Nilgiri Tahr is an endemic species, meaning it is found only in a specific geographic region—in this case, the Western Ghats of South India.

## **Global Amphibian Assessment**

### Context

- The alarming statistics were revealed in the second Global Amphibian Assessment, a comprehensive analysis of 8,011 species worldwide, conducted by over 1,000 experts, according to a press statement.

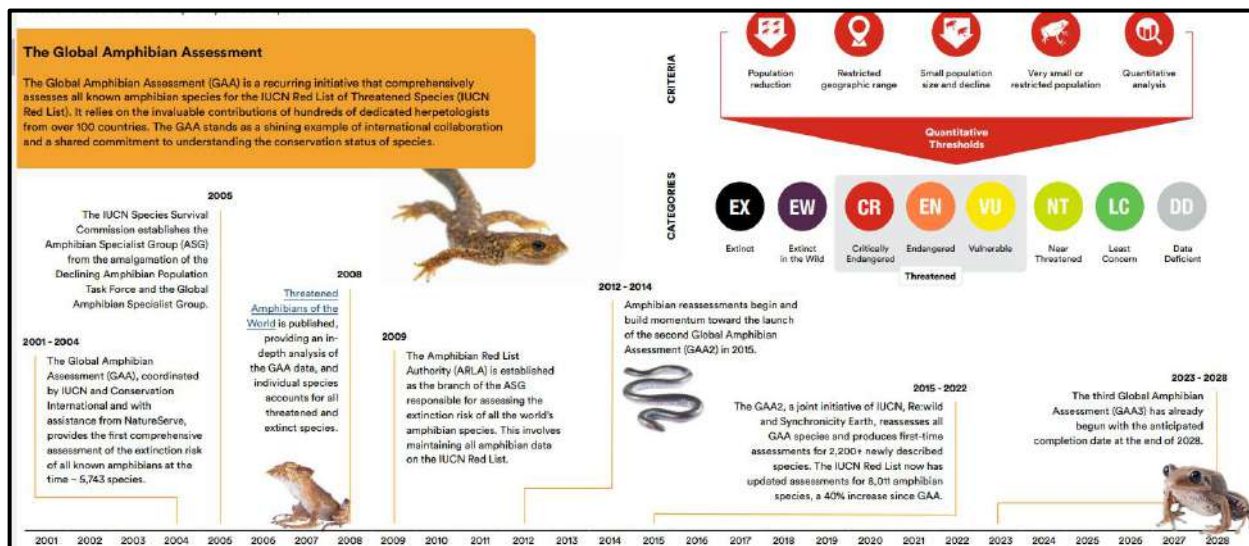
### Details

- **The Global Amphibian Assessment (GAA)** is a recurring initiative that comprehensively assesses all known amphibian species for the IUCN Red List of Threatened Species (IUCN Red List).
- **It relies on the invaluable contributions** of hundreds of dedicated herpetologists from over 100 countries.

- Through the second Global Amphibian Assessment (GAA2), more than a decade of research on amphibians by over 1,000 experts has been compiled to assess the extinction risk of 8,011 species worldwide.
- **The GAA2 follows on from the first GAA**, completed in 2004, which illuminated the unfolding amphibian extinction crisis and established a baseline for monitoring trends and measuring conservation impact.
- **Now, the GAA2 reveals that the conservation status** of the world's amphibians continues to deteriorate.

### Findings

- **41% of amphibians are globally threatened with extinction, making them the most threatened vertebrate group.**
- Salamanders are particularly at risk, with **3 out of every 5 species threatened with extinction.**
- The number of amphibian extinctions could be as high as 222 when considering **the 37 confirmed extinctions and an additional 185 species with no known surviving population.**
- **Habitat loss remains the most common threat to amphibians, affecting 93% of threatened species.**
- **Agricultural expansion** continues to be the main cause of habitat loss and degradation, followed by **timber and plant harvesting, and infrastructure development.** Amphibians are also threatened by disease in many parts of the world.
- Over the past few decades, **chytridiomycosis has had a devastating impact on amphibian populations,** and the emergence of a new fungal pathogen in Europe that targets salamanders has raised fears of another epizootic.
- ***The GAA stands as a shining example of international collaboration and a shared commitment to understanding the conservation status of species.***



## Buff-breasted Sandpiper

### Context

- The Buff-breasted Sandpiper, sighted only a few times in Asia, has triggered a bird festival at Madayipara.

### Details

- The Buff-breasted Sandpiper, sighted only a few times in Asia, has triggered a bird festival at Madayipara. The less than one-year-old bird flew 12,000 km from the tundra and is preparing for its onward journey, probably to South America.
- A rare yellow-legged cute little bird that mesmerized the authorities of Kannur International Airport by flying 12,000 km from the Arctic region to Kannur some years ago is back at Madayipara, Kannur.
- Jayan Thomas, an ophthalmologist-turned birder from Kannur who had sighted the Buff-breasted Sandpiper way back in 2010 saw the rare migrant bird again at Madayipara.

### About Buff-breasted Sandpiper

#### About

- The buff-breasted sandpiper (*Calidris subruficollis*) is a small shorebird.

#### Characteristics

- This species is brown above and has a buff face and under parts in all plumages. It has a short bill and yellow legs.
- Males are larger than females. Juveniles resemble the adults but may be paler on the rear under parts.

### Distribution

- subruficollis breeds in the open arctic tundra of North America and is a very long-distance migrant, spending the non-breeding season mainly in South America, especially Argentina.

### Nature

- It migrates mainly through central North America and is uncommon on the coasts.
- It occurs as a regular wanderer in Western Europe and is not classed as rare in Great Britain or Ireland, where small flocks have occurred.

### Conservation Status

- It is considered near threatened on the IUCN Red List.

## Amur Falcon

### Context

- The Manipur Forest Department will carry out a head count of Amur falcons-the world's longest-travelling raptors- in the Tamenglong district.

### Details

- The Amur falcons, locally known as Akhuaipuina, usually arrive in Manipur in thousands, mostly in Tamenglong in mid-October from their breeding grounds in South Eastern Siberia and Northern China.
- These pigeon-sized birds, which undertake a yearly journey covering up to 22,000 km, leave the region at November-end after

having enough food for their non-stop flight to Africa, where they spend their winters.

- **They also cross over the Indian Ocean between Western India and tropical East Africa**, a journey of more than 4,000 km, which also includes nocturnal flight. This bird is protected under the Wildlife Protection Act 1972.

### About Amur Falcon

#### About

- **The Amur Falcon (*Falco amurensis*) is a small, long-distance migratory bird** of prey that belongs to the Falcon family. Known for its remarkable annual migration, it covers thousands of kilometers, making it a fascinating species for ornithologists and conservationists.

#### Migratory routes

- **The Amur Falcon has one of the longest migratory routes** among raptors. It breeds in northeastern Asia, particularly in Siberia and northern China, and migrates to southern Africa, covering a distance of approximately 22,000 kilometers.
- **The migration involves crossing the Indian subcontinent.**

#### Appearance

- **During its breeding season, male Amur Falcons exhibit striking dark plumage** with a

bluish-grey head and reddish-brown underparts. Females and non-breeding males have a more subdued appearance, featuring brownish feathers.

#### Conservation concerns

- **While the Amur Falcon's migration is a marvel**, it faces conservation challenges. Previously, there were instances of mass hunting of these birds in Nagaland, India, during their stopover on their way to Africa. Conservation efforts and awareness campaigns have been crucial in curbing such activities.

#### Conservation initiatives

- Conservationists and local communities have worked collaboratively to protect the Amur Falcon.
- **The declaration of the Doyang Reservoir in Nagaland** as a dedicated Amur Falcon roosting site has played a significant role in the bird's conservation.

#### Ecological role

- **Amur Falcons contribute to the ecological balance** by preying on insects, particularly during their migration. Their presence in different regions also highlights the interconnectedness of ecosystems and the importance of international cooperation in bird conservation.

## Carbon Border Adjustment Mechanism

### Context

- The EU's plan to collect a carbon border tax with effect from January 1, 2026, could raise the cost of India's exports by 20-35 percent, according to experts seized on the matter.

### Details

- Beginning this October, Indian exporters are supposed to submit documents on their processes roughly every two months.
- The EU is likely to have 'verifiers' in place soon to vet these submissions – now applicable to steel, aluminum, cement, fertilizer, hydrogen, and electricity but to be expanded to all imports into the EU in due course.

### About Carbon Border Adjustment Mechanism

- **CBAM, an integral component of the "Fit for 55 in 2030 package,"** is a pivotal element in the European Union's ambitious plan to slash greenhouse gas emissions by at least 55% by 2030, aligning with the European Climate Law.

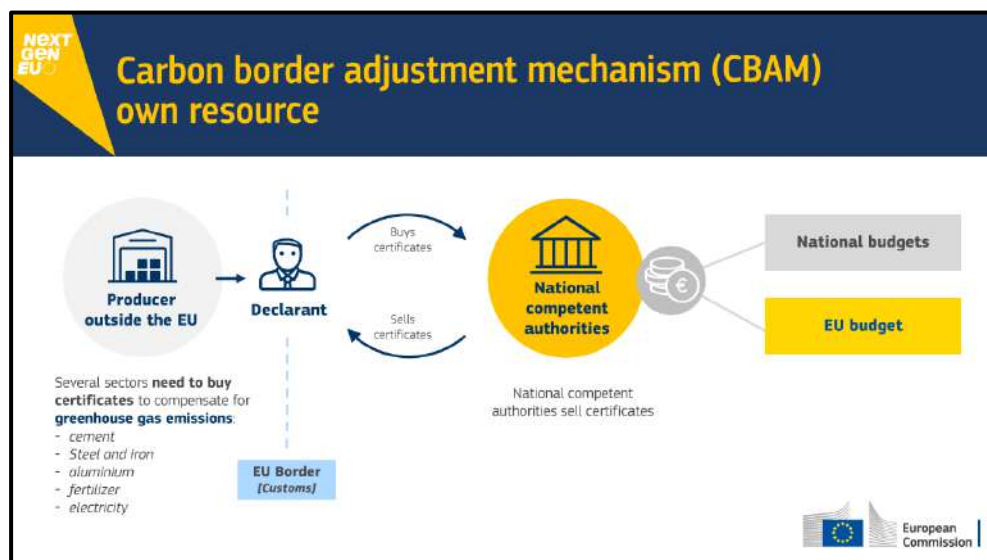
#### Objectives

- **CBAM, short for Carbon Border Adjustment Mechanism,** functions as a policy tool strategically designed to curtail carbon emissions.

- Its primary goal is to ensure that imported goods face equivalent carbon costs as their counterparts produced within the EU.

### Mechanism and Implementation

- The mechanism achieves this by mandating importers to



disclose the quantity of goods and their embedded Greenhouse Gas (GHG) emissions annually.

- To offset these emissions, importers must surrender CBAM certificates, priced based on the weekly average auction price of EU Emission Trading System (ETS) allowances, denominated in €/tonne of CO<sub>2</sub> emitted.

### Areas and Goals

- CBAM's overarching objective is to safeguard the climate objectives of the EU from potential setbacks posed by carbon-intensive imports.
- Additionally, it aims to catalyze cleaner production practices globally, thereby contributing to the broader mission of reducing global carbon emissions.

### Significance

- **Encouraging Stringent Regulations:** CBAM catalyzes non-EU countries to adopt more rigorous environmental regulations.
- This not only fosters a global commitment to environmental sustainability but also contributes to a reduction in overall carbon emissions.
- **Preventing Carbon Leakage:** A crucial facet of CBAM is its role in preventing carbon leakage. By discouraging companies from relocating to nations with lax environmental regulations, CBAM acts as a bulwark against practices that could undermine the EU's climate efforts.
- **Revenue Generation for Climate Policies:** CBAM generates revenue, and the funds raised are earmarked to support EU climate policies.
- This financial infusion becomes a beacon for other countries, showcasing how revenue from such mechanisms can bolster green energy initiatives globally.

## United Nations Forum on Forests

### Context

- The Ministry of Environment, Forest and Climate Change is organizing a Country-Led Initiative (CLI) event as part of the United Nations Forum on Forests (UNFF).

### About the United Nations Forum on Forests (UNFF)

#### About

- The United Nations Forum on Forests (UNFF) is a **high-level intergovernmental policy forum**.

#### Members

- The forum includes all United Nations member states and permanent observers, the UNFF Secretariat, the Collaborative Partnership on Forests, Regional Organizations and Processes, and Major Groups.



### Historical background

- In 1992, the United Nations Conference on Environment and Development, ("Earth Summit") was held in Rio de Janeiro.
- The Earth Summit adopted the Non-legally Binding Authoritative Statement of Principles for a **Global Consensus on the Management, Conservation, and Sustainable Development of All Types of Forests (Forest Principles)** together with Agenda 21, which included a chapter (Chapter 11) on "**Combating Deforestation**".

### Functions

- To facilitate the implementation of forest-related agreements and foster a common understanding of sustainable forest management;
- To provide for continued policy development and dialogue among Governments, and international organizations, including major groups, as identified in Agenda 21 as well as to address forest issues and emerging areas of concern in a holistic, comprehensive, and integrated manner,
- To enhance cooperation as well as policy and program coordination on forest-related issues.

### Forest-related Sustainable Development Goals (SDGs)

- The UNFF is closely aligned with the **United Nations 2030 Agenda for Sustainable Development**.
- Forest-related SDGs, including Goal 15 on **Life on Land**, are integral to its mission, emphasizing the indispensable role of forests in biodiversity conservation, climate change mitigation, and the well-being of communities.

### International Arrangements

- A distinctive feature of the UNFF is its role in facilitating and supporting international arrangements on forests.
- Notably, the **Non-Legally Binding Instrument on All Types of Forests (NLBI)** and the voluntary **Global Forest Financing Facilitation Network (GFFFN)** are vital components that guide international cooperation in forest-related matters.

## United Nations Strategic Plan for Forests 2017–2030



### GLOBAL FOREST GOALS

The United Nations Strategic Plan for Forests 2017–2030 provides a global framework for action to sustainably manage all types of forests and trees outside forests, and to halt deforestation and forest degradation.

At the heart of the Strategic Plan are six Global Forest Goals (GFGs) which directly support the UN Sustainable Development Goals.



#### GFG 1

#### Reverse Forest Cover Loss

Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change.



#### GFG 2

#### Improve Forest Benefits and Livelihoods

Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people.



#### GFG 3

#### Protect Forests and Use Sustainable Forest Products

Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.



#### GFG 4

#### Mobilize Resources

Mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management and strengthen scientific and technical cooperation and partnerships.



#### GFG 5

#### Promote Inclusive Forest Governance

Promote governance frameworks to implement sustainable forest management, including through the United Nations forest instrument, and enhance the contribution of forests to the 2030 Agenda for Sustainable Development.



#### GFG 6

#### Cooperate and Work Across Sectors

Enhance cooperation, coordination, coherence and synergies of forest-related issues at all levels, including within the United Nations system and across member organizations of the Collaborative Partnership on Forests, as well as across sectors and relevant stakeholders.



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## Global Declaration for River Dolphins

### Context

- In a ground-breaking development, 11 Asian and South American countries recently signed a global declaration, the "**Global Declaration for River Dolphins**," aimed at preserving the world's six remaining river dolphin species.

### Details

- All six species of river dolphin in Asia and South America are threatened with extinction
- River dolphins live in some of our greatest rivers from the Amazon to the Ganges
- Global declaration will enhance the health of these rivers, critical for people and nature.

### About Global Declaration for River Dolphins

- **Crafted with the intent of steering conservation efforts**, this declaration resonates as a guiding document for 14 nations inhabiting river dolphins.
- **Focused on responsible freshwater dolphin conservation**, it aspires not only to arrest the decline of all river dolphin species but also to bolster the populations most vulnerable to the threats they face.

### Objectives

- **The primary aim of this declaration is to rally nations together** in a collective commitment to safeguard the surviving river dolphin species.
- **It seeks to transcend borders and unite efforts toward a common goal** – the preservation of these majestic aquatic creatures.

### Collaborative Measures

- **Countries embracing this declaration** span Bangladesh, Bolivia, Brazil, Cambodia, Colombia, Ecuador, India, Nepal, Pakistan, Peru, and Venezuela.
- Their collective pledge encompasses a spectrum of measures designed to fortify the conservation endeavor.
- **Improving Water Quality:** A pivotal component involves concerted efforts to enhance the water quality within the habitats of river dolphins. This proactive step addresses a fundamental aspect of their survival and well-being.
- **Creation of Protected Areas:** The declaration acknowledges the importance of designating protected areas. These sanctuaries serve as havens for river dolphins, shielding them from threats while fostering a conducive environment for their sustainable existence.
- **Combating Overfishing:** Recognizing the impact of overfishing on river dolphin populations, the involved nations commit to tackling this issue. By implementing measures to regulate and curb overfishing, they aim to restore ecological balance in their aquatic ecosystems.
- **Involvement of Indigenous Communities:** An inclusive approach is adopted by actively involving Indigenous communities residing in affected regions. This engagement not only recognizes their intrinsic connection with the environment but also leverages their knowledge for effective conservation strategies.

## 5.11 SNIPPETS

APTI PLUS

### Sycamore Tree



- Sycamore Gap, located along Hadrian's Wall in Northumberland, England, is a place of exceptional historical significance and natural beauty.
- Sycamore trees are known for their distinctive five-lobed leaves, which resemble those of the North American maple tree. They can grow to impressive heights and are characterized by their large, spreading canopies.
- Sycamores are versatile trees that can thrive in a variety of environments, from woodlands and forests to urban areas and parks.

APTI PLUS

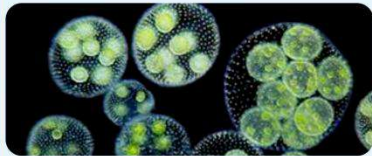


### National framework for Climate Services

- The National Framework for Climate Services (NFCS) in India is a pioneering initiative led by the India Meteorological Department (IMD) to provide climate services and information to various sectors such as agriculture, energy, disaster management, health, and water.
- It is based on the Global Framework for Climate Services (GFCS), which is a collaborative effort among governments and organizations worldwide to enhance the production and utilization of climate information and services.

APTI PLUS

### Microalgae



- Microalgae are photosynthetic microorganisms that can be found in diverse natural environments, such as water, rocks, and soil.
- They present higher photosynthetic efficiency than terrestrial plants and are responsible for a significant fraction of the world's oxygen production.
- Marine microalgae play a pivotal role in the oceanic food chain and carbon dioxide absorption.

### Asiatic Wild Dog

APTI PLUS



- It is a native species to Central, South, East Asia, and Southeast Asia.
- It is also called as Asian wild dog, Asiatic wild dog, Indian wild dog, whistling dog, red-dog, and mountain wolf.
- It plays an important role as apex predators in forest ecosystems.
- Besides the tiger, the dhole is the only large carnivore in India that is under the International Union for Conservation of Nature's 'endangered' category.
- India supports the highest number of dholes in the world, still do not have targeted management plans for scientific monitoring of the species.

### Pallikaranai Marshland

APTI PLUS



- Pallikaranai Wetland is a freshwater marsh in the city of Chennai.
- It is situated adjacent to the Bay of Bengal.
- The marshland is located along the Coromandel Coast south of the Adyar Estuary.
- Pallikaranai marshland is the only surviving wetland ecosystem of the city.
- It is among the few and last remaining natural wetlands of South India.
- It is one of the 94 identified wetlands under the National Wetland Conservation and Management Programme (NWCMP) operationalized by the Government of India in 1985-86.

APTI PLUS

### Green War Room



- The 'Green War Room' has been set up to monitor efforts to reduce air pollution during the winter season.
- It will track air quality levels, incidents of stubble burning, and also collect data and complaints through the Green Delhi App.
- The war room will operate 24/7 and will be led by a team of 12 members from the Delhi Pollution Control Committee(DPCC).

APTI PLUS

### International Coral Reef Initiative



- The International Coral Reef Initiative (ICRI) is a global partnership with the primary goal of preserving coral reefs and related ecosystems worldwide.
- It was founded in 1994 by eight governments: Australia, France, Japan, Jamaica, the Philippines, Sweden, the United Kingdom, and the United States of America.
- ICRI has since expanded to include over 100 members, including both nations and organizations.

### Bannerghatta National Park

APTI PLUS



- Location: It is located near Bangalore, Karnataka, in the hills of the Anekal range.
- It was declared as a National Park in 1974.
- In 2002 a portion of the park became a biological reserve, the Bannerghatta Biological Park. It is the first biological park in India to have a fenced forested elephant sanctuary.
- In 2006, India's first butterfly enclosure was inaugurated at the park.
- River: Suvarnamukhi stream, the main source of water for the animals of the park, runs through the center of the park.
- Vegetation: Three types of vegetation can be found: Dry Deciduous Scrub Forests, Southern Tropical Dry Deciduous Forests, and Southern Tropical Moist Mixed Forests.

APTI PLUS

### Sea Cucumber



- Sea cucumbers are part of a larger animal group called echinoderms, which also contains starfish and sea urchins.
- Their body shape is similar to a cucumber, but they have small tentacle-like tube feet that are used for locomotion and feeding.
- Sea cucumbers are found in virtually all marine environments throughout the world, from shallow to deep-sea environments.
- Sea cucumbers are benthic, meaning they live on the ocean floor.

APTI PLUS

### Lemru Elephant Corridor



- Location: Situated in the Korba district of Chhattisgarh, the Elephant Reserve in Korba is a dedicated area designed to provide elephants with a permanent habitat.
- Purpose: The primary objective of the Elephant Reserve is to establish a lasting habitat for elephants. Simultaneously, it addresses the pressing issues of property damage and conflicts between humans and elephants.
- Connectivity with Elephant Corridor: The Elephant Reserve in Korba is strategically located as part of an elephant corridor that connects key areas such as Lemru in Korba, Badalkhol in Jashpur, and Tamorpingla in Surguja.

## 5.12 1 MAINS & 5 MCQs

**Q1. Discuss the role and significance of the United Nations Forum on Forests (UNFF) in global forestry management and conservation efforts.**

### Answer

- The United Nations Forum on Forests (UNFF) is a subsidiary body of the UN Economic and Social Council (ECOSOC), established in 2000. It serves as a platform for international cooperation and coordination on issues related to forests.

### Role of UNFF

- **Policy Development:** UNFF plays a crucial role in the formulation of international forest policy, providing a forum for member states to discuss and negotiate agreements.
- **Monitoring and Assessment:** It facilitates the assessment of the progress in the management, conservation, and sustainable development of all types of forests.
- **Capacity Building:** UNFF promotes capacity-building initiatives to enhance the capabilities of countries, especially developing ones, in sustainable forest management.

### Significance of UNFF

- **Global Collaboration:** UNFF fosters collaboration among nations, promoting a united front in addressing challenges such as

deforestation, illegal logging, and biodiversity loss.

- **Sustainable Development:** The forum emphasizes the integral role of forests in achieving sustainable development goals, linking environmental, social, and economic aspects.
- **Inclusivity:** UNFF ensures the inclusion of various stakeholders, including governments, NGOs, indigenous peoples, and the private sector, in decision-making processes.

### Challenges Faced by UNFF

- **Implementation Gap:** Despite resolutions and agreements, the actual implementation of sustainable forest management practices at the national level remains a challenge.
- **Resource Constraints:** UNFF faces resource constraints, limiting its ability to effectively address the diverse and complex issues related to global forests.
- The United Nations Forum on Forests plays a pivotal role in shaping global policies for sustainable forest management. While it has made significant strides in promoting collaboration and awareness, addressing the implementation gap and securing adequate resources are crucial for realizing the full potential of UNFF in safeguarding the world's forests.

**Q2. Consider the following statements about Sycamore Gap and Hadrian's Wall:**

1. Hadrian's Wall was constructed during the reign of the Roman Emperor Hadrian.
2. Sycamore Gap is renowned for a solitary sycamore tree.
3. Sycamore trees are native to North America.

**Which of the following combinations is correct?**

- a) Statements 1 and 2
- b) Statements 2 and 3
- c) Statements 1 and 3
- d) Statements 1, 2, and 3

**Q3. Consider the following statements:**

1. Kottigehar Dancing Frog is endemic to the Western Ghats in Karnataka.
2. The species are found to prefer habitats in areas with thick canopy cover of at least 70-80 percent.
3. 92 percent of its species are in the threatened category.

**Which of the above statements is/are incorrect?**

- a) 1 and 3 only
- b) 2 only
- c) 3 only
- d) None

**Q4. Consider the following statements:**

1. The United Nations Forum on Forests was established in 2000 by the World Wide Fund for Nature.
2. The United Nations Forum on Forests includes all United Nations member states and permanent observers.
3. The United Nations Forum on Forests (UNFF) has the main objective of promoting the management, conservation and sustainable development of all types of forests based on the Rio Declaration, the Forest Principles, Chapter 11 of Agenda 21.

**How many of the above are correct?**

- a) Only 1
- b) Only 2
- c) All 3
- d) None

**Q5. Consider the following statements about the International Coral Reef Initiative (ICRI):**

1. The ICRI is a global partnership that brings together governments, non-governmental organizations, and international agencies to promote the sustainable management of coral reefs.

2. It primarily focuses on coral reef ecosystems in the Pacific Ocean.
3. ICRI aims to address the major threats to coral reefs, including climate change, overfishing, and pollution.

**Which of the above statements is/are correct?**

- a) 1 and 3 only
- b) 2 only
- c) 3 only
- d) None

**Q6. Consider the following statements regarding Project Nilgiri Tahr:**

1. The Nilgiri Tahr, an endangered mountain goat species, is found in the Western Ghats of India.
2. Project Nilgiri Tahr aims to conserve and protect the Nilgiri Tahr population and its habitat.
3. The Nilgiri Tahr is primarily a grass-eating herbivore with a preference for high-altitude grasslands.

**Which of the above statements is/are correct?**

- a) 1 and 3 only
- b) 2 only
- c) 1 and 2 only
- d) None

**ANSWERS:** 2) a, 3) d, 4) b, 5) a, 6) c

## 6. SOCIAL ISSUES

### 6.1 CASTE CENSUS

#### Context

- The Bihar government has released the results of its recently concluded survey of castes in the state.

#### What is Caste Census?

- Caste census means the inclusion of caste-wise tabulation of India's population in the Census exercise.
- India has counted and published caste data – from 1951 to 2011 – of the Scheduled Castes and Scheduled Tribes only. It also publishes data related to religions, languages and socio-economic status.

#### Was it done earlier?

- The last caste census was conducted in 1931. All caste data are projected on its basis.
- It became the basis for quota caps under the Mandal formula.
- Caste data were collected for the 2011 census but the data were never made public.

#### The fresh demand for Caste Census

- It's actually an old demand, arising from the fact that the available data set is 90 years old while castes are often taken as bases for several welfare programmes.

#### Arguments in favor of Conducting Caste Census

- Identification of disadvantaged: Those at the lower levels of the Social System are not just disadvantaged socially but also economically, therefore it is important to identify them to ensure their welfare.
- Promotion of independent Research: Caste data will promote independent research into the question of who does and does not need affirmative action.
- Credible exercises of data collection: The faith of our citizens cannot be restored until

credible exercises of data collection are undertaken regarding caste.

- Better Policies: A caste census, which will generate exhaustive data will allow policymakers to develop better policies and implementation strategies, and will also enable a more rational debate on sensitive issues.
- Proper sub-categorization: The Justice Rohini committee was appointed in 2017 to look into the sub-categorization of the OBC communities; however, in the absence of data, there can be no data bank or any proper sub-categorization.
- Updated Data: All commissions have had to depend on data from the last caste census conducted in 1931. Therefore, the data has to be updated.
- Data around diverse metrics: India needs to be bold and decisive in tackling caste questions through data and statistics in the way the US does to tackle race issues, by collecting data around race, class, language, and inter-race marriages, among other metrics.

#### Argument against conducting caste census

- Inaccurate and misleading: The data will suffer in respect of “completeness and accuracy”, as Caste data collected in the Socio-Economic and Caste Census (SECC) of 2011 is “unusable” for official purposes as they are far from accurate and also misleading.
- Unregistered: Many people may not register themselves in the census to hide their caste identity.
- Delayed: It is too late now to add caste to the Census 2021, as the Planning and preparations for the census exercise started almost four years earlier and the preparations for Census 2021 are almost done.

- **Divisions in society:** This could further divide Indian society. The government had said that the total number of castes surveyed in 1931 was 4,147, while the SECC 2021 figures show that there are more than 46 lakh castes in India.
  - **Failed attempts:** Earlier attempts failed as the entire exercise was corrupted because the enumerators had used different spellings for the same castes. In many cases, the respondents had refused to reveal their castes.
- Way forward**
- Affirmative action is allowed by the Constitution to address past social injustices. However, there may not have been enough discussion about collecting specific data, such as conducting a caste census.
  - There are valid arguments both for and against carrying out a caste census. Ultimately, the decision to conduct a census largely depends on political factors, public sentiment, and the ruling party's priorities.
  - The government's actions can also be influenced by the public's demands and level of awareness.
  - There should be a more favorable environment to acknowledge the importance of caste census. Leaders argue that many leaders, including Mahatma Gandhi and Lohia, recognized that caste discrimination weakens society. By examining global trends, India can learn and improve its policies.
  - In democratic Societies there is nothing to legally stop a Person from the most deprived Class and Caste from reaching the highest Position, but these legal rights also need socio-economic support from the government as affirmative action.
  - Governments need to take effective affirmative action based on strong data to ensure the socio-economic development of marginalized people living at the bottom of the social hierarchy.

#### Census in India

- Census in India was started in 1872 under British Viceroy Lord Mayo, but the first complete census was taken in 1881 under Lord Ripon.
- Since 1881, the Census has been **undertaken every 10 years**; in 2011 the Census of India was conducted for the 15th time.
- The Census of India was conducted by the Registrar General and Census Commissioner of India under the Ministry of Home Affairs.
- All the censuses since 1951 were conducted under the 1948 Census of India Act. The **last census was held in 2011.**

## 6.2 STATUS OF SOCIAL AUDITS UNDER MGNREGA

### Context

- Social Audit Units Under MGNREGA are in a dismal state.

### Social Audit

- Social Audit is the examination and assessment of a scheme conducted with the active involvement of people and comparing official records with actual ground realities.
- Social Audit is a powerful tool for social transformation, community participation and government accountability.

### Social Audits under MGNREGA

- **Section 17 of the MGNREGA** has mandated a Social audit of all Works executed under the MGNREGA.



- The social audit unit's sole responsibility is to flag cases of malpractice, following which recovering misappropriated money – and reprimanding the officials responsible – is the job of the state government.

### Status of Social Audits under MGNREGA

- The social audit units, which are meant to detect any cases of malpractice, are suffering because they are **fund-starved and do not have trained or adequate personnel working for them.**
- Even among cases flagged by the social audit units, **the recovery of embezzled funds has been dismal.**
- Data from the **Union Rural Development Ministry** for the ongoing financial year shows that **less than 14% of the amount flagged by auditors has been recovered so far.**
- While the social audit units flagged misappropriation of Rs 27.5 crore, the amount came down to Rs 9.5 crore after action was taken in some cases. But so far, **only Rs 1.31 crore (13.8%) has been recovered so far.**
- **Poor monitoring:** Over the last three years, there has been a consistent trend of the same States **reporting “zero number of cases” and making “zero recoveries”.** Gujarat, Goa, the north eastern State of Meghalaya, and the Union Territories of Puducherry and Ladakh have been on this list for all three years.
- States such as Telangana, where an active social audit unit has flagged several cases, **but the recovery rate remains low.**



## 6.3 DECODING THE ISSUE OF CHAKMA AND HAJONGS

### Context

- Tripura High Court asked the administration to take necessary measures to stop the persecution of two tribal Chakma families that converted to Christianity last year.

### Who are Chakmas and Hajongs?

- The Chakmas and Hajongs are ethnic people who live in the Chittagong Hill Tracts, most of which are located in Bangladesh. Chakmas are predominantly Buddhists, while Hajongs are Hindus.
- They are found in northeast India, West Bengal, Bangladesh, and Myanmar.

### If they are indigenous people, why are they called refugees?

- The Chakmas and Hajongs living in India are Indian citizens.
- Some of them, mostly from Mizoram, live in relief camps in southern Tripura due to tribal conflict with Mizos.
- These Indian Chakmas living in Tripura take part in Mizoram elections too.

- The Election Commission sets up polling booths in relief camps.
- The Chakmas and Hajongs living in the Chittagong Hill Tracts fled erstwhile East Pakistan in 1964-65, since **they lost their land to the development of the Kaptai Dam on the Karnaphuli River.**
- In addition, they also faced **religious persecution as they were non-Muslims and did not speak Bengali.**
- They eventually sought asylum in India.
- The Indian government set up **relief camps in Arunachal Pradesh and a majority of them continue to live there** even after five decades. According to the 2011 census, 47,471 Chakmas live in Arunachal Pradesh alone.

### Why does Arunachal Pradesh have a problem with Chakmas?

- In the 1960s, the Chakma refugees were accommodated in the relief camps constructed in the "vacant lands" of Tirap, Lohit and Subansiri districts of the erstwhile North-East Frontier Agency (NEFA).

- In 1972, NEFA was renamed Arunachal Pradesh and made a Union Territory, and subsequently, it attained statehood.
- The locals and regional political parties opposed re-settling refugees in their land fearing that it may change the demography of the State and that they may have to share the limited resources available for them.
- The agreement also laid out plans for the return of land to displaced natives and an elaborate land survey to be held in the Hill Tracts.
- Bangladesh was willing to take back a section of Chakma refugees living in India, but most of them were unwilling, fearing the return of religious persecution.

### What about Bangladesh?

- The Chakmas and Hijongs opposed their inclusion in undivided Pakistan during Partition.
- They later opposed their inclusion in Bangladesh when East Pakistan was fighting the Liberation War with West Pakistan, on grounds that they are an ethnic and religious minority group.
- A group of Chakmas resorted to armed conflict with Bangladeshi forces under the name 'Shanti Bahini'.
- The conflict increased the inflow of refugees to India.
- In 1997, the Bangladeshi government headed by Sheik Hasina signed a peace accord with the Shanti Bahini, which resulted in the end of the insurgency.
- According to the accord, the Chakma, Marma, Tripura, Murang and Tanchangya were acknowledged as tribes of Bangladesh entitled for benefits and a Regional Council was set up to govern the Hill Tracts.

### Why grant citizenship now?

- In 2015, the Supreme Court directed the Centre to grant citizenship to Chakma and Hajongs who had migrated from Bangladesh in 1964-69.
- The order was passed while hearing a plea by the Committee for Citizenship Rights of the Chakmas.
- SC held that Chakma and Hajongs cannot be discriminated against any other Indian.
- Following this, the Centre introduced amendments to the Citizenship Act, 1955.
- The Citizenship (Amendment) Act, 2019 (CAA) was passed by the Parliament of India on 11 December 2019.
- It amended the Citizenship Act, 1955 by providing an accelerated pathway to Indian citizenship for persecuted religious minorities from Afghanistan, Bangladesh and Pakistan who are Hindus, Sikhs, Buddhists, Jains, Parsis or Christians, and arrived in India before the end of December 2014.

## 6.4 MANUAL SCAVENGING

### Context

- SC claims that fraternity, equality, and dignity among citizens remain a mere illusion if a sizeable section of society is forced to enter sewers for a living and die trapped in them.

### What is it?

- Manual scavenging is the practice of removing human excreta by hand from sewers or septic tanks.

### Constitutional provisions against manual scavenging

- Human dignity is an inalienable right which forms a part of the fundamental right to life (Article 21- Maneka Gandhi vs. Union of India) as per the Constitution of India.
- 'Dignity' has been construed to include equal treatment and protection of the law, and equal respect. It is a unanimously accepted right, validated by Articles 1, 22, and 23 of the Universal Declaration of Human Rights.

The following provisions cater to the rights of equality, respect, and dignity before the law:

- **Article 14** is about equality before the law which should not be denied to any individual in India.
- **Article 15** provides that no discrimination is permitted based on the place of birth of a person, race, religion, caste, and sex. Manual scavengers, however, face discrimination because of their caste all their lives.
- **Article 16** of the Indian Constitution, in matters of public employment guarantees equal opportunity to all its citizens.
- **Article 17** has provision for the abolition of untouchability, it is guaranteed under this constitutional provision to all.
- **Article 19(1)(g)** gives every citizen the right to practice any profession or to carry on any occupation, trade or business of their choosing.
- **Article 21** guarantees the protection of life and personal liberty to all the citizens living in India.
- Apart from these, some other rights which safeguard the manual scavengers as SC or ST, under the Indian Constitution are **Article 46 and Article 338**.

**Related Laws**

Protection of Civil Rights Act, 1955 (Revised)

- Protection of Civil Rights Act, 1955 (Revised) which was applicable in 1977 abolished untouchability and made it a cognizable and non-compoundable offence. To convert poor urban household dry latrines into flush latrines, integrated low-cost sanitation schemes were authorized.

Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993

- This Act banned the employment of manual scavengers and made it a cognizable offense, making it the responsibility of the State, citizens and the organizations to maintain sanitary toilets.

Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

- India banned the practice under the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013** (PEMSR).
- The Act bans the use of any individual for manually cleaning, carrying, disposing of or otherwise handling in any manner, human excreta till its disposal.
- In 2013, the definition of manual scavengers was **also broadened to include people employed to clean septic tanks, ditches, or railway tracks.**
- The Act recognizes manual scavenging as a “dehumanizing practice,” and cites a need to “correct the historical injustice and indignity suffered by the manual scavengers.”

The Prohibition of Employment as Manual Scavengers and their Rehabilitation (Amendment) Bill 2020

- The Bill prohibits the employment of manual scavengers, the manual cleaning of sewers and septic tanks without protective equipment, and the construction of insanitary latrines.

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## 6.4 SHORT ARTICLES

### Pradhan Mantri Anusuchit Jaati Abhuyday Yojana

#### Context

- Mentioned in PIB

#### PM-AJAY

- **Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM- AJAY) is a merged scheme of 03 Centrally Sponsored Scheme.**
- These schemes are
  1. Pradhan Mantri Adarsh Gram Yojana (PMAGY),
  2. Special Central Assistance to Scheduled Castes Sub Plan ( SCA to SCSP) and
  3. Babu Jagjivan Ram ChhatrawasYojana(BJRCY).
- Pradhan Mantri AnusuchitJaatiAbhuyday Yojana (PM- AJAY) **has been implemented since 2021-22.**
- **Aim:** To **reduce poverty of the SC communities by the generation of additional employment opportunities** through
  - Skill development,
  - income-generating schemes and other initiatives and
  - to improve socio-economic developmental indicators by ensuring adequate infrastructure and requisite services in the SC-dominated villages.

#### Scheme Components

The Scheme has three components:

1. Development of **SC-dominated villages into an "Adarsh Gram"**.
2. **'Grants-in-aid' for District/State-level Projects for the socio-economic betterment of SCs** that may include the creation of infrastructure in SC-dominated villages including those selected under Adarsh Gram component, construction of Hostels/Residential schools, Comprehensive Livelihood Projects which may include components such as Skill development, related infrastructure development, financial assistance towards loans taken by beneficiaries for acquisition/creation of assets required for livelihood generation etc.
3. **Construction of Hostels in higher educational institutions** which are top-ranked as per the National Institutional Ranking Framework (NIRF) of the Government of India and are funded by the Centre/State/UT Governments either fully or partially.
  - Similarly, the construction of hostels in schools that are either fully or partially funded by the Centre/State/UT Governments and recommended by the Ministry of Education.

#### Significance of PM-AJAY

- PM-AJAY is **a major initiative that has been taken for the first time since Independence to turn people from the SC category into entrepreneurs.**

## 6.5 1 MAINS & 5 MCQs

**Q1. Governments need to take effective affirmative action based on strong data to ensure the socio-economic development of marginalized people living at the bottom of the social hierarchy. In this light, present your arguments on the "Caste Census".**

#### Answer

- Caste census means the inclusion of caste-wise tabulation of India's population in the Census exercise. The last caste census was conducted in 1931. All caste data are

projected on this basis. The fresh demand for Caste Census is actually an old demand, arising from the fact that the available data set is 90 years old while castes are often taken as bases for several welfare programmes.

#### Arguments in favor of Conducting Caste Census

- **Identification of disadvantaged:** Those at the lower levels of the Social System are not just disadvantaged socially but also economically,

therefore it is important to identify them to ensure their welfare.

- **Promotion of independent Research:** Caste data will promote independent research into the question of who does and does not need affirmative action.
- **Credible exercises of data collection:** The faith of our citizens cannot be restored until credible exercises of data collection are undertaken regarding caste.
- **Better Policies:** A caste census, which will generate exhaustive data will allow policymakers to develop better policies and implementation strategies, and will also enable a more rational debate on sensitive issues.
- **Proper sub-categorization:** The Justice Rohini committee was appointed in 2017 to look into the sub-categorization of the OBC communities; however, in the absence of data, there can be no data bank or any proper sub-categorization.
- **Updated Data:** All commissions have had to depend on data from the last caste census conducted in 1931. Therefore, the data has to be updated.
- **Data around diverse metrics:** India needs to be bold and decisive in tackling caste questions through data and statistics in the way the US does to tackle race issues, by collecting data around race, class, language, and inter-race marriages, among other metrics.

#### Argument against conducting caste census

- **Inaccurate and misleading:** The data will suffer in respect of “completeness and accuracy”, as Caste data collected in the Socio-Economic and Caste Census (SECC) of 2011 is “unusable” for official purposes as they are far from accurate and also misleading.
- **Unregistered:** Many people may not register themselves in the census to hide their caste identity.
- **Delayed:** It is too late now to add caste to the Census 2021, as the Planning and preparations for the census exercise started

almost four years earlier and the preparations for Census 2021 are almost done.

- **Divisions in society:** This could further divide Indian society. The government had said that the total number of castes surveyed in 1931 was 4,147, while the SECC 2021 figures show that there are more than 46 lakh castes in India.
- **Failed attempts:** Earlier attempts failed as the entire exercise was corrupted because the enumerators had used different spellings for the same castes. In many cases, the respondents had refused to reveal their castes.

#### Way forward

- Affirmative action is allowed by the Constitution to address past social injustices. However, there may not have been enough discussion about collecting specific data, such as conducting a caste census.
- There are valid arguments both for and against carrying out a caste census. Ultimately, the decision to conduct a census largely depends on political factors, public sentiment, and the ruling party's priorities.
- The government's actions can also be influenced by the public's demands and level of awareness.
- There should be a more favorable environment to acknowledge the importance of caste census. Leaders argue that many leaders, including Mahatma Gandhi and Lohia, recognized that caste discrimination weakens society. By examining global trends, India can learn and improve its policies.
- In democratic Societies there is nothing to legally stop a Person from the most deprived Class and Caste from reaching the highest Position, but these legal rights also need socio-economic support from the government as affirmative action.
- Governments need to take effective affirmative action based on strong data to ensure the socio-economic development of marginalized people living at the bottom of the social hierarchy.

**Q2. Which of the following are included in Habitat Rights?**

1. Right to perform all customary religious or cultural ceremonies in the landscape related to their clans
2. Right to protect and conserve places important for religious and spiritual purposes such as sacred groves
3. Right to practice traditional cultivation systems and other livelihood-generating activities including seasonal resource use
4. Right of hunting trapping or extracting a part of the body of any species of wild animal.

**How many of the above-mentioned statements are correct?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**Q3. Consider the following statements with reference to Accredited Social Health Activists workers?**

1. ASHAs, are treated as part-time volunteers and are not paid wages.
2. ASHAs earn a nominal sum, with no compensation for working overtime.
3. ASHAs do not fall within the provisions of the Employees' State Insurance (ESI).
4. ASHA workers are neither recognized by a legislation nor are subsumed by a statutory framework.

**How many of the above-mentioned statements are correct?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**Q4. Kudumbashree Scheme was launched by which of the following States/UT?**

1. Tamil Nadu
2. Andhra Pradesh
3. Kerala
4. Puducherry

**Select the correct answer using the codes given below:**

- A) 1
- B) 2
- C) 3
- D) 4

**Q5. Which organization publishes the Global Hunger Index (GHI)??**

1. Food and Agriculture Organization
2. Worldwide and Welthungerhilfe
3. WHO
4. World Food Programme

**Select the correct answer using the codes given below:**

- A) 1
- B) 2
- C) 3
- D) 4

**Q6. Consider the following statements with reference to Caste Census?**

1. Census in India was started in 1872 under British Viceroy Lord Mayo.
2. Since 1881, the Census has been undertaken every 10 years.
3. The last caste census was conducted in 1971.
4. Caste Census became the basis for quota caps under the Mandal formula.

**How many of the above-mentioned statements are correct?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**ANSWERS: 2) C, 3) D, 4) C, 5) B, 6) C**

# 7. SCIENCE & TECHNOLOGY AND HEALTH

## 7.1 CANCER SCREENING IN INDIA

### Context

- According to Global Cancer Observatory projections, however, India is expected to witness a substantial 57.5% increase in cancer cases between 2020 and 2040.

### Details

- The Council noted cancer poses a significant and pressing public health challenge in India, which currently ranks third in cancer incidence after China and the United States.
- With only a few districts across India being able to effectively implement cancer screening measures in accordance with Health Ministry norms, the Indian Council of Medical Research (ICMR) is gearing up to bring in remedial measures.
- It has invited Expressions of Interest on the implementation of research to accelerate cancer screening, early diagnosis, and treatment.
- In the long run, the Council is looking at improving the coverage and quality of cancer screening through the existing healthcare system using accepted and validated methods. It plans to engage non-specialist physicians and other health care workers within a supportive healthcare system for the screening of cancer as well as pre-cancerous conditions.
- The Council also wants to ensure that all those who test positive are linked to facilities for early diagnosis and treatment. The involvement of local communities is key to encourage the target population to undergo screening for early diagnosis and treatment.

### A new Lancet report highlights how lack of awareness, financial and decision-making powers hurts women's chances of timely diagnosis and treatment of cancer

- Around 63% of premature deaths due to cancers in Indian women could have been prevented by reducing risk factors, screening, and diagnosis, while 37% could have been averted with timely and optimal treatment.

Titled 'Women, Power and Cancer', the report said around 6.9 million cancer deaths among women in India were preventable and 4.03 million were treatable.

- The report highlighted that even though men are at a higher risk of cancers that affect both genders, cancer incidence and mortality in women remains high. Globally, women account for 48% of the new cancer cases and 44% of

#### OVER THE YEARS

YEAR	INCIDENCE	MORTALITY
2020	13.92 lakh	7,70,230
2021	14.26 lakh	7,89,202
2022	14.61 lakh	8,08,558
2025	15.69 lakh (projected)	

Source: National Cancer Registry data presented in Parliament; ICMR National Centre for Disease Informatics and Research study

#### INCIDENCE PER 1 LAKH, 2020\*



#### COMMON CANCER SITES

**MALE:** Lung, mouth, prostate, tongue, stomach (36% of all cancers)

**FEMALE:** Breast, cervix, ovary, uterus, lung (53% of all cancers)

#### FOR WOMEN, SCREENING MATTERS

**BREAST & CERVICAL**, the two most common cancers in women, are highly preventable and treatable.

**SELF-EXAMINATION** of breasts every month, and a clinical examination by a doctor every year, is important. Women who detect any lumps during self-examination must consult a doctor immediately. Women over age

40 should get a mammography once a year.

**A PAP SMEAR TEST** to check for pre-cancerous growth in the genitals is recommended for women ages 25-60.

**HPV TEST** to detect human papilloma virus that causes the majority of cervical cancers, can be done every 5-10 years.

cancer deaths.

- This happens even though some of the cancers in women, such as breast and cervical cancers, are highly preventable and treatable.

### What is behind the poorer outcomes for women?

- **The report said women face challenges** in accessing timely and appropriate care in the absence of knowledge, decision-making and financial powers and availability of services at the primary level closer to home.
- **Irrespective of which part of the world** they live in and which strata of the society they belong to, women are more likely than men to lack the knowledge and power to make informed decisions.
- **It added that they are also much more** likely to experience financial catastrophe due to cancer.
- When it comes to providing cancer care women are under-represented as leaders, are likely to face gender-based discrimination and sexual harassment, and also constitute the largest unpaid workforce.
- **The report estimated that the value of unpaid cancer** care-giving by women is about 3.66% of India's national health expenditure.

### What is the importance of screening?

- When it comes to the two most common cancers in women– breast and cervical – they are highly preventable and treatable.
- **For cervical cancer**, women between the ages of 25 and 65 years should get a pap smear test to check for pre-cancerous growth on their cervix. **An HPV test** – a test to detect the human papilloma virus that causes a majority of cervical cancers – can also be done every five or ten years.

### What are the recommendations of the report?

- **The report said there is a need to regularly collect data** on gender and social demographics for cancer health statistics. It called for developing, strengthening, and enforcing laws and policies that reduce exposures to known cancer risks.

## 7.2 NOBEL PRIZE 2023

### Context

- Narges Mohammadi, an Iranian activist, was awarded the Nobel Prize for Peace in 2023.

### Details

- The Nobel Committee recognized her dedication to fighting against the oppression of women in Iran and her relentless advocacy for human rights and freedom.
- It is awarded annually to individuals or organizations that have made significant contributions to promoting peace and fraternity between nations, reducing standing armies, and advancing the cause of peace.
- **The 2023 peace laureate Narges Mohammadi** is a woman, a human rights advocate, and a freedom fighter.
- This year's Nobel Peace Prize also recognises the hundreds of thousands of people who have demonstrated against the theocratic regime's policies of discrimination and oppression targeting women.
- **Last year, the Nobel Peace Prize** was jointly awarded to Belarusian human rights advocate Ales Bialiatski, the Russian human rights organization Memorial, and the Ukrainian human rights organization Centre for Civil Liberties.



## About Nobel Prizes in 2023

Nobel Prize Category	Achievement	Winners	Venue
<b>Physiology or Medicine</b>	For their discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19	Katalin Karikó and Drew Weissman	Karolinska Institutet, Solna
<b>Physics</b>	For experimental methods that generate at to second pulses of light for the study of electron dynamics in matter”	Pierre Agostini, Ferenc Krausz and Anne L’Huillier	Royal Swedish Academy of Sciences, Stockholm
<b>Chemistry</b>	For the discovery and synthesis of quantum dots	Moungi G. Bawendi, Louis E. Brus and Alexei I. Ekimov	Royal Swedish Academy of Sciences, Stockholm
<b>Literature</b>	For his innovative plays and prose which give voice to the unsayable	Jon Fosse	The Swedish Academy, Stockholm
<b>Peace</b>	For her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all	Iranian Narges Mohammadi	Norwegian Nobel Institute, Oslo
<b>The Sveriges Riksbank Prize in Economic Sciences</b>	For having advanced our understanding of women’s labour market outcomes	Economist Claudia Goldin	Royal Swedish Academy of Sciences, Stockholm

### About the Nobel Prize

- **The Nobel Peace Prize, established** by the will of Swedish industrialist, inventor, and armaments manufacturer Alfred Nobel, is one of the five prestigious Nobel Prizes, alongside those in Chemistry, Physics, Physiology or Medicine, and Literature.
- **Since its inception in March 1901**, the Nobel Peace Prize has been awarded annually, with some exceptions, to individuals or organizations that have made significant contributions to promoting peace, fraternity between nations, and the reduction or abolition of standing armies.

### How are recipients chosen for the prize?

- The Nobel Peace Prize recipient is chosen by the **Norwegian Nobel Committee**, a five-member committee appointed by the Parliament of Norway. Since 2020, the prize has been awarded in the Atrium of the University of Oslo.
- In the past, the prize ceremony was held in various locations, including **Oslo City Hall (1990–2019)**, the **Norwegian Nobel Institute (1905–1946)**, and the **Parliament (1901–1904)**.

### Nominations

- **Nominations are submitted by the beginning of February** in the award year, and committee members can submit nominations until the first Committee meeting after this deadline.

- **The statutes of the Nobel Foundation prohibit** the public disclosure of nominations, considerations, or investigations related to awarding the prize for at least 50 years after it has been awarded. This confidentiality is a hallmark of the Nobel Peace Prize process.

### Selection and Announcement

- **Nominations are initially considered by the Nobel Committee**, leading to the creation of a shortlist of candidates. This shortlist is then reviewed by permanent advisers to the Nobel Institute, including its Director and Research Director, along with Norwegian academics with expertise in relevant subject areas.
- **The Committee seeks a unanimous decision**, but this is not always achievable. Typically, the final decision is reached in mid-September, and the announcement is made in early October.

<p><b>Award Ceremony and Medal</b></p>	<ul style="list-style-type: none"> <li>• <b>The Nobel Peace Prize is presented in the presence of the King of Norway</b> and the Norwegian royal family on December 10th each year, coinciding with the anniversary of Alfred Nobel's death.</li> <li>• <b>The Nobel laureate receives a diploma</b>, a medal, and a document confirming the prize amount, which was worth 9 million SEK as of 2019.</li> <li>• <b>The ceremony's venue has changed over the years</b> but has been held at Oslo City Hall since 1990.</li> </ul>
<p><b>Design of the Nobel Peace Prize Medal</b></p>	<ul style="list-style-type: none"> <li>• <b>The medal for the Peace Prize was designed by Norwegian sculptor Gustav Vigeland</b> in 1901. It features a unique profile sculpture of Alfred Nobel.</li> <li>• The reverse side of the medal portrays three men in a 'fraternal bond,' along with the inscription 'Pro pace et fraternitate gentium' ("<b>For the peace and brotherhood of men</b>").</li> <li>• The medal's edge is inscribed with the year of its awarding, the name of the recipient, and "<b>Prix Nobel de la Paix.</b>"</li> </ul>

### Closing remarks

- The Nobel Peace Prize, with its history of honoring individuals and organizations dedicated to advancing peace and human rights, underscores the global significance of Mohammadi's contributions and the ongoing quest for a more peaceful and just world.



## 7.3 SOLAR GEO-ENGINEERING

### Context

- On 29 September 2023, rainfall broke all previous records at the John F. Kennedy Airport in New York.

### Details

- The National Weather Service warned of potentially life-threatening flash floods in poorly drained areas, and the city's subways literally cracked at the seams in some places, with torrents of water gushing from walls.
- Videos of the city showed waterlogged homes, submerged cars and people being rescued in boats. The world's most privileged city had been brought to its knees by extreme weather.
- In California, the Burning Man festival that is held in the middle of a desert was turned into a giant clayey mud-pit so utterly impossible to traverse that festival-goers were advised to shelter in place till they could be rescued.
- The Hong Kong Observatory recorded in just one hour more rain than ever before, as a

result of which the posh streets of that cosmopolitan city were transformed into raging rivers.

- Europe faced extreme heat and Xinjiang in China recorded its highest temperatures yet, while wildfires in Canada burnt over 40 million acres of forest. If we ever needed evidence that climate and weather patterns have changed, this year's events provide it.

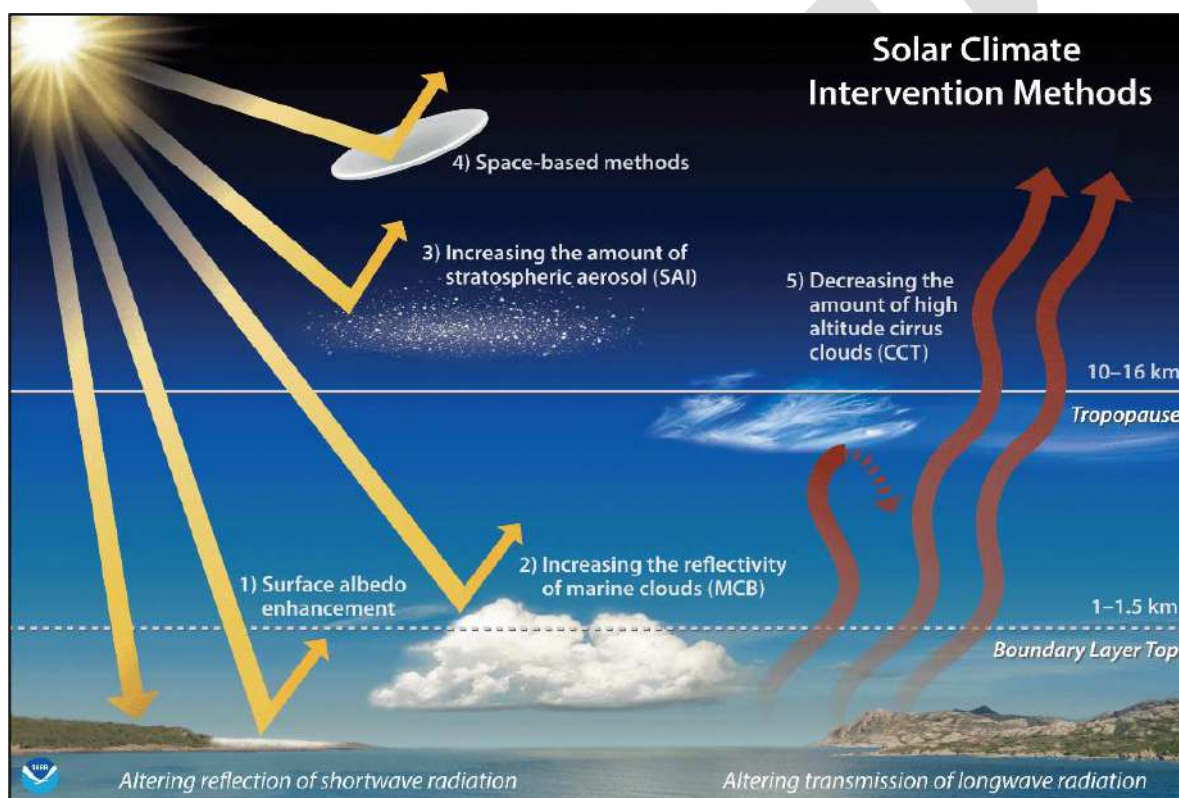
### About Solar Geoengineering

- Solar geoengineering refers to the deliberate modification of the Earth's climate using

techniques that aim to reflect a portion of the sun's energy away from the planet.

- **The goal is to counteract global warming and mitigate the impacts of climate change.** It is considered a form of climate engineering or climate intervention.

Geoengineering means manipulating the earth's climate to lower its temperature in a bid to counter global warming. Solar geoengineering, also called solar radiation modification, involves cooling the earth by radiating absorbed sunlight back into space. It is a subset of geoengineering.



### What are key aspects of solar geoengineering?

#### Albedo Modification:

- The primary approach in solar geoengineering involves increasing the Earth's albedo, which is its reflectivity. By increasing the reflectivity of the planet, more sunlight can be reflected back into space, reducing the amount of solar energy absorbed by the Earth.

#### Stratospheric Aerosol Injection:

- One proposed method involves injecting reflective aerosols, such as sulfate particles, into the stratosphere. These particles would scatter sunlight, mimicking the cooling effect observed after volcanic eruptions.

#### Marine Cloud Brightening:

- Another approach involves enhancing the reflectivity of marine clouds. This can be achieved by seeding the clouds with aerosol

particles, promoting the formation of smaller water droplets that scatter more sunlight.

#### Space-based Methods:

- Some speculative ideas involve placing large mirrors in space or using other space-based technologies to reflect sunlight away from the Earth.

#### Potential Benefits:

- Solar geoengineering is seen by some as a potential tool to mitigate the impacts of climate change, especially if other efforts to reduce greenhouse gas emissions prove insufficient. It could potentially provide a temporary cooling effect on the planet.

#### Risks and Challenges:

- Solar geoengineering poses various risks and challenges, including:
  - **Unintended Consequences:** Changing the Earth's energy balance on a large scale could have unintended and unpredictable consequences for weather patterns, precipitation, and ecosystems.
  - **Ethical Concerns:** The intentional manipulation of the Earth's climate raises

ethical questions about who makes decisions and who bears the potential risks and benefits.

- **Global Governance:** The deployment of solar geoengineering would require international cooperation and governance to avoid unilateral actions and potential conflicts.

#### Research and Modeling:

- Current discussions around solar geoengineering are centered on research and modeling to understand its potential impacts and risks better. Experimentation has been limited, and there is a call for more comprehensive research before any large-scale deployment.

#### Public Perception and Governance:

- Public perception of solar geoengineering is crucial, and there is ongoing debate about the desirability and governance of such interventions. Public engagement and transparent decision-making processes are considered essential.

## 7.4 CANCER CELLS' RESISTANCE TO CHEMOTHERAPY

### Context

- In a new study, published in Cell Reports on September 20, researchers from the Netherlands Cancer Institute investigated the resistance of some cancer cells to a drug called Taxol.

### Details

- They have reported that the culprit could be the location of a particular gene inside the cancer cell's nucleus.
- Treating cancer is expensive, costing up to several lakh rupees depending on the type of cancer, the treatment options available, and the treatment setting (public or private).
- It can also take time, removing an individual from their work and family for extended periods, and be painful.

- One way this happens is when a few cancer cells can resist the drugs used to destroy them: they lay in wait and produce a show of strength later. Understanding this resistance could eliminate the different ways in which it happens, and reduce the odds of a relapse.

### Key Highlights of the Study

- Chemotherapy, a cornerstone in cancer treatment, confronts substantial challenges. Targeting rapidly dividing cancer cells triggers apoptosis, impacting non-cancerous cells and resulting in undesirable side effects.
- Balancing effective cancer cell destruction with manageable side effects poses a complex challenge for oncologists.

**Anti-cancer drugs - i.e. chemotherapeutic agents - work by stalling or blocking this proliferation. When the division of a cancer cell is arrested, it generally**

responds by triggering a pathway of programmed cell death, called apoptosis.

#### Antibody-Drug Conjugates (ADCs):

- **In response to chemotherapy challenges**, researchers have developed ADCs as a more targeted approach. By attaching drugs to antibodies designed to recognize cancer-specific proteins, ADCs deliver chemotherapy directly to cancer cells, minimizing collateral damage to healthy cells.

#### Chemotherapy Resistance: Understanding the Role of ABCB1 Gene:

- **Resistance to Taxol**, a common chemotherapeutic agent, poses a risk of cancer relapse. Research focuses on the ABCB1 gene's role and its relocation within the cell's nucleus.
- **The study unveils that resistant cells exhibit** a unique gene location linked to increased P-gp efflux pump production, enabling them to evade the effects of Taxol.

#### Identifying Lamin B Receptor (LBR):

- **Researchers identify the Lamin B Receptor (LBR) as a crucial protein** influencing the ABCB1 gene's location and activation.
- **The absence of LBR allows cells to activate the ABCB1 gene** when exposed to Taxol.

- **Deleting the gene responsible for LBR production** requires Taxol exposure to increase ABCB1 expression, indicating the involvement of additional factors in silencing ABCB1.

#### Variability in Cancer Cell Responses:

- **The study underscores variability** in cancer cell responses to LBR depletion. While lung cancer cells expressed high levels of ABCB1 RNA, depleting LBR didn't significantly increase Taxol resistance.
- **In contrast, breast cancer cells exhibited increased Taxol-resistant fractions** after LBR depletion, emphasizing the nuanced and varied responses among different cancer cell types.

#### **Closing remarks**

- The exploration of targeted approaches like ADCs and the nuanced understanding of chemotherapy resistance mechanisms shed light on potential solutions to enhance the efficacy of cancer treatment while minimizing side effects. These insights contribute to the ongoing efforts to refine and personalize chemotherapy strategies for improved patient outcomes.

## 7.5 INDIAN SPACE ECONOMY

### **Context**

- The Indian National Space Promotion and Authorization Centre (IN-SPACe) unveiled the decadal vision and strategy for the Indian space economy.

### **Details**

- **IN-SPACe is the single-window, autonomous, nodal agency** under the Department of Space. The decadal vision and strategy have been developed by IN-SPACe and ISRO along with other stakeholders.
- **At present, the Indian space economy is valued at around ₹6,700 crore (\$8.4 billion)** with a 2% share in the global space economy.
- **The decadal vision addresses the creation of demand**, local manufacturing capabilities, and

infrastructure and provides a clear and comprehensive regulatory framework that will encourage and facilitate NGE (non-governmental entities) participation in the growth of the space sector.

### **About the Indian space sector**

- **The Indian space sector has been globally recognized** for building cost-effective satellites, launching lunar probes, and taking foreign satellites to space.
- **The global space economy is estimated at ~US\$ 423 billion.** Currently, India constitutes 2-3% of the global space economy and is expected to enhance its share to >10% by 2030 at a CAGR of 48%.

- At present, the share of the domestic market is ₹6,400 crore (\$8.1 billion). The export market share is ₹2,400 crore (\$0.3 billion). The aim is to increase the domestic share to ₹26,400 crore (\$33 billion), and the export share to ₹88,000 crore (\$11 billion).
- Besides, an investment of ₹17,600 crore (\$22 billion) is envisioned in the next 10 years.

India's space economy has the potential to reach ₹35,200 crore (\$44 billion) by 2033 with about 8% of the global share. As per IN-SPACE's

Indian space contribution 2% of global market share	
% of global market share	
US	40%
UK	7%
India	2%
Global space economy (in 2021)	USD 386B
India (in 2021)	USD 7.6B

projection, India's space economy has the potential to reach ₹35,200

crores (\$44 billion) by 2033 with about 8% of the global share.

### Key details of IN-SPACE

- IN-SPACE aims to achieve the decadal vision and strategy for the Indian space economy through 10 key strategic and enabling capabilities, which are:
  1. Demand generation
  2. Earth Observation (EO) Platform
  3. Communication platform
  4. Navigation platform
  5. Research & Development eco-system
  6. Creation of a talent pool
  7. Access to finance
  8. International synergy
  9. Collaboration
  10. Policy and regulation.



### Risks and Challenges

#### Financial Constraints:

- Limited financial resources pose a significant challenge to India's space ambitions. Funding constraints can hinder the development and implementation of advanced space technologies.

#### Global Competition:

- Increasing competition in the global space sector requires India to enhance its competitiveness. Strategic collaborations and partnerships are essential to navigate the competitive landscape.

### Technological Advancements:

- Keeping pace with rapid technological advancements is crucial. India needs to invest in research and development to stay at the forefront of space technology, including satellite manufacturing, propulsion systems, and space exploration.

### Policy and Regulatory Framework:

- Evolving and adaptive policies are necessary to address the dynamic nature of the space sector. Streamlining regulatory processes can foster innovation and attract private investments.

### Human Resource Development:

- Developing a skilled workforce in space science and technology is imperative. Education and training programs should be aligned with the evolving needs of the space industry.

## Way Forward

### Public-Private Partnerships:

- Encouraging public-private partnerships can leverage the strengths of both sectors. Private enterprises can contribute capital and

innovation, while government agencies provide regulatory support and infrastructure.

### International Collaborations:

- Collaborating with international space agencies and private space companies can enhance India's capabilities. Joint ventures and knowledge sharing can expedite technological advancements.

### Innovation and Research Funding:

- Increased funding for research and innovation is essential. Government initiatives and incentives can stimulate private investments in space-related startups and enterprises.

### Policy Reforms:

- Regular policy reviews and reforms can create a conducive environment for growth. Flexibility in regulations and a clear policy framework will attract private players and foster innovation.

### Capacity Building:

- Investing in educational programs and skill development initiatives will create a pool of qualified professionals. Specialized training in space science and technology will contribute to the industry's growth.

## 7.6 SHORT ARTICLES

## Cholera

### Context

- Most cholera cases continue to be reported from Africa and Asia, with Europe accounting for a few "imported cases".

### Details:

- Cholera is a water-borne disease caused by two strains called O1 and O139 of the bacteria Vibrio cholerae. Of these, O1 is responsible for almost all outbreaks; outbreaks of O139 are rare and none have been recorded outside Asia.
- According to the World Health Organization (WHO)'s weekly epidemiological record, published on September 22, the world reported more than twice as many cholera cases in 2022 as it did in 2021 (Chart 1).
- Between these years, more than twice as many countries also reported at least 10,000 suspected as well as confirmed cases of cholera.

### About cholera:

#### About

- Cholera is an acute diarrhoeal infection caused by ingestion of food or water contaminated with the bacterium Vibrio cholerae.
- Cholera remains a global threat to public health and an indicator of inequity and lack of social development.

### Cause

- Cholera is an extremely virulent disease that can cause severe acute watery diarrhoea.
- Cholera affects both children and adults and can kill within hours if untreated.

### Symptoms

- Most people infected with *V. cholerae* do not develop any symptoms although the bacteria are present in their faeces for 1-10 days after infection.

- Among people who develop symptoms, the majority have mild or moderate symptoms.
- Minorities develop acute watery diarrhoea with severe dehydration. This can lead to death if left untreated.

### Spread

- During the 19th century, cholera spread across the world from its original reservoir in the Ganges delta in India.
- Six subsequent pandemics killed millions of people across all continents.
- The current (seventh) pandemic started in South Asia in 1961, reached Africa in 1971 and the Americas in 1991.
- Cholera is now endemic in many countries.

### Prevention and treatment

- Cholera surveillance should be part of an integrated disease surveillance system that includes feedback at the local level and information-sharing at the global level.
- Cholera is an easily treatable disease. The majority of people can be treated successfully through prompt administration of oral rehydration solution (ORS).



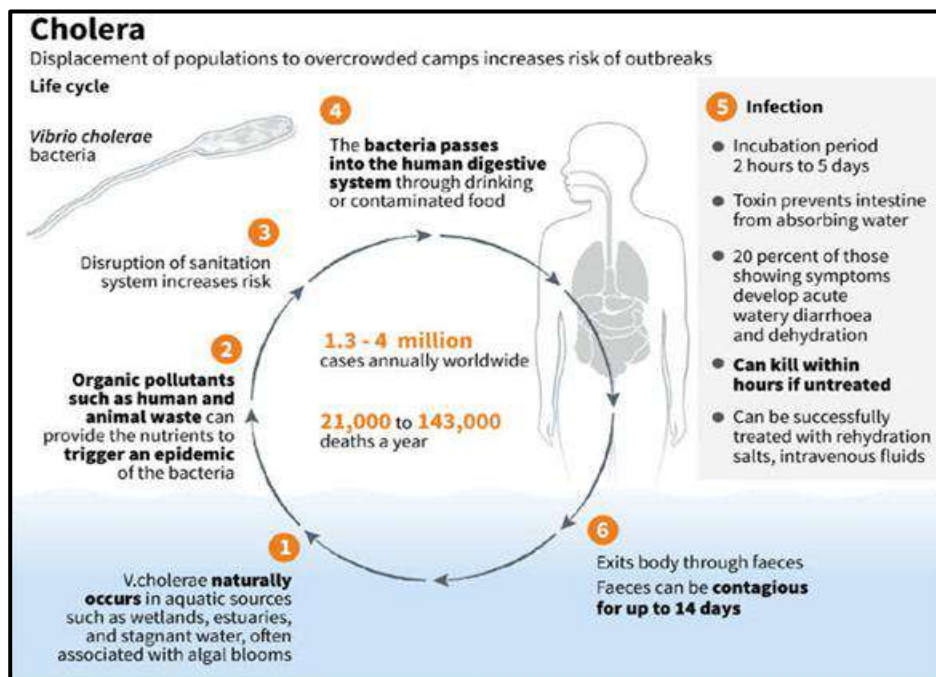
## NanoPtA

### Context

- Recently, scientists at the Materials Research Centre (MRC), Indian Institute of Science (IISc), have developed a new type of enzyme mimetic called NanoPtA.

### About NanoPtA:

- About:** The research team synthesised a platinum-containing nanozyme called NanoPtA, which can be converted into powder form for industrial use.
- Working:** When the NanoPtA comes in contact with wastewater, the benzene rings and long alkyl chains present in the molecule form multiple non-covalent interactions.
- Individual NanoPtA molecules connect together to form tape-like structures that start emitting light, which is the origin of its oxidising capacity.





- The nanozyme can then degrade pollutants present in wastewater by oxidising them in the presence of sunlight, thereby reducing the toxicity of wastewater.

**Features and application:**

- The team found that the nanozyme could degrade even small (micromolar) quantities of common effluents like phenols and dyes within ten minutes when placed under sunlight.
- The researchers also found that the NanoPtA complex was quite stable, lasting for up to 75 days at room temperature.
- **Applications:** The nanozyme can also have applications in healthcare and could be a potentially useful diagnostic tool for neurological and neurodegenerative diseases.

**Effectiveness and Stability:**

- NanoPtA was found to effectively degrade pollutants such as phenols and dyes in wastewater, even in small quantities, within ten minutes of exposure to sunlight.
- The NanoPtA complex demonstrated stability, lasting for up to 75 days at room temperature, and over six months at room temperature.

**Future Plans:**

- The researchers plan to patent NanoPtA for potential large-scale industrial production.
- They are also exploring less expensive metal alternatives to platinum in the nanozyme complex.
- **Nanozymes are nanomaterials that exhibit enzyme-like catalytic activities. Unlike natural enzymes, which are typically proteins, nanozymes are typically composed of various nanomaterials, including metals, metal oxides, and carbon-based materials.**
- *These synthetic catalysts have garnered significant attention due to their unique properties and potential applications.*

**Specs 2030**

Context

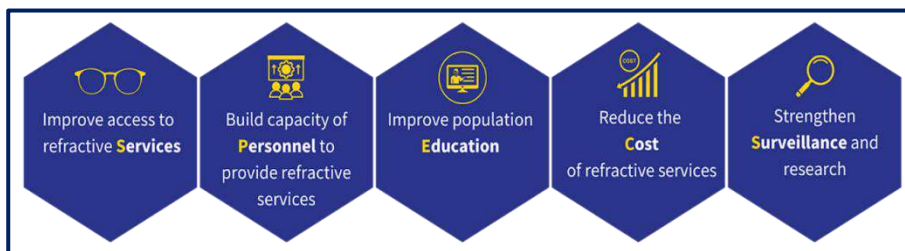
- At least 2.2 billion people function with compromised eyesight and at least a billion of these were preventable with access to eye care.

Details:

- Around 90% of those with vision impairment or blindness live in low- and middle-income countries.
- In February this year the World Health Assembly, in its meeting, resolved to implement an “integrated people-centred eye care” project.
- According to the WHO, at least 2.2 billion people function with compromised eyesight and at least a billion of these were preventable with access to eye care. Around 90% of those with vision impairment or blindness live in low- and middle-income countries.

About Specs 2030:

- **Purpose:** The **World Health Organization (WHO)** is set to launch the **SPECS 2030**. The initiative's goal is to assist member states in addressing the unmet need for spectacles while ensuring the delivery of quality eye care.
- **Approach and vision:** It has the mission to support Member States with the achievement of the 74th World Health Assembly endorsed 2030 target on effective refractive error coverage.

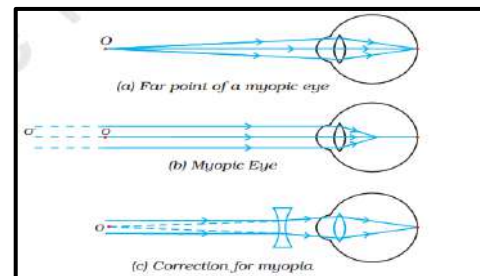


- The initiative calls for coordinated global action amongst all stakeholders across 5 strategic pillars, in line with the letters of SPECS, to address the key challenges to improving refractive error coverage.
- **Aim:** It envisions a world in which everyone who needs a refractive error intervention has access to quality, **affordable and people-centred refractive error services.**

### Types of Refractive Errors:

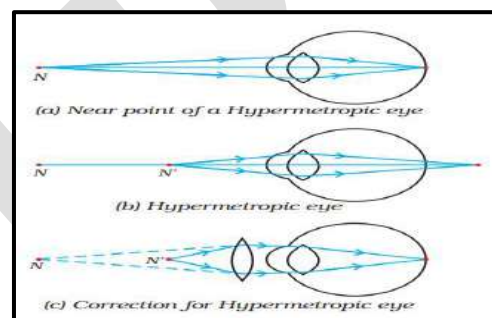
#### **Myopia (Nearsightedness)**

- Myopia is a common vision condition in which close objects are seen clearly, but objects at a distance appear blurry.
- This occurs when the eyeball is too long or the cornea (the clear front part of the eye) is too curved.
- Light entering the eye is focused in front of the retina rather than directly on it, causing distant objects to be out of focus.



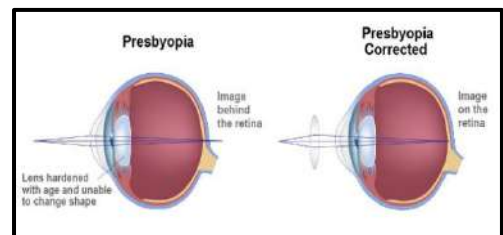
#### **Hypermetropia (Farsightedness)**

- Hypermetropia is a vision condition where distant objects can be seen more clearly than close ones.
- It occurs when the eyeball is too short or the cornea has too little curvature.
- In hypermetropia, light entering the eye is focused behind the retina, making close objects appear blurry.



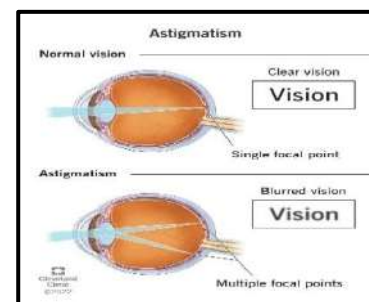
#### **Presbyopia**

- Presbyopia is an age-related condition that affects the eye's ability to focus on close objects.
- As people age, the natural lens of the eye becomes less flexible, making it difficult to see objects up close.
- This usually becomes noticeable around the age of 40, and reading glasses or bifocals are often needed to correct vision for close tasks.



#### **Astigmatism**

- Astigmatism is a refractive error caused by an irregular shape of the cornea or lens in the eye.
- Instead of having a round shape, the cornea or lens may have an oblong shape, leading to distorted or blurred vision.
- Astigmatism can occur along with myopia or hypermetropia.



## **Macrophages**

### Context

- Researchers detected senescent macrophages in the lung that not only remained but also supported tumour growth in a recent Cancer Cell study.

### Details

- **Macrophages are white blood cells that act as the body's first line of infection defence.** In addition to killing hazardous pathogens, macrophages can initiate an immune response against cancers. These

sentinel cells are a part of our body's first line of defense against **pathogens, including bacteria, viruses, and fungi.**

- However, like other cells, **macrophages can experience senescence**, which is connected with ageing, disease, and a number of physiological difficulties.

### About Macrophages:

#### About

- Macrophages are **versatile immune cells** that play a critical role in the innate immune system. Macrophages are also involved in tissue repair and immune system regulation.

#### History

- **The term "macrophage"** was coined by Élie Metchnikoff, a pioneering immunologist who won the Nobel Prize in Physiology or Medicine in 1908.

#### Functions

- They possess the remarkable ability to engulf and digest pathogens, cellular debris, and foreign particles.
- **Macrophages act as antigen-presenting cells (APCs)**, a role vital for initiating and regulating adaptive immune responses.
- **Macrophages produce signaling molecules** called cytokines. These cytokines help orchestrate communication between immune cells and play a central role in regulating inflammation.

#### Types

- **Tissue-Resident Macrophages:** Tissue-resident macrophages are permanently stationed in specific tissues.
- **Monocyte-Derived Macrophages:** Monocytes, circulating in the bloodstream, can differentiate into macrophages when they migrate into tissues in response to infection or inflammation
- **M1 and M2 Macrophages:** Macrophages can undergo different activation states, often referred to as M1 and M2 polarization.
- **M1 Macrophages:** These are pro-inflammatory macrophages activated in response to pathogens.
- **M2 Macrophages:** M2 macrophages are anti-inflammatory and involved in tissue repair and immune regulation.

## **Multimodal artificial intelligence**

### Context

- Leading AI companies, such as OpenAI, are actively working on enhancing multimodal capabilities.

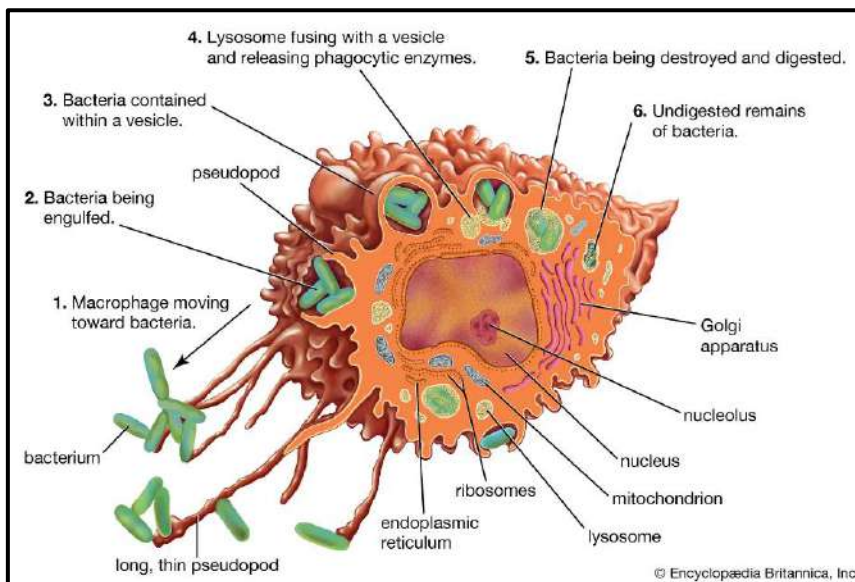
### Details

- OpenAI, for example, added image analysis and speech synthesis to its GPT-3.5 and GPT-4 models.

- Google's multimodal large language model called Gemini is also being tested, thanks to its vast repository of images and videos from its search engine and YouTube.

### About Multimodal Artificial Intelligence:

- **Multimodal Artificial Intelligence (MMAI)** is an advanced subfield of artificial intelligence that integrates and processes data from



various modalities, such as text, images, videos, audio, and sensor inputs.

### Primary goal

- **The primary goal of MMAI is to enable machines** to understand, interpret, and interact with the world in a more human-like and holistic manner.
- **Unlike traditional AI systems that focus** on a single data type, multimodal AI leverages the combined power of multiple data sources to make more informed decisions.

### Importance of Multimodal AI

- **The significance of multimodal AI** lies in its ability to bridge the gap between human and machine understanding.
- **By incorporating diverse sources of information**, MMAI can enhance the quality of decision-making, provide context-awareness, and improve human-computer interactions.
- **It finds applications in numerous domains**, from healthcare and autonomous vehicles to marketing and entertainment.

### Historical Development

- **The roots of multimodal AI can be traced back to early research** in computer vision, natural language processing, and speech recognition.
- **Over time, technological advancements**, the growth of big data, and the rise of deep learning have accelerated the development of MMAI.

### Applications of Multimodal AI

- **Multimodal Search and Recommendation Systems:** Multimodal AI enhances search engines and recommendation systems by considering diverse user inputs, leading to more personalized and context-aware recommendations.
- **Natural Language Processing (NLP) with Multimodal Data:** MMAI improves NLP tasks by incorporating visual or auditory information, enabling better understanding of context and semantics.



- **Healthcare and Medical Imaging:** In healthcare, multimodal AI aids in disease diagnosis, medical imaging analysis, and patient monitoring through the fusion of text reports, medical images, and sensor data.

## White Phosphorous Bombs

### Context

- As Israel continued pounding targets in Gaza following the sensational land-sea-air assault on its territories by the Palestinian group Hamas.

### About White phosphorus:

- **White phosphorus is a highly reactive**, waxy, and translucent solid with a characteristic pungent garlic-like odor.
- It is a chemical element with the **symbol P** and **atomic number 15**.
- **Used in various industrial and military applications**, white phosphorus is a versatile substance with a range of properties.

### Chemical Properties

- **White phosphorus exists in different allotropes** and is the most reactive and least stable among all the elemental forms of phosphorus.
- **It is insoluble in water but soluble in organic solvents**, and it readily catches fire when exposed to air.

### Industrial and Military Applications

- **White phosphorus finds use in various industrial applications**, including the manufacture of phosphoric acid, phosphorus trichloride, and other organic phosphorus compounds.
- **In military contexts, it has been used in incendiary weapons**, smoke screens, and tracer ammunition due to its pyrophoric properties..

### Risks and Hazards

- **Exposure to white phosphorus can lead to severe health hazards**, including burns, necrosis, and other serious skin injuries. It can also cause systemic toxicity when ingested or inhaled.
- **The combustion of white phosphorus produces phosphorus pentoxide**, which can

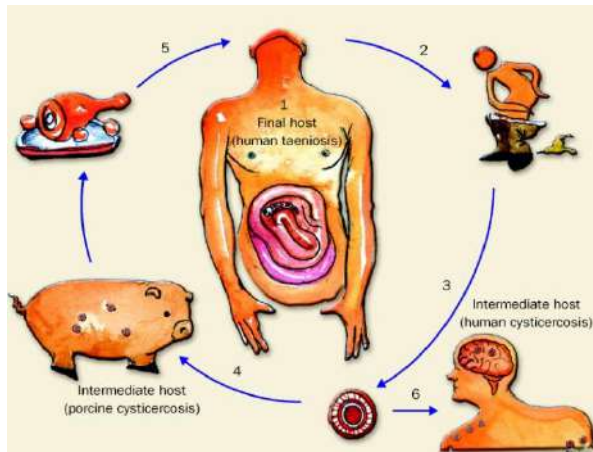
cause damage to the respiratory system upon

inhalation.

## Neurocysticercosis

### Context

- In recent years, it was discovered that billions of snow crabs disappeared from the ocean around Alaska, and now the scientists have claimed that they know the reason behind it.



### About Neurocysticercosis:

#### About

- Neurocysticercosis is a parasitic infection of the central nervous system caused by the larval stage of the pork tapeworm, *Taenia solium*.
- This condition occurs when the larvae infest the brain, spinal cord, or other neural tissues, leading to a range of neurological symptoms.

#### Causes

- The primary cause is the ingestion of *T. solium* eggs, typically through the consumption of contaminated food or water.
- The eggs hatch in the intestines, and the larvae migrate to various tissues, including the central nervous system, where they form cysts.

#### Symptoms

- Symptoms of neurocysticercosis vary based on the number, size, and location of cysts.

Common manifestations include headaches, seizures, cognitive disturbances, and neurological deficits. In severe cases, the infection can lead to hydrocephalus or inflammation of the brain.

#### Diagnosis

- Diagnosis involves imaging studies such as computed tomography (CT) scans or magnetic resonance imaging (MRI) to detect cysts in the brain. Blood tests and serological assays may also aid in confirming the presence of the infection.

#### Treatment

- Antiparasitic medications, such as albendazole or praziquantel, are commonly prescribed to kill the parasites.
- In some cases, anti-inflammatory drugs may be administered to manage inflammation caused by dying parasites. Surgical intervention may be necessary for certain complications.

#### Prevention

- Preventing neurocysticercosis involves proper hygiene practices, such as washing hands before eating and consuming adequately cooked pork.
- Additionally, improving sanitation in communities and treating infected individuals and carriers contribute to prevention efforts.

#### Global Impact

- Neurocysticercosis is a significant public health concern, particularly in regions with poor sanitation and inadequate access to healthcare.
- It can result in long-term neurological consequences and poses challenges for affected communities.

## Palliative Care

### Context

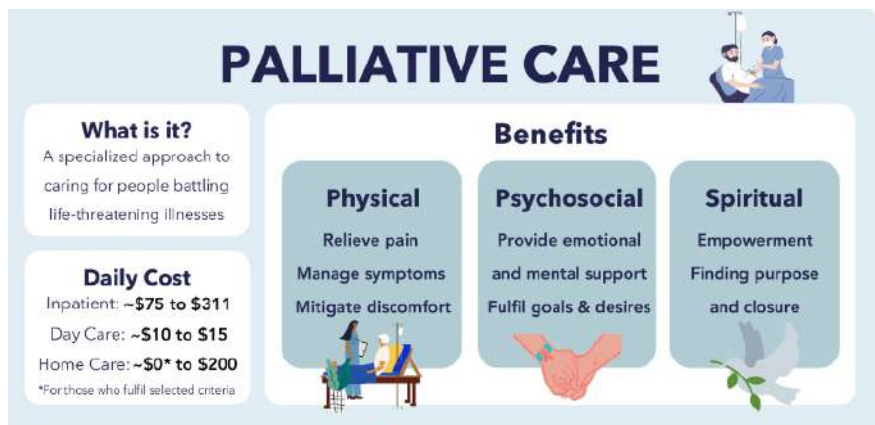
- A recent study by Dr. Prinja and his colleagues from India reported that an average of ₹8,035 is spent by a cancer patient per outpatient visit and ₹39,085 per hospitalization in a tertiary care hospital in India.

### About Palliative Care

- Palliative care is an **essential component of health care that aims to improve the quality of life of patients and their families by providing relief from pain and suffering**, as well as emotional and spiritual support. It does not aim to cure the disease, but to relieve the symptoms and distress caused by it.
- Palliative care **also supports the patients' families and caregivers, who may face emotional, financial, and practical challenges**. It can be given at any stage of the illness, along with other treatments that may still be effective.
- According to the World Health Organization (WHO), palliative care **should be integrated into the health system at all levels of care and should be accessible to all people with serious health-related suffering, regardless of their diagnosis, prognosis, age, or socio-economic status**.
- The new guidelines on the NDC from the Indian Government **only mention palliative care in the context of cancer management and do not address the needs of people with other NCDs** such as cardiovascular diseases, diabetes, chronic respiratory diseases, and neurological disorders. This is a major gap in the policy framework, as NCDs account for more than 60% of deaths in India, and many of these conditions require long-term care and symptom management.

### Importance:

- Palliative care is a branch of medicine** that looks at improving the quality of life of those having life-limiting illnesses like cancers, end-stage kidney disease, debilitating brain disorders, complications of diabetes, and heart disease among others.
- It is different from other medical specialties** as it focuses on alleviating uncontrolled symptoms of the incurable illnesses mentioned above, and preventing non-beneficial investigations, and treatments.
- It takes into consideration not just the physical dimension** of health but also actively looks at the social and economic realities of the patient and the family.
- Early initiation of palliative care in patients with advanced disease **has been shown to reduce health expenditure by up to 25%**.
- Palliative care is provided through outpatient visits**, inpatient visits, and home-based care. Home-based care further reduces the cost of seeking care as home-bound patients no longer have to travel to seek healthcare.



## AI-Based System for Elephant Safety on Rail Tracks

### Context

- Tamil Nadu's first artificial intelligence (AI)-based early warning system to prevent wild

elephants from getting hit by trains on railway lines along the Ettimadai-Walayar section, which links Tamil Nadu and Kerala, is nearing completion. It will give an additional layer of protection for pachyderms.

**Details:**

- **Tamil Nadu's AI-based early warningsystem** stands as a remarkable initiative to preserve the lives of wild elephants and reduce the risks associated with train collisions.
- **As the final stages of implementation are underway**, it is anticipated that this system will play a pivotal role in safeguarding the precious wildlife in the Ettimadai-Walayar region, demonstrating the harmonious coexistence of technology and conservation.

**About AI-Powered Detection System:**

**Programming AI-Based Thermal Cameras**

- Technicians are currently engaged in programming **AI-based thermal cameras installed on towers along the 'A' line**.
- These cameras are designed to detect elephant movement even in dense thickets,

showcasing the technological backbone of the project.

**Alert Mechanism**

- **The core of the system lies in its ability to detect and alert.**
- Once fully operational, the AI system will autonomously identify elephant movement.
- This crucial information will be promptly communicated to both Forest Department personnel and railway authorities.

**Train Speed Reduction**

- **In response to these alerts, locomotive pilots will receive timely notifications.**
- This allows them to proactively reduce train speeds, prioritizing the safety of elephants and mitigating the risk of accidents.

**Niemann-Pick Disease**

**Context**

- Parents of children with Niemann-Pick disease urge the Indian government to include it in the National Policy for Rare Diseases, ensuring access to specialized healthcare, treatment options, and financial support for affected families, thereby improving their lives.

**About Niemann-Pick Disease:**

**About**

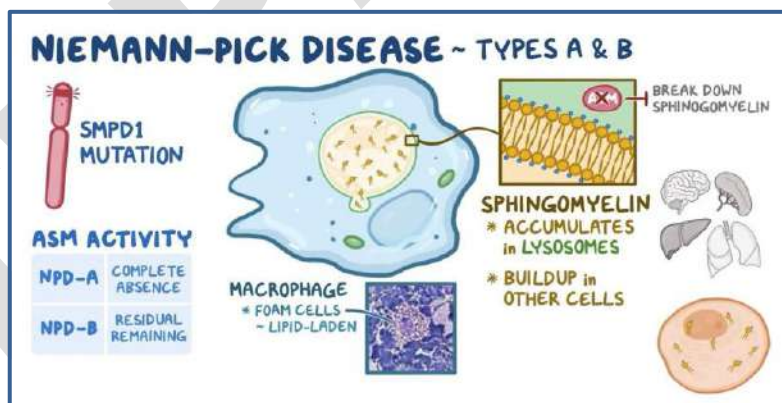
- NPD is a rare genetic condition caused by mutations in lipid metabolism genes, leading to abnormal accumulation of sphingomyelin in cells and tissues.
- It's a type of lysosomal storage disorder where defective enzymes in lysosomes fail to break down lipids properly, resulting in organ damage and a variety of symptoms.

**Types**

- **Niemann-Pick Disease Type A (NPD-A):** NPD-A is the most severe and rapidly progressive form of Niemann-Pick disease, with symptoms typically appearing in early infancy.
- **Niemann-Pick Disease Type B (NPD-B):** NPD-B typically manifests in childhood or adolescence, contrasting with the early infancy onset of NPD-A.
- **Niemann-Pick Disease Type C (NPD-C):** NPD-C is characterized by progressive loss of motor skills, difficulty swallowing, speech problems, and, in some cases, liver and spleen enlargement. Neurological symptoms worsen over time.

**Causes**

- **Niemann-Pick disease follows an autosomal recessive inheritance pattern**, requiring an individual to inherit two mutated copies of the relevant gene (one from each parent) to manifest the disorder.



### Diagnoses

- **Diagnosis typically involves a multifaceted approach**, including clinical evaluation, imaging studies such as MRI to assess organ damage, and genetic testing to identify mutations in relevant genes (such as NPC1 or SMPD1).

### Treatment

- **Currently, there is no cure for Niemann-Pick disease**, so treatment focuses on supportive care. Medications and therapies are used to manage specific symptoms, such as seizures and respiratory problems, improving the quality of life for affected individuals.

## Satellite Internet technology

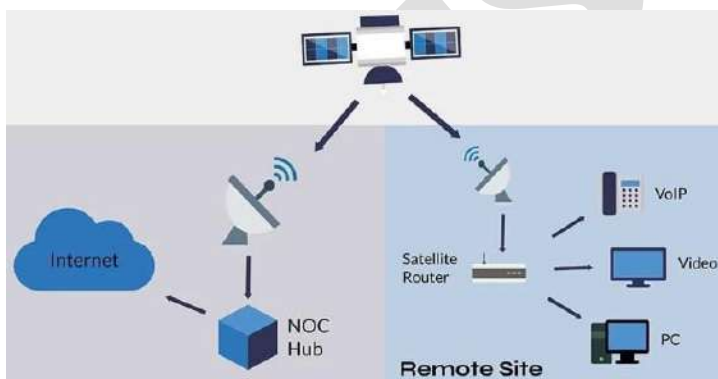
### Context

- Reliance Jio announced that it successfully demonstrated India's first satellite-based gigabit internet service, which can potentially be used to provide high-speed internet services to inaccessible areas in the country.

### About Gigabit Satellite Internet Technology:

#### About

- Satellite internet is wireless internet beamed down from satellites orbiting the Earth.
- It's a lot different from land-based internet services like cable or DSL, which transmit data through wires running underground.



#### How it works?

- **Gigabit satellite internet operates through a network of satellites** positioned in various orbits around the Earth.
- While some systems utilize **low-Earth orbit (LEO) satellites**, others rely on **medium-Earth orbit (MEO) or geostationary orbit (GEO) satellites**.

#### Key Components and Infrastructure

- The infrastructure of gigabit satellite internet technology comprises a constellation of advanced satellites equipped with powerful transponders and antennas.

#### Advantages of Gigabit Satellite Internet Technology

- **Global Connectivity:** Gigabit satellite internet technology enables global connectivity, making it possible to reach even the most remote and inaccessible areas worldwide.
- **High-Speed Connectivity:** With its ability to deliver internet speeds of up to one gigabit per second, this technology significantly enhances the accessibility and efficiency of online activities, including high-bandwidth applications, video streaming, and large data transfers.
- **Reliability and Resilience:** Satellite internet is less susceptible to physical infrastructure damage, making it a more reliable option, particularly in disaster-prone areas where traditional communication networks may be compromised.

## Nancy Grace Roman Space Telescope

### Context

- NASA is gearing up for humanity's deepest-ever peek into the heart of our Milky Way Galaxy by using its Nancy Grace Roman Space Telescope.



### About Nancy Grace Roman Space Telescope:

- The Roman Space Telescope promises an unprecedented view into the heart of our Milky Way galaxy, equipped with a mission that extends far beyond conventional astronomical observations.

#### Importance:

- **The mission unfolds to scrutinize hundreds of millions of stars, and hunt** for subtle flickers that betray the presence of celestial bodies.
- **Its expansive scope includes the detection of** planets, distant stars, icy objects lingering on the fringes of our solar system, and enigmatic isolated black holes.



#### Instruments:

##### Wide Field Instrument (WFI)

- **Boasting a field of view 100 times broader** than the Hubble infrared instrument, the WFI optimizes observing time by capturing more of the sky.
- It aims to measure light from a staggering billion galaxies during its mission.
- **A significant feat involves a microlensing survey focused** on the inner Milky Way, with the ambitious goal of discovering approximately 2,600 exoplanets.

##### Coronagraph Instrument

- This **technology demonstration instrument specializes** in high-contrast imaging and spectroscopy of nearby exoplanets.
- **The Galactic Bulge Time-Domain Survey concentrates** on our Milky Way, employing infrared vision to peer through dust clouds that might obstruct the view of the galaxy's central region.
- **The instrument captures images every 15 minutes continuously** for two months, with six such cycles planned over the telescope's five-year primary mission.

##### Scientific Exploration

- In addition to its celestial observations, the Roman Space Telescope delves into stellar seismology studies.
- **This entails analyzing brightness variations** in a million giant stars caused by sound waves traversing their gaseous interiors.
- **These studies offer insights into a star's structure, age, and other fundamental properties.**

## **Guillain-Barre syndrome**

### Context

- A study conducted has identified a link between COVID-19 infection and an increased probability of receiving a diagnosis of Guillain-Barre syndrome (GBS) within a six-week timeframe.

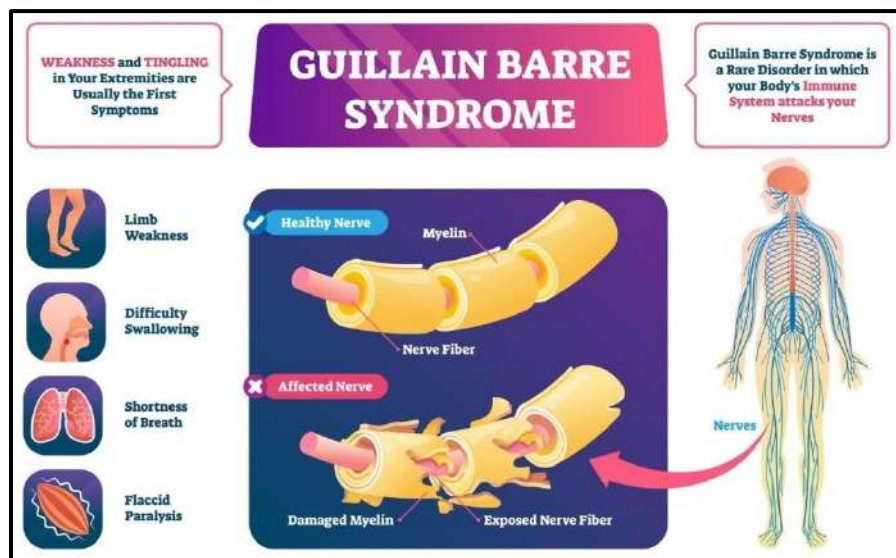
### Details:

- In a recent study from Israel, a connection was found between COVID-19 infection and a higher likelihood of being diagnosed with Guillain-Barre syndrome (GBS) within six weeks.
- Conversely, mRNA vaccination was associated with a decreased risk of this rare but serious autoimmune condition. The study was published in the journal Neurology.
- The research was conducted at the Lady Davis Carmel Medical Centre in Haifa and involved 3,193,951 individuals aged 16 and older who had not been previously diagnosed with GBS.

### About Guillain-Barré Syndrome (GBS):

#### About

- **Guillain-Barré Syndrome (GBS)** stands as a formidable autoimmune disorder that primarily affects the peripheral nervous system.
- **Manifesting with initial symptoms of limb weakness, tingling, and numbness,** GBS can progress to prolonged paralysis lasting 6-12 months or even longer.
- **The syndrome's impact extends to the nerves responsible for muscle movement, pain perception, temperature regulation, and touch sensations.**



### Demographics and Occurrence

- While more prevalent in adults and males, **GBS does not discriminate by age**, affecting individuals across all age groups.

### Cause

- **The precise etiology of GBS remains elusive**, yet the World Health Organization (WHO) posits that the syndrome often follows an infection, be it bacterial or viral.
- This triggers an **autoimmune response wherein the immune system**, prompted by the prior infection, erroneously attacks the body itself.
- **While rare, vaccinations and surgery have been tentatively linked** to a slight increase in GBS risk, although the likelihood of such occurrences is extremely low.
- **Importantly, studies emphasize that the risk of GBS resulting from infections like the flu far outweighs** the risk associated with vaccines, such as the flu vaccine.

### Treatment

- **The therapeutic approach to GBS involves interventions** such as plasmapheresis.
- This procedure entails the removal of plasma, subsequently replaced with other fluids.
- **By modulating the composition of bodily fluids**, plasmapheresis aims to mitigate the autoimmune response and facilitate recovery.

## Reference Fuels

### Context

- India has marked a significant milestone in its pursuit of self-reliance, initiating the production of 'reference' grade petrol and diesel.

### About Reference Fuels:

#### About

- **Reference fuels, encompassing petrol and diesel**, play a pivotal role in the automotive industry.
- **These high-value premium products are exclusively employed** by automotive original equipment manufacturers (OEMs) and institutions engaged in automotive testing and certification for vehicle calibration and testing purposes.

#### Features

- **Distinguishing themselves from regular or premium fuels**, reference fuels boast higher specifications.

- Parameters such as Cetane number, flash point, viscosity, sulfur and water content, hydrogen purity, and acid number contribute to their elevated quality.
- Notably, reference-grade petrol and diesel exhibit an octane number of 97, surpassing the octane numbers of regular and premium fuels, set at 87 and 91, respectively.



#### **Indigenous Production by Indian Oil Corporation**

- Breaking the historical dependence on imports**, the Indian Oil Corporation (IOC) has achieved a milestone by domestically developing 'reference' grade petrol at its Paradip refinery in Odisha and diesel at its Panipat unit in Haryana.
- Paradip refinery will offer reference gasoline (petrol) fuels** in various blends (E0, E5, E10, E20, E85, E100), while Panipat refinery will provide reference diesel fuel in the B7 grade.

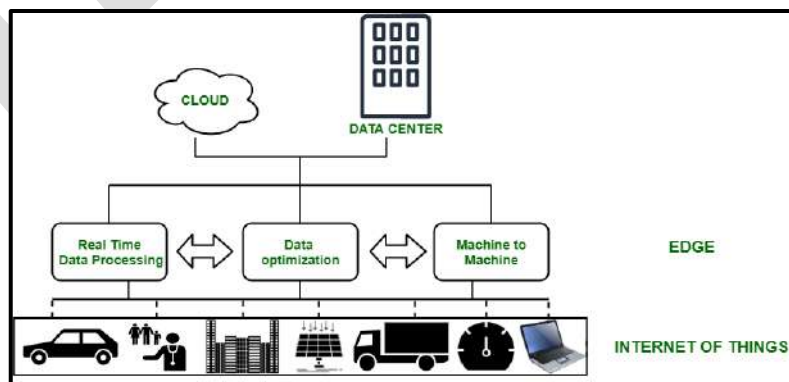
#### **Benefits**

- Cost Advantage:** The imported 'reference' fuel comes with a hefty price tag ranging between Rs 800-850 per liter.
- However, indigenous production is anticipated to significantly reduce costs to approximately Rs 450 a liter, presenting a substantial cost advantage.
- Advantage for Vehicle Manufacturers:** This domestic production breakthrough translates into a minimal lead time for vehicle manufacturers.
- It not only facilitates import substitution but also does so at a more competitive price, benefiting the automotive industry.

## **Cognitive Computing**

### **Context**

- IMARC Group's latest report, titled "Cognitive Computing Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028", the global cognitive computing market size reached US\$ 32.8 Billion in 2022.
- IMARC Group expects the market to reach US\$ 138.8 Billion by 2028, exhibiting a growth rate (CAGR) of 25% during 2023-2028.



### **About Cognitive Computing**

- Cognitive computing is a system that simulates human thought processes** through advanced technologies like artificial intelligence, machine learning, and natural language processing.
- Unlike traditional computing, cognitive systems comprehend, reason, and learn**, enabling them to process vast amounts of unstructured data.
- These systems mimic human cognitive functions**, adapting and improving over time. Cognitive computing is integral to complex problem-solving, decision-making, and data analysis, finding applications in various fields such as healthcare, finance, and customer service.

- Its ability to understand context, recognize patterns, and provide insights positions cognitive computing as a transformative force in the era of intelligent and adaptive computing systems.

### Key Features:

#### Learning and Adaptability

- Cognitive systems excel in learning from vast datasets. They continually adapt and refine their understanding, enhancing performance over time.

#### Natural Language Processing (NLP)

- A defining trait is the ability to comprehend and generate human-like language. This facilitates seamless interaction between users and systems, bridging the gap between technology and human communication.

#### Data Interpretation

- Cognitive computing excels in interpreting unstructured data—text, images, videos—equipping it to comprehend and derive insights from diverse information sources.

#### Problem-solving

- These systems possess advanced problem-solving capabilities, often surpassing rule-based approaches. They excel in navigating ambiguity and making informed decisions.

## Vikram-1 Rocket

### Context

- Indian firm Skyroot Aerospace recently unveiled its indigenously-built Vikram-1 rocket.

### Details

- Planned to be launched in early 2024, Vikram-1 will be Skyroot's second rocket, after the successful launch of the Vikram-S rocket on November 18 last year, when the space start-up became the first company to launch a private rocket from the ISRO's launch center in Sriharikota.



### About Vikram-1 Rocket:

- **Vikram-1, paying homage to the visionary father of India's space program, Vikram Sarabhai, stands as a testament to the country's strides in space exploration.**
- **Developed by the Hyderabad-based startup Skyroot Aerospace,** this multi-stage launch vehicle possesses the capability to deploy approximately 300 kg of payloads into low-earth orbit.

### Innovation in Construction)

- **Distinguished by its all-carbon-fiber body,** Vikram-1 exemplifies cutting-edge engineering.
- **The carbon-fiber construction not only contributes** to its structural integrity but also enhances its efficiency in launching multiple satellites into orbit.

### Solid-Fuel Technology

- **Employing solid-fuel technology sets Vikram-1-1 apart,** simplifying launch procedures and reducing the infrastructure requirements significantly.
- **The use of relatively simpler technologies** signifies that the rocket can be assembled and launched within a mere 24 hours from any designated site.
- **This streamlined approach marks a departure** from conventional rocket launch processes.

### Origins with Skyroot Aerospace

- **Skyroot Aerospace, the driving force behind Vikram-1**, is a pioneering space startup based in Hyderabad.
- **The development of this launch vehicle** showcases the growing capabilities of private enterprises in India's space sector, contributing to the nation's space exploration endeavors.

#### **Future Implications**

- **The swift assembly and launch capabilities of Vikram-1-1** hold promise for increased flexibility and cost-effectiveness in space missions.
- **With minimal infrastructure requirements** and a solid-fuel propulsion system, it presents an innovative approach that could redefine the dynamics of space launches.

## 7.7 SNIPPETS

### Rashtriya Poshan Maah

APTI PLUS

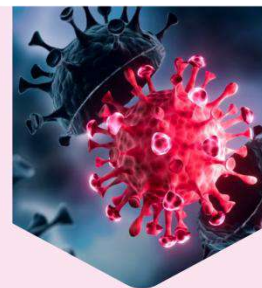
- The Ministry of Women and Child Development (MoWCD) is celebrating the 6th Rashtriya Poshan Maah.
- The focus is on comprehensively addressing malnutrition using a life-cycle approach, which is a key component of Mission Poshan 2.0.
- Theme: 'Suposhit Bharat, Sakshar Bharat, Sashakt Bharat' (Nutrition-rich India, Educated India, Empowered India), emphasising the importance of nutrition, education, and empowerment in building a healthier and stronger country.



### Pirola

APTI PLUS

- The world is facing another wave of COVID-19 infections as a new variant, called "Pirola" or BA.2.86, spreads rapidly across the globe.
- The variant is a descendant of the Omicron strain, which emerged in 2021 and caused a devastating surge in cases and death.



### Patulin

APTI PLUS

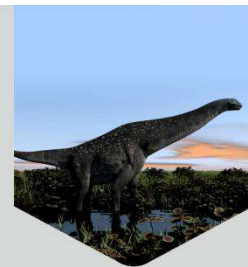
- Patulin is a toxic chemical compound that can be found in some fruits, particularly apples, as well as in other food products like apple juice, cider, and various processed foods.
- Patulin is a naturally occurring mycotoxin produced by certain molds, primarily Penicillium and Aspergillus species.



## Tharosaurus indicus

APTI PLUS

- Tharosaurus indicus is the name given to an ancient species of dinosaur discovered in the Thar Desert region of Jaisalmer, India.
- It is a type of dicraeosaurid dinosaur, which was a group of long-necked, plant-eating dinosaurs that lived during the Jurassic period.



## Comet Nishimura

APTI PLUS

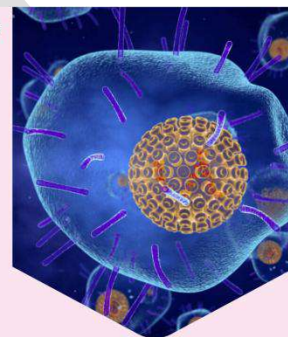
- The comet was discovered only ten days ago by Hideo Nishimura during 30-second exposures with a standard digital camera.
- It has increased in brightness as it went forward on its path in the inner solar system.
- The comet is currently located in the constellation Leo.



## Varicella Zoster Virus

APTI PLUS

- Varicella-zoster virus (VZV) is an alpha herpes virus that causes chickenpox and herpes zoster (shingles)
- Varicella is characterized by a maculopapular, vesicular rash that can be pruritic and evolves into dried crusts (scabs) over a 3- to 7-day period.
- Reactivation of the dormant virus results in the characteristic painful dermatomal rash of herpes zoster, which is often followed by pain in the distribution of the rash (postherpetic neuralgia).



## Dinkinesh Asteroid

APTI PLUS

- It was discovered in 1999 by the LINEAR survey.
- Dinkinesh is a slow rotator with a moderately large light-curve amplitude.
- It is an S-type asteroid, which means it is composed mainly of silicates and some metal.
- It will be the first fly-by target of the Lucy mission on November 1, 2023, during its cruise to the Trojan Clouds.



## World EV Day

APTI PLUS

- It is an annual event celebrated on September 9 to raise awareness about the benefits of electric vehicles (EVs) and to promote their adoption.
- The first World EV Day was held in 2020, and it has been growing in popularity ever since.
- The year 2023 has established a powerful message for India and the world, it is a message of sustainable transportation and a cleaner future, free of carbon emissions.



## World Duchenne Muscular Dystrophy Day

APTI PLUS

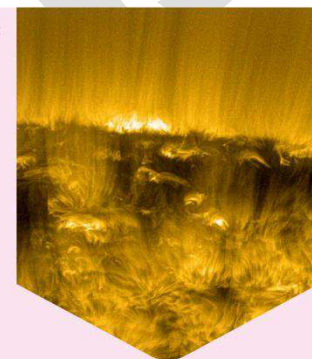
- World Duchenne Muscular Dystrophy Day is observed on Seventh September each year to raise awareness about Duchenne muscular dystrophy.
- The purpose of the day is to support efforts that will improve the quality of life for those who have dystrophinopathies through education, advocacy, and social inclusion.
- A rare degenerative illness called Duchenne muscular dystrophy makes muscles weaker over time until it affects the entire body.



## Picoflare jets

APTI PLUS

- These small-scale picoflare jets were observed within emissions from the coronal hole under observation.
- They lasted only a few dozen seconds, scientists calculated that they provide enough energy to supply a considerable fraction of solar winds.
- These jets from the sun are named so because they carry approximately one-trillionth the energy of the largest flares the sun is capable of producing.



## Brucella canis

APTI PLUS

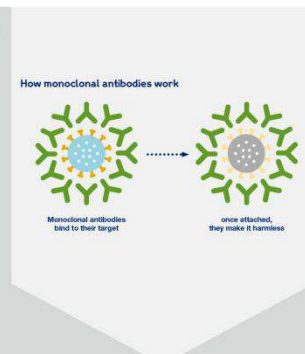
- Brucella canis is a bacterial infection caused by the microorganism Brucella canis.
- It primarily affects dogs but can also spread to humans. The origin of Brucella canis is thought to be zoonotic, meaning it can be transmitted between animals and humans.
- Brucella canis is transmitted mainly through sexual contact or contact with infected fluids, such as blood, urine, vaginal discharge or semen.
- Brucella canis is primarily transmitted among dogs through direct contact with bodily fluids, such as urine, saliva, and reproductive fluids, from infected individuals.



## Monoclonal Antibodies

APTI PLUS

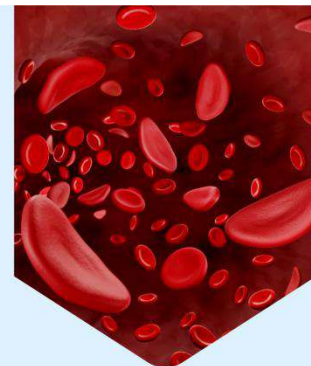
- Monoclonal antibodies (mAbs) are laboratory-produced molecules designed to mimic the immune system's ability to fight off harmful pathogens, such as bacteria and viruses.
- They are highly specific, targeting a single antigen or protein, and are used in various medical applications.
- Monoclonal antibodies exhibit an extraordinary level of specificity. They are engineered to recognize and interact with a particular target, reducing the risk of off-target effects compared to conventional drugs that may affect multiple processes in the body.



## Sickle Cell Disease

APTI PLUS

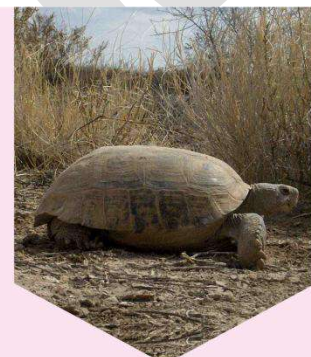
- It is a group of disorders that affects hemoglobin, the molecule in red blood cells that delivers oxygen to cells throughout the body.
- People with this disease have atypical hemoglobin molecules called hemoglobin S, which can distort red blood cells into a sickle, or crescent, shape.
- The signs and symptoms of sickle cell disease are caused by the sickling of red blood cells.



## Bolson Tortoises

APTI PLUS

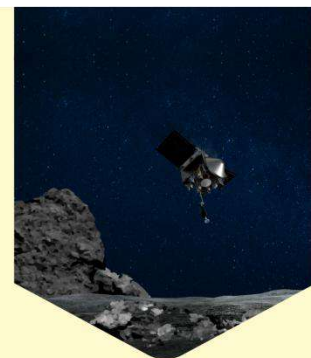
- The Bolson Tortoise (*Gopherus flavomarginatus*), also called the Mexican giant tortoise or yellow-margined tortoise, is a species of tortoise from North America.
- Of the six North American tortoise species, it is the largest, having a carapace length of about 46 cm.
- It lives in a region of the Chihuahuan Desert known as the Bolsón de Mapimí, which is located in north-central Mexico.



## NASA's OSIRIS-Rex

APTI PLUS

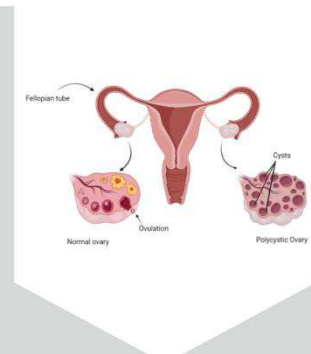
- NASA's OSIRIS-REx mission was a historic spacecraft mission designed to study and collect a sample from an asteroid called Bennu.
- The mission was launched in September 2016 and achieved numerous milestones before successfully returning a sample of Bennu's surface material to Earth in September 2023.



## Polycystic Ovary Syndrome

APTI PLUS

- Polycystic ovary syndrome (PCOS) is a common hormonal disorder affecting up to 10% of women of childbearing age.
- The disorder stems from an imbalance in hormones governing the menstrual cycle, ovulation, and other bodily functions.
- PCOS occurs due to a combination of genetic and environmental factors. It involves an imbalance in hormones, particularly elevated levels of androgens (male hormones) and insulin resistance.
- The exact cause is still under study, but genetics and lifestyle play significant roles.





## 7.8 1 MAINS & 5 MCQs

**Q1. Satellite Internet Technology has emerged as a transformative force in global connectivity. Discuss the key aspects, challenges, and future prospects associated with Satellite Internet, providing a comprehensive analysis.**

### Answer

- Satellite Internet technology has revolutionized the way the world connects, offering high-speed internet access to even the most remote areas. This discussion delves into the various facets of Satellite Internet, examining its significance, challenges, and potential for the future.

### Key Aspects

- **Global Coverage:** Satellite Internet provides global coverage, overcoming geographical limitations and enabling internet access in remote and underserved regions.
- **High-Speed Connectivity:** With advancements in satellite technology, users can experience high-speed internet comparable to traditional broadband services.
- **Ubiquitous Access:** Satellites facilitate ubiquitous access, making it a valuable tool for disaster response, maritime communication, and aviation.

### Challenges

- **Latency:** Satellite Internet faces challenges related to latency, as signals travel vast

distances between Earth and satellites in orbit, affecting real-time applications.

- **Cost:** The initial setup and maintenance costs of satellite infrastructure can be high, posing financial barriers to widespread adoption.
- **Environmental Impact:** The launch and operation of satellites contribute to space debris and environmental concerns, necessitating sustainable practices.

### Future Prospects

- **Advancements in Technology:** Continued technological advancements, including low Earth orbit (LEO) constellations, promise to reduce latency and enhance overall performance.
- **Affordability:** Efforts to reduce costs and make satellite internet more affordable will likely drive increased adoption, particularly in developing regions.
- **Integration with 5G:** Satellite Internet is poised to complement 5G networks, offering a comprehensive and integrated approach to global connectivity.
- Satellite Internet technology stands at the forefront of the digital revolution, bridging gaps in connectivity and reshaping communication landscapes. While challenges persist, ongoing innovations and a commitment to sustainability paint a promising picture for the future of Satellite Internet, ensuring a more connected and accessible world.

**Q2. Which of the following statements about the Nobel Prize is true?**

1. The Nobel Prize is awarded annually.
2. Alfred Nobel, the founder of the Nobel Prize, was a French inventor.
3. The Nobel Peace Prize is presented in Oslo, Norway, while the other Nobel Prizes are awarded in Stockholm, Sweden.

Options:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

**Q3. Consider the following statements.**

1. Betelgeuse is a red supergiant star and one of the largest visible to the naked eye.

2. Betelgeuse is about 7,500 to 14,000 times brighter than the Sun and it's about 700 times the size of the Sun and around 15 times more massive.

**Which of the statements given above is/are correct?**

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q4. Consider the following statements:**

- 1. Cognitive Computing is a technology that aims to simulate human thought processes in a computerized model.
- 2. It involves the use of artificial intelligence, machine learning, and natural language processing to enable computers to understand, learn, and interact more intelligently.

**Which of the statements given above is/are correct?**

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q5. Consider the following statements about Optoelectronics:**

- 1. Optoelectronics is a branch of physics that deals with the study and application of electronic devices that interact with light.

- 2. Light-emitting diodes (LEDs) and photodetectors are examples of optoelectronic devices.
- 3. Optoelectronic devices find applications in telecommunications, medical imaging, and energy-efficient lighting.

**Which of the statements given above is/are correct?**

- a) Only 1
- b) Only 2
- c) 1 and 3
- d) 2 and 3

**Q6. Consider the following statements about the Indian space economy:**

- 1. India's space agency, ISRO (Indian Space Research Organisation), was founded in 1969.
- 2. Antrix Corporation Limited is the commercial arm of ISRO responsible for promoting and commercially exploiting space products, technical consultancy services, and transfer of technologies.
- 3. The Indian space economy has witnessed significant growth, with contributions from satellite launches, satellite transponders leasing, and international collaborations.

**Which of the statements given above is/are correct?**

- a) Only 1
- b) 1 and 2
- c) 2 and 3
- d) 1, 2, and 3

**ANSWERS:** 2) c, 3) c, 4) c, 5) d, 6) c

## 8. CULTURE & HISTORY

### 8.1 TOTO LANGUAGE

#### Context

- A language spoken by barely 1,600 people living in parts of West Bengal bordering Bhutan is to get a dictionary, thanks to the efforts of a professor at the University of Calcutta.

ᱫ	ᱪ	ᱩ	ᱨ	ᱧ	ᱦ	ᱥ	ᱤ	ᱣ
pa	ba	ta	da	ka	ga	ma	na	nga
p	b	t	d	k	g	m	n	ng
[p]	[b]	[t]	[d]	[k]	[g]	[m]	[n]	[ŋ]
ᱱ	ᱰ	ᱯ	ᱮ	ᱭ	ᱬ	ᱫ	ᱪ	ᱩ
sa	cha	ya	wa	ja	ha	ra	la	
s	ch	y	w	j	h	r	l	
[s]	[ç]	[j]	[w]	[j]	[h]	[r]	[l]	
ᱱ	ᱰ	ᱯ	ᱮ	ᱭ	ᱬ	ᱫ	ᱪ	ᱩ
i	ih	ui	uih	u	e	eh	eo	eoh
[i]	[i]	[ui]	[ui]	[u]	[e]	[e]	[eo]	[eg]
ᱱ	ᱰ	ᱯ	ᱮ	ᱭ	ᱬ	ᱫ	ᱪ	ᱩ
o	ae	aeh	a	rising				
[o]	[æ]	[æ]	[a]	tone				

#### Details

- The dictionary is a step in the direction of preserving the language, alive so far only orally, by putting its vocabulary in print. Here too, Toto words, to be translated into Bengali and English, will be composed in the Bengali script, considering that the Toto script is still in a nascent stage and members of the tribe are more familiar with the Bengali script.

#### What is the Toto Language?

- The Toto language is a Sino-Tibetan language spoken by the Toto tribal people in parts of West Bengal bordering Bhutan.
- The United Nations Educational, Scientific and Cultural Organization (UNESCO) lists it as a critically endangered language.
- The Toto language is primarily spoken orally and even though prominent community member Padma Shri-decorated Dhaniram Toto developed a script as recently as in 2015, most people either write it in Bengali script or write in Bengali language.

A book by the Padma Shri-decorated Mr. Toto, titled *Dhanua Totor Kathamala*, was written in Bengali.

#### Key facts related to it

- Endangered Status:** Toto is considered a critically endangered language by UNESCO, with an estimated 1,000 speakers or fewer. Despite this endangered status, many families within the Toto community still use the language at home. It is often the primary language children learn at home, although they use Bengali when attending school.
- Language Preservation Efforts:** Researchers and members of the Toto community are aware of the endangered status of the language. The influence of other languages, particularly Nepali and Bengali, is increasing, posing a threat to Toto. Efforts are being made to document and preserve the language, including the Himalayan Languages Project's work on creating the first grammatical sketch of Toto.
- Anthropological Study:** The Anthropological Survey of India (AnSI) has conducted a study on the language of the Toto tribe. Despite the tribe's small population, the language is even more endangered. This underscores the urgency of preserving and revitalizing the Toto language.

#### Calcutta Comparatists 1919:

- Formation:** Established in **September 2020** by **Mrinmoy Pramanick**, assistant professor at the **University of Calcutta**, the trust focuses on saving **marginal languages** from extinction.
- Mission:** The trust is dedicated to organizing **collaborative workshops** and translating literature of **marginal languages** to spotlight them academically and include them in the **university curriculum**.

## 8.2 BASOHLI PASHMINA

### Context

- The traditional craft of Basohli Pashmina, a revered textile art form from the picturesque region of Jammu and Kashmir, has achieved a significant milestone by receiving the Geographical Indication (GI) tag.



### Details

- In collaboration with various stakeholders, the Department of Industries and Commerce, NABARD Jammu, and the Human Welfare Association in Varanasi have played a pivotal role in securing the GI tag for Basohli Pashmina.

#### About Basohli Pashmina:

- Basohli Pashmina, a more than 100-year-old traditional craft from Jammu and Kashmir's Kathua district, has got the Geographical Indication (GI) tag.
- It is a **hand-spun product known for extreme softness**, fineness and light-weight, has insulating properties and extended life.

*Kashmiri Pashmina shawl is the most famous shawl in the world.*

### An Artisanal Treasure

- Distinctive Qualities:** Basohli Pashmina is celebrated for its extreme softness, fine texture, and lightweight nature.
- Natural Insulation:** It possesses excellent insulating properties, making it a sought-after textile for both warmth and comfort.

- Longevity:** Basohli Pashmina products are known for their extended lifespan, a testament to the craftsmanship and quality.

#### About Pashmina:

- Origin and Production:** The name "Pashmina" comes from the Persian word "pashm," which means wool. The wool is obtained by combing the soft undercoat of the Himalayan goats during the spring molting season.
- Fiber Characteristics:** Pashmina is known for its softness, warmth, and lightweight feel. The fibers are extremely fine, measuring less than 16 microns in diameter, which contributes to the luxurious quality of the fabric.
- Traditional Craftsmanship:** Pashmina is traditionally hand-woven in the Kashmir region of India, and the craftsmanship involved is highly intricate. Skilled artisans use traditional looms to weave the fine Pashmina fibers into beautiful shawls and scarves.

#### Key facts about Geographical Indication Tag:

- A geographical indication or **GI is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.**
- Geographical Indications are **part of the intellectual property rights that comes under the Paris Convention for the Protection of Industrial Property.**
- In India, Geographical Indications registration is **administered by the Geographical Indications of Goods (Registration and Protection) Act of 1999.**
- This tag is **valid for a period of 10 years** following which it can be renewed.
- GI tags **are covered under World Trade Organization.**
- Geographical indications are **typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts, and industrial products.**

## 8.3 SOMESHWARA INSCRIPTION

### Context

- Recently, archaeologists discovered a rare inscription connected to the Alupa dynasty during a recent archaeological exploration at Someshwara near Mangaluru, Karnataka.



### Details

- Eminent archaeologist T. Murugeshi on Wednesday, October 18, said he along with others, has discovered a rare inscription connected to the Alupa dynasty of the region during a recent archaeological exploration at Someshwara near Mangaluru.

### About Origins of the Soma cult:

- The Soma cult was founded by one Soma Sharma of Gujarat in the 11th century AD and it spread across the country.
- The Someshwara temple at Someshwara was built during the time of KulashekaraAlupendra in honour of Soma and adorned with Nava Durgas.
- Independent Navadurga sculptures in sitting posture are found in the temple.

*The Keerthi sthamba or pillar found in the inscription is a replica of the original pillar found in the premises of a church in Kulashekara, a suburb of Mangaluru.*

### An inscription

- The inscription has two panels on the top, and in between the two panels the first line is engraved.
- The rest of the inscription written below the panels is in the Kannada script and the language of 12th century characters announcing the death of Alupendra I.
- The human figures shown in the inscription represent KulashekaraAlupendra himself. In the first figure, he is shown standing in Tribhanga (tri-bent posture). He holds a

sword in his right hand while the left hand rests on a gurani (shield).

- To the left of this panel, divided by a pillar, the King is again shown in a sitting posture on a mound resting both his palms on the centre of his legs in dhyana mudra.

### Who was KulashekaraAlupendra?

- KulashekaraAlupendra I was a famous ruler of the Alupas of South Canara. He was responsible for the establishment of new city called Kulashekara in Mangaluru.
- The rules and regulations for temple administration, which are still followed in all temples in this region. He was the first ruler to give royal patronage to Tulu language and culture, ruling from both the capitals, Mangaluru and Barkuru.
- Alupendra I ruled Tulunadu from 1156-1215 A.D., as known from his other records. Though the present inscription is undated, it is datable to 12th century on the basis of paleography.

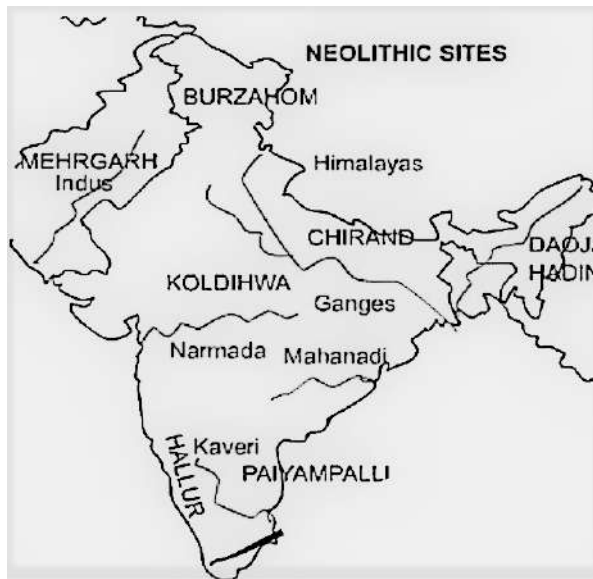
### Significance

- The Someshwara inscription typically refers to an engraved or carved text on a stone or metal surface, providing information about historical events, rulers, or religious practices of the time.
- These inscriptions serve as valuable sources for historians and archaeologists to understand the socio-cultural and political context of the period in which they were created.
- The Someshwara inscription is an ancient inscription found in Karnataka, India. It is associated with the Chola dynasty and is an important historical artifact.
- The inscription is named after the Someshwara temple, which is mentioned in the inscription and is dedicated to Lord Shiva.

## 8.4 NEOLITHIC AGE

### Context

- A rock bruising of a stag and a man dating back to the Neolithic period was found in the Gundala-Veerlavagu valley on the outskirts of Koppunuru village of Macharla Mandal in Palnadu district.



### Details

- The art dates back to around 6,000 years, said archaeologist and CEO of Pleach India Foundation E. Sivanagireddy.
- Mr. Sivanagireddy said that they discovered the rock art during a survey undertaken in and around Koppunuru-Gundala as a part of a heritage awareness campaign titled 'Preserve Heritage for Posterity'.
- Ruins of a Vaishnavite temple dating back to the Kakatiya period (13th Century CE) were also found on the right side of Veerula Vagu (a canal).
- Veerula Vagu is a deep and narrow gorge with a good number of prehistoric rock shelters.
- At a distance of 1 km from the ruins of the temple towards Koppunuru village, a rock bruising of a stag measuring 20 cm in length and 15 cm in height delineated on the cliff of a rock shelter at a height of 10 meters was spotted

### About the Neolithic Age:

- Also referred to as the new Stone Age, considered to have started at the end of the Pleistocene Age, approximately 10,000 years ago.
- It marks the beginning of settled life and agriculture as this era witnessed the domestication of animals and plants like rice, wheat, and barley Ragi in large numbers.
- In some places circular or rectangular houses made of mud and reed are also found.

### Tools and Pots used

- Tools and implements of polished stone were used for instance stone axes.
- Such tools are found in various parts of the country.
- Other tools which were found are:
  - Stone blades mainly found in the south of river Godavari
  - Microlith blades are also found.
- Handmade pottery to store foodgrain in Milk are found like
- Coarse grey pottery discovered in Burzahom.

### Economy of Age:

- Largely based on agriculture and animals as inferred from the evidence found in the north-western part of the Indo-Pakistan region - in the Quetta Valley and the Valleys of Loralai and Zob rivers.
- Evidences also suggest the presence of hunting and fishing economy at some places.
- Cattle-herding was also taken as a way of life for instance in Piklihal.
- Weaving, cultivation was prominent in some areas of Western Asia.

### Important places

- In India, evidences of such settlement are found in North South, and East part. Some of them are:
  - Burzahom - In the north in the valley of Kashmir.

- Chirand, Near Patna which is on the northern side of the Ganga.
- Vindhya in Mirzapur and Prayagraj district.
- South of Godavari river
- Takkalakota in Karnataka.
- Paiyampalli in Tamil Nadu.
- Piklihal and Utnur are important neolithic sites in Andhra Pradesh.
- In North east - Hills of Assam, and Garo Hills of Meghalaya.
- In East - Odisha hill areas.

## 8.5 SHORT ARTICLES

### Bojjannakonda

#### Context

- The centuries-old Bojjannakondais likely to draw tourists not only from across the country but also from nations like Bhutan, Singapore, Thailand, Sri Lanka, Cambodia and Myanmar, where Buddhism is practised even to this day.

#### Details

- The Central government has sanctioned ₹7.30 crore recently for taking up landscaping and development of tourist amenities at Bojjannakonda, which is under the control of the Archaeological Survey of India (ASI).
- The State government, on its part, has allotted a two-and-a-half acre site adjacent to the Buddhist heritage site to develop a meditation centre and landscaping.

#### About Bojjannakonda:

- *Bojjannakonda, also known as Bojjannakonda and Lingalakonda, is an ancient Buddhist site located in the Indian state of Andhra Pradesh.*

#### Key facts of Bojjannakonda:

##### Historical Background

- **Bojjannakonda is situated in the Visakhapatnam district** of Andhra Pradesh, near the town of Anakapalle.
- **This site dates back to the 4th and 5th centuries CE**, which corresponds to the period of the Gupta Empire in India.
- During this time, **Buddhism was a prominent religion in India**, and several Buddhist monastic complexes, stupas, and viharas were constructed.

##### Architectural Features

- Bojjannakonda is renowned for **its rock-cut caves and stupas.**

- The site consists of two major hills, Bojjannakonda and Lingalakonda, which are dotted with numerous rock-cut caves and stupas.
- **These caves served as viharas or monastic cells** for Buddhist monks.
- **The architecture of these caves is a testament** to the craftsmanship of that era. The intricately carved facades and entrances of the caves are notable, showcasing the artistic and architectural skills of the time.

##### Buddhist Heritage

- Bojjannakonda is believed to have been an important center for Buddhist learning and monastic activities during its heyday.
- The site is dedicated to **Lord Buddha and is adorned** with various sculptures and inscriptions related to Buddhism. It is believed that the Buddhist monks residing here practiced meditation and disseminated Buddhist teachings.

### Hakki Pikki Tribe

#### Context

- Recently, 114 tribal people from the Hakki Pikki tribal community in Karnataka got title deeds to the land they had been cultivating for about a century.

#### Details

- The Hakki Pikki tribe, also known as the Hakki PikkiPardhis, is a distinct semi-nomadic tribal community in India.
- They have a rich history, unique traditions, and a distinctive way of life. This article delves into their origins, occupation, language, and cultural practices.

- They are predominantly found in the southern state of Karnataka, particularly in the forests and hilly regions of the Western Ghats.

#### About Hakki Pikki tribe:

##### About

- The name "Hakki Pikki" derives from the Kannada language, where "Hakki" means 'bird,' and "Pikki" means 'catchers.' Historically, they were known for their expertise in catching and hunting birds.

##### Geographical distribution

- While their historical roots are believed to be in Northern India, particularly Gujarat and Rajasthan, the Hakki Pikki tribe is now predominantly found in the southern state of Karnataka. They also reside in forested areas of Western and Southern India.

##### Status

- The Hakki Pikki tribe is **officially recognized as a Scheduled Tribe in India**, granting them certain privileges and protections under the Indian Constitution.

##### Occupation

- Traditionally, the Hakki Pikki community relied on hunting and bird-catching for their livelihood. However, due to the enforcement of stricter wildlife conservation laws, they have transitioned to alternative occupations.

##### Culture

- **Traditional Clothing:** Traditional attire for Hakki Pikki men consists of loincloths, while women wear sarees. They also adorn themselves with tribal jewelry and ornaments made from natural materials.

## Basohli Pashmina

#### Context

- The traditional craft of Basohli Pashmina, a revered textile art form from the picturesque region of Jammu and Kashmir, has achieved a significant milestone by receiving the Geographical Indication (GI) tag.

#### Details

- In collaboration with various stakeholders, the Department of Industries and Commerce, along with NABARD Jammu and the Human

Welfare Association in Varanasi, has played a pivotal role in securing the GI tag for Basohli Pashmina.

#### The Origin of Pashmina:

- **Changthangi Goats:** Pashmina is sourced from the downy undercoat of Changthangi mountain goats (*Capra hircus*).
- **Changthang Plateau:** These goats are primarily found in the Changthang Plateau, which stretches across Tibet and parts of Ladakh.
- **Changpa Community:** The Changpa, a nomadic community inhabiting the Changthang plateau, are traditional producers of Pashmina wool. They have nurtured the craft for generations.
- **Centuries-Old Tradition:** Basohli Pashmina boasts a rich heritage, deeply rooted in the history of the Kathua district in Jammu and Kashmir.

#### About Basohli Pashmina:

- It is a **hand-spun product known for extreme softness**, fineness and light-weight, has insulating properties and extended life.
- Pashmina products include shawls for both men and women, mufflers, blankets and basket.
- Pashmina refers to a **fine variant of spun cashmere** (the animal-hair fibre), that is derived from the downy undercoat of the Changthangi.
- It is obtained from a **breed of mountain goats** (*Capra hircus*) found on the Changthang Plateau in Tibet and parts of Ladakh.
- A **traditional producer of pashmina** wool in the Ladakh region are a people known as the Changpa (nomadic people inhabit the Changthang plateau of Tibet).
- **GI denotes the origin and the quality of products.** Among others, it restores customer's confidence, besides protecting the authenticity of the product. GI is a sign used on products that have a specific geographical origin and ensures good qualities or a reputation in the region.



- The Geographical Indications aim to protect and promote products originating in a specific geographical area. GI Tag is a treasure that can give a fillip to J&K economy and it can boost export of protected products.
- Several GI Tags for local products from J&K like BhaderwahRajmash, Ramban Sulai Honey, Rajouri Chikri Wood Craft, Mushqbudji Rice, Basohli Painting and Kashmir Saffron will protect them from counterfeiters and unfair competition and increase the sales value of these products.
- GIs of J&K products is tipped to be game-changer for the rural economy and high quality of these products will benefit the entire community of producers.



*Pashmina products include shawls for both, the men and women, mufflers, blankets and basket.*

## Udhampur's Kalari

### Context

- Kalari is a Dogra cuisine. The dish finds its origin in Udhampur district J&K. The dish is made from milk and is a dense cheese. It's cooked in its own fat, salted, and served hot with bun slices.

### Details

- Udhampur's Kalari refers to a traditional martial art form that has its roots in the Udhampur district of Jammu and Kashmir, India.
- Kalari is related to Kalaripayattu, which is an ancient Indian martial art that originated in the southern state of Kerala. Kalaripayattu is often considered one of the oldest fighting systems in existence.

### Key features of Kalaripayattu:

#### Ancient Origins

- Kalaripayattu is believed to have ancient roots, with some claims suggesting that it dates back over 3,000 years. It incorporates strikes, kicks, grappling, weaponry, and healing methods.

#### Training and Techniques

- Practitioners of Kalaripayattu undergo rigorous training that includes physical conditioning, agility exercises, and learning various techniques with and without weapons.

#### Elements of Nature

- Kalaripayattu is often associated with an understanding of the elements of nature, with movements and postures inspired by animals, particularly those found in the Indian subcontinent.

#### Cultural Significance

- Kalaripayattu is not just a martial art; it is deeply embedded in Indian culture and has spiritual aspects. It is considered a traditional art form with connections to dance, yoga, and Ayurveda.

## Shyamji Krishna Varma

### Context

- The Prime Minister, Shri Narendra Modi has paid tributes to Shyamji Krishna Varma on his Jayanti. The Prime Minister also recalled bringing ashes of Shyamji Krishna Varma back to India from Switzerland in 2003 and getting his reinstatement certificate from UK in 2015.

### Details

- Shyamji Krishna Varma (1857 – 1930) was an Indian freedom fighter, lawyer and journalist.
- Indian Home Rule Society (IHRS) was an Indian organisation founded in London in 1905 that sought to promote the cause of self-rule in British India. The organisation was founded by Shyamji Krishna Varma, with support from Bhikaji Cama, Dadabhai Naoroji and S.R. Rana.
- He founded India House in London. It was a student residence that existed between 1905 and 1910 which was opened to promote nationalist views among Indian students in Britain.
- He founded Indian Sociologist in London. The monthly Indian Sociologist became an outlet for nationalist ideas.

### Education and Career:

- He studied law in England and became a barrister at the High Court of England. During his time in London, he established a successful law practice.

### Indian Home Rule Society:

- Shyamji Krishna Varma was a close associate of other Indian freedom fighters like Dadabhai Naoroji and Lala Lajpat Rai. In 1905, he founded the Indian Home Rule Society in London to promote nationalist ideas and advocate for self-rule for India.

### The Kesari and The Indian Sociologist:

- Varma started two important publications, "The Kesari" (in Marathi) and "The Indian Sociologist" (in English), to disseminate nationalist ideas and critique British colonial policies.

### India House:

- Shyamji Krishna Varma turned his residence at 65 Cromwell Avenue in London into a hub for nationalist activities known as "India House." It became a meeting place for Indian students and activists, including Vinayak Damodar Savarkar and Madan Lal Dhingra.

## **Bhimashankar Temple**

### Context

- At the Bhimashankar temple, tensions ran high recently when a brawl broke out between two sets of religious leaders known as pujaris over who would lead the puja.

### Details

- **Bhimashankar temple, one of the 12 Jyotirlingas in the country**, witnessed ugly scenes as two groups of priests came to blows against each other allegedly over a dispute on performing Pooja rituals.
- Police have registered cases against 36 priests of the temple in this regard.

*Jyotirlingas are shrines where Lord Shiva is worshipped in the form of a Jyotirlingam, symbolizing his infinite, radiant nature. The 12 main Jyotirlingas in India each represent a different manifestation of Lord Shiva. Bhimashankar Jyotirlinga, in Maharashtra, holds*

*a special place among these sacred shrines, inviting devotees to experience both spiritual and natural beauty in its divine embrace.*

### About Bhimashankar Temple

#### Location

- **Situated majestically in the Sahyadri hills** of the Pune District in Maharashtra, Bhimashankar Temple is a revered Hindu shrine dedicated to Lord Shiva.
- **Recognized as one of the 12 holy Jyotirlinga shrines** in India, it holds both spiritual and ecological significance.

#### Ecological Significance

- In recent times, Bhimashankar has gained tremendous importance as it was declared a "Wildlife Sanctuary."
- **This sanctuary, nestled in the Western Ghats**, enhances the temple's aura, offering a harmonious blend of spirituality and nature. Additionally, Bhimashankar is the source of the river Bhima.

#### Historical Legacy

- **Built around the 13th century**, the temple is a testament to the skilled Vishwakarma sculptors.
- **Maratha Empire statesman Nana Phadnavis** enriched it with structures like the shikhara (spires) in the 18th century.
- **Chhatrapati Shivaji Maharaj**, the Maratha ruler, is believed to have played a role in facilitating worship through his endowments.

#### Architecture

- **Bhimashankar Temple showcases** a blend of old and new structures in the Nagara style of architecture. The temple's grandeur is evident in its vast court spaces, intricate wall carvings, and colossal pillars.
- **The sanctum, Garbhagriha, houses the sacred Jyotirlinga** at a lower level, with the Swayambhoo Shiv Linga at its center. Exquisite mythological carvings adorn the massive pillars and doorframes. The temple also features an ancient shrine of Lord Shani and the revered Nandi statue at its entrance.

## Vajra mushti kalaga

### Context:

- Vajra mushti kalaga is a martial art form. It has gone extinct and takes place only during Dasara.
- The “vajra mushti kalaga” is a form of wrestling different from the conventional grappling and entails two jettys taking a swipe at each other's head with a knuckleduster.

### About Vajra Mushti Kalaga:

#### Introduction

- **Vajra Mushti**, a distinctive Indian martial art, integrates diverse hand-to-hand combat techniques such as grappling, wrestling, and striking.
- Notably, it is characterized by the **use of a knuckleduster**—a small metal weapon that adds a formidable edge to the fighter's arsenal.



#### The Vajra Mushti Knuckleduster

- Traditionally crafted from animal horns, the knuckleduster is an integral element of Vajra Mushti.
- Worn on the knuckles of the fighter, it becomes a symbol of both offense and defense in the arena.

#### Objective and Combat Style

- The primary aim of Vajra Mushti is to neutralize the opponent and effectively counter any weapon they may wield.
- In a departure from conventional grappling, this form of wrestling involves two combatants taking swipes at each other's heads with the knuckleduster.

#### Victory Criteria

- The defining moment in Vajra Mushti is when one contestant draws blood from their opponent's head.
- The first to achieve this is declared the winner, adding an intense and decisive element to the martial art.

#### Historical Significance

- This unique wrestling style gained prominence during the rule of the Vijayanagar empire, spanning the 14th to the 17th centuries.
- Its cultural significance is underscored by its inclusion in Navaratri celebrations, drawing attention from medieval travelers, particularly those from Portugal.

#### Observations by Medieval Travelers

- Detailed accounts of Vajra Mushti were noted by medieval travelers from Portugal, who witnessed the martial art during the Navaratri celebrations in the Vijayanagar empire.
- These accounts provide a fascinating glimpse into the historical context and popularity of this distinctive Indian martial art form.

## Pichwai Painting

### Context

- Contemporary artist and collector Amit Ambalal on the charm of Nathdwara paintings and a commerce-led revival of the art form.



### Details

- “The artists use stone pigments, especially for gold and silver tones. The brighter orange, red, chrome yellow, and kesari colors come from vegetable dyes,” she says, explaining how the detailed work is painstakingly painted.
- “The cloth has to be put flat on the group, and a painting that is five feet by eight, for

example, will take three months to complete, which makes it quite challenging for the older artists.”

#### About Pichwai Painting:

- **Pichwai painting, an exquisite art form originating** from the Nathdwara region in Rajasthan, India, is a visual feast that captivates with its cultural richness.
- **Known for its vibrant colors and intricate detailing**, Pichwai paintings have deep-rooted ties to religious traditions.

#### Origin and location

- **Emerging in the 17th century**, Pichwai paintings found their home in Nathdwara, a town near Udaipur in Rajasthan.
- **Originally created as intricate backdrops** for the deity Shrinathji, these artworks have evolved into standalone masterpieces that narrate tales of devotion.

#### Themes and Subjects

- **Pichwai paintings predominantly** revolve around themes of Lord Krishna, especially depicting various leelas (divine plays) and festivities.
- **The vibrant visuals often include scenes** from Krishna's life, particularly centered around his childhood and interactions with the gopis (milkmaids).

#### Techniques and Materials

- **Crafted with precision, Pichwai artists employ** traditional techniques such as intricate brushwork and the use of natural pigments.
- **These paintings are often large in scale**, depicting elaborate landscapes and divine narratives.
- **Gold and silver leaf embellishments** add a touch of opulence to these already resplendent artworks.

## 8.6 SNIPPETS

APTI PLUS

### Naganathaswamy Temple



- The 1,000-year-old Naganathaswamy Temple, also known as the Kailasamudaiyar temple, located in Manambadi, Thanjavur district, Tamil Nadu, is set for a remarkable revival after surviving a tumultuous history that included a demolition attempt to make way for a highway.
- The temple's restoration, undertaken by the Tamil Nadu Department of Archaeology, aims to breathe new life into this ancient treasure.

APTI PLUS

### Rani Durgavati



- Rani Durgavati, born in 1524 in Mahoba's Chandela dynasty (present-day Uttar Pradesh, near the border with Madhya Pradesh), was a symbol of India's self-determination.
- Rani Durgavati, the brave queen of Garha-Katanga, opposed the Mughal Empire's expansion in the mid-16th century.
- Rani Durgavati displayed strong leadership while fighting against Akbar's commander Asaf Khan and the neighboring Malwa Sultan Baz Bahadur. She initially triumphed in the battle against Asaf Khan's attack on her kingdom.

APTI PLUS

### Kati Bihu



- Kongali Bihu is one of the three Bihu festivals celebrated in the Indian state of Assam.
- The Bihu festivals are an integral part of Assamese culture and are linked to the agricultural cycle.
- Kongali Bihu, also known as Kati Bihu, is the second Bihu festival and is celebrated in mid-October, marking the culmination of the sowing season and the beginning of the harvesting period.

APTI PLUS

### Edakkal Caves



- The Edakkal Caves are situated in the Wayanad district of Kerala on Ambukutty Mala, a prominent hill in the region
- It is not a typical cave but rather a natural cleft, rift, or rock shelter created by a piece of rock splitting away from the main body.
- It was discovered in 1890 by Fred Fawcett, a British police official.
- The caves are also known as "Ampukuthy Mala," with a local belief that they were created by Rama's sons, Lava and Kusha, who struck arrows on the mountain.

APTI PLUS

### Banni Festival



- It is a traditional stick-fight
- It is celebrated on the night of the Dussehra celebration (Vijaya Dasami) every year.
- The objective of this event was to snatch the idols from God's team, leading to a fierce battle known as the Banni Fight.
- This festival was celebrated by people under the Vijayanagara Empire.
- It is celebrated on account of the victory of Lord Mala Malleswara Swamy and Goddess Parvati over demonish Mani and Mallasura, who troubled the people in the Devaragattu region.

## 8.7 1 MAINS & 5 MCQs

**Q1. Bojjannakonda stands as a testament to the thriving Buddhist culture that once flourished in the region during ancient times. Comment. (250 Words)**

### Introduction

- Bojjannakonda is situated in the Visakhapatnam district of Andhra Pradesh, near the town of Anakapalle. This site dates back to the 4th and 5th centuries CE, which corresponds to the period of the Gupta Empire in India. During this time, Buddhism was a prominent religion in India, and several Buddhist monastic complexes, stupas, and viharas were constructed.

### Body

#### Architectural Features

- Bojjannakonda is renowned for its rock-cut caves and stupas.
- The site consists of two major hills, Bojjannakonda and Lingalakonda, which are dotted with numerous rock-cut caves and stupas.
- These caves served as viharas or monastic cells for Buddhist monks.

#### Buddhist Heritage

- Bojjannakonda is believed to have been an important center for Buddhist learning and monastic activities during its heyday.
- The site is dedicated to Lord Buddha and is adorned with various sculptures and inscriptions related to Buddhism. It is believed that the Buddhist monks residing here practiced meditation and disseminated Buddhist teachings.

#### Stupas

- One of the highlights of Bojjannakonda is the presence of several stupas, both rock-cut and structural.
- These stupas are significant Buddhist monuments used for meditation and veneration. They are often adorned with intricate carvings and inscriptions that provide historical and religious insights

#### Inscriptions

- The site contains several inscriptions in the Brahmi script, which have been instrumental in deciphering the history and chronology of Bojjannakonda.
- These inscriptions mention the names of donors and provide valuable information about the site's patrons and benefactors.

### Decline and Rediscovery

- Like many Buddhist sites in India, Bojjannakonda also witnessed a decline in Buddhist influence over time, possibly due to socio-political changes and the emergence of other religions. The site was eventually abandoned and forgotten.

### Conclusion

- Bojjannakonda stands as a testament to the thriving Buddhist culture that once flourished in the region during ancient times. Its rock-cut caves, stupas, and inscriptions provide a glimpse into the spiritual and artistic achievements of the Gupta period.

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**Q2. Consider the following statements regarding the Naganathaswamy Temple at Manambadi:**

1. The temple was built during the reign of the Chola dynasty's Rajendra Chola I.
2. Manambadi and Cholapuram were part of a common mercantile village known as Ilaichikkudi alias Viranarayanapuram.

**Which of the following options is correct?**

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**Q3. Which languages are increasingly influencing the Toto language and posing a threat to its preservation?**

- A. Hindi and Kannada
- B. Nepali and Bengali
- C. Tamil and Telugu
- D. Marathi and Malayalam

**Q4. Consider the following statements about Neolithic era:**

1. The start of settled life is a prominent feature of this period.
2. The related sites are found in only eastern and southern part on India.

**Which of the statements given above is/are correct?**

- A. 1 only
- B. 2 Only

- C. Both 1 and 2
- D. Neither 1 nor 2

**Q5. Which of the following statements about Bihu festivals in Assam is/are correct?**

1. Kongali Bihu, also known as Kati Bihu, marks the beginning of the harvest season.
2. Rongali Bihu, or Bohag Bihu, is celebrated in mid-April to mark the Assamese New Year.
3. Bhogali Bihu, also known as Magh Bihu, is primarily a festival of feasting and community bonfires.

**Options:**

- A. Statement 1 only
- B. Statements 2 and 3
- C. Statements 1 and 2
- D. Statements 2 and 3

**Select the correct option.**

**Q6. Consider the following statements about Someshwara inscription:**

1. This inscription is very significant in the study of Tuluva history and culture.
2. It has two panels on the top, and in between the two panels, the first line is engraved.

**Which of the statements given above is/are correct?**

- A. 1 only
- B. 2 Only
- C. Both 1 and 2
- D. Neither 1 nor 2

**ANSWERS:** 2) A, 3) B, 4) A, 5) C, 6) C

## 9. GEOGRAPHY AND DISASTER MANAGEMENT

### 9.1 GLACIAL LAKE OUTBURST FLOOD (GLOF)

#### Context

- Recent flash floods in north Sikkim resulted from the bursting of the South Lhonak Lake.

**Waiting to Happen! What was the Trigger?**

**Map:** Shows Sikkim, India, Nepal, and Bhutan. Labels include: Cloudburst over South Lhonak Lake, Lhonak River, Sikkim, Lachen, Teesta River, Gangtok, Water released from Chungthang Dam, Army personnel missing from Bardang, Area enlarged, INDIA, West Bengal, KKB, CHINA, NEPAL, BHUTAN.

**As South Lhonak glacier continued to retreat amid global warming by another 400 m between 2008 and 2019, lakes only grew**

**Glacial lake outburst flood (Glof) like disaster was waiting to happen**

**Trigger could be anything from cloudburst to landslide, avalanche or earthquake**

**Mitigation Steps**

**First field expedition of glacial lake conducted in August 2014, followed by another in 2016 which resulted in a project to start siphoning off lake water**

**Three pipelines were installed to siphon off 150 mlitres of water per second at that time**

**Early warning system was set in place in some locations by Centre for Development of Advanced Computing**

**Central Water Commission initiated an advisory to evaluate the South Lhonak glacier**

**Himalayan Problem**

**Problem of receding glaciers and the spectre of Glof devastation faces the entire Himalayan region as global warming provides new triggers in the young mountain ranges**

**Add to that the build-up of infrastructure, habitation, road networks and hydropower plants**

**A 2021 study warned that 'both the existing and planned hydropower plants are exposed to potential outburst floods from glacial lakes'**

#### Detail

- Ten casualties reported, and many are missing due to incessant rains and rising water levels in the Teesta River.
- The South Lhonak Lake had been under scrutiny for its rapid expansion and susceptibility to Glacial Lake Outburst Floods (GLOF).
- The glacial lake outburst flood (GLOF) that ravaged parts of Sikkim also washed away the 60-metre-high rock-filled concrete dam of the 1200-MW Teesta-III hydel project near Chungthang village.
- A probe is on to ascertain if the dam's spillways – openings to allow excess water to flow out – were opened before the flood waters from the South Lhonak glacial lake reached Chungthang roughly 55 km downstream. But even opening the doors may not have been enough.

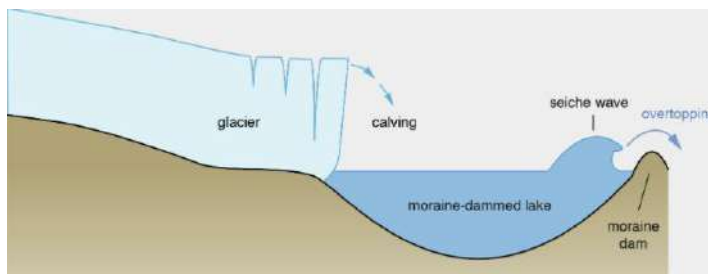
#### About Glacial Lake Outburst Floods (GLOF)

- A glacial lake outburst flood (GLOF) is a type of **outburst flood caused by the failure of a dam** containing a glacial lake.
- An event similar to a GLOF**, where a body of water contained by a glacier melts or overflows the glacier, is called a jökulhlaup. The dam can consist of glacierice or a terminal moraine.
  - Failure can happen due to erosion**, a buildup of water pressure, an avalanche of rock or heavy snow, an earthquake or cryoseism, volcanic eruptions under the ice, or massive displacement of water in a glacial lake when a large portion of an adjacent glacier collapses into it.

- **Increasing glacial melting because of climate change**, alongside other environmental effects of climate change (i.e. permafrost melting) mean that regions with glaciers are likely to see increased flooding risks from GLOFs. This is especially true in the Himalayas where geologies are more active.

### South Lhonak Lake's Susceptibility to GLOF

- South Lhonak Lake had shown significant growth over the past five decades.
- An earthquake in 1991 and another in 2011, along with future seismic events, were identified as potential triggers for GLOF.
- Government authorities had been monitoring the lake's expansion and susceptibility to GLOF.



### Factors Contributing to GLOF

- Glacial lakes are common in steep, mountainous regions, making them vulnerable to landslides or ice avalanches that displace water.
- The impact of climate change leads to rapid glacier melting, resulting in the formation and expansion of glacial lakes.
- In Sikkim Himalayan, rising temperatures have caused glacier melt, leading to the proliferation of glacial lakes, including the South Lhonak Lake.
- There are over 300 glacial lakes in Sikkim Himalayan, with 10 identified as vulnerable to GLOF.

### Recent GLOF Incidents in India

- *In June 2013, Uttarakhand had received an unusual amount of rainfall leading to the melting of the Chorabari glacier and the eruption of the Mandakini river.*
- *In August 2014, a glacial lake outburst flood hit the village of Gya in Ladakh*
- *In February 2021, Chamoli district in Uttarakhand witnessed flash floods which are suspected to have been caused by GLOFs.*

### Government Action to Tackle South Lhonak Lake's Expansion

- In 2016, authorities, including the Sikkim State Disaster Management Authority and Sikkim's Department of Science and Technology and Climate Change, initiated measures to address the expanding South Lhonak Lake.
- Innovator Sonam Wangchuk supervised the implementation of a technique involving the syphoning off of lake water.
- Three eight-inch wide and 130-140 meters long High-Density Polyethylene (HDPE) pipes were installed in the lake to remove water at a rate of 150 liters per second.

### Closing thoughts

- GLOF events, like the one at South Lhonak Lake, pose significant risks to downstream areas.
- Climate change-induced glacier melt leads to the formation and growth of glacial lakes.
- Monitoring and proactive measures by government authorities are crucial in mitigating the impact of GLOF events and safeguarding vulnerable regions.



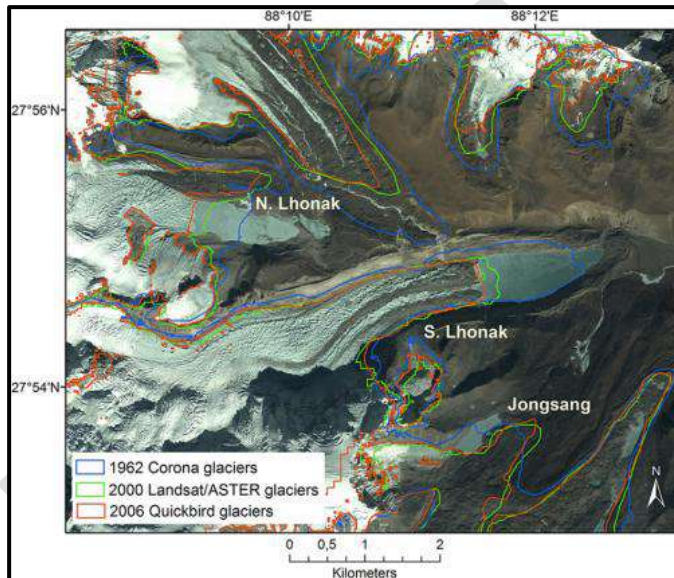
## 9.2 DANGERS OF LARGE DAMS IN INDIA

### Context

- The ongoing scientific investigations over Chungthang dam bursting are trying to unravel the exact cause of the abrupt eruption of South Lhonak Lake, situated in northern Sikkim.

### Detail

- The dam's collapse triggered a staggering surge in water levels, elevating them by an alarming 15-20 metres within the Teesta river. The resultant flash flood wreaked havoc across numerous districts.
- Moreover, approximately 100 individuals, encompassing civilians and army personnel, are still reported as missing.
- The Chungthang dam was a part of the 1,200-megawatt (MW) Teesta Stage III Hydro Electric Project. It was constructed along the Teesta River and became operational in 2017, primarily for hydroelectric power generation.
- The dam stood at 817 metres and had a net head of 778 metres. This hydroelectric project was established to generate revenue for the Sikkim government.
- The project was designed to generate electricity at a scale nearly twelve times greater than the state's demand, surpassing the typical requirement of approximately 100 MW. The primary objective was to export surplus power to neighbouring states, including West Bengal.



GLOF is a type of flood that occurs when a dam containing a glacial lake collapses. These lakes, formed by the embankment of unstable moraines, can burst due to various triggers, including heavy rainfall, avalanches, rock falls, landslides and earthquakes.

- South Lhonak Lake is one of the rapidly expanding lakes in the Sikkim Himalayan region, and its growth is inversely related to the accelerated melting of the Lhonak glacier resulting from global warming.
- Over the past 29 years, this glacier has shrunk by approximately 0.96 square kilometres, with its submerged area expanding to 1.35 square km in 2019 from 0.42 square km in 1990. This rapid growth increases the lake's vulnerability to collapse when subjected to heavy rainfall, earthquakes and other similar events, particularly in the Himalayan region where geological activity is more pronounced.

### About potential dangers associated with large dams in India

- Displacement of Communities:** The construction of large dams often results in the displacement of communities living in the reservoir area. This displacement can lead to social, cultural, and economic disruptions.
- Loss of Biodiversity:** The alteration of river ecosystems and the creation of reservoirs can lead to the loss of biodiversity. Changes in water flow, sediment transport, and habitat disruption can negatively impact aquatic and terrestrial ecosystems.
- Greenhouse Gas Emissions:** The decay of organic matter in submerged areas can lead to the release of greenhouse gases, contributing to climate change.

- **Earthquake-Induced Risks:** In regions prone to seismic activity, large dams can pose risks of dam failure or damage during earthquakes. Proper engineering and safety measures are crucial to mitigate these risks.
- **Sedimentation:** Dams trap sediment, leading to reduced sediment downstream. This can affect river ecosystems, disrupt sediment-dependent habitats, and impact agriculture and fisheries.
- **Reservoir Management:** Poor reservoir management, including inadequate sedimentation studies and siltation control measures, can reduce the storage capacity of the reservoir

### Closing thoughts

- Balancing the benefits and risks associated with large dams requires careful planning, environmental impact assessments, community engagement, and ongoing monitoring and management. Sustainable dam development practices aim to minimize adverse impacts and ensure the long-term well-being of both the environment and the communities affected.

## 9.3 DISABLED POPULATION AND DISASTER PREPAREDNESS

### Context

- The United Nations Office for Disaster Risk Reduction (UNDRR) recently conducted a survey, released just before the International Day for Disaster Risk Reduction on October 13.

### Detail

- The findings highlight a concerning lack of advancement in government policies aimed at safeguarding individuals with disabilities during natural disasters over the past decade.
- Around 84% of people with disabilities surveyed said they were not informed of personal preparedness plans.

Only 11 percent of respondents reported being aware of a disaster management plan in their local area, down from 17 percent in 2013. Less than half of respondents (44 percent) were unaware of the availability of disaster risk information in accessible formats.

- There has been a shocking lack of progress on government policies to protect people with disabilities during natural disasters in the last decade, according to a new global survey.

### Key Findings of Survey

- **Survey Scope:** The 2023 survey, encompassing 6,000 respondents from 132 countries, highlights a disconcerting trend in the neglect of individuals with disabilities in government policies related to natural disasters.

### Lack of Awareness and Preparedness:

- 84% of people with disabilities lack information on evacuation routes, shelter homes, and personal preparedness plans, a notable increase from 71% in 2013.
- Awareness of disaster management plans in local areas has decreased to 11% from 17% in 2013, and less than half are informed about accessible disaster risk information.



### Risk and Vulnerability:

- People with disabilities, constituting up to 16% of the global population, face increased vulnerability, being two to four times more likely to perish in disasters.
- Despite a keen interest in community-level disaster planning, 86% of respondents feel excluded, underscoring the urgency of fostering inclusion.

### Survey Recommendations:

- The report underscores the intersectionality of disasters and inequality, citing unequal access to services as a key factor amplifying the vulnerability of the most at-risk groups.
- The Sendai Framework for Disaster Risk Reduction 2015-2030 advocates for disability inclusion, accessible risk information, and inclusive early warning systems.

### Importance of Early Warning Systems:

- Half of the surveyed countries lack robust early warning systems, emphasizing the critical need for strengthening these mechanisms.
- Timely warnings significantly enhance evacuation rates and overall disaster response.

### Call for Immediate Action:

- The survey emphasizes the necessity for immediate action to address the challenges outlined and ensure the meaningful inclusion of people with disabilities in community disaster risk reduction planning.

### Understanding Disaster Risk: Enhancing Data Utilization and Public Awareness

- Promoting the collection, analysis, and dissemination of relevant data and practical information to bolster understanding and management of disaster risk.
- Systematically evaluating and publicly accounting for disaster losses to comprehend the comprehensive impacts on economic, social, health, educational, and environmental aspects.

### Strengthening Disaster Risk Governance: Assessing Capacities and Ensuring Compliance

- Conducting assessments of technical, financial, and administrative capacities in disaster risk management at local and national levels.
- Encouraging the establishment of mechanisms and incentives to ensure high compliance with safety-enhancing provisions in existing sectoral laws and regulations.

### Investing in Disaster Risk Reduction for Resilience: Allocating Resources Strategically

- Allocating necessary resources, including finance and logistics, at all administrative levels to develop and implement disaster risk reduction strategies, policies, plans, laws, and regulations across relevant sectors.

### Recovery, Rehabilitation, and Reconstruction: Building Community Resilience

- Establishing community centers for promoting public awareness and stockpiling essential materials for effective rescue and relief activities.
- Training the existing workforce and voluntary workers in disaster response, while enhancing technical and logistical capacities to ensure a more efficient emergency response.

### **Sendai Framework for Disaster Risk Reduction 2015-30**

- The Sendai Framework for Disaster Risk Reduction 2015-2030 is a global agreement adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, in March 2015. The framework sets out a comprehensive, people-centered approach to disaster risk reduction to reduce the damage caused by natural and human-made hazards.

## 9.4 DROUGHT IN THE AMAZON RAINFOREST

### Context

- Most recently, the rainforest witnessed a dry spell in 2021, which was the worst in at least 90 years.

### Detail

- The latest drought, however, is probably even more severe as two simultaneous natural events have hindered cloud formation, further reducing the already low rainfall levels in the region.

*The Rio Negro, one of the world's largest rivers by discharge levels, has fallen to a record low level of 13.59 meters near the city of Manaus.*

- The Amazon rainforest is reeling from an intense drought. Numerous rivers vital for travel have dried up. As a result, there is no water, food, or medicine in the villages of Indigenous communities living in the area.
- The latest calamity is another addition to the long list of causes that are accelerating the destruction of the Amazon, called the planet's lungs. It covers nearly seven million square kilometers, or about the area of Australia, and stores more than 150 billion metric tonnes of carbon.

### About Amazon Rainforest

- The Amazon rainforest, also known as Amazonia or the Amazon jungle, stands as a vast tropical rainforest characterized by predominantly moist conditions and lush broadleaf vegetation. Situated within the Amazon biome, it spans a significant portion of South America, covering the majority of the Amazon basin.
- **Geographical Extent:** The Amazon basin, boasting a colossal size of around 7 million square kilometers, serves as the expansive home to the Amazon rainforest, which itself blankets approximately 5.5 million square kilometers of this region.
- **Biodiversity and Indigenous Territories:** This immense area is not only ecologically diverse

but also culturally rich. The Amazon rainforest extends across territories under the jurisdiction of nine different nations. Additionally, it encompasses over 3300 officially recognized indigenous territories, highlighting the coexistence of vibrant ecosystems and diverse human communities.

- **National Shares:** In terms of national ownership, Brazil claims the largest portion of the Amazon rainforest, commanding a substantial 60% of its total expanse. Following Brazil, Peru holds the second-largest share with 13%, while Colombia manages 10% of this precious ecological jewel.

### Drought Crisis in Amazon Rainforests

#### Period of Driest Conditions:

- Between July and September 2023, eight states in Brazil faced the driest period in over four decades, marked by significantly reduced rainfall compared to previous years.

#### Extended Dry Forecast:

- Current predictions suggest that below-average rainfall levels will persist for the upcoming months, extending until the end of the year. This exacerbates the series of ongoing disasters contributing to the rapid degradation of the Amazon rainforest.

#### Impact on Water Levels:

- The Rio Negro, a major river, is at its lowest recorded water level at 13.59 meters. The drought has also affected the Madeira River, leading to the suspension of operations at Brazil's fourth-largest hydroelectric dam, Santo Antonio, due to critically low water levels.

#### Ecological Consequences:

- The drought has resulted in a significant number of fish and river dolphins (Boto) found dead due to the low water levels. Contaminated water in certain regions has forced residents to utilize it for various purposes.

### Humanitarian Concerns:

- Approximately half a million individuals are at risk of suffering from the drought by the end of October, according to Brazilian authorities.

The city of Manaus, the largest and capital of the Amazonas state, has declared a state of emergency in 55 out of 62 municipalities due to the extreme scarcity of water.

## 9.5 INTERCONNECTED DISASTER RISKS REPORT 2023

### Context

- The Interconnected Disaster Risks Report 2023 has recently brought global interdependence to the forefront, sounding alarms about imminent global tipping points.

### Detail

- It emphasizes the urgent necessity for immediate action to avert potential catastrophic consequences.
- This report has been released by the United Nations University – Institute for Environment and Human Security.
- This report is related to water crisis.
- According to the report, some areas of the Indo-Gangetic plain in India have already crossed the dangerous point of groundwater depletion.
- *According to the report the world is approaching 6 ecological tipping points – rapid extinction, groundwater depletion, melting of mountain glaciers, space debris, unbearable heat and an uncertain future.*
- The report said India is the largest user of groundwater in the world, more than the combined use of the US and China.
- The north-western region of India serves as the 'bread basket' for the country's growing population of 1.4 billion.

### Key findings of the Interconnected Disaster Risks Report 2023

- **About:** The UN Interconnected Disaster Risks Report, a yearly scientific analysis published by the United Nations **University-Institute for Environment and Human Security (UNU-EHS)**, made its debut in 2021.

### Analysis of Disasters:

- In this comprehensive report, various instances of disasters are meticulously

examined each year. The document elucidates the intricate connections existing not only between different disasters but also their linkages with human activities.

### Deterioration of Stable Systems:

- A key highlight of the report is its illustration of how apparently stable systems can undergo a gradual decline. This deterioration continues until a critical threshold is breached, leading to the onset of catastrophic consequences with far-reaching impacts.

### Risk Tipping Points:

- Introducing the concept of "**risk tipping points**," the report identifies critical moments in socio-ecological systems. At these junctures, these systems lose their ability to buffer risks effectively, heightening the probability of encountering catastrophic impacts.
- The **UN Interconnected Disaster Risks Report** serves as a crucial tool in understanding and addressing the interconnected challenges that pose a threat to global well-being.

### **Environmental Tipping Points on the Horizon** Groundwater Depletion

- Groundwater, a **lifeline for over 2 billion people**, especially in agriculture, is under threat. In 21 major aquifers globally, depletion outpaces recharge rates.
- Some regions, like **Saudi Arabia**, have **depleted over 80% of their aquifers**, leading to dependence on imported crops and food security challenges.
- The **Indo-Gangetic basin** in India faces critical groundwater depletion, with the northwestern region expected to have **severely limited availability by 2025**.

### Accelerating Species Extinctions:

- Human activities, from land use changes to climate change, are driving species to extinction at rates hundreds of times higher than normal.
- This acceleration poses risks of ecosystem collapses, setting off a chain reaction with far-reaching consequences.

### Mountain Glacier Melting:

- Crucial water sources, glaciers, are melting at an alarming rate due to global warming. Between 2000 and 2019, glaciers lost 267 gigatons of ice annually.
- The Himalayas, Karakoram, and **Hindu Kush mountains, home to 90,000+ glaciers**, face a looming risk, impacting the 870 million people relying on them.

### Space Debris Challenge

- While satellites are essential for various purposes, the increasing number in orbit has led to a space debris crisis.
- **About 75% of objects** in orbit are non-functional debris, with **approximately 130 million untrackable smaller debris pieces**.
- The collision risk to operational satellites poses a significant hazard to our orbital environment.

### Unbearable Heat Waves

- Climate change-induced heatwaves are becoming more lethal.
- High temperatures and humidity make it challenging for the body to cool down, leading

to organ failure and brain damage when the **"wet-bulb temperature"** exceeds 35°C for over six hours.

- This has already been observed in places like **Jacobabad, Pakistan, and is projected to affect over 70% of the global population by 2100.**

### Uninsurable Future

- Frequent severe weather events, driven by climate change, have caused a sevenfold increase in damages **since the 1970s, with losses reaching USD 313 billion in 2022.**
- Rising insurance costs are rendering coverage unaffordable for many, and some insurers are withdrawing from high-risk areas, labeling regions as **"uninsurable."**
- In Australia, increased flood risk may render around 520,940 homes uninsurable by 2030.

### Interconnectedness Amplifying Risks

- Climate change, fueled by increased greenhouse gas emissions, serves as a common thread driving these tipping points.
- **The interconnectedness of environmental issues**, such as glacier melting, extreme weather events, and shifts in the insurance risk landscape, can trigger feedback loops.
- **For instance, glacier melt contributing to rising sea levels intensifies coastal flooding, escalating the demand for disaster insurance.**
- These tipping points not only have environmental ramifications but also profound socioeconomic consequences.

## 9.6 SHORT ARTICLES

### **Seamount**

#### Context

- The discovery of Crater Seamount in the Andaman Sea was made by a team of scientists from the National Institute of Oceanography (NIO).

#### Details

- The seamount has been located at a depth of 500 meters in the Andaman-Nicobar Volcanic arc, which has been a seismic zone of interest since it was first observed in 2007.

- Seamounts are found throughout the world's oceans, although they are more common in certain regions, such as the Pacific Ocean.

#### About Seamount:

##### About

- A seamount is an underwater mountain or a **submerged elevated area** that rises from the ocean floor but does not reach the water's surface. These geological features are often found in the world's oceans and seas and can vary in size and shape.

**Formation**

- **Seamounts are primarily formed through volcanic activity.** They are the result of magma rising from the Earth's mantle through the oceanic crust. As the magma solidifies, it builds up to form a mountain-like structure on the seafloor.

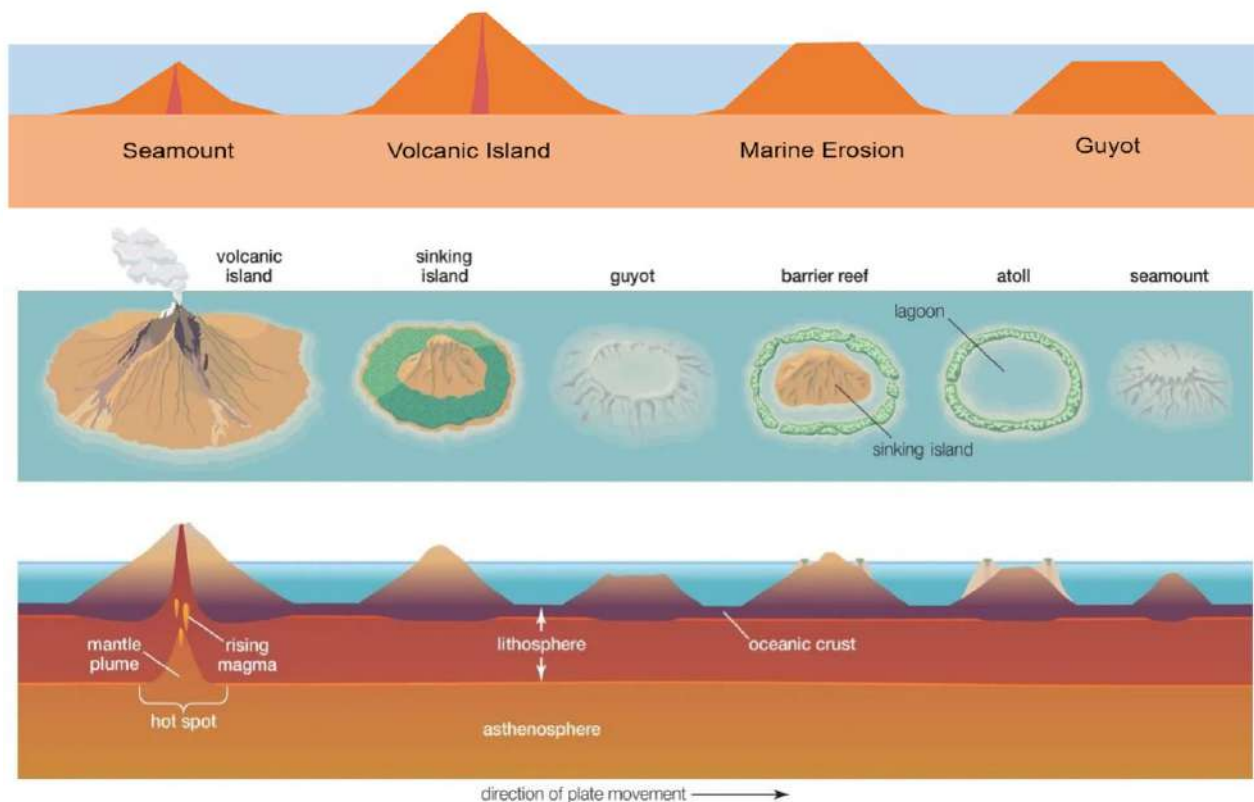
**Characteristics**

- **Shape:** Seamounts can have various shapes, including conical, flat-topped, and elongated forms. Their shapes are influenced by the type of volcanic activity that created them.
- **Size:** Seamounts can range in size from small, isolated hills to massive underwater mountains that can extend for hundreds of

kilometers. The height of seamounts above the seafloor varies widely as well.

**Importance**

- **Geological Research:** Seamounts provide valuable insights into the Earth's geological history and the processes that shape the ocean floor. They can be used to study plate tectonics, volcanic activity, and the movement of Earth's crustal plates.
- **Ocean Currents:** Seamounts can influence ocean currents and circulation patterns. Their presence can alter the flow of water masses, impacting regional climates and weather patterns.



**Mount Kun**

**Context**

- One soldier died and three are missing after a group of Indian Army mountaineers was caught in an avalanche on Mount Kun in Ladakh.

**Details:**

- Mount Kun, also known as Kunlun, is a prominent mountain range in Central Asia

that extends through China, Tibet, and parts of Pakistan and India.

**About Mount Kun:**

**Geographic Location**

- **Mount Kun, part of the larger Kunlun mountain range,** is situated in Central Asia.
- It extends across several countries, primarily China and Tibet, and stretches from the Pamir Mountains to the Qilian Mountains.

- The range is known for its impressive peaks, including Mount Muztagh Ata and Mount Kongur.



### Historical Significance

- Mount Kun has a rich history, with archaeological evidence suggesting that it was a crucial route on the ancient Silk Road.

### Cultural and Mythological Importance

- The mountain range has deep cultural and mythological significance in Chinese and Tibetan traditions.
- It is often associated with stories of mythical creatures and is considered a sacred place by many indigenous communities.

### Formation

- Mount Kun has a diverse geological history, with rocks ranging from sedimentary to metamorphic.
- It has been shaped by tectonic forces and glacial activity over millions of years.

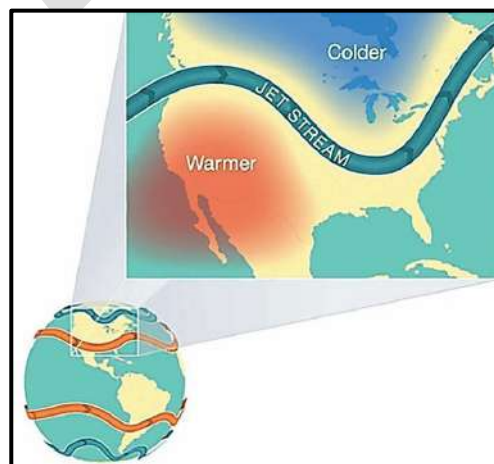
## Jet Streams

### Context

- The James Webb Telescope continues to captivate observers with its latest remarkable discovery.

### Details

- It recently unveiled a stunning image of Jupiter, featuring snapshots of extraordinarily fast jet streams racing across the planet's equator. These jet streams are clocked at speeds exceeding 320 mph (515 kph) and span over an impressive 3,000 miles (4,800 kilometers).
- This imagery provides valuable insights into the dynamic processes at play within this gas giant, which has long piqued the curiosity of the scientific community.
- These winds are so potent that, were they to occur on Earth, they could swiftly devastate entire cities.



### About Jet Streams:

#### About

- **Jet streams are high-altitude, fast-flowing air currents** that exist near the tropopause, the boundary between the troposphere and the stratosphere.
- **These ribbon-like bands of strong winds** play a crucial role in shaping global weather patterns and influencing the behavior of atmospheric systems.

#### Formation

- **Jet streams are formed due to the temperature and pressure** contrasts between different air masses. The greatest contrast typically occurs where polar air meets tropical air.
- **The Coriolis effect**, caused by the Earth's rotation, also contributes to the development of jet streams.

#### Types

- **Polar Jet Stream (PJ):** Located closer to the poles, the polar jet stream meanders between 30,000 and 39,000 feet in the atmosphere. It marks the boundary between cold polar air and warmer subtropical air.



- **Subtropical Jet Stream (STJ):** Positioned at a lower altitude than the polar jet stream, the subtropical jet stream flows between 23,000 and 34,000 feet. It is associated with the meeting of different air masses in the subtropics.

#### Characteristics

- **High Speeds:** Jet streams can reach impressive speeds, commonly exceeding 100 knots (115 mph) and sometimes reaching over 200 knots (230 mph).
- **Narrow and Meandering:** Despite their high speeds, jet streams are relatively narrow, often only a few hundred miles wide. They also exhibit a meandering pattern, with waves and troughs influencing weather systems below.

## 9.7 1 MAINS & 5 MCQs

**Q1. Discuss the recent measures initiated in disaster management by the Government of India departing from the earlier reactive approach.**

#### **Introduction**

- In recent years, the Government of India has undergone a paradigm shift in disaster management, departing from a reactive approach to a more proactive and comprehensive strategy. Recognizing the escalating challenges posed by natural and man-made disasters, the government has introduced a series of measures aimed at enhancing preparedness, response, and resilience.

#### **Body**

- **Early Warning Systems and Technological Integration:**
  - One notable stride has been the integration of advanced technology into disaster management. The establishment and strengthening of early warning systems have become a cornerstone.
  - From leveraging satellite technology to monitor weather patterns to employing artificial intelligence for predictive analytics, the government is fostering a more proactive stance in anticipating and mitigating potential disasters.
- **Community Engagement and Capacity Building:**
  - Departing from a top-down approach, the government is now actively involving local communities in disaster preparedness and response.
  - Community-based training programs, awareness campaigns, and the establishment of local response teams are evidence of this shift.
  - By building the capacity of communities to respond effectively, the government aims to create a more resilient and empowered population capable of handling emergencies.
- **Climate-Resilient Infrastructure:**
  - The recognition of climate change as a significant driver of disasters has prompted the government to prioritize the development of climate-resilient infrastructure.
  - This includes constructing buildings that can withstand earthquakes, floods, and cyclones, as well as investing in eco-friendly and sustainable urban planning.
  - The emphasis is on not just responding to disasters but also minimizing their impact through thoughtful infrastructure development.
- **International Collaboration and Information Sharing:**
  - In an interconnected world, disasters often transcend national borders. India has proactively engaged in international collaboration for disaster management.
  - Information-sharing agreements, joint training exercises, and collaborative research initiatives contribute to a global network better equipped to respond to and mitigate the impacts of disasters.

## Conclusion

- The recent measures initiated by the Government of India underscore a fundamental departure from the reactive approach to disaster management. Embracing technological advancements, prioritizing community engagement, investing in resilient infrastructure, and fostering international collaboration collectively signal a holistic and forward-thinking strategy.

### Q2. Which of the following statements about seamounts is true?

- Seamounts are geological features that breach the ocean's surface.
- They are primarily formed through sedimentary processes.
- Seamounts can serve as hotspots for marine biodiversity.

#### Select the correct option:

- Only statement 1 is true.
- Only statement 3 is true.
- Statements 1 and 3 are true.
- None of the statements are true.

### Q3. Consider the following statements about Glacial Lake Outburst Flood (GLOF):

- It is a type of outburst flood caused by the failure of a dam containing a glacial lake.
- An event similar to a GLOF, where a body of water contained by a glacier melts or overflows the glacier, is called a jökulhlaup.

#### Which of the statements given above is/are correct?

- 1 only
- 2 Only
- Both 1 and 2
- Neither 1 nor 2

### Q4. Which river, originating from the Kunlun Mountains, is known as the "River of Sorrows" due to its devastating floods in Chinese history?

- Yellow River
- Yangtze River

- Ganges River
- Brahmaputra River

### Q5. Consider the following statements about the Jet Stream:

- Jet Stream is a high-altitude, fast-flowing air current located near the tropopause, typically moving from west to east.
- The Northern and Southern Hemispheres each have their own polar and subtropical jet streams.

#### Which of the statements given above is/are correct?

- 1 only
- 2 Only
- Both 1 and 2
- Neither 1 nor 2

### Q6. Consider the following statements about Drought in the Amazon Rainforest:

- It is primarily caused by the extended period of below-average rainfall, leading to water scarcity in the region.
- An associated phenomenon, often linked to Amazon droughts, is the increased risk of wildfires due to dry conditions.

#### Which of the statements given above is/are correct?

- 1 only
- 2 Only
- Both 1 and 2
- Neither 1 nor 2

ANSWERS: 2) C, 3) C, 4) A, 5) C, 6) C

# 10. PLACES IN NEWS

## 10.1 IN INDIA

### CHUNGTHANG HYDRO-DAM

**Details**

- Chungthang Hydro-Dam was washed away by flooding of the Teesta River.
- Chungthang dam was an integral part of Teesta Stage III Hydro Electric Project, a major source of electricity for Sikkim and West Bengal.
- The dam had a gross height of 817 meters and a net head of 778 meters, which was used for power generation.

### SOUTH LHONAK LAKE

**Details**

- Heavy rains caused the glacial South Lhonak lake in Sikkim to breach its banks, causing a glacial lake outburst flood in Teesta River.
- South Lhonak Lake is a glacial-moraine-dammed lake, located in Sikkim's far northwestern Himalayan region.
- It is one of the 14 potentially dangerous lakes susceptible to Glacial lake outburst floods (GLOFs).

### TEESTA RIVER

**Details**

- Tourists were airlifted from North Sikkim, a region severely affected by a flash flood in the Teesta River.
- Teesta River originates from Teesta Khangtse Glacier, west of Pauhuri Mountain of Eastern Himalayas.
- It flows through Sikkim and West Bengal.
- It is fed by streams from Tso Lhamo Lake, Gurudongmar Lake, and rivulets arising in the Thangu Valley, and Yumthang Valley of Flowers.
- It enters Bangladesh and falls into Brahmaputra River which finally falls into the Bay of Bengal.

**Tributaries**

- Left: Rangpo River Lachung River Ranikhola Relli River Talung River Dik Chhu Lang Lang Chu
- Right: Rangeet River Kanaka River RingyongChhuRanghapChhu

### KAIMUR WILDLIFE SANCTUARY

**Details**

- Bihar has been working towards declaring Kaimur Wildlife Sanctuary as the state's second tiger reserve.
- This Wildlife Sanctuary is located in Rohtas Plateau and Kaimur plateau of Kaimur Range in the south-western part of Bihar.
- There are several waterfalls of which the finest are Karkat Waterfall, Manjhar Kund, Dhua Kund.
- There are several Dams and lakes, including Anupam Lake, Karamchat dam and Kohira Dam.
- Rohtasgarh Fort and Shergarh Fort are located in these forests.

### DACHIGAM NATIONAL PARK

**Details**

- The Government has unveiled the draft notification for an eco-sensitive zone around Dachigam National Park.
- Dachigam National Park is located in Srinagar district of Jammu and Kashmir, on the east side of Dal Lake.
- It is located in the Zabarwan Range of the western Himalayas.
- The main animal species that Dachigam is known for is the hangul, or the Kashmir stag.

### KONGTHONG

**Details**

- Meghalaya's Kongthong also known as 'Whistling Village' has been conferred with a bronze award for the Best Tourism Village in 2023.
- Kongthong Village or Meghalaya's 'Whistling Village' is located in the East Khasi Hills district.
- It lies uphill in a remote area between Sohra (Cherapunji) and Pynursla ridges.
- The area is known for the Living Root bridges.
- People in the village are known for the unique culture of inhabitants who use the whistled language "Jingrwailawbei".

## 10.1 IN INDIA

### KALAKKAD-MUNDANTHURAI TIGER RESERVE

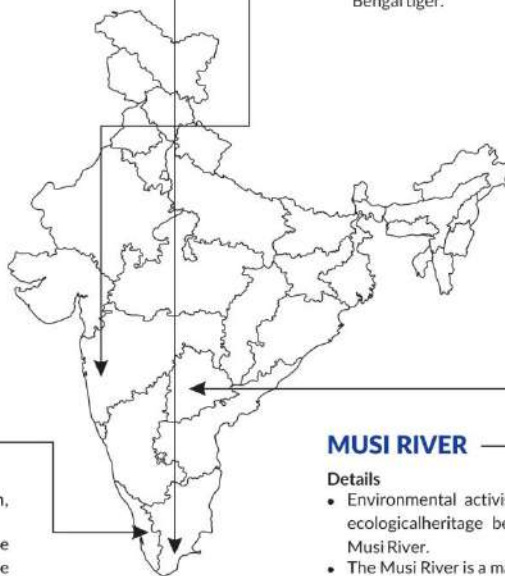
**Details**

- Madras High Court has issued a notice to restrict the entry of outsiders and vehicles inside the Kalakkad-Mundanthurai Tiger Reserve.
- It is located in the South Western Ghats montane rain forests in Tirunelveli district and Kanyakumari district in Tamil Nadu.
- It is part of the Agasthyamala Biosphere Reserve.
- Established in the year of 198 it is a tropical wet evergreen forest.
- This reserve is part of one of the world's 18 biodiversity hotspots.

### SAHYADRI TIGER RESERVE

**Details**

- The National Tiger Conservation Authority has given the go-ahead to reintroduce tigers into Sahyadri Tiger Reserve (STR).
- State: Maharashtra.
- Location: Located in the Sahyadri Ranges of the Western Ghats of Maharashtra.
- Ecoregion: It is part of the ecoregions of North Western Ghats moist deciduous forests and North Western Ghats montane rain forests.
- Area: The reserve spreads over Koyna Wildlife Sanctuary forming the northern portion and Chandoli National Park. Recently reserve is extended towards Radhanagari Wildlife Sanctuary.
- Fauna: The reserve is dedicated to the conservation of the Bengal tiger.



### IDUKKI DAM

**Details**

- Water level in the Idukki dam, continued to remain low.
- The Idukki Dam is a double-curvature Arch dam constructed across the Periyar River.
- It is situated in a narrow gorge between two granite hills locally known as Kuravan and Kurathi in Mariyapuram village in Idukki District in Kerala.

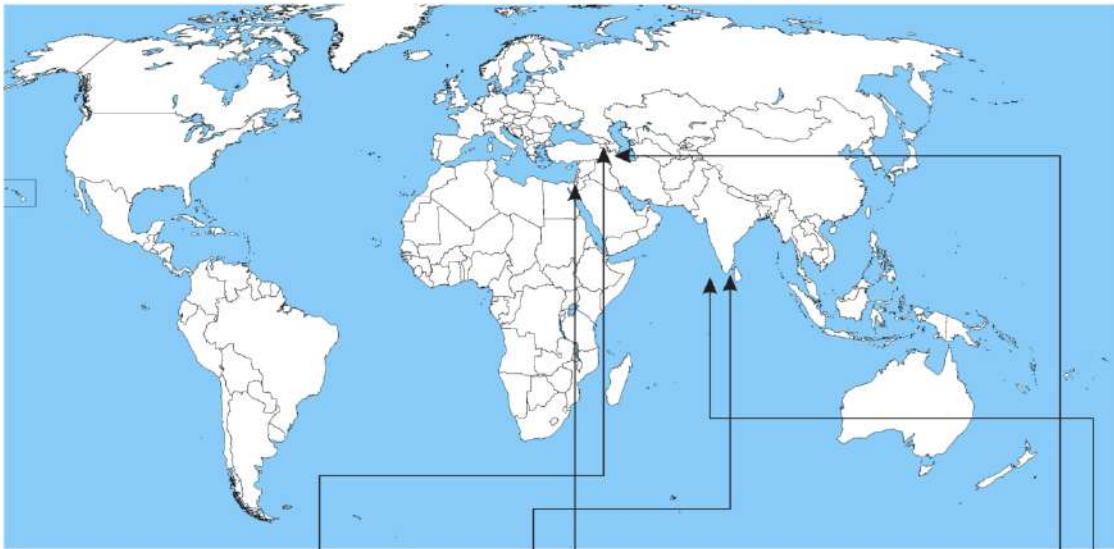
### MUSI RIVER

**Details**

- Environmental activists have appealed to set up an ecological heritage bench for the restoration of the Musi River.
- The Musi River is a major tributary of the Krishna River in the Deccan Plateau, flowing through Telangana.
- It originates in the Ananthagiri Hills, near Vikarabad.
- Hyderabad stands on the banks of the Musi River, which divides the historic Old City from the new city.
- The Musi River flows into Himayat Sagar and Osman Sagar, which are artificial lakes that act as reservoirs.
- It flows into the Krishna River at Vadapally near Miryalaguda in Nalgonda district.



## 10.2 IN WORLD



### ARMENIA

**Details**

- Armenia said that plans were proceeding for a meeting with Azerbaijan to discuss a durable peace accord.
- Armenia is a landlocked country in the Caucasus with Turkey to the west, Georgia to the north, Azerbaijan to the east and Iran and the Azerbaijani exclave of Nakhchivan to the south.
- It contains two terrestrial ecoregions: Caucasus mixed forests and Eastern Anatolian montane steppe.

### PALK STRAIT

**Details**

- India and Sri Lanka launched a ferry service across the Palk Strait.
- Connects Tamil Nadu state to the island nation of Sri Lanka.
- It is named after Robert Palk, a British Raj administrator of the Madras Presidency (1755-1763).
- Pamban Island (India), Adam's (Rama's) Bridge (a chain of shoals), the Gulf of Mannar, and Mannar Island (Sri Lanka) border it on the south.
- It connects the northeastern Bay of Bengal to the southwesterly Gulf of Mannar.
- Several rivers flow into it, including the Vaigai River of Tamil Nadu.
- The port of Jaffna, the commercial centre for northern Sri Lanka, lies on the strait.

### RAFAH CROSSING

**Details**

- The Rafah crossing is open but inoperable due to Israeli bombardment on the Gaza side.
- The Rafah Crossing is the main entrance and exit point to the Gaza Strip from Egypt.
- It is located on the Gaza–Egypt border, which was recognized by the 1979 Egypt–Israel peace treaty.
- In 2005, Israel withdrew from Gaza and closed the Rafah crossing.
- Rafah Crossing has become a focal point of efforts to deliver aid to Palestinians since Israel imposed a "total siege" on the enclave following the recent incursion by Hamas militants.

### NAGORNO-KARABAKH

**Details**


- Azerbaijani forces attacked the breakaway and long-disputed enclave of Nagorno-Karabakh.
- It is a disputed territory, internationally recognized as part of Azerbaijan, although most of its territory was governed by ethnic Armenians.
- It is a landlocked area in the South Caucasus located in Karabakh- a mountainous region extending from Armenia to Azerbaijan.
- Nagorno-Karabakh does not directly border Armenia but is connected to the latter through the Lachin corridor.

### MALDIVES

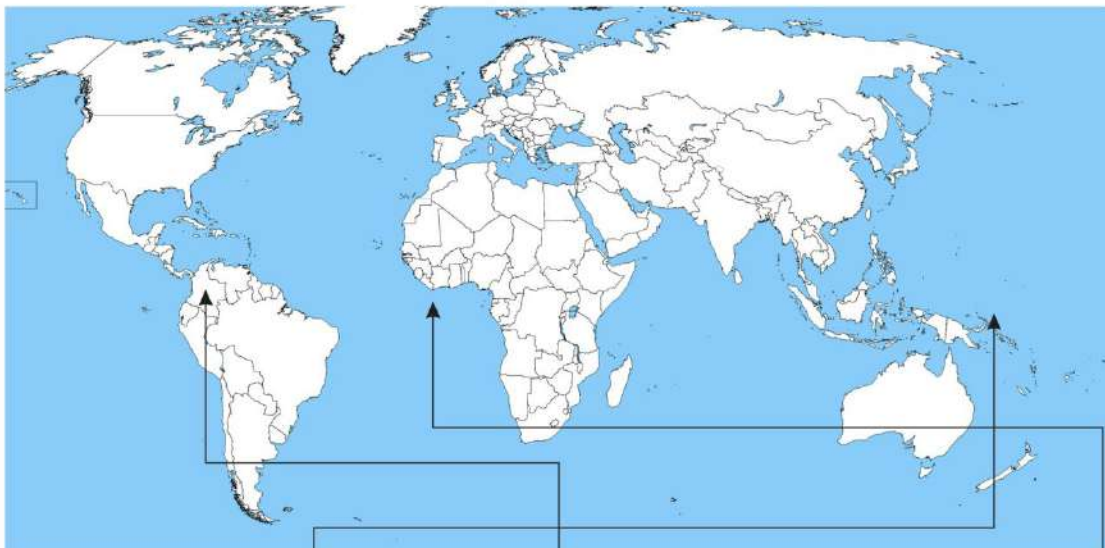
**Details**

- Maldives president-elect says he's committed to removing the Indian military from the archipelago.
- Maldives lies southwest of Sri Lanka and India.
- The Maldives' chain of 26 atolls stretches across the equator from Ihavandhippolhu Atoll in the north to Addu Atoll in the south.
- The Maldivian Archipelago is located on the Chagos–Laccadive Ridge.

**The Rafah crossing between the Gaza Strip and Egypt**  
Egypt, the Gaza Strip and Israel have been under a blockade since 2007, with the exception of humanitarian aid. The Rafah crossing between Egypt and Gaza is the only access to an external world for the Gaza Strip and is the only crossing point.



## 10.2 IN WORLD



### MARSHALL ISLANDS

#### Details

- US negotiator signed a new deal with strategic Marshall Islands.
- The Marshall Islands is an island country in the Micronesia region in the Northwestern Pacific Ocean.
- The territory consists of 29 coral atolls and five islands, divided across two island chains: Ratak in the east and Ralik in the west.
- The country shares maritime boundaries with Wake Island to the north, Kiribati to the southeast, Nauru to the south, and the Federated States of Micronesia to the west. The capital and largest city is Majuro.
- Tropical; hot and humid with a Koeppen-Geiger classification of Af.
- Climate change is a serious threat to the Marshall Islands, with typhoons becoming stronger and sea levels rising.



### AMAZON RIVER

#### Details

- The Amazon River fell to its lowest level in over a century.
- The Amazon River in South America is the largest river by discharge volume of water in the world.
- After the Nile, it is the world's second-longest river.
- The Amazon River has its source high in the Peruvian Andes.
- The Amazon River begins as a small tributary called the Carhuasanta.
- Its watershed borders Brazil, Peru, Ecuador, Colombia, Venezuela, and Bolivia.
- The Amazon empties into the Atlantic Ocean at the coast of Brazil.



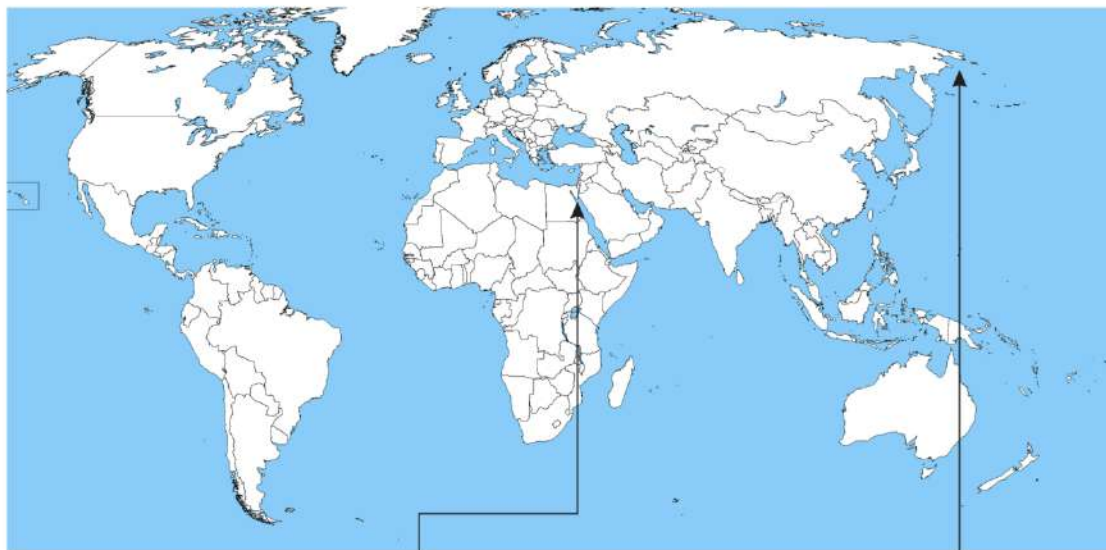
### GULF OF GUINEA

#### Details

- Indian Naval Ship INS Sumedha recently made a port visit at Lagos, Nigeria as part of its deployment to the Gulf of Guinea (GoG).
- It is the most northeastern part of the tropical Atlantic Ocean, located off the western coast of Africa.
- It is located at 0°0'N and 0°0'E, at the intersection of the Prime Meridian and the Equator.
- It has a relatively narrow continental shelf.
- Among the many rivers that drain into the Gulf of Guinea are the Niger and the Volta.
- Angola, Benin, Cameroon, Cote d'Ivoire, Democratic Republic of Congo, Republic of Congo, Guinea, Equatorial Guinea, Guinea-Bissau, Gabon, Nigeria, Ghana, So Tomé and Príncipe, Togo, and Sierra Leone are the 16 coastal countries around the Gulf of Guinea.
- The Gulf of Guinea region accounts for more than 35% of the world's total petroleum reserves.
- The coastline on the gulf includes the Bight of Benin and the Bight of Bonny.



## 10.2 IN WORLD



### SINAI PENINSULA

#### Details

- Hundreds of tonnes of aid from several countries have been waiting in Egypt's Sinai Peninsula.
- The Sinai Peninsula is in Egypt.
- It is between the Mediterranean Sea to the north and the Red Sea to the south.
- It is a land bridge between Asia and Africa.
- Sinai is triangular in shape, with its northern shore lying on the southern Mediterranean Sea, and its southwest and southeast shores on the Gulf of Suez and the Gulf of Aqaba of the Red Sea.
- The peninsula's eastern shore separates the Arabian plate from the African plate.
- The southernmost tip is the Ras Muhammad National Park.



### BERING SEA

#### Details

- A new study has linked the decline in sea ice moving from the Arctic to the Bering Sea, to the increased occurrence of fires during boreal spring.
- The Bering Sea is a marginal sea of the Northern Pacific Ocean.
- It forms, along with the Bering Strait, the divide between the two largest landmasses on Earth: Eurasia and the Americas.
- The Bering Sea is separated from the Gulf of Alaska by the Alaska Peninsula.
- Bering Sea is bordered by the US state of Alaska to the east and northeast, the Kamchatka Peninsula and the Far Eastern region of Russia in the west, and the chain of the Aleutian Islands in the south. It is connected with the Chukchi Sea of the Arctic Ocean via the Bering Strait in the north.
- The two rivers which drain into the sea are the Anadyr and the Yukon Rivers.
- Zhemchug Canyon in the Bering Sea is the world's largest and deepest submarine canyon.



## 10.2 IN WORLD

**Q1. Which one of the following pairs is correctly matched?**

A) Kalakkad Mundanthurai Tiger Reserve	Bihar
B) Dachigam National Park	Tamil Nadu
C) Kaimur Wildlife Sanctuary	Western Himalayas
D) Kongthong	East Khasi Hills

**Choose the correct code.**

1. A
2. B
3. C
4. D

**Q2. Consider the following statements.**

1. Nagorno-Karabakh is a landlocked area in the South Caucasus.
2. South Lhonak Lake is a glacial-moraine-dammed lake, located in Manipur.
3. Chungthang dam was an integral part of Teesta Stage III Hydro Electric Project.
4. The Maldivian Archipelago is located on the Chagos-Laccadive Ridge.

**How many of the above-mentioned statements are incorrect?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**Q3. Rafah Crossing connects which of the following?**

1. Gaza-Egypt Border
2. Gaza-Israel Border

3. Armenia and Azerbaijan
4. Egypt and Sinai Peninsula

**Choose the correct code.**

1. A
2. B
3. C
4. D

**Q4. Consider the following statements with reference to Sinai Peninsula.**

1. It is between the Mediterranean Sea to the north and the Red Sea to the south.
2. It is a land bridge between Asia and Africa.
3. The peninsula's eastern shore separates the Arabian plate from the African plate.
4. The southernmost tip is the Ras Muhammad National Park.

**How many of the above-mentioned statements are correct?**

- A) Only one
- B) Only two
- C) Only three
- D) All

**Q5. Match the following:**

City	River Bank
a. Karimnagar	i. Musi
b. Hyderabad	ii. Maner
c. Jabalpur	iii. Chambal
d. Gwalior	iv. Narmada

1. a - ii, b - iii, c - iv, d - i
2. a - iii, b - ii, c - i, d - iv
3. a - ii, b - i, c - iv, d - iii
4. a - iv, b - iii, c - ii, d - i

**ANSWERS:** 1) 4, 2) A, 3) 1, 4) D, 5) 3