UPSC CURRENT AFFAIRS

January 2024

- Bharatiya Nyaya Sanhita, 2023
- India-Russia Relation
- IMF on Public Debt
- Ram Mandir
- Test Tube Rhino
- Bharat Ratna

KHAN GLOBAL STUDIES
Most Trusted Learning Platform

TABLE OF CONTENT

1. POLITY AND GOVERNANCE

1.1. THE BHARATIYA NYAYA SANHITA, 2023

Context

The President has given assent to the Bharatiya Nyaya Sanhita, 2023 which replaced the Indian Penal Code of 1860.

NEED

- This new legislation attempts to remove colonial imprints and aims at the Indianization of the justice system.
- It also attempts to incorporate several Supreme Court judgments by omitting provisions like **Section 377** (relating to Homosexuality), and **Section 497** (relating to Adultery) which had earlier been decriminalized by the Supreme Court.
- It seeks to overhaul the criminal justice system by focusing on delivering speedy justice rather than handing down punishment.

KEY PROVISIONS

- While the Bharatiya Nyaya Sanhita (BNS), 2023 retains most

Indian Penal Code (IPC), 1860

TO BE REPLACED BY

Bharatiya Nyaya Sanhita, 2023

- It will have 356 sections (instead of 511 sections in IPC)
- 175 sections have been amended
- 8 sections have been added, and 22 sections have been repealed

provisions from the IPC, it introduces several new offenses along with deleting some previous offenses.

New Offences	Deletions	Other Important Changes
Mob lynching It codifies offenses linked to mob lynching and hate crime murders and also extends the punishment from life imprisonment to death. It defines mob lynching as cases where a mob of five or more individuals commits murder based on factors such as race, caste, community, or personal belief.	**Unnatural sexual offences** Conforming to the judgment of SC in the Navtej Singh Johar case 2018, the BNS has repealed **Section 377** of the Indian Penal Code which criminalized homosexuality among other "unnatural" sexual activities.	**Fake news** The IPC under **Section 153B** had dealt with "imputations, assertions prejudicial to national integration" commonly referred to as "hate speech". The BNS under **Section 197** retains this provision along with introducing a new provision here that criminalizes publishing false and misleading information.
Organized crime For the first time, organized crime has been brought under the realm of ordinary criminal law **(Section 111).** Earlier it was present in state-specific laws like **MCOCA 1999,** and similar laws enacted by Karnataka, Gujarat, Uttar Pradesh, Haryana, and Rajasthan.	**Adultery** The BNS has omitted the offense of adultery, which was struck down by the Supreme Court as unconstitutional in the **Joseph Shine case of 2018.**	**Gender neutrality** While rape laws continue to operate only for women, the BNS has tweaked some other provisions to bring gender neutrality. Eg- the offense of outraging the **modesty of women (IPC-354A)** and **voyeurism (IPC-354C)** now have gender neutrality for the accused under the BNS, which means that women can also be booked under the law.
Promise to marry The BNS introduces **Section 69** which criminalizes the promise to marry through "deceitful means". The "deceitful means" include the false promise of employment or promotion, inducement, or marring after suppressing identity.	**Sedition** Under the BNS, Sedition is no longer an offense. However, under **Section 152,** there is a new offense for acts endangering the sovereignty, unity, and integrity of India. Thus, it essentially changes the character from 'rajdroh' to 'deshdroh'.	**Community Service as a form of punishment** The BNS adds community service as a form of punishment for the first time for petty offenses like theft of property worth less than ₹ 5000, attempt to commit suicide with the intent to restrain a public servant, and appearing in a public place intoxicated and annoying.

Attempt to suicide	Thugs	Unauthorised publication of court proceedings
To tackle the rising cases of self-immolations and hunger strikes during protests, the BNS introduced a new provision that criminalizes attempts to suicide with the intent to compel or restrain any public servant from discharging his official duty.	Section 310 of the IPC criminalizes persons habitually associated with committing robbery or child stealing and labels them as thugs. The BNS has fully omitted this provision.	The newly inserted Section 73 prohibits printing or publishing 'any matter' concerning court proceedings in rape or sexual assault cases without permission. However, reports on SC/HC judgments would not amount to an offense within this provision.
Terrorism Section 113 of the BNS brings terrorism under the ambit of ordinary criminal law by importing its definition from the stringent Unlawful Activities Prevention Act (UAPA)		

CONCERNS / ISSUES WITH THE NEW LEGISLATION

Aspects of Sedition retained

- The BNS under **Section 152** retains certain aspects of the offense of sedition by broadening the range of acts that could be seen as endangering the sovereignty, unity, and integrity of India.
- Also, terms like 'subversive activities' are not defined, and it is unclear what activities will meet this qualification.

Total omission of Section 377

- The total omission of **Section 377** has raised concerns since the provision is still helpful to tackle non-consensual sexual acts, rape of men, and bestiality.
- The Supreme Court in 2018 had read down the provision as unconstitutional only to the extent that it criminalized consensual homosexual relationships.

Absence of gender neutrality in rape

- The BNS while retaining the provisions of the IPC on rape and sexual harassment fails to incorporate recommendations of the **Justice Verma Committee (2013)** such as making the offense of rape gender-neutral and including marital rape as an offense.

Differences in-laws

- The BNS has added provisions on terrorism similar to the one in UAPA. However, the offense involving terror financing is broader in the BNS than in UAPA.
- Also, it is unclear how both the UAPA and the BNS will operate concurrently, especially when procedurally the UAPA is more stringent and the cases are heard in special courts.

The scope of Community Service is unclear

- The BNS, while providing community service as a form of punishment for the first time, does not define what community service will entail and how it will be administered.

- The **Standing Committee on Home Affairs (2023)** had recommended defining the term and nature of 'community service'.

Lack of wider consultation and legislative scrutiny

- The Bill to replace over 150 years-old criminal law was passed in the parliament when 146 members were suspended. Also, the MPs were given only 48 hours to study the bill.
- Several opposition MPs and political scientists have flagged the lack of diversity in the experts consulted by the standing committee, and the haste with which the new laws were passed.

Lack of transformational change

- Several experts have highlighted that the new law is 'largely a copy-paste' of the existing law with just reordering of the sections and thus lacks any path-breaking change.

WAY FORWARD

- **Proper Implementation**- The focus must be on improving the proper implementation of the law as despite having multiple laws and rules, the lengthy judicial process and low conviction rate remain the key issues with the Indian criminal justice system.
- **Wider Consultation**- Active participation and consultation with various stakeholders including legal experts, law enforcement agencies, NGOs, and affected communities needs to be done to ensure inclusivity and diverse perspectives.
- **Focus on Rehabilitation**- The emphasis of the new law must be on ensuring 'rehabilitative justice' by reformation and reintegration of offenders into society.
- **Inclusion of Sexual Minority**- The legal reform fails to address concerns of the LGBTQ+ community despite nudging from the Supreme Court.
  - ✓ **Eg- Section 63** of the BNS still defines rape as sexual

assault by a man against a woman and continues to preserve gender stereotypes. This definition fails to recognize sexual assault by a man against another man or by a woman against another woman.

- **Public awareness and education**- Conduct public awareness campaigns and educational programs to inform citizens about their rights and responsibilities within the criminal justice system.

1.2. THE BHARATIYA NAGARIK SURAKSHA SANHITA, 2023

Context

The President has given assent to the Bharatiya Nagarik Suraksha Sanhita, 2023 which replaced the Criminal Procedure Code (CrPC) 1973.

KEY FEATURES

- The Bharatiya Nagarik Suraksha Sanhita (BNSS) 2023, which replaces the CrPC, is aimed at ensuring speedy delivery of justice and a high conviction rate.
- While the BNSS, 2023 retains most provisions of the CrPC, it introduces several key changes.

SOME KEY NEW ADDITIONS BY BNSS

Forensic Investigation

- The BNSS makes forensic evidence collection by an expert mandatory in all crimes punishable with seven years of imprisonment or more.
- It also provides that if a state does not have a forensics

Code of Criminal Procedure (CrPC), 1973

TO BE REPLACED BY

Bharatiya Nagarik Suraksha Sanhita, 2023

- It will have 533 sections (instead of 478 sections in CrPC)
- 160 sections have been changed
- 9 sections have been added, and 9 sections have been repealed

facility, it shall utilize such facility in another state.

Some Key Provisions	As existed under CrPC	Changes introduced by BNSS
Detention of Undertrial	Except in offenses punishable by death, if an accused has spent half of the maximum period of sentence in detention, he must be granted bail on personal bond.	It retains this provision and adds that first-time offenders can get bail after serving one-third of the maximum sentence. However, this will not apply to – (i) offences punishable by life imprisonment, and (ii) persons against whom proceedings are pending in more than one offence.
Medical Examination	It allows medical examination of the accused in certain cases by a registered medical practitioner at the request of at least a sub-inspector-level police officer.	The BNSS provides that any police officer can request such an examination.
Signatures and finger impressions	CrPC empowers a Magistrate to order any person to provide specimen signatures or handwriting.	The BNSS expands this to include fingerprints and voice samples.
Hierarchy of Courts	The CrPC establishes a hierarchy of courts for the adjudication of criminal matters in India. It also empowers the state governments to notify areas with a population of more than 10 lakhs as metropolitan areas. Such areas have Metropolitan Magistrates.	The BNSS removes the classification of metropolitan areas and Metropolitan Magistrates.
Attachment of Property	The CrPC provides police with the power to seize property when it is (i) alleged or suspected to have been stolen, or (ii) found under circumstances creating suspicion of the commission of any offense. However, this applies only to movable properties.	The BNSS extends this to immovable properties as well.

Use of Electronic mode

- The BNSS offers a transformative approach to reporting crimes through e-FIR, that would help in prompt reporting of sensitive crimes.
- It provides that all trials, inquiries, and proceedings may be held in electronic mode. It also provides for the production of electronic communication devices that are likely to contain digital evidence, for investigation, inquiry, or trial.

Trial in Absentia

- The BNSS introduces a trial in absentia for the first time.
- If a proclaimed offender has absconded to evade trial and there is no immediate prospect of arresting him, then the trial can be conducted and judgment can be pronounced in his absence.

Timebound Procedures

- The BNSS prescribes a time limit for various procedures. Some of them are –
- Mandatory registration of FIR within 3 days after receiving a complaint, and in cases with 7 to 14 years of imprisonment, the preliminary inquiry will have to be done within 14 days.
- The medical report of rape victims has to be submitted to court within seven days.
- Framing of charges within 60 days from the first hearing, filing of chargesheets within 90 days, and promulgation of judgment within 30 days (extendable up to 45 days) after the conclusion of the trial.

Zero FIR

- The BNSS permits the filing of a zero FIR from any part of the country i.e. when a police station receives a complaint for an alleged offence committed in the jurisdiction of another police station, it registers an FIR and then transfers it to the relevant police station for further investigation.

About CrPC
- It governs the procedural aspects of criminal justice in India. It was established for the administration of the IPC, 1860 and governs the procedure for investigation, arrest, prosecution, and bail for offences.   - It was first passed in 1861 and has been revised multiple times since then.   - However, in 1973, the erstwhile act was repealed and replaced by the existing CrPC, and changes like anticipatory bail were introduced.   - It was further amended in 2005 to add provisions for plea bargaining and the rights of arrested persons.   - It classifies offences into categories of cognisable and non-cognisable.   **Cognisable offences** are those in which the police can arrest and initiate an investigation without a warrant.   **Non-cognisable** offences require a warrant, and in some cases, a complaint by the victim or a third party.

KEY ISSUES WITH THE NEW LEGISLATION

Police Custody

- The BNSS allows up to 15 days of police custody which can be authorized in whole or in parts at any time during the initial 40 or 60 days out of the 60 or 90 days period. Thus, it may lead to the denial of bail for the entire period if the police have not exhausted the 15 days of custody.
  - ✓ In the **Central Bureau of Investigation v. Anupam J. Kulkarni case (1992),** the Supreme Court had limited the police custody to the first 15 days of arrest and any further remand can only be in judicial custody.

Power to use handcuffs

- The BNSS provides for the use of handcuffs during the arrest of a repeat offender who has escaped custody, or a person who has committed offenses such as rape, acid attack, organized crime, etc.
- This provision contravenes the guidelines of the NHRC and judgments of the Supreme Court which has held the use of handcuffs is inhumane, unreasonable, arbitrary, and repugnant to **Article 21.**

Denial of Bail

- The CrPC provides for bail to an accused who has spent half of the maximum period of sentence in detention. However, the BNSS denies this facility to anyone facing multiple charges.
- As many cases involve charges under multiple sections, this may make many undertrial prisoners ineligible for mandatory bail.
- This will further lead to the congestion of prisons. As of December 2021, the prisons in India had an overall occupancy rate of 130% (the undertrials constituted 77% of the total prisoners in India).

Power to attach property

- The power to attach property from proceeds of crime under BNSS does not have safeguards provided in the Prevention of Money Laundering Act.

Reforms in sentencing guidelines

- The recommendations of high-level committees on changes to the CrPC such as reforms in sentencing guidelines and codifying rights of the accused have not been incorporated in the BNSS.

WAY FORWARD

- While the BNSS provides for mandatory forensic investigation for offences punishable with more than seven years of imprisonment, most of the States have limited forensic infrastructure at field level. Thus, there is a need

for the State governments to provide sufficient resources for the development of forensic infrastructure.

- Most of the police stations in several states are generally under-staffed, have poor mobility, insufficient training infrastructure and poor housing facilities. These issues need to be tackled to ensure proper functioning of police machinery.
- Presently, the Indian Penal Code in most cases prescribes only the maximum punishment (minimum in some cases). Thus, there is no uniformity in sentencing as each Judge exercises discretion according to own judgement. Hence,

there is a need to bring in the law regarding Sentencing guidelines like in the UK and the US to minimize uncertainty in awarding sentences.
  - ✓ The **Malimath Committee (2003)** had called for such a law on the lines of **Criminal Courts Sentencing Act of 2000** of the UK.
- There is a need for police reform to be taken up in its entirety and not just by tweaking some provisions of the applicable laws in order to ensure the Indianization of the criminal justice system in true sense.

1.3. THE BHARATIYA SAKSHYA ADHINIYAM, 2023

Context

The President has given assent to the Bharatiya Sakshya Adhiniyam, 2023 which replaced the Indian Evidence Act of 1872.

KEY FEATURES

- The Bharatiya Sakshya Adhiniyam (BSA) 2023, which replaces the Indian Evidence Act (IEA), retains most provisions of the IEA including those on confessions, relevancy of facts, and burden of proof.
- Some of the important retentions are –
- **Admissible evidence: The** parties involved in a legal proceeding can only present admissible evidence.
  - ✓ Admissible evidence can be classified as either 'facts in issue' or 'relevant facts'.
  - ✓ **The IEA provides for two kinds of evidence – documentary and oral evidence.**
  - ✓ Documentary evidence includes **primary** (original document and its parts) and **secondary** (documents and oral accounts that prove the contents of the original) evidence.
- **Police confessions:** Any confession made to a police officer, including in police custody, is inadmissible unless recorded by a Magistrate.
  - ✓ **However, a confession can be admitted if it** distinctly relates to a fact discovered as a result of that confession.
- **A proved fact:** A fact is considered proven when the Court believes it to either exist or likely to exist based on the evidence presented.
- While the BSA 2023 retains most provisions of the IEA, it also introduces several changes. Some of the important changes include –

KEY ISSUES WITH THE NEW LEGISLATION

Lack of safeguards in case of electronic records

- The Supreme Court in 2014 recognized that electronic records are susceptible to tampering and alteration. It stated that without adequate safeguards, it may lead to a travesty of justice if the whole trial is based on proof of electronic records.

Indian Evidence Act, 1872

TO BE REPLACED BY

Bharatiya Sakshya Adhiniyam, 2023

- It will have 170 sections (instead of 167 sections in IEA)
- 23 sections have been changed
- 1 section has been added, and 5 sections have been repealed

About IEA, 1872

- It governs the admissibility of evidence in Indian Courts. It applies to all civil and criminal proceedings.
- Over the years, it has been amended to align with certain criminal reforms and technological advancements.
- In 2000, the IEA was amended to include the admissibility of electronic records as secondary evidence.
- After the gruesome Nirbhaya gangrape case, it was amended in 2013 to add provisions related to consent in rape cases. It shifted the onus on the accused to prove that consent was given, and also added that the character of the victim and her sexual history will not be relevant when determining consent.

- The BSA allows for the admissibility of electronic records as primary evidence. However, no safeguards have been provided to prevent the tampering and contamination of such records during the search and seizure or investigation process.

Ambiguity in the admissibility of electronic records

- Under IEA, all electronic records must be authenticated by a certificate to be admissible as documents. The BSA retains these provisions for admissibility.

Some Key Provisions	As existed under IEA	Changes introduced by BSA
Documentary Evidence	Under the IEA, a document includes writings, maps, and caricatures. It further classifies Documentary evidence as Primary and Secondary evidence.	The BSA retains this classification and adds that electronic records will also be considered as documents.
Oral Evidence	Under the IEA, oral evidence includes statements made before Courts by witnesses about a fact under inquiry.	The BSA retains this provision and further allows oral evidence to be given electronically. Thus, this will allow witnesses, accused persons, and victims to testify through electronic means.
Admissibility of electronic records as evidence	Under the IEA, electronic records are categorized as secondary evidence.	The BSA classifies electronic records as primary evidence. It also provides that electronic records will have the same legal effect as paper records. It further expands electronic records to include information stored in semiconductor memory or any communication devices (smartphones, laptops).
Expansion of Secondary Evidence		The BSA expands the secondary evidence to include – (i) oral and written admissions, and (ii) the testimony of a person who has examined the document and is skilled in examining the documents.
Joint Trials Refers to the trial of more than one person for the same offence	The IEA provides that in a joint trial, if a confession made by one of the accused, which also affects the other accused, is proven then it will be treated as a confession against both.	The BSA further adds that a trial of multiple persons will be treated as a joint trial if an accused has absconded or has not responded to an arrest warrant.

- However, the BSA also classifies electronic evidence as documents (which may not need certification). Thus, this creates a contradiction regarding the admissibility of electronic records.

Lack of safeguards for Information obtained in police custody using coercion

- Under the IEA, **an information/confession can be admitted if it** distinctly relates to a fact discovered as a result of that information/confession. The BSA retains this provision.
  - ✓ However, the Supreme Court and various Law Commission reports have highlighted that facts may be discovered in police custody by coercion, without adequate safeguards.
- Further, the IEA allows such information to be admissible if it was obtained when the accused was in police custody, but not if he was outside. The BSA retains this provision.
  - ✓ However, the Law Commission (2003) recommended to remove this distinction.

Non-inclusion of Law Commission recommendations

- Several recommendations of the Law Commission have not been incorporated, including the presumption that the police officer caused the injuries if an accused was injured in police custody.

WAY FORWARD

- **Safeguards for electronic records** – The Standing Committee on Home Affairs (2023) recommended mandating that all electronic and digital records collected as evidence during investigation be securely handled and processed through the proper chain of custody.
  - ✓ In 2021, the Karnataka High Court introduced guidelines for minimum safeguards during the search and seizure of electronic records. These include –
    - ensuring that a qualified forensic examiner accompanies the search team,
    - prohibiting the Investigating Officer from using the seized electronic device during the search and seizure of electronic records, and
    - seizing any electronic storage device (such as pen drives or hard drives) and packing them in a Faraday bag. (Faraday bags block the transmission of electromagnetic signals, which can disrupt or destroy data stored in the device)
- **Recommendations of the Law Commission (2003)** – It recommended that facts discovered in police custody using threat, coercion, violence, or torture should not be provable.
  - ✓ It further suggested that the information relating to facts should be relevant whether the statement was given in or outside police custody.

1.4. POST OFFICE ACT, 2023

Context

The President of India has recently given his assent to the Post Office Bill, 2023, which is set to replace the long-standing Indian Post Office Act of 1898.

NEED

- The objective of the Bill is to "consolidate and amend the law related to Post Offices in India," acknowledging the evolution of the Post Office's role beyond traditional mail delivery, as emphasized in the Indian Post Office Act of 1898.
- The contemporary Post Office network has expanded its scope to provide various citizen-centric services, prompting the need for a new legislative framework, as outlined in the Bill.

Key Features	Indian Post Office Act, 1898	Post Office Act, 2023
Exclusive Privileges	Grants exclusive privileges to the central government for establishing posts and conveying letters by post. Incidental services are also specified.	Does not provide for exclusive privileges of the central government. India Post retains the exclusive privilege of issuing postage stamps.
Prescription of Services	Specifies services, including delivery of postal articles and money orders, to be provided by India Post.	Empower India Post to provide services as prescribed by the central government.
Director General's Powers	The Director General of Postal Services has powers to decide the time and manner of delivery of postal services.	The Director General may make regulations regarding any activity necessary for providing postal services, charges, and supply and sale of postage stamps and postal stationery.
Powers to Intercept Postal Articles	Allows interception on grounds of public emergency, public safety, or tranquillity. Officers authorized by central or state governments can carry out interceptions.	Specifies grounds for interception as security of the state, friendly relations, public order, emergency, public safety, or contravention of the Bill or other laws. Empowers an officer authorized by the central government for interception.
Examination of Postal Articles	Officers in charge may examine articles suspected of containing prohibited goods or items liable for duty.	Removes the power of examination. Empower the central government to authorize an officer to deliver the article to customs or another specified authority for handling.
Exemptions from Liability	Exempts the government from liability unless expressly undertaken. Officers are exempt unless acting fraudulently or willfully.	Retains exemptions and allows the central government to prescribe liability for India Post's services under the Rules.
Removal of Offences and Penalties	Specifies various offenses and penalties, which were removed by the Jan Vishwas (Amendment of Provisions) Act, 2023.	Does not provide for specific offenses or penalties except for the recovery of amounts not paid by users as arrears of land revenue.
Regulation of Private Courier Services:	No such provision	The 2023 Act, for the first time, regulates private courier services by bringing it under its scope.

CONCERNS

Lack of Procedural Safeguards

- The Bill does not specify procedural safeguards for the interception of articles transmitted through India Post.
- The absence of clear guidelines may lead to unchecked interception practices, raising concerns about the misuse of powers.

Violation of Freedom of Speech, Expression, and Right to Privacy

- The lack of safeguards in the Bill raises concerns about potential violations of the freedom of speech and expression, as well as the right to privacy of individuals.
- Without proper safeguards, there is a risk that interception activities may infringe upon fundamental rights.

Broad Grounds for Interception

- The grounds for interception, including the term 'emergency,' are criticized for lacking specificity.
- Critics argue that the term 'emergency' may be interpreted broadly, potentially going beyond reasonable restrictions allowed by the Constitution.

Exemption of India Post from Liability

- The Bill exempts India Post from liability for lapses in postal services, which may include interception-related activities.
- The absence of liability may impact accountability and may not provide sufficient recourse for individuals affected by interception actions.

Absence of Specified Offenses and Penalties

- The Bill does not specify any offenses and penalties related to interception activities.
- The absence of clear consequences for unauthorized actions may create a legal vacuum, making it difficult to deter and address misconduct by authorized officers.

No Consequences for Unauthorized Opening of Postal Articles

- The Bill does not outline consequences for the unauthorized opening of postal articles by a postal officer.
- This lack of accountability may have adverse implications for the right to privacy of consumers, as it leaves room for potential abuse of authority.

GOVERNMENTS VIEW

- The government argues that interception provisions are crucial for national security in India's complex society. The government intends to create rules outlining the interception procedure, emphasizing a commitment to fairness and transparency in the process.

SUPREME COURT RULINGS ON PRIVACY AND SURVEILLANCE

People's Union for Civil Liberties (PUCL) v. Union of India (1996)

- **Context:** Challenge to the constitutionality of Section 5(2) of the Telegraph Act allowing telephonic interception without due process guarantees.
- **Ruling:** Acknowledged that telephone tapping infringes on the fundamental right to privacy. Imposed safeguards against arbitrary state surveillance powers.
- **Guidelines:** Issued extensive guidelines for interception orders, including authorization only by high-ranking officials, consideration of alternative means, and maintenance of detailed records.
- **Impact:** Set a precedent emphasizing the need for a just and fair procedure to regulate interception powers to protect citizens' rights under Articles 19(1)(a) and Article 21.

Justice KS Puttaswamy v. Union of India (2017)

- **Context:** Declaration of the right to privacy as a fundamental right.

- **Ruling:** Unanimously recognized the right to privacy as fundamental, imposing conditions for state measures infringing on this right.
- **Requirements:** Legal authority, legitimate goal, suitability, necessity, proportionality, and procedural safeguards.
- **Concerns Raised:** Recognized informational privacy and raised concerns about state possession and control over personal data, warning against the creation of a 'Big Brother' state.
- **Impact:** Established a robust framework for assessing the validity of state measures impacting privacy rights.

Appointment of Expert Committee on Pegasus Allegations (2021)

- **Context:** Allegations of the Centre using Pegasus to spy on citizens.
- **Ruling:** Appointed an expert technical committee to investigate the allegations, emphasizing that the state's power to invade private space is not absolute.
- **Observations:** Stressed that the fear of surveillance can lead to self-censorship, impacting the exercise of individual rights.
- **Critique of National Security Defense:** Criticized the government's reliance on national security concerns as a defense, stating that national security cannot be a blanket justification.
- **Impact:** Reinforced the judiciary's role in scrutinizing surveillance practices and highlighted the importance of balancing national security with individual privacy.

WAY FORWARD

Incorporate Robust Procedural Safeguards

- Introduce clear and comprehensive procedural safeguards for intercepting articles via India Post.
- Implement oversight mechanisms, require judicial warrants, and ensure adherence to constitutional principles.
- These measures are essential to protect individuals' freedom of speech, expression, and the right to privacy.

Define Grounds for Interception

- Clarify and refine the grounds for interception, particularly the term 'emergency.'
- Ensure alignment with reasonable restrictions specified in the Constitution to prevent potential misuse of interception powers.
- Establish clear limitations on the exercise of emergency powers, prioritizing the protection of individual rights.

Balanced Liability Framework

- Establish a balanced framework for the Post Office's accountability.
- Set clear rules for liability to address concerns about

potential misuse while preserving the independence and efficiency of the Post Office.

• Take measures to prevent conflicts of interest in the administration of liability rules.

Addressing Unauthorized Opening

• Reinstate specific offenses and penalties within the Bill

to address the unauthorized opening of postal articles by postal officers.

• Create a legal framework that holds individuals accountable for misconduct, fraud, theft, and other offenses related to interception activities.

• Strengthen the legislation to ensure the protection of the right to privacy for consumers and deter unauthorized actions.

1.5. THE TELECOMMUNICATIONS ACT, 2023

Context

The Telecommunications Bill, 2023 which was passed recently by the Parliament has received the President's assent.

OBJECTIVES

• The Act repeals the Indian Telegraph Act, of 1885, the Indian Wireless Telegraphy Act, of 1933, and the Telegraph Wires (Unlawful Possession) Act, of 1950.

• It also amends the Telecom Regulatory Authority of India (TRAI) Act, 1997.

• It aims to overhaul the country's century-old telecom law to make the sector investor-friendly.

• It attempts to create a legal and regulatory framework that

focuses on a safe and secure telecommunication network that provides for digitally inclusive growth.

• It aims to consolidate the law for wireless networks and Internet service providers and simplify the process of application for licenses and permits for telecom operators.

• It also marks a shift from a licensing regime to an authorization regime, where all telecommunication services in India need to obtain authorization from the Central Government.

KEY FEATURES

Authorization for telecom-related activities	Prior authorization will be required from the central government to establish and operate telecommunications networks, provide telecommunications services, or possess radio equipment Existing licenses will continue to be valid for their granted period or for five years, where the period is not specified
Assignment of spectrum	The government will assign spectrum through auction except for entities listed in the First Schedule for which assignment will be done by administrative process The government may re-purpose or re-assign any frequency range and may also permit sharing, trading, leasing, and surrender of spectrum
Powers of interception and search	Telecommunication may be intercepted, monitored, or blocked on specified grounds including the security of the state, public order, or prevention of incitement of offenses Telecom services may be suspended on similar grounds and the government may take temporary possession of any telecom infrastructure during public emergency or public safety
Right of Way	The Telecom Service Providers can exercise the right of way for laying telecom infrastructure in public as well as private property
Protection of users	The central government may provide measures to protect users such as requiring prior consent to receive specified messages, creating a Do Not Disturb register, and a mechanism to allow users to report malware or specified messages
Appointments to TRAI	The Act amends the TRAI Act to also allow individuals with at least 30 years of professional experience to serve as the chairperson, and at least 25 years of professional experience to serve as members
Bharat Digital Nidhi	The Act retains the Universal Service Obligation Fund established under the 1885 Act and renames it as Digital Bharat Nidhi
Offences and Penalties	It specifies various civil and criminal offenses for providing telecom services without authorization, gaining unauthorized access to a telecom network or data, or possessing unauthorized equipment
Adjudication Process	The Act provides for a fair adjudication mechanism with the appointment of an adjudication officer to conduct inquiries and pass orders against civil offenses. Appeals against the orders of the officer can be filed before the Designated Appeals Committee within 30 days. Further, appeals against the orders of the Committee may be filed with TDSAT within 30 days

MERITS OF THE ACT

- The Act brings uniformity across States in terms of 'right of way' rules and regulations, along with rates.
- Inclusion of satellite-based communication networks for allocation of spectrum will help spur growth in the nascent space sector, foster healthy competition, and ensure a level playing field for all stakeholders involved.
- It will also promote global cooperation and help drive innovation, create opportunities for start-ups, and strengthen the country's position in the global satellite market.

AREAS OF CONCERN

Lack of Safeguard for Interception of Communication

- The Act does not specify procedural safeguards but instead delegates to the Rules made by the Central government.
- There is also a lack of an independent oversight mechanism to review the orders of interception.

Violation of Right to Privacy

- Using the grounds provided in the Act, an order may be made to allow for mass surveillance thus infringing the fundamental right to privacy.
- The Supreme Court in the Puttaswamy Judgement (2017) had held that any infringement of the right to privacy should be proportionate to the need for such interference.
- The Act also provides that telecom service providers must verify the identity of their users through any verifiable biometric-based identification. This requirement may not be proportionate and may infringe upon the fundamental right to privacy.

Lack of Safeguards about the power of search and seizure

- The Act allows any officer authorized by the central government to search a premise or vehicle on specified grounds. Thus, it fails to specify any procedural safeguards against such actions.

Lack of Safeguards in case of Internet suspension

- The Act provides the Central Government with the authority to suspend the Internet on various grounds. However, it has failed to incorporate the procedural safeguards recommended by the Supreme Court as well as the Parliamentary Standing Committee on IT.

Concerns related to Offences and Penalties

- the Act allows the central government to add, modify, or delete offenses in the Third Schedule through a notification only, thus excluding the Parliament from any such role.
- The Act also provides for penalties for using SIM cards over the number notified, thus raising the question of whether there should be a legal limit on the number of SIM cards a person may use.

WAY FORWARD

Adoption of Global Best Practices

- India can adopt best practices similar to the UK and Australia. In both the UK and Australia, the approval of a Judicial Commissioner is required in case of interception.

Functional separation as a regulatory remedy

- The Act can incorporate the concept of functional separation as a regulatory remedy to address market concentration. Some common examples include Sweden, the UK, Australia, Ireland and Poland.

Transition to a wireline-led architecture

- For India to move to high-quality digital applications, it has to lend itself to multiple technology configurations and needs to transition from wireless to a wireline-led architecture as wireline-led architecture is far more capable of delivering 5G/6G speeds.

Emphasis on infra development

- The government through the Bharat Digital Nidhi needs to bring explicit targets for infrastructure buildout in rural and non-rural areas while creating a competitive space for investments by the private sector.

1.6. EQUAL ACCESS TO SCHEDULE CASTE (SC)

Context

The Union government has formed a **high-level committee** to evaluate and develop an **equitable distribution mechanism** for benefits and initiatives among the 1,200-**plus Scheduled Castes (SCs).**

BACKGROUND

- This decision was prompted by the Prime Minister's commitment to address the pressing demand for the **sub-categorization of Scheduled Castes (SCs),** a concern prominently raised by the Madiga community in Telangana.
- **Reasons for Sub-categorization:**

  ✓ **The Madiga community,** constituting **50% of Telangana's SC population (15% of the total),** feels marginalized by the dominant Mala community.
  ✓ Similar grievances exist in other states, with dominant SC communities allegedly monopolizing benefits meant for all SCs.

Article 341(1)
• After consulting with the state's Governor, the President may declare a group as Scheduled Castes.   • After that parliament may by law to include or exclude that group specified by the President in the list of schedule castes.

AIM OF THE COMMITTEE

• Its primary goal is to **explore alternative solutions to address the grievances** faced by similarly positioned SC communities across the nation.

CONCERNS ACROSS STATES

• Similar apprehensions have been articulated by SC communities in various states, where dominant factions within the SC category are accused of unjustly denying rightful benefits to others.

• Commissions established by both **State and Union governments** have endorsed these claims, leading states like **Punjab, Bihar, and Tamil Nadu** to venture into formulating state-level reservation laws for sub-categorization.

CHALLENGES AFFECTING EQUITABLE ACCESS TO SC

• **Dominance of Specific Communities**: Certain SC communities, considered **dominant in specific regions,** may disproportionately benefit from schemes, leaving others at a disadvantage.

• **Awareness Disparity:** Marginalized SC communities often **lack awareness of available schemes,** hindering their ability to access benefits due to limited resources and knowledge.

• **Geographical Barriers:** Remote **locations and inadequate infrastructure** can create obstacles, limiting the reach of information and services related to schemes.

• **One-Size-Fits-All Approach: Schemes designed without considering** the unique challenges of different SC communities may result in interventions that are not tailored to specific needs.

• **Inadequate Targeting:** Identification criteria may **not accurately identify the most vulnerable beneficiaries,** leading to the exclusion of deserving individuals and communities.

• **Corruption and Inefficiency:** Bureaucratic **hurdles, corruption, and a lack of transparency** within government agencies can impede the efficient delivery of benefits, exacerbating unequal access.

• **Caste Prejudice:** Existing societal biases against certain SC communities create barriers, perpetuating **discrimination and hindering access to scheme benefits.**

• **Fear of Reprisal:** Concerns about **social ostracization or violence** may discourage individuals from claiming their entitled benefits, further widening the gap in access.

• **Weak Monitoring Systems:** Inadequate mechanisms to monitor the **progress and impact of schemes** make it challenging to identify and address issues of unequal access promptly.

• **Lack of Accountability:** The absence of robust **accountability mechanisms for government agencies and officials responsible** for scheme implementation may contribute to failures in providing equitable access.

SCHEMES RELATED TO SCHEDULED CASTES (SCS)

• **Economic Empowerment Initiatives**
  ✓ **NSFDC (National Scheduled Castes Finance and Development Corporation):** Established to finance income-generating activities for Scheduled Caste beneficiaries with an annual family income of up to Rs. 3.00 lakh in rural and urban areas.
  ✓ **NSKFDC (National Safai Karamcharis Finance and Development Corporation):** Provides credit facilities for income-generating activities to beneficiaries among Safai Karamcharis, manual scavengers, and their dependents through State Channelizing Agencies.
  ✓ **Scheme of Assistance to SCDCs (Scheduled Castes Development Corporations):** Supports 27 State-level Corporations in identifying eligible SC families, motivating economic development schemes, and providing financial assistance, including margin money and subsidies.
  ✓ **Stand up India:** Promoting entrepreneurship among schedula caste.

• **Social Empowerment Legislation**
  ✓ **Protection of Civil Rights Act, 1955:** Enacted by Article 17 of the Indian Constitution, initially known as the Untouchability (Offences) Act, 1955, and later renamed in 1976. The Act, applicable across India, addresses the practice of untouchability and is enforced by State Governments and Union Territory Administrations.

• **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 (MS Act, 2013):** Aimed at eradicating dry latrines and manual scavenging.

Constitutional safeguards for the upliftment of the Scheduled Castes and Scheduled Tribes and Other Backward Classes

• **Abolition of Untouchability (Article 17):** Article 17 emphatically abolishes untouchability.

• **Promotion of Educational and Economic Interests (Article 46):** Article 46 mandates the State to promote the educational and economic interests of the weaker sections, with special emphasis on Scheduled Castes and Scheduled Tribes.

• **Special Provisions for Advancement (Article 15(4)):** Article 15(4) acknowledges the need for special provisions to advance the interests of Scheduled Castes, Scheduled Tribes, and other marginalized sections.

• **Reservation in Promotion (Article 16(4A)):** Article 16(4A) specifically addresses the reservation in matters of promotion

for SCs/STs, aiming to rectify underrepresentation in state services.

- **National Commission for SCs and STs (Article 338)**
- **Reservation in Legislative Bodies (Article 330 and Article 332).**
- **Reservation in Local Bodies (Part IX and IXA):** Part IX (Panchayats) and Part IXA (Municipalities)

WAY FORWARD

- The committee emphasizes the need for **heightened** awareness, proposing targeted campaigns, and strategic investments in infrastructure to overcome geographical barriers and enhance the reach of schemes.
- Moreover, they stress the importance of tailoring approaches by **customising schemes to address specific challenges faced by different SC communities**, refining targeting criteria for inclusivity, and ensuring transparency, accountability, and legal support to **foster inclusive access to benefits**.

1.7. SUPREME COURT LEGAL SERVICES COMMITTEE (SCLSC)

Context

Recently, Justice BR Gavai of the Supreme Court has been nominated as the Chairman of the Supreme Court Legal Services Committee (SCLSC).

ABOUT SUPREME COURT LEGAL SERVICES COMMITTEE (SCLSC)

- The SCLSC was constituted under Section 3A of the Legal Services Authorities Act, 1987 to provide "free and competent legal services" to the weaker sections of society, for cases falling under the Supreme Court's jurisdiction.
- Section 3A of the Legal Services Authority Act states that the Central Authority (the **National Legal Services Authority or NALSA)** shall constitute the committee.

COMPOSITION OF SCLSC

- It consists of a sitting SC judge as the chairman, along with other members possessing the experience and qualifications prescribed by the Centre.
- Both the chairman and other members are nominated by the CJI. Further, the CJI can also appoint the Secretary to the Committee.
- The Committee, in turn, can appoint officers and other employees as prescribed by the Centre, in consultation with the CJI.
- Under Section 27 of the 1987 Act, the Centre is empowered to make rules in consultation with the CJI, by notification, to carry out the provisions of the Act.

About Legal Services Authorities Act (1987)
• In 1987, the Legal Services Authorities Act was enacted to give a statutory base to legal aid programmes throughout the country on a uniform pattern.
• It aims to provide free and competent legal services to eligible groups, including women, children, SC/ST and EWS categories, industrial workers, disabled persons, and others.
• Under the Act, NALSA was constituted in 1995 to monitor and evaluate the implementation of legal aid programmes and to lay down policies for making legal services available under the Act.
• Also, a nationwide network has been envisaged under the Act for providing legal aid and assistance.
• Thus, in every state, a State Legal Services Authority and in every High Court, a High Court Legal Services Committee has been constituted.
• The District Legal Services Authority and Taluk Legal Services Committee have been constituted in the districts and most of the Taluks to give effect to the policies and directions of the NALSA and to conduct Lok Adalats in the State.

✓ Subsequently, NALSA Rules 1995 were framed which entails the numbers, experience, and qualifications of the SCLSC members.

1.8. PRERANA: AN EXPERIENTIAL LEARNING PROGRAM

Context

The Department of School Education and Literacy under the Union Ministry of Education, Government of India has launched 'Prerana: An Experiential Learning Program'.

OBJECTIVES OF THE PRERANA PROGRAM

- It aims to offer a **meaningful, unique, and inspiring experience to all participants,** thereby empowering them with leadership qualities.
- Prerana is driven by a **strong commitment to integrate principles of the Indian education system and the philosophy of value-based education** which is a cornerstone of the National Education Policy (NEP) 2020.

FEATURES OF THE PROGRAM

- Prerana is a **week-long residential program** for selected students **of class IX to XII.**
- It is an **experiential and inspirational learning program** for students with the best-in-class technology where heritage meets innovation.
- A batch of **20 selected students (10 boys and 10 girls)** will attend the program, every week from various parts of the country.

- The day-wise program schedule **will feature yoga, mindfulness, and meditation sessions,** followed by experiential learning, thematic sessions, and hands-on interesting learning activities.
- Evening activities will include **visits to ancient and heritage sites, inspirational film screenings,** mission life creative activities, talent shows, etc. ensuring a holistic learning approach.
- Apart from these, students will **engage in diverse activities, embracing indigenous knowledge** systems, the latest State-of-the-art technologies, and learning from inspirational personalities.

PROGRAM THEMES

- The curriculum of Prerana School prepared by IIT Gandhi Nagar is rooted in nine value-based themes:

  ✓ Swabhiman and Vinay
  ✓ Shaurya and Sahas
  ✓ Parishram and Samarpan
  ✓ Karuna and Sewa
  ✓ Vividhta and Ekta
  ✓ Satyanishtha and Shuchita
  ✓ Navachar and Jigyasa
  ✓ Shraddha aur Vishwas and
  ✓ Swatantrata and Kartavya.

REGISTRATION PROCESS

- Students can register through the portal, wherein applicants can fill in the requisite details to be a part of the ambitious and aspirational Prerana program.

1.9. PALNA SCHEME

Context

Recently, a National Level Programme on Anganwadi-Cum-Crèche under Palna was held in New Delhi to release the **Standard Operating Procedure (SOP) of the Palna scheme.**

PALNA SCHEME

- It aims to address the gap **that exists, particularly in urban areas,** where **support for childcare from family member is not available** and there is a **need for institutional support** to facilitate the contribution of women to the economy.
- **Two additional Crèche workers and helpers** will be deputed along with the existing Anganwadi workers and Anganwadi helpers under the Palna scheme.
- The scheme provides **support to women of low-income groups** who go to work at least 15 days a month, or six months a year.
- They can avail of crèche facilities available for **7.5 hours a**

Crèche
• A crèche is a facility which **enables parents to leave their children** while they are at work and where children are provided stimulating environment for their holistic development.
• Crèches are designed to provide **group care to children,** usually up to 6 years of age, who need care, guidance and supervision away from their home during the day.

day, 26 days a month.
- **The subsidised facilities** charge ₹20 a month per child for families below the poverty line, and between ₹100-200 for other families.

1.10. PRIVILEGES COMMITTEE

Context

Recently the Lok Sabha privileges committee adopted a resolution to revoke the suspension of three Congress MPs.

PRIVILEGES COMMITTEE

Composition
- The committee is composed of 15 members and 10 members, from Lok Sabha (House of the People) and Rajya Sabha (Council of States) respectively.
- The Chairperson of the committee is usually appointed by the Speaker in Lok Sabha and Chairman in Rajya Sabha.

Role and Functions

- The Committee of Privileges is responsible for examining questions of privilege and matters of contempt of the House.
- It investigates cases referred to it concerning the breach of parliamentary privileges.
- The committee also considers and reports on references of

breach of privilege of members.
- It may recommend the punishment of individuals found guilty of contempt or breach of privilege.

Investigative Powers

- The committee has the authority to summon witnesses and examine evidence during its investigations.
- It may also seek relevant documents related to the cases it is examining.

Reports and Recommendations

- The committee submits its reports to the Speaker in Loc Sabha and chairperson in Rajya Sabha.

Parliamentary Privilege

- Parliamentary privilege is a special right or immunity granted to the members of Parliament to enable them to perform their functions effectively. It is defined in **Article 105** of the Indian Constitution. It includes the following privileges.
- Freedom of speech and expression in the Parliament, is subject to some limitations and rules of procedure.
- Freedom from arrest in civil cases during the session of the Parliament and 40 days before and after the session.
- Freedom from being summoned as a witness or appearing as a legal practitioner before a court or authority while the Parliament is in session.
- Right to publish the reports, debates and proceedings of the Parliament and its committees, without being liable for any defamation.

- Right to exclude strangers from the galleries and hold secret sittings in certain cases.
- Right to regulate the internal affairs of the Parliament, such as the conduct of members, the maintenance of order and discipline, and the punishment for contempt or breach of privilege.
- These privileges are enjoyed by the Parliament collectively, as well as by the individual members individually. They are essential for maintaining the dignity, authority and independence of the Parliament and its members. However, they are also subject to judicial review and fundamental rights of the citizens. They are not meant to be misused or abused by the members for their personal or political interests.

2. INTERNATIONAL RELATIONS

2.1. INDIA-RUSSIA RELATION

Context

Recently India and Russia signed some very important **agreements** related to the construction of the **future power-generating** units of the **Kudankulam nuclear power plant.**

MORE ABOUT RECENT AGREEMENTS

- External Affairs Minister S Jaishankar had a **comprehensive and productive meeting** with Deputy Prime Minister Denis Manturov, **focusing on bilateral economic cooperation.**
- Notable progress was acknowledged in **trade, finance, connectivity, energy, civil aviation, and nuclear domains during the discussions.**
- Finalized a programme of cooperation for **the Russian Far East and planned connectivity events across land and maritime corridors.**
- Witnessed the signing of agreements in **nuclear power and areas related to medicines, pharmaceutical substances, and medical devices.**
- Agreed that negotiating teams will meet by January-end to commence in-person negotiations on a **free trade agreement between India and the Eurasian Economic Zone.**

AREA OF COOPERATION	
Sectors	**Context**
Historical ties and strategic alliance	• Founded before Indian independence, the relationship thrived **during the Cold War** with the Soviet Union. • Frequent high-level meetings, **including annual summits,** showcase the strong political partnership. • **Russia supports India's UNSC bid** and shows sensitivity towards **Kashmir; India abstained from resolutions critical of Russia on Ukraine.**
Economic and trade cooperation	• Mutual goal to boost **bilateral trade to $30 billion by 2025, with investments reaching $50 billion.** • Diversified trade focuses on **machinery, aerospace, chemicals, and precious metals.** • **Make in India initiative** and development of **Smart Cities** see Russian cooperation.
Defence partnership	• Russia remains India's **biggest defence supplier,** with deals like **S-400 missiles and Sukhoi aircraft.** • Joint programs like **BrahMos missiles and Su-30 MKI** showcase deep military collaboration. • Regular joint military exercises, **INDRA and AVIA-INDRA,** strengthen defence bonds.
Energy security partnership	• Nuclear energy is a key area, with **Russia building reactors** in India and collaborating on **Bangladesh projects.** • Recent MoUs on **LNG supplies and Arctic** exploration indicate a renewed focus on energy cooperation.
Science and technology cooperation	• Ongoing **collaboration** in space technology, education, and research. • Russia assisted with launching **India's first satellites and developing cryogenic engines.** • Arctic research and the **Gaganyaan astronaut mission** are examples of ongoing cooperation.
Cultural ties	• Strong historical and cultural connections, **dating back centuries.** • Indian **movies and yoga** enjoy immense popularity in Russia. • Programs like **"Namaste Russia"** promote people-to-people exchanges.

CHALLENGES

- **Rising costs, decreased defence orders, and supply delay** concerns pose hurdles.
- India's **diversification of defence imports** and US concerns add further complexity.
- Focus on **energy diplomacy,** joint projects in third countries, and utilizing "Make in India" can revitalize the relationship.
- **Cooperation in new areas** like cyber security, space, and climate change can ensure a strong future.

WAY FORWARD

- Russia remains a **crucial political, diplomatic, and military** partner.
- **Its veto power** in **UNSC offers valuable support against global hegemony** and India may use it to uphold multipolarity in global order and protect its interests**.**

Kudankulam Nuclear Power Plant (KNPP)

- **Biggest nuclear power station in India,** it is located 650km south of **Chennai,** in the Tirunelveli district of Tamil Nadu.
- It is being developed by the Nuclear Power Corporation of India (NPCIL).
- Two 1,000 megawatt (MW) pressurised water reactor (PWR) units based on Russian technology were constructed in phase one of the project.
- An additional four units are under construction in the second and third phases of the project.
- The construction of units **three and four** started in 2017, with the aim of making them operational by 2023.

- India-Russia relations lie in **strengthening economic ties beyond defence,** particularly in areas like **energy, technology, and trade.**

2.2. INDIA-UK RELATION

Context

Recent defence minister Rajnath Singh's visit might include a government-to-government agreement to obtain this electric propulsion technology for Indian warships from the United Kingdom.

AREA OF COOPREATION
- India and the UK have historical ties, during the India-Uk summit in 2021 both countries agreed to a new transformative and comprehensive strategic partnership to steer cooperation for the next 10 years as an ambiguous India -UK roadmap 2030.

Historical Relation	• **1600:** A newly formed East India Company was granted a charter by Queen Elizabeth to trade in India. • **1868–1947:** A period of British rule in India • **1950:** After becoming a republic, India decided to remain part of the commonwealth of the nation.
Political Relations	• **2004:** The multidimensional bilateral relationship of India with the United Kingdom was upgraded to a Strategic Partnership. Towards a contemporary and Dynamic Partnership," Both countries signed a Joint statement named **"India-UK".** (which calls for summits and regular meetings of Foreign Ministers annually) • **2010:** to 'Enhanced Partnership for the Future', the relationship of both countries was rehabilitated. The United Kingdom supports India's request for permanent membership in the United Nations Security Council (UNSC).
Economic and Commercial Relations	• Between April 2021 and March 2022, total trade in goods and services (exports plus imports) between the UK and India was USD 32.7 billion. • Total exports from India to the United Kingdom were USD 21.5 billion, while imports from the United Kingdom were USD 10.2 billion. • India has a trade surplus with the United Kingdom. • The United Kingdom is India's seventh-largest export destination. • India is also the UK's second-largest source of FDI.
Defence relations	• In **2015,** the Defence and International Security Partnership framework was introduced, pushing for more cyber, defence, and maritime collaboration and emphasizing the UK's support for "Make in India" projects. • **Around 70 defence-related companies** in the United Kingdom supply goods for aircraft/helicopter manufacturing/overhaul at HAL, including ejection seats, fuel tank kits, hydraulic pumps, engine spares, and so on, as well as support legacy platforms like the Jaguar, Mirage, and Kiran. • As part of its Indo-Pacific policy, the United Kingdom has stationed a Carrier Strike Group in the Indian Ocean.
Nuclear Cooperation	• **2010:** India -the UK has signed a Civil Nuclear Cooperation Declaration which will help promote and facilitate cooperation in the nuclear field including nuclear trade.
Culture	• **The Nehru Centre (TNC),** founded in 1992 in London, is the High Commission of India's cultural outreach. • The Centre hosts a variety of cultural events on its premises. • In 2010, India and the United Kingdom signed a Memorandum of Understanding on Cultural Cooperation. • The Queen of England hosted the official inauguration of the 2017 UK India Year of Culture at **Buckingham Palace.**
Environmental	• The strategy came before the April 2022 joint declaration on climate change, which was issued after COP26 in **Glasgow in November 2021.** The Glasgow Climate Pact was the result of COP26.
Education	• The Science and Technology Agreement was signed in 1996, which marked the start of education collaboration. The formation of the 'Science and Innovation Council' in **2006 provided S&T Cooperation.** • With approximately 120,000 Indian students registered in 2021-2022, India has one of the highest populations of overseas students in the UK.
Health collaboration	• A crucial component of the India-UK Strategic Partnership is the health sector. The successful collaboration on the COVID-19 vaccine between **Oxford University, AstraZeneca,** and the Serum Institute of India. • In November 2020 the **'Ayuryoga'** programme, During the Indian Prime Minister's visit to the UK began online modules to intensify awareness and practice of Ayurveda and Yoga in the UK.
India-UK Investment	• From April 2000 to September 2023, the UK invested $34,513.58 million in **foreign direct investment (FDI),** ranking it as the sixth-largest investor in India. • **As of 2022,** 618 UK-based businesses were operating in India, with a total revenue of over $45.6 billion and 466,640 direct employees.

OTHER DEVELOPMENTS BETWEEN INDIA AND THE UK

- **Access India Programme (AIP): It** was launched in September 2017 by the High Commission of India in London to encourage UK SMEs to invest in India. The main target is to establish manufacturing facilities as part of the "Make in India" campaign.
- **Green Bonds:** The London Stock Exchange has listed the $500 million green bond instruments that the Indian Railway Finance Corporation (IRFC) has raised through this offering.
- **Encouragement of the Start-up India initiative:** The UK will provide £160 million to 75 start-up businesses in addition to an extra £20 million for a Start-Up India Venture Capital Fund.
- **Smart City Development Plan Varanasi:** The United Kingdom will provide further technical support for the planned renovation of Varanasi railway station.

CHALLENGES

- **The Impact of Brexit on Diaspora-** Many members of the Indian Diaspora in the UK voted against Brexit because it is likely that Indian IT experts in the UK will face stiff competition once the UK opens its borders to more skilled migration.
- **Illegal Immigration:** There are around 1 lakh illegal Indian immigrants in the United Kingdom. Britain has begun to put pressure on the Indian government to ensure that Indians who have no right to remain in the UK are returned to India.
- **Terrorism:** India criticized the London tube explosion. Despite India's constant efforts over the past decades, India claims that bilateral relations extended beyond the economic realm to issues such as security and terrorism.
- **Chinese Influence:** Despite these common interests, the UK and India's opinions on China's involvement in the Indian Ocean have occasionally diverged. India is concerned about China's expanding influence in the region, notably its investments in ports under the Belt and Road Infrastructure Plan (BRI).

CONCLUSION

- India is one of the fastest-growing large economies in the world and an FTA with the UK has played a significant role in enhancing the trade volume of the country. it is time for this relationship of both countries. The United Kingdom could enhance its relationship with India in various sectors through joint exercises of the armed forces, security and defence cooperation, and working with India to attain reform at international Bodie for example in world trade organisations, united nation.

2.3. INDIA- SOUTH KOREA DEFENCE RELATION

Context

Recently, the visit of General Manoj Pande, **Chief of the Army Staff of India** to the **Republic of Korea (ROK),** signifies a **critical juncture in the trajectory** of **India-Korea defence relations.**

MORE ABOUT VISIT

- India-Korea Defense collaboration is pivotal for **international peace and stability.**
- The absence of a shared vision for a **comprehensive defence framework** persists despite recent high-level engagements.

India- South Korea Relationship

Regular high-level visits: E.g. 2+2 dialogue, Joint Commission Meetings: Coordinating India's 'Act East Policy' with South Korea's 'New Southern Policy', Strategic Partnership (Upgraded to 'special strategic partnership' in 2015 with defence cooperation

Over USD 27 bn (Target: USD 50 bn by 2030) India-South Korea Comprehensive Economic Partnership Agreement (CEPA) (2010) 'Korea Plus' initiative to promote Korean Investments in India (joint) ventures in electronics, automobiles, and shipbuilding)

Civil Nuclear Energy Cooperation (2011)

Joint military exercises - Defence equipment procurement South Korea's evolving strategic outlook and alignment with the U.S., Japan, and Australia make it a valuable partner for India in advancing its interests in the Indo-Pacific.

"SamgukYusa" text (13th CE) mentions a Princess from Ayodhya marrying a Korean Prince in 48 AD Cultural festivals showcasing Indian and Korean arts and heritage

Political Relations

Economic & Commercial

Energy

Defence & Security

Cultural Exchanges

- Need for a robust structure to **align policies and operate effectively** in constructing a sustainable regional order.
- The **imperative** for India and Korea is to transcend the confines of **bilateral cooperation** and embrace a **paradigm shift** that cultivates a more profound understanding of their roles in the swiftly evolving global scenario.

AREA OF COOPERATION

Historical Ties	• Diplomatic relations **since 1973**, upgraded to **"Special Strategic Partnership"** in 2015. • Historical link via **Queen Heo Hwang-ok** and shared Buddhist heritage. • India supported **Korean War efforts** through medical personnel and ceasefire resolution.
Economic Partnership	• Bilateral trade reached a record high **of $27.8 billion in 2022.** • India **exports mineral fuels, cereals, and iron/steel;** Korea exports **auto parts,** telecom equipment, and iron/steel. • **"Korea Plus"** initiative and **SME centre** promoting Korean investments in India.
Cultural Connections	• **Indian Cultural Centre & and India Centre** in Busan promote cultural exchange. • Annual **SARANG** festival showcases Indian art and music. • Statues of Indian figures like **Gandhi and Buddha** were installed in Korea. • Active Indian community of **students, professionals, and diaspora associations.**

INDIA-KOREA DEFENSE COOPERATION

- **India played a crucial role in the Korean War**
  - ✓ Led the **Neutral Nations Repatriation Commission.**
  - ✓ Deployed a **medical unit and Custodian Forces.**
  - ✓ Proposed the **Armistice Agreement adopted by the UN.**
- **Instituted forums for collaboration**
  - ✓ **Defense Policy Dialogue** (now part of **"2+2 Dialogue"**).
  - ✓ **Joint Committee Meeting** (defence industries & logistics).
  - ✓ **Steering Committee Meeting** (joint defence R&D).
- **Areas of Collaboration**
  - ✓ Defense equipment co-production (e.g**., K9 Vajra artillery),** technology transfer, and joint exercises.
  - ✓ Future-oriented cooperation in **shipbuilding, aviation, semiconductors, and electric vehicles.**
  - ✓ Multilateral partnerships like **QUAD and ASEAN-India Maritime Exercise** showcase shared strategic interests.
  - ✓ A Roadmap for **Defence Industries Cooperation** was signed between the two countries in September 2019
  - ✓ The **11th High-Level Meeting between the two Coast Guards** was held in April 2023 in New Delhi.
  - ✓ A delegation from the **National Defence College visited ROK** from 04-09 June 2023 on a study tour.

TECHNOLOGICAL COLLABORATIONS IN DEFENCE

- Leveraging **technological capabilities** for joint development of advanced defence systems.
- Shared understanding of **technology's pivotal role** in future conflicts opens limitless cooperation opportunities.
- Potential for a mutually beneficial **defence technology and industry** partnership propelling innovation and self-reliance.
- **Exploring collaboration** in space warfare, information warfare, and cybersecurity to ensure critical infrastructure security.

PEACEKEEPING, EXERCISES AND REGIONAL SECURITY

- Utilizing UN peacekeeping expertise for **collaborative efforts in enhancing** regional and global stability.
- Collaboration in maritime security, including **joint patrolling and information sharing** in the Indian Ocean.
- Joint exercises and sharing best practices in **Humanitarian Assistance and Disaster Relief (HADR).**
- Extending cooperation beyond **naval focus to strengthen** army capabilities and foster interoperability.
- Emphasizing the need for a **strategic, balanced approach and adaptability** to navigate geopolitical complexities for enduring defence collaboration.

Humanitarian Assistance and Disaster Relief (HADR)
It is to **exchange** information and share the best practices on risk reduction and resilience, integration of Armed Forces in a regional response and **disaster infrastructure** and for promoting global collaboration among **SCO** members.

CHALLENGES IN INDIA-KOREA DEFENSE RELATIONS

- **Resistance to Reassess India's Role**: The Korean government's reluctance to view India beyond just a buyer of defence products.
- **Shift from Cold War Mentality:** The lingering Cold War perception of India as aligned with the Soviet bloc impeding deeper partnership.
- **Paradigm Shift in Strategic Thinking:** Lack of a necessary shift in Korean strategic thinking for meaningful engagement with India.
- **Balancing Weapons Acquisition Focus:** Overemphasis by India on acquiring weapons and technology transfer from Korea, potentially neglecting broader strategic considerations.
- **Profit-Driven Approach:** Korean defence establishment's focus on profit from weapons sales to India, potentially overlooking strategic priorities in a dynamic geopolitical landscape.
- **Navigating Powerful Arms Lobbies:** Potential roadblocks arising from powerful arms lobbies in both countries, prioritizing short-term gains over long-term strategic goals.
- **Emerging Coalition Challenge:** The new coalition of **North Korea, China, and Russia** presents complex strategic challenges requiring a nuanced understanding of each party's aims.

WAY FORWARD

- To solidify and deepen India-Korea defence ties, proactive steps beyond high-level visits are needed.
- Hosting a **joint international summit on regional security,** involving partners like the **US and Japan,** could foster a

shared vision and robust framework.

- Additionally, participation in **multilateral organizations** like ASEAN Defense Ministers' Meeting Plus and the Indo-Pacific Maritime Security Initiative could enhance regional collaboration and address shared strategic challenges.

2.4. INDIA-NEPAL RELATION

Context

India and Nepal have affirmed their dedication to executing bilateral initiatives such as the Treaty of Transit, focused on enhancing smooth cross-border connectivity at the latest session of the India-Nepal Inter-Governmental Sub-Committee (IGSC) on Trade, Transit, and Cooperation to Combat Unauthorised Trade.

HISTORICAL BACKGROUND

- India and Nepal, as close neighbours, share a millennia-old bond of friendship and cooperation that is characterized by an **open border** and profound people-to-people connections rooted in kinship and culture.
- India and Nepal, share an ancient cultural history that predates modern political boundaries. **Lumbini, the birthplace of Buddha**, is located in present-day Nepal, further solidifying the cultural and spiritual ties between the two nations.
- India played a crucial role in the evolution of Nepal from a monarchy to a democratic Republic.

POLITICAL RELATIONS

- The foundation of the unique bond between India and Nepal lies in the India-Nepal Treaty of Peace and Friendship of 1950.
- India has had a significant role in the framing of the constitution of Nepal, as it was one of the major supporters of the peace process and the democratic transition in the Himalayan nation.

DEFENCE COOPERATION BETWEEN INDIA AND NEPAL

- India actively supports the modernization efforts of the Nepal Army by supplying equipment and providing essential training.
- Regular joint military exercises, including the 'Indo-Nepal Battalion-level Joint Military Exercise **SURYA KIRAN**,' contribute to enhancing the coordination and capabilities of the armed forces.
- Approximately 32,000 Gorkha Soldiers from Nepal are currently serving in the Indian Army.

ECONOMIC TIES

- **Trade:** India is Nepal's **largest trading partner**.
- **Investments:** India is the **largest source of investment** in Nepal, accounting for more than 32% of the total FDI stock of Nepal.
- **Diaspora:** The Nepali rupee is pegged to India's; landlocked

Nepal relies on Indian ports for trade, and **8 million Nepalis work in India.**

Source: Times of India
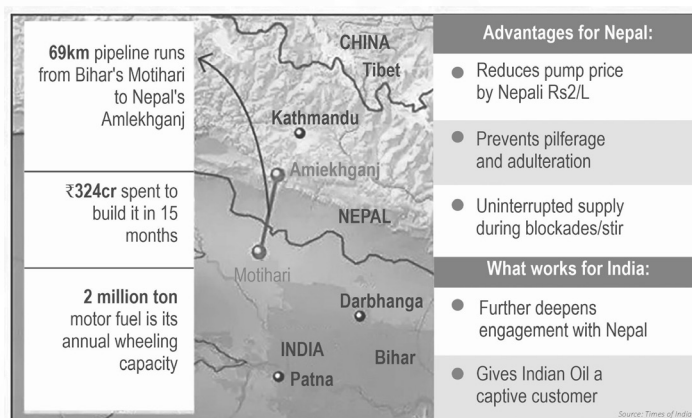
- **Connectivity:** India and Nepal have a **Treaty of Transit**, which confers transit rights through each other's territory through mutually agreed routes and modalities.
- **Development programme:** The **India-Nepal Rail Services Agreement** (RSA) 2004 governs the rail-freight transport between the two countries.
- **Tourism:** Both countries are home to numerous temples and pilgrimage sites.
- **Cooperation in Power sector**
- India and Nepal have had a **Power Exchange Agreement since 1971** for meeting the power requirements in the border areas of the two countries, taking advantage of each other's transmission infrastructure.
- Nepal currently exports over 450 MW of electricity to India.
- India has undertaken the construction of various hydroelectric projects in Nepal, such as **Pokhara** (1 MW), **Trisuli** (21 MW), **Western Gandak** (15 MW), and **Devighat** (14.1 MW), **Arun III** among others.

COOPERATION ON WATER RESOURCES

- A robust three-tier mechanism established in 2008 facilitates discussions on water-related issues.
- **The Koshi Agreement** (1954, revised 1966) and **Gandak**

Agreement (1959, revised 1964) mark significant India-Nepal cooperation in water resources.

- **The Mahakali Treaty** (1996) ensures equitable use of the Mahakali River's waters among others.

CULTURAL TIES

- B.P. Koirala India-Nepal Foundation established in 1991, promotes educational, cultural, scientific, and technical cooperation, fostering mutual understanding and knowledge exchange.
- Twinning of sister cities Kathmandu-Varanasi, Lumbini-Bodhgaya, and Janakpur-Ayodhya.

EDUCATION

- GoI provides around 3000 scholarships/seats annually to Nepalese nationals.

HUMANITARIAN ASSISTANCE

- In the wake of the earthquake that hit Nepal in 2015, India swiftly responded.
- India also became the first nation to provide COVID-19 vaccines to Nepal.

MUTUAL STRATEGIC SIGNIFICANCE

Strategic location

- Nepal's geographical location holds significance for India, contributing to its strategic interests. Nepal, positioned in India's 'Himalayan frontiers,' acts as a crucial **buffer state** (A peaceful country geographically located between two larger countries, that reduces the chances of war between them) alongside Bhutan.

Challenges in India-Nepal Relations

- **Unease with Peace and Friendship Treaty:** The 1950 Treaty of Peace and Friendship granted Nepali citizens rights in India, but some factions in Nepal view it as unequal and imposed by India.
- **Unresolved Territorial Disputes:** Ongoing disputes, particularly in areas like the Kalapani-Limpiyadhura-Lipulekh trijunction area in western Nepal and the Susta area in southern Nepal, persist along the India-Nepal boundary due to British colonial legacy.
- **Chinese Influence:** Nepal's shift towards China, marked by investments and aid, challenges India's influence. China's Belt and Road Initiative in Nepal raises concerns about its role as a buffer state.
- **Security Challenges:** The porous India-Nepal border poses security threats, allowing the smuggling of weapons,

ammunition, and fake currency, posing risks to India.

- **Trust Deficit:** The slow implementation of projects by India and perceived interference in Nepalese politics have strained trust. Some ethnic groups feel India undermines their political independence.

WAY FORWARD

Emphasizing Diplomacy over Rhetoric

- Prioritize quiet dialogue over territorial nationalism rhetoric for a mutually sensitive and feasible resolution.
- India, as a generous neighbour, must adhere to a neighbourhood-first policy.

Amicable Resolution of Water Disputes

- Advocate for bilateral diplomatic negotiations under international law for transboundary water disputes.
- Propose a resolution mechanism using the successful India-Bangladesh boundary dispute resolution as a model.

Proactive Engagement with Nepal

- Enhance engagement with Nepal through people-to-people interactions, bureaucratic collaboration, and political dialogue.
- Respect Nepal's internal affairs while guiding towards more inclusive rhetoric as a gesture of friendship.

Strengthening Economic Bonds

- Develop a power trade agreement that fosters trust between India and Nepal.
- Recognize the significance of hydropower in managing peak demand, saving investments and mitigating pollution compared to other energy sources.

2.5. INDIA-BHUTAN RELATION

Context

Foreign Secretary Vinay Kwatra visited Bhutan for a three-day visit after the appointment ceremony of Bhutan's new Prime Minister Tshering Tobgay.

KEY HIGHLIGHTS OF THE VISIT

- Talks in Bhutan covered bilateral ties, **the 'Mindfulness City' project, border discussions with China, and an invitation for PM Tobgay to visit India.**
- Bangladesh Foreign Minister Mahmud's February 7 visit will address connectivity, **rail projects, electric buses, border security, and Rohingya issues.**
- External Affairs Minister S. Jaishankar will attend the **Indian Ocean Conference** in Perth, Australia, where discussions with various regional leaders are anticipated.
- India and Pakistan exchanged assignment **visas for diplomats, diplomatic staff, and family members to serve at each other's High Commissions.**
- A **"high-level core group"** delegation from the Maldives is expected to visit Delhi in February to discuss issues, including the **demand for India to withdraw all military personnel from the archipelago by March 15.**

AREA OF COOPERATION

Historical

- Diplomatic relations between India and Bhutan began in 1968 with the appointment of a resident representative in Thimphu.
- Before 1968, relations were managed by the **Political Officer in Sikkim.**
- The cornerstone of India-Bhutan relations is the **treaty of friendship and cooperation signed in 1949,** further renewed in February 2007.

Political

- **In August 2019, PM Shri Narendra Modi's visit** to Bhutan marked the initiation of four significant bilateral projects.
  - ✓ It included the launch of the **720 MW Mangdechhu Hydroproject,** the establishment of **the Ground Earth Station of ISRO for utilizing the South Asian Satellite,** the introduction of **RuPay Card,** and the **extension of interconnection** between India's **National Knowledge Network and Bhutan's Research and Education Network.**
- The 4th **India-Bhutan Development Cooperation talks on January 2023** in Thimphu to oversee the progress of various projects.

Economical

- The India-Bhutan Agreement on Trade, Commerce, and Transit, **first signed in 1972** and revised **in 2016, establishes a free trade regime.**

Source: Edumasala

- Since 2014, India's merchandise trade with Bhutan has nearly tripled**, reaching USD 1422 million in 2021-22, accounting for about 80% of Bhutan's** overall trade.
- India constitutes **50% of Bhutan's total FDI, making it the leading source of investments** in the country.
- **Over 800 projects** are currently underway, **representing 73% of Bhutan's external grant** funding.

Defence

- A 2000-strong **Indian Military Training Team (IMTRAT)** is stationed in western Bhutan, providing continuous training support to the **Royal Bhutan Army**
- The Indian Air Force provides air **defence cover to Bhutan,** with **RBA pilots being trained** in India.

Hydropower Cooperation

- Bhutan generates significant **revenue from hydropower exports to India.**
- Four operational projects **supply 2136 MW of electricity to India.**

Educational

- Over **950 annual scholarships provided by the Government of India** for Bhutanese students in diverse fields like medicine and engineering.
- Around **4,000 Bhutanese students self-finance** their undergraduate studies in Indian universities.

Cultural and Buddhist links

- Bhutanese pilgrims frequently visit Buddhist sites in India, **including Bodh Gaya, Rajgir, Nalanda, Sikkim, and Udayagiri.**

Indian Diaspora

- Estimates suggest around **50,000 Indian citizens reside in Bhutan**, primarily concentrated in urban areas like Thimphu, Phuntsholing, and Gelephu.

Bhutan's Importance for India

- **Buffer State**: Bhutan serves as a **crucial buffer state between India and China,** safeguarding the "**Chicken Neck" corridor**. This strategic location provides defense against potential threats and enhances India's security.
- **Countering China's Influence:** Bhutan's close ties with India act as a **counterweight to China's expanding influence in the region**, contributing to regional stability.
- **Hydropower Projects**: Bhutan's hydropower projects contribute significantly to India's energy security. Ongoing and upcoming projects further solidify this economic partnership.
- **Shared Heritage:** Deep cultural and historical ties between India and Bhutan, including **shared values and religious practices**, foster a sense of friendship and understanding.

CHALLENGES BETWEEN INDIA AND BHUTAN

- **China's Growing Influence**: India is increasingly concerned about China's expanding economic and political footprint in Bhutan. Ongoing border disputes and potential shifts in Bhutan's diplomatic autonomy could pose challenges to India's strategic influence in the region.
- **Infrastructure Development Challenges:** Bhutan's mountainous terrain and environmental considerations present obstacles to large-scale infrastructure projects, impacting economic development and the benefits of Indian assistance.
- **Lack of Transparency and Communication:** A lack of Transparency and open **communication between the two governments** can lead to misunderstandings and mistrust, highlighting the need for enhanced diplomatic dialogue and cooperation.
- **Shifting Dynamics in Bhutan**
  - ✓ Bhutan's growing political maturity and desire for greater diplomatic autonomy might lead to some divergence from India's strategic interests.

- ✓ Bhutan's dependence on **Indian aid and trade creates** an uneven power dynamic, potentially hindering economic diversification and self-reliance.
- ✓ Bhutan's unresolved **border disputes with China pose potential security** risks for both Bhutan and India.
- **External Challenges**
  - ✓ **China's Influence:** China's increasing economic and political engagement in Bhutan raises concerns about potentially diminishing Indian influence in the region.
  - ✓ **Water Resource Management:** Shared water resources, **particularly rivers flowing into India,** can be a source of contention, requiring careful management and cooperation.
  - ✓ **Regional Security:** The rise of other regional player like Nepal **and Bangladesh,** and their potential alliances, can influence the India-Bhutan dynamic.
- **Neighbouring Countries Dimension**
  - ✓ **Nepal:** Nepal's **geographical proximity and historical ties** with both India and Bhutan create a complex geopolitical landscape. Political instability in Nepal can spill over into the region, affecting India-Bhutan relations.
  - ✓ **Bangladesh:** Bhutan's landlocked status makes **Bangladesh a crucial trade partner**. However, border disputes and issues related to cross-border migration can strain relations.
  - ✓ **Myanmar:** Myanmar's recent **political turmoil and ongoing humanitarian crisis** could indirectly impact the India-Bhutan relationship, particularly regarding security cooperation.

WAY FORWARD

- Forge a resilient defence for Bhutan by deepening military ties with India and seeking diverse partnerships for long-term security.
- Collaborate for mutual prosperity by jointly tackling shared challenges, fostering understanding, and building a harmonious and thriving future.
- Strengthening Strategic Cooperation would enable both nations to address **common security concerns, collaborating against terrorism, drug trafficking, and transnational crimes.**

2.6. INDIA AND THE MIDDLE EAST

Context

INS Visakhapatnam is undertaking anti-piracy patrols in the Gulf of Aden.

ABOUT MIDDLE EAST

- The Middle East is a region that covers parts of Asia, Africa, and Europe.
- The term Middle East was first used in the early 20th century to distinguish it from the Near East and the Far East.
- The Middle East is located east of the Mediterranean Sea

in southwest Asia. It encompasses Egypt's southeast coast and Turkey's northern shore.
- It includes countries such as Iraq, Iran, Saudi Arabia, Yemen, Oman, Yemen, Bahrain, Qatar, the UAE, Kuwait, Israel, Jordan, and Saudi Arabia. In addition, Turkey (which, although officially a part of Europe) is included.

- **West Asia,** also known as Western Asia or Southwest Asia, is the westernmost region of Asia. It is bordered by the Mediterranean Sea, the Black Sea, the Caspian Sea, the Persian Gulf, the Arabian Sea, and the Red Sea. It includes the following countries: Armenia Azerbaijan Bahrain Cyprus Georgia Iran Iraq Israel Jordan Kuwait Lebanon Oman Palestine Qatar Saudi Arabia Syria Turkey United Arab Emirates Yemen
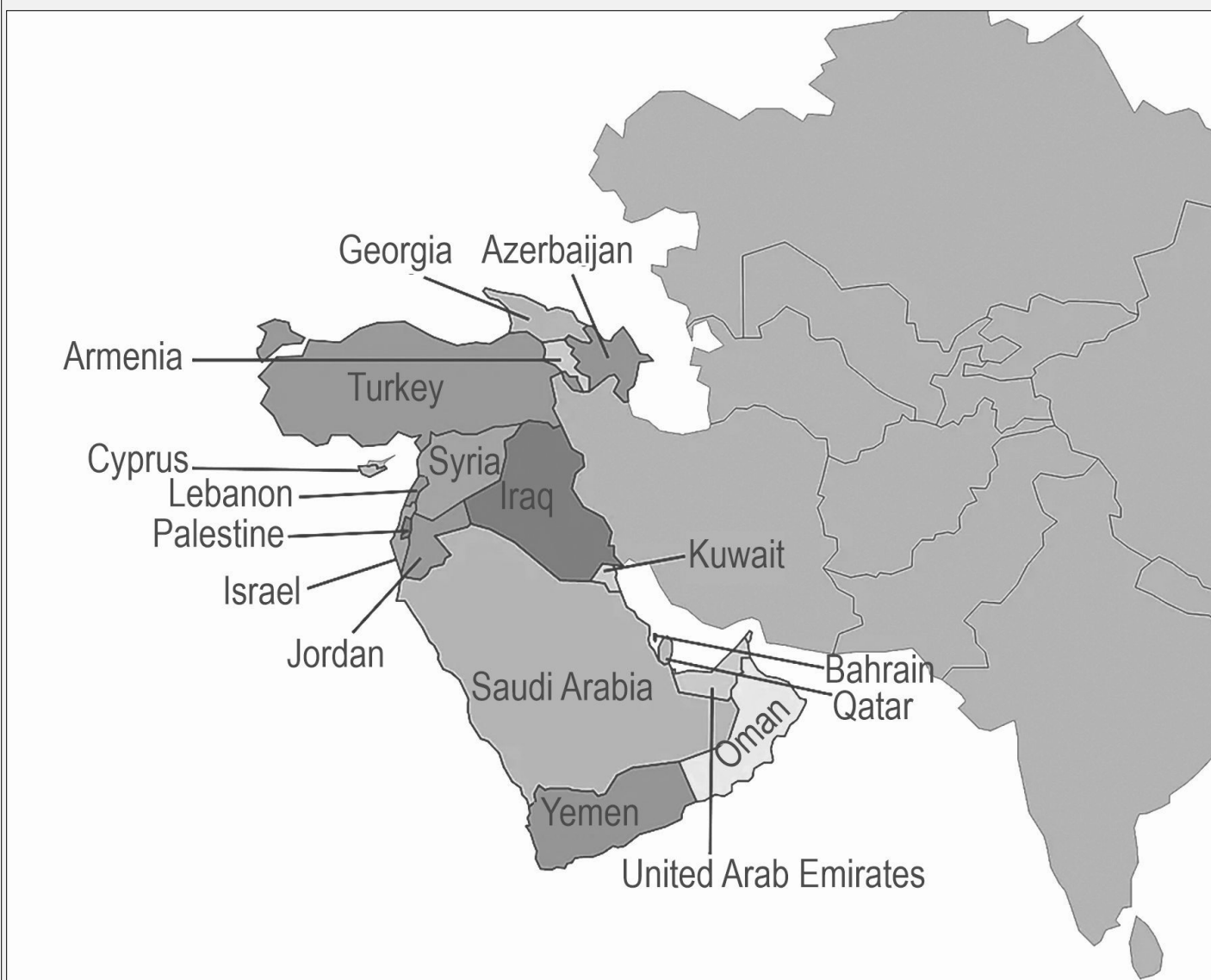
- **Gulf countries** are the countries that border the Persian Gulf in the Middle East. The gulf countries are: Bahrain, Kuwait, Iraq, Oman, Qatar, Saudi Arabia, United Arab Emirates and Iran. These countries, except **Iraq,** are also members of the Gulf Cooperation Council **(GCC),** a regional political and economic union.

INDIA AND THE MIDDLE EAST RELATIONSHIP

Cultural

- **Mecca and Medina,** which are in this region and serve as a unifying force between the two nations, welcome about a lakh Muslims from India each year.

Economic relations

- In terms of the UAE, bilateral trade reached **US$59.9 billion in the 2018–19 fiscal years**, a growth of more than 20%.

- The Gulf economies' efforts toward economic diversification—part of **Saudi Arabia's Vision 2030— have** accelerated the rate of engagement. Saudi Arabia is India's second-largest supplier of gas and oil.

Connectivity

- The Middle Eastern countries recognize each other as centers of economic activity; one such example is the India-Middle East Europe Corridor, which aims to challenge China's expansionist objectives (the "Belt and Road" initiative).

- **The Red Sea, the Gulf of Aden, and the Suez Canal** are other centers of connectivity.
- The development of the Chabahar port and the International North-South Transport Corridor is also contributing to the improvement of India's relations with Iran.

Defence cooperation

- India has been expanding defence ties with countries such as the UAE and Oman.
- India and Oman conduct regular bilateral exercises, and Oman offers refueling facilities for Indian ships and aircraft.
- India has just gained access to Oman's critical strategic port of Duqm on the Arabian Sea for military and logistical support. It will strengthen India's position in the Indian Ocean region (IOR).
- India and the United Arab Emirates have agreed to expand their defense cooperation in a number of sectors, including military-to-military exchanges, personnel training, and defense production.

SIGNIFICANCE

- **Trade and investment**
  - ✓ According to the UN Comtrace database, Iran and the GCC member nations accounted for 15.3% of India's total two-way merchandise trade from 2017 to 2021.
  - ✓ **The Look East Policy** objective is to encourage deeper ties with Asian countries, which complements **India's Look West policy.**
- **Energy Security**
  - ✓ More than 60% of India's total crude oil bring (import) from the Gulf nations. (Observer Research Foundation Study: 18% in Saudi Arabia and 22% in Iraq).

- ✓ **Diaspora**: Nnearly 8.5 million Indians, or nearly 65 per cent of all Indians working abroad, are employed in a range of industries and live in West Asian countries this region.
- **Remittances**
  - ✓ The Reserve Bank of India (RBI) reports that seven West Asian countries—the United Arab Emirates (UAE), the United States (US), Qatar, Saudi Arabia, Kuwait, the United Kingdom, and Oman—accounted for 82% of the remittances that India received.

CHALLENGES IN INDIA-MIDDLE EAST RELATIONS

- **Energy conundrum**
  - ✓ Iran is urging India to consider buying gas and oil from them as a result of the fact that India continued to buy oil from Russia despite the severe Western and American sanctions.
  - ✓ After the United States imposed **CAATSA sanctions,** the situation presents a difficult one.
- **Terrorism and Religious Extremism**
  - ✓ India is deeply concerned about the rise of religious fundamentalism and how it manifests politically in countries as jihadi radicalism and terrorism.
  - ✓ India has a sizable Muslim population, yet Kashmir remains violent. India is worried about radicalization among a portion of its Muslim population. Pakistan makes an effort to capitalize on the circumstances by using pan-Islamism.
- **Political instability** in West Asia may have an impact on India's energy security and regional economic interests.
- **Regional Conflicts**: India's connections with other countries may suffer as a consequence of their participation in regional conflicts or their relationship with Pakistan.

2.7. PAKISTAN AND IRAN

Context

In the wake of **initial tensions and military engagements,** Iran and Pakistan successfully steered the situation towards **de-escalation,** signaling a shift towards dialogue and cooperation.

BACKGROUND

- The recent conflict between Iran and Pakistan is mainly driven by the presence of separatist militant groups operating on both sides of their shared border.
- These groups, such as Jaish al-Adl and the Baluch Liberation Army, have carried out attacks against Iranian and Pakistani targets, respectively.
- Both countries accuse each other of providing safe havens and support for these groups, which they consider terrorists.
- The situation escalated when Iran launched airstrikes on Pakistani territory on January 16, 2024, killing two children.
- Pakistan retaliated with its airstrikes on Iranian territory on January 18, 2024, killing at least nine people.

- This was the first time that the two neighbours exchanged cross-border strikes, raising the risk of a wider regional conflict**.**

PHASE OF COOPERATION

- Before the Islamic Revolution of Iran in 1979, both countries were aligned with the United States.
- Both were part of the Baghdad Pact (later CENTO), a military alliance.
- During the wars of 1965 and 1971 between India and Pakistan, Iran provided material and weapons support to Pakistan.

POINTS OF DIFFERENCES BETWEEN BOTH NATIONS

- **Sectarian Conflict:** Pakistan, a predominantly Sunni country, clashed with Iran's Shiite regime that came to power under Ayatollah Khomeini.
- **Geopolitical Rift:** Iran became an adversary of the U.S. after 1979, while Pakistan allied with the U.S., especially after the 9/11 attacks and the ensuing "War on Terror".
- **Revolutionary Ambition:** Iran's foreign policy, aimed at spreading the Islamic revolution, alienated its Arab neighbours, resulting in a split in regional interests.
- **Afghanistan Dispute:** Iran supported the Northern Alliance against the Taliban in Afghanistan, a group that Pakistan had helped to form, increasing the friction.
- **The Balochistan Dilemma Issue**
  - ✓ **Common Heritage:** The Baloch people, who live on both sides of the Iran-Pakistan border, have strong cultural, ethnic, and linguistic bonds.
  - ✓ **Oppression and Dissent:** Baloch communities in both countries have been oppressed, leading to separatist movements.
  - ✓ **Trans-Border Rebellion:** Baloch rebels move across the porous border, attacking military and civilian targets, worsening relations.
  - ✓ **Variety in Rebel Groups:** Baloch rebels in Iran often have religious ties, while those in Pakistan favour secular ethno-nationalism.

RECONCILIATION EFFORTS

- **Benazir Bhutto's Trip:** Prime Minister Benazir Bhutto called Iran "a friend, a neighbour, and a brother in Islam" during her trip to Tehran in 1995, stressing cooperation and lamenting U.S. sanctions.
- **Zardari's Period:** Asif Ali Zardari's presidency increased cooperation with Iran, especially in trade and energy, but Sunni-Shiite conflicts continued.
- **Nawaz Sharif's Change:** Nawaz Sharif, after becoming Prime Minister in 2013, shifted Pakistan's position away from Iran, enhancing ties with Arab allies and abandoning the Iran-Pakistan gas pipeline project.

POTENTIAL IMPACT OF IRAN-PAKISTAN DE-ESCALATION ON INDIA

- **Positive Impacts**
  - ✓ **Reduced Regional Tensions:** A stable Iran-Pakistan relationship could contribute to a more **peaceful South Asian region,** alleviating **security concerns for India along its western border** and allowing for increased attention to other regional priorities.
  - ✓ **Improved Trade and Transit:** De-escalation may facilitate economic collaboration between **Iran and Pakistan,** benefiting India through enhanced access to **Central Asia** and the Middle East via the Chabahar port. This could open up new trade and transit opportunities for Indian businesses.
- **Potential Challenges**
  - ✓ **Lingering Mistrust:** Despite recent **de-escalation, historical tensions and mistrust** between Iran and Pakistan might persist, posing challenges to maintaining a **stable and cooperative relationship**. This could impact India's efforts to build strong, independent relations with both countries.
  - ✓ **Proxy Conflicts:** Historical accusations of supporting militant groups in **each other's territories may resurface, potentially destabilizing the region**. India could be drawn into such conflicts, affecting its regional stability and security.
  - ✓ **Great Power Dynamics:** The involvement of China in the region could complicate **India's attempts to balance relations with Iran and Pakistan.** Navigating these geopolitical dynamics is crucial for India to preserve its strategic autonomy.

ROLE OF GLOBAL/REGIONAL POWERS IN THE IRAN-PAKISTAN DE-ESCALATION

India

- **Competition for Regional Influence:** The enduring rivalry between India and Pakistan extends to their relations with Iran. **India's efforts to strengthen ties with Iran might be seen by Pakistan** as a challenge to its regional influence.

China

- **Common Interests**: China has become a crucial partner for both Pakistan and Iran, driven by shared concerns about U.S. dominance in the region. Cooperation on **counter-terrorism and economic initiatives, especially within the Belt and Road Initiative (BRI),** has strengthened ties between the three nations.
- **Mediation Efforts:** China plays an active role in mediating between Pakistan and Iran.

USA

- **Competing interests:** The US has competing interests in the region, aiming to counter Iranian influence and maintain its alliance with Pakistan.

Russia

- **Balancing act:** Russia has close ties with both Iran and Pakistan, similar to China. It likely played a role in encouraging de-escalation.

WAY FORWARD

- India's strategic path post-Iran-Pakistan de-escalation involves deftly navigating challenges and opportunities.

While aiming for enhanced regional cooperation and trade, India must be mindful of lingering mistrust and potential proxy conflicts.

- Leveraging its investment in Chabahar port, India can bolster economic ties and open avenues to Central Asia.
- Maintaining strategic autonomy is crucial, balancing relations with Iran and Pakistan while proactively addressing historical grievances to build sustainable cooperation.
- Engaging with global players like China and the US diplomatically and mitigating regional conflicts will contribute to a more stable South Asia.

2.8. UNRWA (UNITED NATIONS RELIEF AND WORKS AGENCY FOR PALESTINIAN REFUGEES)

Context

Nine Western nations, including the United States, which collectively contributed over 50% of UNRWA's budget for the year 2022, have opted to temporarily suspend their financial support to the agency.

UNRWA

- UNRWA stands for United Nations Relief and Works Agency for Palestine Refugees in the Near East.
- It is a UN agency that supports the relief and human development of Palestinian refugees who were displaced by the 1948 Palestine War and subsequent conflicts, as well as their descendants.

ESTABLISHMENT

- Established on December 8, 1949, by UN General Assembly Resolution 302.
- Initiated as a response to the humanitarian crisis arising from the displacement of Palestinians during the Arab-Israeli conflict of 1948 (Nakba).
- Initially conceived as a temporary agency to address immediate needs, but the protracted nature of the refugee situation has led to its continued existence.

MANDATE

- Primary mandate is based on the principle of providing direct relief and works programs for Palestine refugees.
- The mandate has been extended over the years, encompassing education, health care, social services, and emergency relief.
- UNRWA's role has evolved to include supporting the human development of the Palestinian refugees and promoting self-reliance.

REGION OF OPERATION

- Operates in five fields: Jordan, Lebanon, Syria, West Bank (including East Jerusalem), and Gaza Strip.
- Each field has a directorate responsible for the implementation of UNRWA's programs and services.
- The agency's presence in these areas involves direct engagement with Palestinian refugee communities.

FUNDING

- Mainly reliant on voluntary contributions from UN member states and other international donors.
- Funding comes from both regular and emergency appeals.
- Volatility in funding levels has been a consistent challenge, impacting UNRWA's ability to provide stable and sustained assistance.

CHALLENGES

- Faces challenges related to the political complexities of the Israeli-Palestinian conflict.
- Security concerns and restrictions on movement in certain areas affect the delivery of services.
- Demographic growth and the evolving needs of the refugee population pose ongoing challenges.

SERVICES PROVIDED

- **Education:** Runs over 700 schools, catering to around 530,000 students. Provides basic education, vocational training, and higher education scholarship programs.
- **Health Care:** Operates health centres, clinics, and hospitals, offering primary health care, maternal care, and immunization services.
- **Social Services:** Provides a range of social services, including relief and social safety net programs.
- **Emergency Relief:** Response to crises, conflicts, and emergencies, providing immediate relief, shelter, and support.

CRITICISM AND CONTROVERSIES

- **Politicization:** UNRWA has been accused of being politically biased, with some critics arguing that its operations contribute to the perpetuation of the refugee issue.
- **Mismanagement:** Instances of alleged mismanagement, including allegations of corruption and inefficiency, have been raised.

REFORM EFFORTS

- **Reform Initiatives:** UNRWA has initiated various reforms to enhance efficiency, transparency, and accountability.
- **Donor Coordination:** Works on improving coordination with donors and stakeholders to ensure a more sustainable funding model.

2.9. ECOWAS

Context

Recently, Burkina Faso, Mali, and Niger countries announced their immediate withdrawal from the West African bloc ECOWAS.

REASONS FOR WITHDRAWAL

- Tensions between the Sahel nations and ECOWAS escalated due to coups in Niger (2023), Burkina Faso (2022), and Mali (2020). These nations faced suspension and heavy sanctions from ECOWAS.
- The three countries, struggling with jihadist violence and poverty,

formed an "Alliance of Sahel States" and criticized ECOWAS.
- ✓ They accused the bloc of bad faith, and the French military withdrawal from the Sahel raised concerns about conflicts spreading southward to the Gulf of Guinea states.
- The Prime Minister appointed by Niger's military regime criticized ECOWAS for shunning a planned meeting,

Source: Research Gate

expressing disappointment at the lack of dialogue and heavy economic sanctions.

- The withdrawal of these Sahel nations from ECOWAS poses challenges to regional cooperation and stability, especially as concerns grow about the potential southward spread of conflicts.

ABOUT ECOWAS

- ECOWAS, which stands for the Economic Community of West African States, is a regional economic union of 15 West African countries.
- It was established on May 28, 1975, with the signing of the Treaty of Lagos by 15 West African nations.
- The main objectives of ECOWAS are to promote economic integration and cooperation among its member states to foster development and stability among West African countries.

GOALS AND OBJECTIVES OF ECOWAS

- **Economic Integration:** To establish a common market and the development of a roadmap for the adoption of a single currency, the "Eco."
- **Free Movement of Persons, Goods, and Services:** To promote the free movement of people, goods, and services within the region, eliminating barriers to trade and fostering economic cooperation.
- **Cross-Border Cooperation:** To promote cross-border cooperation to address issues such as transnational crime, illegal migration, and public health challenges.
- **Conflict Prevention and Resolution:** It plays a role in conflict prevention, resolution, peacekeeping missions, and mediation efforts in the West African region.
- **Promotion of Agriculture and Industry:** To develop and promote agriculture and industry within the region to enhance self-sufficiency and economic growth.
- **Social and Cultural Integration:** To foster social and cultural integration among member states to strengthen the sense of community and solidarity in West Africa.

MEMBER STATES OF ECOWAS

- Benin; Burkina Faso; Cape Verde; Ivory Coast (Côte d'Ivoire); Ghana; Guinea; Guinea-Bissau; Liberia; Mali; Niger; Nigeria; Senegal; Sierra Leone; Togo; Gambia.
- India enjoys Observer status in ECOWAS.

2.10. ETHIOPIA AND SOMALILAND SIGN PORT DEAL

Context

Recently, Ethiopia signed a deal with the breakaway region of Somaliland, allowing the former to use the Red Sea port of Berbera.

BERBERA PORT

- **Location:** Situated in the **Gulf of Aden**, Berbera Port holds a pivotal position as the commercial capital of Somaliland.
- **Strategic Importance:** The Berbera Port deal provides Ethiopia with crucial access to the **Red Sea**, **the Gulf of Aden, and the Suez Canal**, offering strategic maritime routes for trade.
- **Historical Context:** Ethiopia, Africa's **second most populous country**, lost its direct sea access in 1993 when **Eritrea** seceded. The Berbera Port Agreement aims to restore Ethiopia's maritime connectivity.

ABOUT SOMALILAND

Official Status

- Somaliland, officially known as the Republic of Somaliland, is an **unrecognized state in the Horn of Africa**. While internationally regarded as part of Somalia, Somaliland operates with its own government and institutions.

Geographical Location

- Positioned along the southern coast of the **Gulf of Aden**.
- Bordered by **Djibouti** to the northwest, **Ethiopia** to the south and west, and **Somalia** to the east.
- The capital and largest city is **Hargeisa**.

Source: Source The Economist

Political Landscape

- Governed by **democratically elected** administrations since 1991.

- Actively seeks international recognition as the government of the Republic of Somaliland.
- Maintains informal ties with select foreign governments, receiving delegations in Hargeisa.

Recognition and Representation

- Recognized by the Republic of China (Taiwan) and hosts representative offices from several other countries, notably Ethiopia.
- Despite these ties, Somaliland's self-proclaimed independence **lacks official recognition** from any UN member state or international organization.

KEY FACTS ABOUT SOMALIA: A GEOGRAPHICAL OVERVIEW

Location

- Situated in the **Horn of Africa**, Somalia shares borders with the Gulf of Aden to the north, the Indian Ocean to the east, Kenya and Ethiopia to the west, and Djibouti to the northwest.

Islands

- Off the coast of Somalia, several islands contribute to its geographical richness. These include:
- **Bajuni Islands:** Located near the Somali-Kenyan border.
- **Socotra Archipelago:** Encompassing islands such as Socotra, Abd al Kuri, and Samha. It's noteworthy that the Socotra Archipelago is administered by Yemen

2.11. AMALEK

Context

Recently Israeli Prime Minister Benjamin Netanyahu's reference to the Amalek at the International Court of Justice (ICJ) has raised concerns about its use as a genocidal justification for violence against Palestinians.

UNDERSTANDING THE AMALEK AND ITS LINK TO ISRAELI ACTIONS IN GAZA

- **Historical Context:** The Amalekites, descendants of Amalek, were an ancient biblical nation believed to be the first to attack the Jewish people after they escaped from Egypt. The term "Amalek" refers to an ancient biblical nation and its descendants. The Hebrew Bible, particularly in Exodus and Deuteronomy, recounts their hostilities against the Israelites.
- **Biblical Justification for Collective Punishment:** The Hebrew Bible prescribes the obliteration of the Amalek, emphasizing "collective punishment." It instructs the Jewish people to erase their memory. King Saul, guided by Prophet Samuel, is mandated to annihilate the Amalek, sparing no one, including men, women, infants, and animals.
- **'Other as Amalek':** Throughout history, Rabbinic scholars have depicted the Amalek as the embodiment of evil in Jewish tradition. Sociologist Gerald Cromer notes that this characterization extends to using the term metaphorically for other nations or groups perceived as threatening the Jewish people. Netanyahu's invocation serves to evoke historical persecution and justify brutal collective reprisals.
- **Modern Examples:** In 1994, Israeli extremist Bharuch Goldstein, driven by the belief that Palestinians were Amalekites, killed unarmed Palestinians. Goldstein's tomb has become a pilgrimage site for the Israeli far-right. The propensity of right-wing Israeli settlers to identify Palestinians with Amalekites has led to deadly consequences.

CONCLUSION

- The use of the Amalek narrative, both historically and in contemporary times, raises concerns about its potential for justifying violence and collective punishment against Palestinians.

3. ECONOMY

3.1. IMF ON PUBLIC DEBT IN INDIA

Context

The International Monetary Fund (IMF) in its latest Article IV Consultation with India has warned that government debt could hit 100% of GDP by 2027-28 under adverse circumstances.

HIGHLIGHTS OF IMF'S ARTICLE IV CONSULTATIONS WITH INDIA

- The IMF in its report on Article IV Consultation with India has raised concerns about the long-term sustainability of India's debts.
- It has stated that India's general government debt, including the Centre and States, could hit 100% of GDP under adverse circumstances by 2027-28.
- It highlighted that while the budget deficit has eased, the general government debt remains elevated and fiscal buffers need to be rebuilt.
- In this regard, the IMF's Executive Board has recommended "ambitious medium-term consolidation efforts" given the elevated public debt levels and contingent liability risks.
- The Board also encouraged the authorities to put in place a sound medium-term fiscal framework to promote transparency and accountability and align policies with India's development goals.

GOVT'S RESPONSE

- The Government highlighted that the Report talks only of a worst-case scenario and is not fait accompli.
- It pointed out that among the various favourable and unfavourable scenarios given by the IMF, under one extreme possibility, like once-in-a-century COVID-19, there is a possibility that the General Government's debt could be '100% of debt-to-GDP ratio' under adverse shocks by 2027-28.
  - ✓ It is also highlighted that the same report indicates that under favourable circumstances, the General Government's debt-to-GDP ratio may decline to below 70% in the same period.
- While sharing a cross-country comparison on debt levels, the Govt. asserted that "India has done relatively well" and the debt level dipped "steeply" from about 88% in 2020-21 to about 81% in 2022-23 which is still below the debt level of 2002.
  - ✓ It pointed to the corresponding figures of 'worst-case' scenarios for the U.S., U.K. and China are about 160%, 140%, and 200%, respectively, which is far worse compared to 100% for India.
- The Govt. stressed that the shocks experienced this century by India (viz. the global financial crisis, Taper Tantrum, COVID-19, Russia-Ukraine War, etc.) were global in nature and uniformly affected the entire world economy.

About IMF's Article IV Consultation

- The IMF, under Article IV of its Articles of Agreement, holds bilateral discussions with members, usually every year.
- A staff team visits the country, collects economic and financial information, and discusses the country's economic developments and policies with top officials.
- On return to headquarters, the staff prepares a report, which forms the basis for discussion by the IMF's Executive Board.

ABOUT GENERAL GOVT. DEBT

- The general govt debt is the total gross debt outstanding at the end of the year or quarter and consolidated between and within the government subsectors. It includes the debt of both the Centre and the States.
- The combined debt of Central and State governments stood at 81% of GDP in 2022-23, from 88% in 2020-21 which is way higher than the levels specified by the Fiscal Responsibility and Budget Management (FRBM) Act.

FACTORS BEHIND AN INCREASE IN PUBLIC DEBT

- **Increase in subsidy bills** – Subsidies provided by the government, such as those for food, fuel, and fertilizer, can strain fiscal targets if not managed effectively.
  - ✓ The Govt. has recently extended the Prime Minister Garib Kalyan Yojana (PMGKAY) to provide food grains free of cost to over 80 crore Indians for five more years (till 2028). This extension will cost the exchequer ₹ 11.8 lakh crore.
  - ✓ The budgetary fertilizer subsidy of ₹ 44,000 crore was almost over by end-October 2023 and the Union government has now increased the fertilizer subsidy to ₹ 57,360 crore
  - ✓ Additional fund for MGNREGA – a sum of ₹ 79,770 crore has already been spent till December 19, 2023, as against the budgetary outlay of ₹ 60,000 crore and an additional sum of ₹ 14,520 crore has been allocated through the first supplementary demand for grants.
- **Freebies by State governments** – various forms of freebies by state governments, especially in election years, like free electricity, waiver of agricultural loans, free public transport, implementation of Old Pension Scheme, etc. have impacted the fiscal position of States.
- **Covid-19 disruption** – the economic slowdown caused by the Covid-19 pandemic resulted in lower tax collections

thus constraining the government's ability to finance its expenditure without resorting to borrowing.

- **Vicious cycle of Interest payments** – The servicing of existing debt requires the government to make regular interest payments. As debt accumulates, interest payments can consume a significant portion of the government's budget, leaving less room for other expenditures and potentially leading to further borrowing.

GOVT. MEASURES TO CHECK THE RISING DEBT LEVEL

- **FRBM Act, 2003**– It sets targets for the government to reduce fiscal deficits, revenue deficits and public debt, in order to bring greater transparency in fiscal operations of the government.
  - ✓ Despite several years since its enactment, the Govt. has struggled to meet the FRBM targets and the Act has undergone multiple amendments.
  - ✓ In 2013, the concept of effective revenue deficit was introduced, and in 2016, the **FRBM Review Committee** headed by N K Singh recommended significant changes to the Act, citing the previous targets as too rigid.
    - It recommended a debt-to-GDP ratio of 60% for the general (combined) government by 2023, comprising 40% for the Central Government and 20% for the State Governments.
    - It also provided for an "Escape Clause" under which the central government can flexibly follow fiscal deficit targets during special circumstances.
    - In 2020, with the advent of the Covid-19 pandemic, the government used the escape clause to allow the relaxation of the target, thus further pushing the fiscal targets.
- **Fiscal Consolidation:** Despite a once-in-a-lifetime pandemic and other global headwinds, the Govt. has emphasized fiscal consolidation to reduce fiscal deficits and contain the growth of public debt.
- **Revenue Enhancement Measures:** The government has implemented measures to enhance revenue generation and broaden the tax base. This includes introducing tax reforms

like GST, streamlining tax administration, combating tax evasion and avoidance, and promoting compliance to augment revenue mobilization efforts.

- **Increase in Capex:** In last year's budget, the Govt. had announced a record increase in capital expenditure to ₹ 10 lakh crore for FY24, up by 37.4% from ₹ 7.28 lakh crore in FY23.
  - ✓ The overall gross fixed capital formation as a percentage of nominal GDP has also risen to a decade-high of 34%
- **Public Asset Management:** India has focused on leveraging public assets and divesting non-core assets to unlock value, raise additional resources, and reduce the fiscal burden.
  - ✓ This includes privatizing state-owned enterprises, monetizing public infrastructure assets, and optimizing the management of public resources to enhance fiscal sustainability.
  - ✓ The Govt. has launched the National Monetization Pipeline (NMP) with a target of ₹ 6 lakh crores by monetizing the core assets of the Central Government, over four years, from FY 2022 to FY 2025.
- **Macroeconomic Stability:** India has prioritized maintaining macroeconomic stability to support fiscal sustainability. This includes pursuing sound monetary policies, managing inflation expectations, maintaining exchange rate stability, and promoting financial stability to create a conducive environment for sustainable fiscal outcomes.

WAY FORWARD

- Though the IMF's debt projections could be viewed as worst-case scenarios of the medium term, the short-term challenge of sticking to the fiscal correction path in an election year might go a long way towards avoiding worst-case scenarios.
- Thus, bringing greater private sector investment, and reducing high levels of debt to stay the course on its commitment to bring the deficit to 4.5% of GDP by 2025-26 from an estimated 5.9% this year, is critical for India to maintain fiscal sustainability.

3.2. DEGLOBALISATION OF FOOD INFLATION IN INDIA

Context

While the global food prices have crashed in the last one year, from the peaks scaled in 2022, the food inflation remains sticky and elevated in India.

KEY HIGHLIGHTS

- The global food inflation based on FAO's food price index has fallen significantly since peaks scaled in 2022 during Russia's invasion of Ukraine.
- The Index has fallen from an average of **143.7 points in 2022 to 124 points in 2023**, indicating a decline of 13.7%
- The decline is even more, at 25.8%, if one compares the monthly value of December 2023 (118.5 points) with

the all-time-high reached in March 2022 (159.7 points), immediately after the Russia-Ukraine war broke out.
- While global food inflation has been in negative territory since November 2022, it's been the opposite with India.
- India's official **Consumer Food Price Index (CFPI)** recorded persistent inflation at **9.5% in December 2023** as **against minus 10.1% for the FFPI**.

FAO Food Price Index (FFPI)

- The FFPI measures **monthly changes in global prices for a basket of food commodities.**
- It comprises the average of **five commodity group price indices,** weighted by the average export shares of each group from 2014-2016.
- **Base Period Revision:** The FFPI underwent a base period revision and expanded price coverage in July 2020.

FACTORS CONTRIBUTING TO DEGLOBALIZATION OF FOOD INFLATION IN INDIA

- **Self-Sufficiency in Commodities:** India's self-sufficiency in commodities such as cereals, sugar, dairy, and poultry minimizes the transmission of global inflation to domestic prices in India.
- **Limited Import Dependency:** The scope for such transmission of global inflation to domestic prices in India is largely limited to edible oils and pulses where India is significantly import-dependent.
  - ✓ In the case of edible oils, India imports over 60% of its annual consumption requirement.
- **Export-led Inflation and Government Interventions:** Initially, high global prices incentivized exports, leading to domestic shortages and inflation. However, the government's strategic ban on the export of wheat, rice, sugar, and onion severed this link, thus preventing export-induced inflation.
- **Impact of Low Global Prices:** Current low global prices, especially for key imports like pulses and palm oil, have also practically ruled out the risk of imported inflation for India.
- **Limited Impact of External Factors:** External issues like Yemen's Houthi attacks on vessel movement through the Suez Canal have minimal impact on food item imports into India, thus reducing their influence on domestic prices.
  - ✓ In the case of Pulses, while Arhar and Urad come mainly from Mozambique, Tanzania, Malawi, and Myanmar, masoor comes from Australia and Canada. These shipments do not take the Suez Canal route.
  - ✓ In edible oil too, the imports of palm oil from Indonesia and Malaysia, and soyabean from Argentina and Brazil are routed through the South Atlantic and Indian Ocean.
- **Dominance of Domestic Factors:** The future trajectory of food inflation is expected to be driven predominantly by domestic factors, emphasizing production considerations over global price movements.

CHALLENGES / HEADWINDS TO FOOD INFLATION IN INDIA

External Factors

- **Yemen's Houthi Attacks**: While major import routes remain unaffected, Red Sea attacks have impacted the **sunflower oil imports** from Russia and Ukraine.
  - ✓ However, the impact is minimal as the share of Sunflower in India's total edible oil imports of 16.5 million tonnes is only 3 million tonnes.
- **Increased Shipping Costs**: Houthi attacks have forced the ships to undertake longer routes via the Cape of Good Hope, thus adding 15-20 days of voyage time and $18-20 per tonne to freight cost.

Domestic Factors

- **High Domestic Production Needed:** Lower global prices cannot alleviate food inflation without strong domestic production, particularly in cereals, pulses, and sugar.
- **Cereals:** Despite expanded wheat sowing, concerns persist regarding heat stress during grain formation and filling, thus posing a risk of potential yield loss through premature ripening, as it happened to the 2021-22 crop.
  - ✓ Unseasonal heavy rains also lead to lodging (bending) of the standing crop, putting further pressure on the government's cereal stocks which are already at a seven-year low.
- **Pluses:** The current elevated prices can be further accentuated due to reduced planting this rabi season compared to the previous year.
- **Sugar:** Commencement of the new season with six-year-low stocks and uncertainty in actual production has the potential to impact future sugar prices.

CONCLUSION

- India's food inflation stands apart from the global trend, remaining high despite falling international prices. This unique situation is driven by limited reliance on imports, export restrictions, and concerns about domestic production of key staples like wheat, pulses, and sugar.
- Effectively managing domestic production and adopting strategic measures are imperative to curb the ongoing challenges and stabilize food prices in the months ahead.

3.3. THE CAPEX PUSH

Context

Buoyant by the Central Government's allocation of over 3 per cent of GDP, exceeding Rs 10 lakh crore for capital expenditure in the Budget of 2023-24, there has been a significant increase in capital expenditure by the States. Also, the states are moving toward fiscal consolidation.

KEY FINDINGS

- State governments, collectively responsible for over

three-fifths of total general government expenditure, have historically focused on revenue expenditure.

- However in 2023-24, there is a notable change with a significant **increase in capital expenditure**, marking a departure from the past trend.
- The capital outlay of states (excluding Arunachal Pradesh, Goa, Manipur, and Meghalaya) surged by 45.7 per cent, while revenue expenditure grew modestly by 9.3 per cent during April-November 2023.
- The **quality of expenditure**, measured by the **ratio of capital outlay to total expenditure**, reached an eight-year high of 14.1 per cent during this period.
- A higher proportion of funds directed towards productive assets is considered growth-enhancing, with a positive impact on the state's GDP.

FACTORS DRIVING CAPITAL EXPENDITURE

Advance Release of Funds

- Monthly tax devolution and timely disbursements of funds for the special scheme on capital assistance have fueled states' capital expenditure.

Special Assistance Scheme

- The Union government approved capital expenditure worth Rs 973.74 billion and released Rs 590.3 billion under the special assistance scheme till November 2023.
- This scheme aims to **support states in capital investment**, contributing to the surge in capital expenditure.

Buoyant State Revenues

- States' tax revenues (SOTR) and non-tax revenues (SONTR) exhibited robust growth of 11.5 per cent and 19.5 per cent, respectively, during the first eight months of the fiscal year.
- Despite muted nominal GDP growth, efficient tax administration and increased formalization of the economy have led to the acceleration of state tax revenues.

IMPACTS OF INCREASED CAPEX

Positive Impacts

1. **Economic Growth Acceleration**
   - ✓ **Infrastructure Development:** High capital expenditure often translates into increased investment in infrastructure projects, stimulating economic growth.
   - ✓ **Job Creation:** Infrastructure projects generate employment, contributing to a reduction in unemployment rates.

2. **Increased Productivity and Competitiveness**
   - ✓ **Technological Advancements:** Capital expenditure is often directed towards acquiring and implementing advanced technologies, enhancing overall productivity.
   - ✓ **Global Competitiveness:** Improved technology and efficiency contribute to increased competitiveness on the global stage.

3. **Multiplier Effect on Industries**
   - ✓ **Supply Chain Impact:** Investments in capital projects have a multiplier effect on various industries within the supply chain.
   - ✓ **Economic Diversification:** Capital expenditure diversifies economic activities, reducing dependence on specific sectors.

4. **Enhanced Public Services**
   - ✓ **Quality Infrastructure:** High capital expenditure allows for the development of quality public infrastructure, such as transportation, healthcare, and education facilities.
   - ✓ **Standard of Living Improvement:** Improved public services positively impact citizens' quality of life.

CHALLENGES ASSOCIATED WITH CAPEX

1. **Budgetary Strain**
   - ✓ **Fiscal Deficit Concerns:** Continuous high capital expenditure may contribute to an increased fiscal deficit, posing challenges to effective budget management.
   - ✓ **Debt Accumulation:** Borrowing for capital projects may lead to accumulating debt, impacting the country's overall financial health.

2. **Inflationary Pressures**
   - ✓ **Demand-Supply Imbalance:** Intensive capital expenditure can create a demand-supply imbalance in the economy, potentially leading to inflation.
   - ✓ **Increased Costs:** Higher government spending may increase the cost of resources, contributing to inflationary pressures.

3. **Resource Misallocation**
   - ✓ **Mismanagement Risks:** Improper planning and execution of capital projects can result in resource misallocation.
   - ✓ **Inefficient Investments:** If capital expenditure is not directed towards productive assets, it may lead to a wasteful allocation of resources.
   - ✓ **Government Expenditure:** It can be divided into two types; Capital and Revenue Expenditure**.**

Category	Nature	Examples	Purpose	Impact
Revenue Expenditure	Ongoing, day-to-day expenses	Salaries, pensions, interest payments, subsidies	Sustain existing infrastructure and services	Short-term focus, immediate consumption
Capital Expenditure	Investments in long-term assets	Infrastructure development, building projects	Create or enhance assets for future growth	Long-term focus stimulates economic development

Fiscal Deficit is the difference between the **total income and the total expenditure** of the Government. It signifies a situation where the government's spending surpasses its income.

3.4. RBI GUIDELINES ON STATE GUARANTEES

Context

Recently, a working group formed by the Reserve Bank of India (RBI) has put forth specific recommendations to resolve concerns associated with guarantees provided by State governments. These suggestions are anticipated to promote better fiscal management by the State governments.

WHAT IS A GUARANTEE?

- A 'guarantee' is a legal commitment wherein a State assumes responsibility for making payments, safeguarding an investor or lender from the potential default risk of a borrower. According to the Indian Contracts Act (1872), it is a contract that involves three parties: the principal debtor, creditor, and surety. The principal debtor is the entity at risk of default, the creditor is the recipient of the guarantee, and the entity providing the guarantee (State governments in this context) is termed the 'surety.'
- In a scenario where A provides goods or services to B, and B fails to fulfil the agreed payment, B is considered in default and may face legal action for the outstanding debt. At this point, C intervenes, pledging to cover the payment on behalf of B, and A agrees to this arrangement, constituting a guarantee.
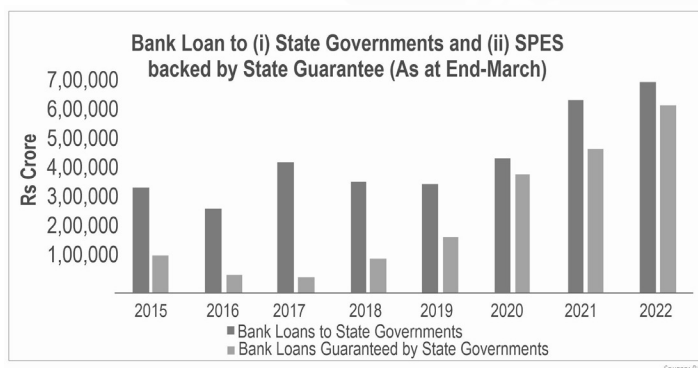
WHAT IS THE PURPOSE OF A GUARANTEE?

- The primary purpose of a 'guarantee' at the State level includes three critical scenarios.
- Firstly, sovereign guarantees become essential for obtaining concessional loans from bilateral or multilateral agencies, particularly for public sector enterprises.
- Secondly, guarantees are employed to enhance the viability of projects or activities that hold the potential to deliver significant social and economic benefits.
- Lastly, guarantees are utilised to facilitate public sector enterprises in securing resources at lower interest rates or under more favourable terms.

Bank Loan to (i) State Governments and (ii) SPES backed by State Guarantee (As at End-March)

Source: RBI

IMPLICATIONS

- **Financial Convenience:** Guarantees are favoured for their financial flexibility, allowing entities to secure support without an immediate need for upfront cash payments.
- **Fiscal Risks:** Guarantees, seemingly innocuous in favourable conditions, pose significant fiscal risks during economic challenges, leading to unforeseen cash outflows and increased debt.
- **Difficulty in Estimating Costs**: The unpredictable triggering of guarantees by specific events makes it challenging for entities to accurately estimate potential costs and timing of cash outflows, complicating effective financial planning.

RECOMMENDATIONS BY THE RBI WORKING GROUP

- **Unified Treatment of Guarantees:** Eliminating distinctions based on conditions or types of guarantees, emphasising that all guarantees, regardless of their nature, involve contingent liabilities that may crystallise in the future.
- **Broad Definition of Guarantees:** The term 'guarantee' should be interpreted broadly, including all the instruments known by any name that may impose an obligation on the Guarantor (State Government) to make payments on behalf of the borrower (State Enterprise) at a future date.
- **Guidelines for Government Guarantees:** State Governments should adhere to guidelines issued by the Government of India when formulating their Guarantee policy:
  - ✓ Guarantees may be given only for the principal amount and normal interest component of the underlying loan;
  - ✓ Guarantees may not be extended for external commercial borrowings;
  - ✓ State Government may not extend a guarantee for more than 80 per cent of the project loan, depending on the conditions imposed by the lender;
  - ✓ Guarantees, once approved, shall not be transferred to any other agency without the prior approval of the Finance Department;
  - ✓ Government guarantees shall not be provided to private sector companies/ institutions; and
  - ✓ Appropriate pre-conditions may be specified by the Government while giving the guarantees, e.g., period of guarantee, levy of a fee to cover risk, representation for Government on the Board of Management of the borrowing entity, mortgage or lien on its assets, submission of periodic reports and accounts to Government, right to get its accounts audited, etc.
- **Defined Purpose of Government Guarantees:** The purpose for issuing government guarantees should align with Rule 276 of General Financial Rules, 2017. Guarantees should not

substitute budgetary resources or create direct liabilities for the state.

- **Standardized Reporting of Guarantee Data:** State Governments should disclose guarantee-related data following Indian Government Accounting Standards (IGAS), facilitating auditing by the Comptroller and Auditor General (CAG) and the RBI.
- **Ceiling on Issuance of Guarantees:** A reasonable ceiling on guarantees issued by State Governments, i.e. 5% of Revenue Receipts or 0.5% of Gross State Domestic Product (GSDP), whichever is lower.

- **Risk Categorization and Weightage:** State Governments should classify projects/activities as high, medium, or low risk, assigning appropriate risk weights. Past default records should be considered in risk assessment, and states should disclose their risk weight assignment methodology.
- **Guarantee Fee Structure:** The guarantee fee charged should reflect the riskiness of borrowers/projects/activities.
- **Building Guarantee Redemption Fund (GRF):** States should contribute to building the Guarantee Redemption Fund (GRF), aiming for a desirable level of 5% of their total outstanding guarantees over five years from the fund's constitution.

3.5. SUBSIDIES

Context

PM Modi's Government's first term prioritized schemes **for basic needs like housing, sanitation, and bank accounts,** while reducing overall **Subsidy Spending.** This is seen as a shift from **"new welfarism"** to a renewed focus on targeted **Subsidies and transfers.**

WHAT IS SUBSIDY?

- **According to WTO**, A subsidy has a very particular meaning under the Subsidies Agreement and U.S. law (Title VII of the Tariff Act of 1930). A subsidy is defined as **a financial contribution by a government that provides a benefit.** The forms that a subsidy can take include:
  - ✓ a direct transfer of funds **(e.g., a grant, loan, or infusion of equity);**
  - ✓ a potential transfer of funds or liabilities **(e.g., loan guarantee);**
  - ✓ foregone government revenue **(e.g., a tax credit); or**
  - ✓ the purchase of goods, or the provisions of goods or services **(other than general infrastructure).**
- **Three main categories of subsidy**
  - ✓ **Direct Subsidy:** It entails the government making monetary payments without the exchange of goods or services.
  - ✓ **Indirect Subsidy:** It involves supporting third parties without directly providing a monetary benefit, such as through loans or other non-monetary advantages.
  - ✓ **Subsidies Provided by the Government:** It encompasses a range of financial aids, including welfare payments, unemployment benefits, and support to enterprises.

INDIAN GOVERNMENT PROVIDES VARIOUS SUBSIDIES

- **Food Subsidy**
  - ✓ To provide essential food items to the population **below the poverty line**.
  - ✓ **Schemes:** National Food Security Act (NFSA), Antyodaya Anna Yojana (AAY) and Pradhan Mantri Garib Kalyan Anna Yojana (PM-GKAY).
- **Education Subsidy**
  - ✓ To support eligible students pursuing higher technical and professional education.
  - ✓ **Schemes:** Pradhan Mantri Matru Vandana Yojana (PMMVY), Post Matric Scholarship Scheme for SC/ST Students and Central Sector Interest Subsidy Scheme (CSIS) Merit-based scholarship schemes.
- **Export/Import Subsidy**
  - ✓ To encourage exports by making products competitive in the international market and support domestic companies.
  - ✓ **Schemes:** Merchandise Exports from India Scheme (MEIS), Services Exports from India Scheme (SEIS), Free Trade Agreements (FTAs) Export-Oriented Units (EOUS) and Special Economic Zone (SEZs).
- **Housing Subsidy**
  - ✓ To lower housing expenses for marginalized communities.
  - ✓ **Schemes:** Pradhan Mantri Awas Yojana (PMAY), Interest Subsidy Scheme for Housing Loans and Credit Linked Subsidy Scheme (CLSS).
- **Oil & Fuel Subsidy**
  - ✓ To address economic distress by controlling the prices of petroleum products.
  - ✓ **Schemes:** Direct subsidies to oil marketing companies (OMCs) and price control mechanisms.
- **Tax Subsidy**
  - ✓ To reduce the tax burden on specific businesses or industries to encourage consumption or production.
  - ✓ **Schemes:** Startup India tax benefits, Infrastructure investment incentives and Special Economic Zone (SEZ) tax benefits.
- **Transport Subsidy**
  - ✓ To promote industrialization in remote areas.
  - ✓ **Schemes:** Transport Subsidy Scheme (TSS) and Freight Subsidy Scheme
- **Fossil Fuel Subsidy**
  - ✓ To lower the cost of fossil fuels and their production.
  - ✓ Direct subsidies to coal mining companies and Tax breaks for oil exploration companies.

- **Agricultural or Farm Subsidy**
  - ✓ To support agribusinesses and farms, manage agricultural commodity supply, and influence their cost and supply.
  - ✓ Schemes: Minimum Support Prices (MSPs), Subsidies on fertilizers and pesticides and Crop insurance schemes.

REASONS WHY GOVERNMENTS PROVIDE SUBSIDIES

- **Price Stability and Poverty Prevention:** Directly reducing the cost of essential goods, subsidies assist consumers during economic hardships, ensuring price stability and preventing poverty.
- **Strategic Industry Support:** Governments subsidize vital sectors such as agriculture, fishing, and manufacturing for national security and economic development.
- **Social Welfare and Equity Promotion:** Subsidies improve access to crucial services like education, healthcare, and public transportation for low-income populations, reducing inequality and promoting human development.
- **Market Failure Correction:** Addressing market failures, subsidies encourage the production of goods or services with positive externalities or rectify imperfect information.
- **Political Considerations:** Subsidies may be influenced by political motives, serving governments in gaining support from specific sectors or demographics, even in the absence of strong economic justification.
- **Environmental Protection Incentives:** Encouraging eco-friendly practices and technologies, subsidies for renewable energy or sustainable agriculture contribute to pollution reduction and resource conservation.
- **Technological Innovation Support:** Subsidies stimulate research and development, fostering innovation in new technologies and assisting companies in overcoming initial financial barriers.
- **Trade Promotion Strategies:** Export subsidies enhance global competitiveness, potentially boosting national income, although they may trigger trade conflicts.
- **Foreign Policy Objectives:** Subsidies are utilized as tools for foreign aid or geopolitical goals, influencing international affairs and alliances.

CHALLENGES OF INDIAN SUBSIDIES

- **Fiscal Burden**

  - ✓ The sheer cost of subsidies puts immense pressure on the government's finances.
  - ✓ In 2023-24, the estimated subsidy bill for **India is a staggering ₹5.92 lakh crore** (US$ 74 billion).
  - ✓ It diverts resources from crucial areas like healthcare, education, and infrastructure development.
- **Inefficient Targeting and Leakages**
  - ✓ Many subsidies lack proper targeting mechanisms, leading to leakages and benefiting unintended recipients.
  - ✓ **Comptroller and Auditor General of India (CAG),** 2022 report estimated that leakages in various subsidy programs amounted to a staggering **₹1.2 lakh crore (US$ 15 billion).**
- **Market Distortions**
  - ✓ Subsidies can distort market prices and incentives, leading to inefficient allocation of resources and overconsumption of subsidized goods.
  - ✓ For instance, cheap subsidized fertilizers might encourage overuse, harming soil health and the environment.
- **Environmental Concerns**
  - ✓ Certain subsidies, like those for fossil fuels, can discourage investments in renewable energy and contribute to environmental degradation.
  - ✓ Finding a balance between supporting vulnerable populations and promoting sustainable practices is crucial.
- **Political Pressures**
  - ✓ The popularity of subsidies makes them politically sensitive, often leading to resistance from vested interests even when reforms are necessary.
  - ✓ Striking a balance between **political feasibility and economic rationality** remains a challenge.

WAY FORWARD

- To tackle India's subsidy challenges, a four-pronged approach is crucial: **smarter targeting with Aadhaar, rationalizing aid by prioritizing impactful sectors, expanding DBT for transparency, and investing in long-term alternatives like renewable energy and efficient transport,** ultimately moving away from dependence on subsidies. This multi-faceted strategy paves the way for a more equitable and efficient system.

3.6. SOVEREIGN CREDIT RATING

Context

Recently, India's Chief Economic Adviser criticized **sovereign credit rating methodologies of Fitch, Moody's, and Standard & Poor's.**

WHAT IS A SOVEREIGN CREDIT RATING?

- A sovereign credit rating is an **independent assessment of the creditworthiness** of a country or sovereign entity.
- Investors use **sovereign credit ratings as a way to assess the** riskiness of a particular country's bonds.
- Investors also use ratings to **gauge risk** in bonds, with investment-grade and speculative/junk grades.
- Sought after by countries to **attract Foreign Direct Investment.**

- Provided by agencies **like S&P, Moody's, and Fitch** to inspire investors' confidence.
- Sovereign Credit risks indicate a **government's ability to fulfil debt obligations.**

Credit Rating Agencies (CRAs)
• It evaluates companies and government entities for financial strength and debt repayment.
• Functions: Inform investors about bond issuers and sovereign debt.
• In India: Seven registered agencies, including CRISIL, CARE, ICRA, SMREA, Brickwork rating, India Rating and Research Pvt. Ltd.
• Global Industry: Dominated by Moody's, Standard & Poor's, and Fitch.
• Rating Scales: Alphabetical symbols (AAA, AA, A, B) assess creditworthiness.
✓ Higher ratings imply lower default risk, with AAA indicating strong financial capability.
✓ Ratings below BB suggest poor creditworthiness.

DETERMINANTS OF SOVEREIGN CREDIT RATINGS

- **Per capita income:** Higher income supports debt repayment.
- **GDP growth:** Strong growth aids debt obligations through higher tax revenues.
- **Inflation:** High inflation signals financial problems and political instability.
- **External debt:** Heavy reliance increases the risk of default.
- **Economic development:** Developed nations are seen as lower default risk.

- **History of defaults:** Past defaults lead to higher sovereign credit risk.

SEBI Regulations, 1999
• SEBI primarily regulates **CRAs under the SEBI Act, of 1992.**
• **Disclosure-Based Regime:** SEBI (Credit Rating Agencies) Regulations, 1999 mandates disclosure of rating criteria, methodology, default recognition policy, and conflict of interest guidelines.

LATEST ECONOMIC SURVEY'S STANCE ON SCR IN INDIA

- India **received lower ratings** despite positive performance.
- India has **strengths** in low foreign currency debt and substantial reserves.
- Suggests **prioritizing** growth over being constrained by credit ratings.
- Recommends **collaboration** among developing economies to address biases.

CRITICISM OF CREDIT RATING AGENCIES

- **Reactivity and Bias:** Agencies perceived as reactive and biased, especially for emerging markets.
- **Unequal Treatment:** Certain agencies were criticized for challenges in upgrading African countries.
- **Regional and Cultural Influences**: Home countries and cultural similarities influence ratings.
- **Conflict of Interest:** Compensation structure raises concerns about independence and objectivity.

3.7. GROW LOCAL, EAT LOCAL

Context

Recently, farmers from various districts of **West Bengal organized an indigenous seed festival** in Contai, Purba Medinipur.

ABOUT THE FESTIVAL

- Hundreds of farmers participated, bringing **Indigenous Varieties** of paddy, pulses, and vegetables.
- Farmers exchanged **Traditional Knowledge** about indigenous seed varieties during the festival.

Action Aid Association
• It is an organisation working for social and ecological justice.
• It has been engaged with the most marginalised communities in India since 1972
• As a registered Indian organization, it works across 24 states with partners to achieve equality, fraternity, and liberty for all.
• ActionAid is also part of a global network present in over 40 countries.

- The initiative aimed at **preserving and sharing expertise** on native seeds.
- The festival was organized by **ActionAid,** an NGO, in collaboration **with Kajla Janakalyan Samiti and Purba Medinipur Kisan Swaraj Samity.**

- **Growing food locally:** Supporting **local farmers and producers** by buying food grown or raised near your community. This can include fruits, vegetables, meat, dairy, and other agricultural products.

Seed Banks
• They are specialized facilities that **store seeds of various crops to preserve genetic diversity for future use.** They focus on **orthodox seeds** - those with long lifespans and tolerance to drying and freezing.
• Types:
✓ On-farm: Seeds stored by farmers for a few months to years, like community or household banks.
✓ Ex-situ: National, regional, or global banks with controlled environments for medium to long-term storage.
✓ In-situ: Wild relatives of crops and domesticated crops kept in natural settings, like agro gene sanctuaries.

- **Eating the food, you grow locally:** Consuming the **food you**

Grow local, Eat local has significant implications for India

Socio Economic
- Empowering and supporting small farmar
- Building resilient food system
- Promoting food security

Environmental
- Reducing Carbon footprint
- Preserving Biodiversity Promoting sustainable
- landuse

Health and Wellbeing
- Enhancing food quality and safety
- Supporting healthy diets Building connection with
- food sources.

purchase from local sources, reducing the reliance on long-distance transportation and supermarkets.

GROW LOCAL, EAT LOCAL HAS SIGNIFICANT IMPLICATIONS FOR INDIA
CHALLENGES

- **Infrastructure and logistics:** Building robust infrastructure for storage, transportation, and marketing of local produce is crucial.
- **Consumer awareness and education**: Promoting awareness about the benefits of local food and educating consumers about identifying and accessing local products is essential.
- **Economic viability:** Ensuring fair prices for both farmers and consumers while maintaining affordability for all requires careful planning and collaboration

ONE DISTRICT ONE PRODUCT (ODOP)

- The initiative is aimed at fostering balanced regional development across all districts of the country.
- The initiative aims to **select, brand, and promote at least One Product from each District** (One District - One Product) of the country to enable holistic socio-economic growth across all regions.
- The ODOP Initiative has identified a total of **1102 products from 761 districts** across the country.

WAY FORWARD

- **Connecting Farmers and Consumers:** Utilize ODOP platforms to promote local produce, while GI Tag certification protects unique varieties and incentivizes farmers.
- **Supporting Local Infrastructure:** Invest in storage, processing, and transportation infrastructure to ensure efficient distribution of local food.
- **Raising Consumer Awareness**: Partner with NGOs and government agencies to educate consumers about the benefits of local food.

3.8. INCOME INEQUALITY IN INDIA

Context

A recent research of SBI highlights suggests a **significant decline in income inequality in India** over the last decade.

KEY FINDINGS OF THE REPORT

- **Gini Coefficient Decline**
  - ✓ The Gini coefficient, a measure of inequality, has fallen from **0.472 in 2014-15 to 0.402 in 2022-23,** indicating a nearly 15% reduction.
- **Taxpayer Data Analysis:**
  - ✓ The analysis is based on taxpayer data, **raising concerns about the exclusion of a significant portion of income-earners** who fall below the taxable threshold.
- Approximately 80% of income-earners, earning less than ₹2.5 lakh per annum, are not considered in the taxpayer data.
- **Income Polarization**
  - ✓ Despite the **overall decline in the Gini coefficient**, there is evidence of income polarization, particularly among self-employed workers.
  - ✓ Incomes of the **top 10% have grown faster than the bottom 30%,** with the self-employed category showing notable polarization.

Gini Coefficient
- It derived from the Lorenz Curve, serves as an indicator of economic development in a country.
- It quantifies the level of income equality within a population.
- The Gini Coefficient's scale ranges from 0 (perfect equality) to 1 (perfect inequality).
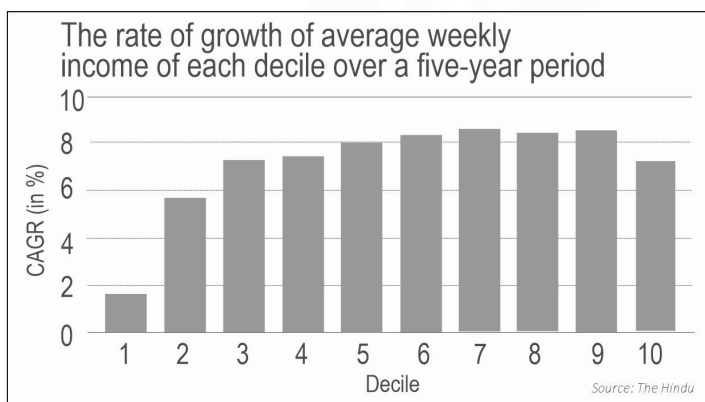
Gini Coefficients

	2017-18	2022-23
Overall	0.4297	0.4197
Self-employed	0.37077	0.3765
Regular wage workers	0.43947	0.43198
Casual wage workers	0.27619	0.263

- **Aggregate Inequality Analysis**
  - ✓ The Gini coefficient has fallen from **0.4297 in 2017-18 to 0.4197 in 2022-23,** but there is a slight rise in inequality for the self-employed.
- **Changes in Polarization:**
  - ✓ The study introduces the concept of polarization in incomes, showing a divergence in fortunes between the top and bottom income scales.
  - ✓ The 90/10 ratio, indicating the income gap between the **top 10% and bottom 10%,** has increased from **6.7 in 2017-18 to 6.9 in 2022-23.**

The rate of growth of average weekly income of each decile over a five-year period

Source: The Hindu

- **Polarization Amongst Different Forms of Work:**
  - ✓ The **90/10 ratio has fallen for wage earners**, especially for regular wage workers, while significantly increasing for the self-employed.

The 90/10 ratio

	2017-18	2022-23
Overall	6.667	6.94
Self-employed	6	8.33
Regular wage workers	8.75	7.25
Casual wage workers	4	3.56

  - ✓ The income gap between **the top and bottom 10% of self-employed** individuals has notably widened.

REASONS FOR INCOME INEQUALITY IN INDIA

- **Economic growth patterns:** Certain sectors and high-skilled professions, such as IT, experience higher wages, while lower-skilled and informal sector workers face stagnant or declining incomes.
- **Land ownership and agricultural income:** Unequal land distribution and challenges in agriculture, including low productivity and market fluctuations, contribute to income disparities, especially for small and marginal farmers.
- **Access to education and healthcare:** Limited access to quality education and healthcare, concentrated in urban areas and among wealthier populations, restricts social mobility and reinforces income inequality.
- **Social inequalities:** Caste, gender, and religious discrimination impact education, employment opportunities, and resource access, affecting earning potential and widening income gaps.
- **Taxation structure:** The reliance on indirect taxes like GST, coupled with tax evasion by wealthier individuals, distorts income distribution and contributes to financial inequality.
- **Unemployment and underemployment:** High unemployment rates, inflation, and underemployment create economic disparities, widening the gap between employed and unemployed individuals.
- **Globalization and technological change:** The impact of globalization benefits certain industries, leading to uneven economic growth. Automation and technological advancements can affect income levels based on skill sets.
- **Informal labour market:** The significant informal sector, characterized by limited job security and benefits, contributes to income disparities among workers.
- **Wealth concentration:** The concentration of assets among a small percentage of the population, including property ownership and financial assets, adds to income inequality.
- **Social and caste dynamics:** Historical disparities based on caste, gender, and religion influence income distribution, creating barriers to economic opportunities for marginalized groups.
- **Black money and corruption:** The presence of black money and corruption in the economy undermines the taxation system, leading to unequal income distribution.

GOVERNMENT MEASURES TO ADDRESS INCOME INEQUALITY IN INDIA

- **Constitutional Provisions**
  - ✓ **Article 38:** Guarantees the right to an adequate means of livelihood and advocates for the equal distribution of resources.
  - ✓ **Article 39(b):** Mandates the state to ensure that the ownership and control of material resources are not concentrated in the hands of a few.
  - ✓ **Article 46:** Promotes the development of weaker sections of society, scheduled tribes, and scheduled castes.
- **Legal efforts**
  - ✓ **Minimum Wages Act, 1948**: Sets minimum wage standards for various industries and occupations to ensure basic living standards.
  - ✓ **Right to Education Act, 2009:** Guarantees free and compulsory education to children aged 6-14, improving access to education for all.
  - ✓ **MGNREGA (Mahatma Gandhi National Rural Employment**

Guarantee Act), 2005: Provides guaranteed 100 days of employment in a financial year for rural households, enhancing income security and rural development.

- **Major Schemes**
  - ✓ **Direct Benefit Transfers (DBT):** Aims to improve the efficiency and transparency of government subsidies, potentially reducing leakages and ensuring benefits reach the intended recipients.
  - ✓ **National Education Policy 2020:** Focuses on equitable access to quality education, potentially reducing skill gaps and income inequality.
  - ✓ **Pradhan Mantri Awas Yojana (PMAY):** Provides housing assistance to low-income families in urban and rural areas, improving living conditions and reducing poverty.
  - ✓ **Swachh Bharat Mission:** Aims to improve sanitation and hygiene in rural areas, contributing to better health and well-being, especially for vulnerable communities.
  - ✓ **Pradhan Mantri Kisan Sampanna Yojana (PM-KISAN):** Provides income support to small and marginal farmers, enhancing agricultural income and rural livelihoods.
  - ✓ **Skill India Mission:** Focuses on skilling and upskilling the workforce, equipping individuals with skills relevant to the job market and improving employability.
  - ✓ **Pradhan Mantri Jan Dhan Yojana (PMJDY), 2014:** Promotes financial inclusion by providing bank accounts and access to financial services for unbanked individuals.

WAY FORWARD

- The success of these measures hinges on their **efficient execution, precise targeting of beneficiaries, and a sustained process of evaluation**.
- Additionally, addressing systemic challenges such as **social discrimination and disparate access to resources** remains pivotal for advancing substantial progress towards **greater income equality in India.**
- Achieving this goal requires **collaborative endeavours** involving the **government, civil society, and the private sector** to foster a **more inclusive and equitable** society for all.

3.9. ELECTRIC VEHICLES AND HYBRID ALTERNATIVES

Context

Recently, there has been a debate that hybrid Vehicles could be an alternative to Electric Vehicles in India.

- **Electric Vehicles (EVs):** Use **electric motors** for propulsion, powered by self-contained batteries, solar panels, or electric generators converting fuel to electricity. EVs aim to reduce reliance on traditional fuels, contributing to environmental sustainability and cleaner transportation.
- **Hybrid Electric Vehicles (HEVs):** combine **an internal combustion engine with an electric motor**. They enhance fuel efficiency by seamlessly switching between the two power sources, reducing emissions. HEVs offer a practical bridge to full electrification in the automotive industry.

GOVERNMENT POLICIES FOR EVS

Policy/ Scheme	Details
FAME India Scheme (2015)	• **Launched By:** Ministry of Heavy Industry. • **Objective:** Part of the National Electric Mobility Mission Plan (NEMPP) to promote electric and hybrid vehicle manufacturing. • **Incentives:** Subsidies to encourage the production and adoption of electric and hybrid vehicle technologies.
Production-Linked Incentive (PLI) Scheme - National Programme on Advanced Chemistry Cell (ACC) Battery Storage	• **Focus:** Advanced Chemistry Cell (ACC) batteries for energy storage in electric vehicles. • **Purpose:** To boost domestic manufacturing of batteries through production-linked incentives. • **Benefits:** Enhance energy efficiency and sustainability in the electric vehicle sector.

Battery Swapping Policy	• **Objective:** Standardize battery standards for electric vehicles (EVs) nationwide.
	• **Advantages**
	  ✓ Promote EVs in time-sensitive sectors like deliveries and inter-city transportation.
	  ✓ Facilitate quick battery swaps, addressing concerns about prolonged recharging times.
	  ✓ Enhance interoperability by ensuring uniform battery configurations within specific categories of EVs.
	• **Implementation:** A legislative framework to be introduced for effective policy execution.

CHALLENGES IN THE PROMOTION OF ELECTRIC VEHICLES (EVS)

Subsidy Distribution Concerns

- The success of EV adoption often relies on **state subsidies**, as seen in various markets such as Norway, the US, and China. However, a notable issue is the disproportionate distribution of upfront subsidies and tax breaks, with a significant portion benefiting the **middle or upper-middle class**, typically the primary purchasers of battery electric 4-wheelers.

Charging Infrastructure Disparity

- While upfront purchase subsidies are expected, a World Bank analysis suggests that investing in charging

infrastructure is four to seven times more effective in promoting EV adoption.

- China dominates the global charging infrastructure with 85% fast chargers and 55% slow chargers. In contrast, despite a growing EV market set to reach **45-50 million vehicles** by 2030, India currently has only around **2,000** operational public charging stations.

Unique Charging Infrastructure Requirements

- India's vehicle mix is dominated **by two- and three-wheelers**, which have charging needs different from cars and buses. Most electric 2-wheelers and 3-wheelers are better suited to slow charging, and the emergence of battery swapping as an alternative highlights the need for diverse charging solutions.

Higher Emissions

- EVs emit **158 g/km** compared to **hybrids' 133 g/km** on a **wheel-to-wheel (WTW) basis**. This analysis considers total emissions, including those from crude mining, refining, and power generation, providing a comprehensive assessment beyond just **tailpipe emissions** (tank-to-wheel, or TTW).
- In comparison, traditional petrol and diesel vehicles emit 176 g/km and 201 g/km, respectively.

Electricity Source Dilemma

- Many countries promoting EVs benefit from a high percentage of electricity generated from renewables, such as Norway, which has 99% hydroelectric power. In contrast, India heavily relies on **coal-fired thermal plants**, raising concerns about the environmental impact of increased electricity demand from EVs.

Global Value Chain Dependency

- India requires more than 50,000 tonnes of lithium to manufacture EV batteries alone. However, over **90% of global lithium** production is concentrated in specific countries like Chile, Argentina, Bolivia, Australia, and China.
- India faces a significant challenge in meeting its BEV

demand, primarily relying on imports from a limited number of countries, thus highlighting potential supply chain vulnerabilities.

ADVANTAGES OF HYBRIDS OVER ELECTRIC VEHICLES (EVS) IN THE INDIAN CONTEXT

- **Lower Total Carbon Emissions:** Hybrids currently emit 16% less carbon (133 g/km) than EVs (158 g/km) due to the source of electricity generation. This makes hybrids a more environmentally sound option.
- **Practical Medium-Term Solution:** Hybrids are a practical medium-term solution for India (5-10 years) as the country moves towards more significant renewable electricity generation. This approach balances the need for reduced emissions with the practical constraints of current infrastructure.
- **Decarbonisation Drive:** Hybrids align with India's decarbonisation goals, providing a transitional solution while the country builds a robust electric vehicle ecosystem.
- **Cost of Ownership Perspective:** Hybrids offer a cheaper cost of ownership, offering a more economically viable option for consumers in the short to medium term.
- **Convergence of Emissions:** The emissions from EVs and hybrids could take 7-10 years to converge. This indicates that hybrids could continue to offer lower emissions than EVs in the foreseeable future.

Way Forward for EVs

- Reform subsidy policies for a fairer distribution, targeting affordable BEV models. Incentivise manufacturers to produce cost-effective BEV options.
- Prioritise investment in a widespread and accessible public charging network. Encourage private sector participation and innovation for diverse charging solutions.
- Implement policies for a swift transition to renewable energy in electricity generation.
- Invest in R&D for alternative battery technologies, reducing dependence on lithium. Explore partnerships with lithium-producing countries for a stable and diversified supply chain.

4. HISTORY, ART AND CULTURE

4.1. DISCOVERY OF PALEOLITHIC QUARTZITE TOOLS

Context

The recent floods in the **Mulugu district of Telangana** have led to a fresh discovery of palaeolithic quartzite tools.

TOOLS FOUND

- The **stone axe** measuring **15.5cm in length, 11cm in width and 5.5cm** in thickness was found.
- According to palaeontologists, the **stone axe belongs to the Lower Paleolithic period** and was about **30 lakh years ago**.
- The tools are based on chipping style, the material and the size of tools.
- **Uses:** Palaeolithic hunter-gatherers **used heavy quartzite and large tools.** Similar hand axes have been discovered worldwide.
- The tools were used for **cutting wood and killing animals for food.**
- The discovery pushes back **the understanding of human habitations in Telangana and central India.**

PREVIOUS DISCOVERY

- In 1863, the East India Company's Geological Survey team found a palaeolithic site at Attirampakkam near Madras (present-day Chennai) with **bifacial hand axes made of stone by early humans.**
- The tools are about 15 lakh years old.
- Paleolithic culture has been labelled as Madras Hand-Axe Industry or Madrasian Culture.

PALEOLITHIC AGE

- The Paleolithic Age is **also known as or Old Stone Age or Early Stone Age**.
- It dates back to about 33 lakh years BC. It lasted for 10,000 years.
- The name Paleolithic was coined **by the famous archaeologist John Lubbock in the year 1865**.
- It began with the first use of stone tools by hominins (human-like creatures) and ended with the onset of the Mesolithic Period around 11,650 years ago.
- It has been **classified into upper, middle, and lower Paleolithic periods** due to the growth that was experienced by the human species over time.
- **Lower or Early Paleolithic:** From 2.6 million-250,000 years ago, simple pebble tools and crude stone choppers were made by the earliest humans.
- **Middle Paleolithic:** From 250,000 years ago, with a new focus on **flake tools**, which continued to be popular in certain areas until as late as c. 30,000 years ago.
- **Upper or Late Paleolithic (40,000–10,000 BC):** It saw a huge proliferation of both tool shapes and source materials (now also a lot of bone, antler, and ivory).
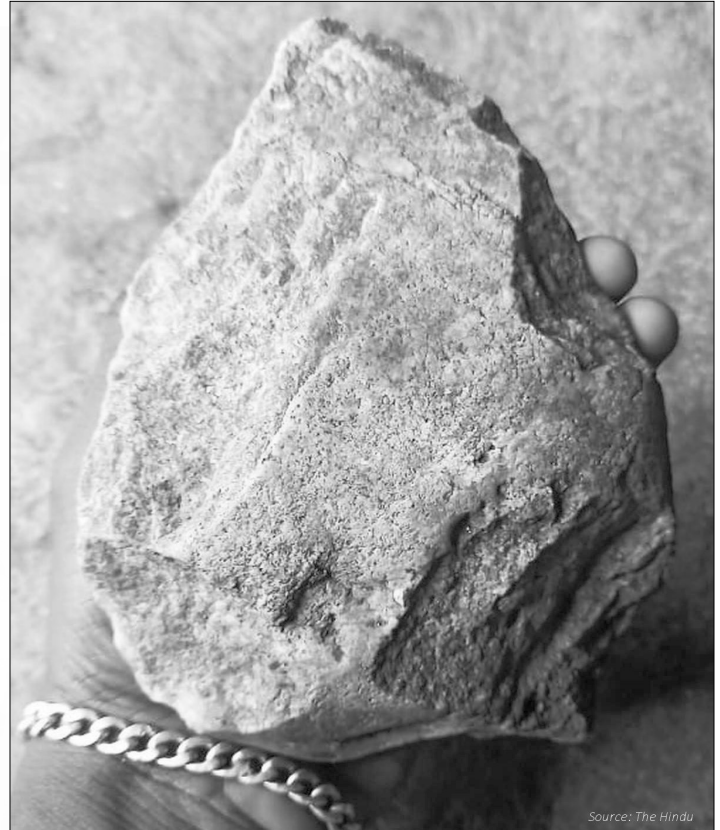
Source: The Hindu

TECHNOLOGY DEVELOPED IN THE PALEOLITHIC AGE

- During the Paleolithic Age, humans lived in small groups of hunter-gatherers who moved across different environments in search of food and resources.
- They adapted to various climates and landscapes by using different types of stone tools for different purposes. For example, they used sharp blades for cutting meat and bones, pointed tips for piercing animal hides and shells, and engraved tools for making ornaments and symbols on cave walls.
- They also used other materials such as wood, bone, antler, ivory, shell, and plant fibres for making tools and clothing.

CULTURAL DEVELOPMENTS

- The Paleolithic Age is also a period of human evolution and cultural development.
- Humans gradually changed their physical appearance over time by developing larger brains, smaller teeth and jaws, flatter faces, longer limbs, and more body hair.
- They also developed language skills that enabled them to communicate more effectively with each other.

- They expressed their creativity and emotions through art forms such as paintings on cave walls (also known as cave paintings or prehistoric art), sculptures made of bone or ivory (also known as figurines or statuettes), musical instruments made of animal bones or shells (also known as flutes or whistles), and jewellery made of beads or shells (also known as necklaces or bracelets).

RELIGIOUS LIFE

- They also practised rituals such as burial ceremonies (also known as funerary rites) that showed their respect for their dead relatives or ancestors.

RELEVANCE OF THE PALEOLITHIC AGE

- The Paleolithic Age was a remarkable period in human history that shaped our modern world in many ways.
- It was a time when humans first learned how to use stone tools for various purposes; how to adapt to different environments; how to evolve physically; how to communicate verbally; how to create art; how to express emotions; how to respect life; how to cooperate with others; how to survive in harsh conditions; how to explore new lands; how to interact with other species; how to develop culture; how to leave behind traces of their existence.

4.2. RAM TEMPLE

Context

The Pran Pratishtha program, which commemorates Shri Ram Lalla's **Pran Pratishtha,** is scheduled for 22 January 2024.
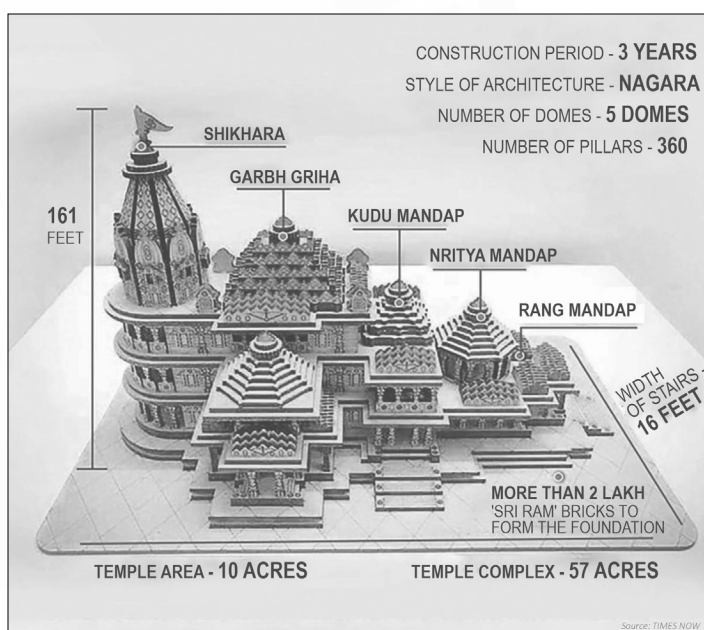
ABOUT RAM MANDIR

- At the heart of Ayodhya's cultural and religious identity lies the magnificent Ram mandir, a symbol of devotion and faith for millions.
- Followed by the consecration ceremony **(pran pratishtha) of Ram Lalla** in the **sanctum-sanctorum (garbha-griha)**, the temple will be open for the devotees from January 24**.**
- Followed by the consecration ceremony **(pran pratishtha) of Ram Lalla** in the **sanctum-sanctorum (garbha-griha)**, the temple will be open for the devotees from January 24**.**
- The original design for **Ram Mandir was planned in 1988 by the Sompura family of Ahmedabad.** However, it went through certain changes in 2020, including **the Vastu shastra and the Shilpa shastras**.
- The Sompuras have contributed to the design of over **100 temples worldwide for at least 15 generations, including the Somnath temple.**

CONSTRUCTION PERIOD - **3 YEARS**
STYLE OF ARCHITECTURE - **NAGARA**
NUMBER OF DOMES - **5 DOMES**
NUMBER OF PILLARS - **360**
SHIKHARA
GARBH GRIHA
161 FEET
KUDU MANDAP
NRITYA MANDAP
RANG MANDAP
WIDTH OF STAIRS - **16 FEET**
MORE THAN 2 LAKH 'SRI RAM' BRICKS TO FORM THE FOUNDATION
TEMPLE AREA - **10 ACRES**
TEMPLE COMPLEX - **57 ACRES**
Source: TIMES NOW

Characteristics of Nagara Style of Architecture
• Gurjart Chalukya architecture belongs to the Nagara style of temple architecture.
• Mandapas: they are the gathering places in front of the main shrine. Unlike in South India, they rarely have extensive boundary walls or gateways.
• Shikhara: It is a temple tower, with a rectangular or square base and varying height and width. The **garbhagriha** is always located directly under the shikhara.
• Amalak: The shikara's vertical end leads to a horizontal fluted disc, known as amalak. On top, a spherical form known as a kalash is affixed.
• Vahana: It refers to the major deity's mount, commonly located in the line of sight from Garbhagriha.
• Mandapas: The temple will attribute five mandapas in the sanctum sanctorum and doorway.
✓ Examples of Nagara temples in India include the Sun Temple in Konark and Modhera, Gujarat.

- The **Shri Ram Janmabhoomi Temple** construction is managed wholly by the **Shri Ram Janmabhoomi Teerth Kshetra Trust.Temple Architecture**
- The Ram temple will be the world's third-largest Hindu shrine complex, measuring 235 feet (72 meters) in width, 360 feet (110 meters) in length, and 161 feet (49 meters) in height once completed.
- The temple's architect is Chandrakant Bhai Sompura (who also designed Gujarat's Akshardham temple).
- The design is in the Nagara Style, influenced by the Gujara-Chalukya style of architecture.
- The **temple's 360 pillars in** the Nagar style enhance its visual attractiveness and architectural sophistication. Ram Mandir's design structure suggests that it will become India's largest temple.
- The temples are built with **stone or brick on a square or**

rectangular plane with **a shikhara located in the centre.**

- The Mandir **is three-storied,** with each floor being 20 feet tall.
- **Granite Stone used**
  - ✓ Foundation built with a **14-metre-thick layer of roller-compacted concrete**, giving it the appearance of **artificial rock**.
  - ✓ 21-foot-high granite plinth to protect against ground moisture.
- **No iron has been used anywhere**
- In this architectural style, the temple is surrounded by small towers called **Mukha Mandapa**.
- **Shri Ram Darbar on the first floor.**
- Emphasis on environmental and water conservation, with **70% of the 70-acre** area being left green.
- The Ram Mandir's bricks have the inscription 'Shri Ram.'
- **FIVE mandaps (halls)**
  - ✓ Nritya Mandap
  - ✓ Rang Mandap
  - ✓ Sabha Mandap
  - ✓ Prarthana Mandap
  - ✓ Kirtan Mandap
- **Deities**
  - ✓ Lord Ram is the main deity of the temple hence Idol of Ram is placed Lalla in the sanctum.
  - ✓ Mandirs at four corners of the compound dedicated **to Surya, Bhagwati, Ganesh, Shiv**.
  - ✓ **There will be temples to Annapurna and Hanuman** respectively on the **northern and southern arms of Ram Temple.**
  - ✓ Temples to **Maharshi Valmiki, Vashishtha, Vishwamitra, Agastya, Nishad Raj, Shabri**, etc proposed in the complex.

RAM MANDIR'S SIGNIFICANCE

Social harmony

- The temple's construction promotes social unity and fulfils a long-held religious and spiritual desire of Hindus in the country.
- The Ayodhya dispute and the construction of the Ram Mandir have the potential to end decades of **religious conflict between Hindus and Muslims,** bringing social harmony and religious peace.

CULTURAL PRESERVATION

- Ayodhya has a strong historical and cultural tie to the ancient Indian epic, the Ramayana.
- The temple's building symbolizes the preservation and celebration of India's cultural heritage**.**

INFRASTRUCTURE DEVELOPMENT

- Ayodhya is gradually setting new growth milestones and establishing itself as the spiritual capital.

Historical event related to the Ram temple
• **1528:** Mir Baqi, a general under Mughal emperor Babur, constructs the Babri Masjid between 1528 and 1529.
• **1859:** The British colonial administration erects a fence to separate the places of worship, allowing Muslims to use the inner court and Hindus to use the outer.
• **1986:** A district judge directs that the gates to the contested mosque be unlocked so that Hindus might worship there. The Babri Masjid Action Committee was created.
• **2003:** The Archaeological Investigation of India (ASI) investigates the mosque site, discovering signs of a temple beneath the mosque.
• **2019:** On November 9, the Supreme Court ordered that the contested land (2.77 acres) be turned over to a trust to build the Ram Janmabhoomi temple. And an additional 5 acres of land in Ayodhya to the Sunni Waqf Board to construct a mosque.

- **Economic:** The construction of Ram Mandir can revive economic growth, create jobs, and **increase tourism,** resulting in local development opportunities.
- **International recognition:** Ayodhya Research Institute gets the status of international research institute.

AYODHYA

- Ayodhya is a city on the banks of the sacred river Saryu in Uttar Pradesh.
- Ayodhya formerly known as Saketa was the early capital of the Kingdom of Kosala.

The Ayodhya Research Institute
• It, popularly known as 'Ayodhya Shodh Sansthan', was started in August 1986 and housed in the historic Tulsi Smarak Bhawan.
• It is an autonomous body under the Culture Department of the state government.

- **During the reigns of Kumaragupta and Skandagupta**, the empire's capital was moved from Pataliputra to Ayodhya, and the ancient name of Saketa was replaced with Ayodhya.
- In the 11th and 12th centuries CE, the **Kanauj kingdom emerged in Ayodhya**, also known as **Oudh**.
- In the 18th century, Oudh gained independence before succumbing to the British East India Company in 1764.
- The British annexed **Oudh in 1856,** leading to the Indian Mutiny in **1857 due to the loss of rights for hereditary land revenue receivers.**
- **In 1877, Oudh** was merged with the Agra Presidency to form the **North-Western Provinces,** which later became the United Provinces of Agra and Oudh, now Uttar Pradesh state.

4.3. KALARAM MANDIR

Context

Recently, Prime Minister Narendra Modi visited the iconic Kalaram Mandir in Maharashtra's temple town of Nashik.

ABOUT KALARAM MANDIR

Source: The Hindu

- Kalaram Mandir is located on the banks of the Godavari in the Panchavati area of Nashik City in Maharashtra.

TEMPLE'S UNIQUENESS AND ARCHITECTURE

- The Kalaram temple derives its name from a black statue of Lord Kala Ram translates literally to "Black Ram".
- The sanctum sanctorum has statues of Ram, Sita, and Lakshman, and a black idol of Hanuman at the main entrance.
- The temple, which is visited by thousands of devotees every day, was built in 1792 with the efforts of one Sardar Rangarao Odhekar.
- It is said that Sardar Odhekar dreamt of a black-coloured statue of Lord Ram in the Godavari, recovered the statues from the river, and built the temple.
- The main temple has 14 steps, which represent the 14 years of Ram's exile.
- It has 84 pillars, which represents the cycle of 84 lakh species that one has to complete to be born as a human.
- On the temple premises, there is also a very old tree, with an impression of Lord Dattatreya's footprints on the stone beneath it.

ABOUT PANCHAVATI'S UNIQUENESS

- Panchavati has a special place in the Ramayana and, therefore, in the Hindu religion.
- Panchavati, a part of Dandakaranya in central India, holds significance in the Ramayana as the initial abode during Lord Rama's exile.

4.4. SHREE MANDIR PARIKARAMA PRAKALPA PROJECT

Context

Recently, the Chief Minister of Odisha inaugurated the Shree Mandir Parikrama Prakalpa, an extensive peripheral development initiative surrounding the 12th-century Shree Jagannath Temple in Puri, Odisha.

ABOUT SHREE MANDIR PARIKRAMA PRAKALPA PROJECT

Source:Daily Excelsior

- It includes the Heritage Corridor, a 75-meter-wide space encircling the temple divided into nine zones.
- It also has a 10-meter Antar Pradkshina for ceremonial processions and a public convenience zone equipped with drinking water facilities, mini-cloak rooms, information-cum-donation centers, restrooms, and an emergency lane.
- It incorporates a 7-meter green buffer zone adjacent to the Meghanada Pacheri (temple boundary).
- The State government organized an extensive outreach program with Arpan Raths parading through every village, encouraging people's participation.
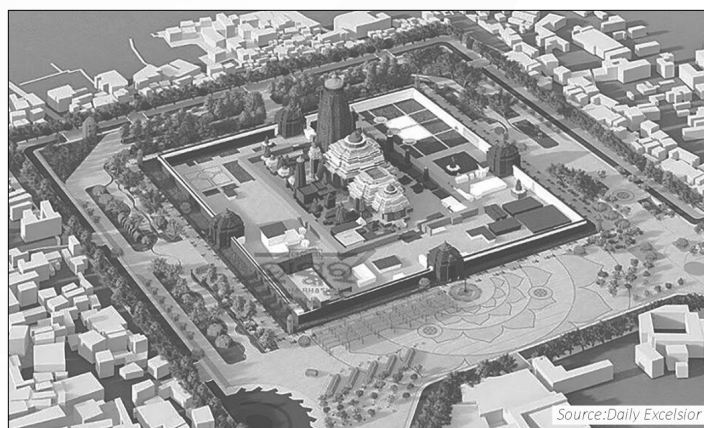
ABOUT JAGANNATH TEMPLE (PURI, ODISHA)

- It is the most significant Hindu temple dedicated to Jagannath (a form of Vishnu).
- This temple is sacred to all Hindus, especially for Vaishnava traditions (Abhimana Kshethram is part of Vaishnavite tradition).
- Renowned Vaishnava saints such as Ramanujacharya, Nimbarkacharya, Vallabhacharya, and Ramananda have close associations with the temple.
- The unique aspect of the temple is that the image of Jagannath is made of wood (neem wood, known as Daru) and is ceremoniously replaced every 12 or 19 years by a replica.
- The temple, built in Kalinga Architecture, is one of the Char Dham pilgrimage sites.

CONSTRUCTION

- The construction of the present temple dates back to the 10th century CE, rebuilt by King Anantavarman Chodaganga of the Eastern Ganga dynasty.
- The temple complex underwent further development under subsequent kings, including those of the Ganga and Gajapati dynasties.

RATHA YATRA

- It is considered as the largest and oldest chariot festival in the Hindu tradition.
- It takes place annually during the bright half of the lunar month of Ashadh (June or July).
- The festival involves the ceremonial pulling of massive wooden chariots carrying the deities from the Jagannath Temple to the Gundicha Temple, where they stay for a week before returning to their abode in the Jagannath Temple (Bahuda Yatra).

4.5. DOGRI FOLK DANCE

Context

Recently, the Government of India honored Romalo Ram, a Dogri folk dancer from Jammu, with the prestigious Padma Shri award.

ABOUT DOGRI FOLK DANCE

- **Style:** Originating from the Duggar region of Jammu, the Dogri folk dance beautifully epitomizes the distinct cultural identity of the Dogra community.
- **Group Dynamics:** Typically, a collaborative effort, this dance form sees a group of artists coming together. The main (lead) performer not only dances but also sings, while others will support in beats using instruments such as chimta and drums.
- **Social gathering and occasions:** Dogri folk dance holds significant importance in various social gatherings, celebrations, and functions infusing a festive ambiance and symbolizing communal joy and spirit.
- **Variety in Performance:** The dance form exhibits diverse variations, with some performances involving both women and men, while others are exclusively presented by women. The use of colorful traditional attire enhances the vibrancy of these cultural displays.

Source: Pinterest

DOGRI LANGUAGE

- **Geographical Distribution:** Predominantly spoken in the Jammu region of Jammu & Kashmir. Also, Dogri has smaller speaker communities in western Himachal Pradesh, northern Punjab, and north-eastern Pakistani Punjab.
- **Official Recognition:** Since 2003, Dogri has been recognized as one of India's 22 scheduled languages and also included in one of the five official languages in Jammu & Kashmir.
- **Writing and Script:** Dogri was historically written in the old Dogra Akhhar script, which was later modified by Maharaja Ranbir Singh into Dogra Akkhar (which did not gain popularity). Presently, Devanagari is the official script for the Dogri language.
- **Cultural Significance:** With a rich literary tradition encompassing poetry, fiction, and dramatic works, Dogri plays a crucial role in preserving the cultural and linguistic heritage of the Dogras
- **Literary Contributions: In** 1873, the Sanskrit classic Lilavati was published in translated into the Dogri language.
- **Poets & Periodicals:** Notable poets like Kavi Dattu have made significant contributions to Dogri literature. Literary periodicals such as "Shiraza Dogri" (by Jammu & Kashmir Academy of Art, Culture, and Languages) promote Dogri's works.
- **Official Status:** Designated as an "independent modern literary language" by the General Council of the Sahitya Academy, Dogri attained national language status in India following its recognition in the constitution in 2003.

4.6. SILAMBAM

Context

Silambam, a traditional sport of Tamil Nadu, is being introduced as a demo sport for the first time in the history of the Khelo India Youth Games.

ABOUT SILAMBAM

- It is an Indian martial art originating in Tamil Nadu. This style is also mentioned in Tamil Sangam literature.
- It had references in the Silappadikaram and other works of Sangam literature which showed that Silabam has been practiced since 4th Century BC.
- The term 'Silambam' refers to a particular type of Bamboo from the Kurinji Hills, Kerala. This bamboo type was used earlier for self-defense and to ward off animals and later on evolved as a martial art.
- The city of Madurai is formed as a focal point of Silambam spreading.
- The Silambam staff was acquired by the Greeks, Romans, and Egyptians and backed to the Middle East, North Africa, and Europe.

4.7. PADMA AWARDS

Context

India's first female elephant mahout, Parbati Baruah, tribal environmentalist Chami Murmu, and social worker from Mizoram Sangthankima are among the 32 recipients of India's fourth highest civilian honour, the Padma Shri award.

PADMA AWARDS

- Padma Awards are one of India's highest civilian, which were instituted in the year 1954.
- It is announced every year on the occasion of Republic Day except for brief interruption(s) during the years 1978 and 1979 and 1993 to 1997.
- The President of India presents the awards.
- The Award recognizes excellence in public service-related activities and disciplines.
- The award does not confer a title and cannot be used as a suffix or prefix to the recipient's name.
1. **Padma Vibhushan:** for exceptional and distinguished service.
2. **Padma Bhushan:** for distinguished service of a high order.
3. **Padma Shri:** for distinguished service.

ELIGIBILITY

- These prizes are open to all individuals, regardless of race, occupation, position, or gender.
- A person can receive a higher category of Padma award after at least five years from their previous award.

NOT ELIGIBLE

- Government employees, including those working for PSUs, are not eligible for these Awards, except doctors and scientists.
- The prize is usually not given posthumously. However, in particularly deserving circumstances, the government may consider making an award posthumously.

NOMINATION PROCESS

- All nominations received for the Padma Awards are placed before the Padma Awards Committee, which is constituted by the Prime Minister every year.
- The Padma Awards Committee is headed by the Cabinet Secretary and includes the Home Secretary, the Secretary to the President, and four to six eminent persons as members.
- The recommendations of the committee are submitted to the Prime Minister and the President of India for approval.

4.8. BHARAT RATNA

Context

Recently it was announced that former Bihar Chief Minister Karpoori Thakur, a socialist icon, will get the Bharat Ratna posthumously. Prominent socialist

ABOUT KARPOORI THAKUR

- Known as 'Jan Nayak' (People's Leader), he regarded Ram Manohar Lohia as his guru. **Acharya Narendra** and **Jayaprakash Narayan** Dev were his idols.
- He made education up to grade eight free. Urdu was designated as the second official language.
- In 1978, he implemented 26% reservation for backward classes in Bihar.
- He is famous for carrying out the Mungeri Lal Commission's recommendations, which established these quotas.
- This eventually triggered a chain of events that culminated in the **Mandal Commission recommendations in 1990.**

BHARAT RATNA

- '**Bharat Ratna,**' the highest civilian Award in the country, **was instituted in the year 1954**.

- Any person without distinction of race, occupation, position or sex is eligible for these awards.
- It is awarded in recognition of exceptional service/performance of the highest order in any field of human endeavour.
- The recommendations for Bharat Ratna are made by the Prime Minister himself to the President.
- No formal recommendations for this are necessary.

BENEFITS OF GETTING BHARAT RATNA

- Bharat Ratna awardees are treated as state guests when travelling around India.
- Awardees receive a VIP lounge at the airport and a separate immigration station. Furthermore, they receive full support throughout their abroad visits.
- Air India offers complimentary lifetime first-class flight travel.
- Recipients can receive Z-category protection as needed.
- The Ministry of Home Affairs releases the Table of Precedence, which places Bharat Ratna awardees at


Source:Economic Times

position 7A.
- Winners of the Bharat Ratna award get a pension equal to 50% of the Prime Minister of India's salary. Additionally, all recipients receive a certificate called Sanad and a peepal leaf-shaped medallion.

4.9. SHANKARACHARYA AND ADI-SHANKARA

Context

Recently, the decision of the four Shankaracharya, who lead the Hindu mathas in Dwarka, Joshimath, Puri, and Sringeri, to skip the inauguration of the Ram Temple in Ayodhya has sparked attention.

Source:Times of India
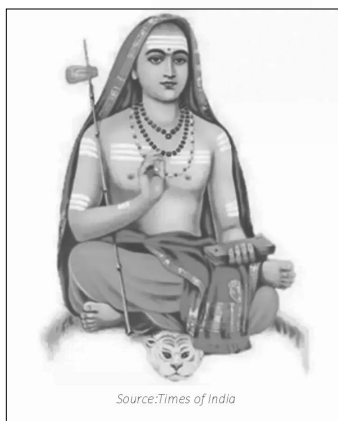
ABOUT SHANKARACHARYA

- The term "Shankaracharya" translates to 'teacher of the way of Shankara' and is a religious title held by the heads of the four cardinal mathas or peeths believed to be founded by Adi Shankara (c 788 CE-820 CE).
- According to tradition, these religious teachers belong to a lineage that extends back to Adi Shankara himself. However, historical evidence for the existence of these mathas is limited before the 14th century CE when the Vijayanagara kingdom started supporting the Sringeri matha.
- Indologist Paul Hacker noted that before 1386, the historical timelines of the directors of Sringeri Math seemed unrealistically long, with spans exceeding 60 years each.
- This observation raises questions about the retrospective establishment of the lineage, potentially for legitimizing these monasteries.
- The retrospective establishment of the lineage could have aimed to provide legitimacy to these monasteries,

transforming them into centers of knowledge and learning. These mathas today comprise religious shrines, temples, libraries, and residences, forming complex and spread-out organizations dedicated to preserving and advancing Shankara's tradition.

ABOUT ADI-SHANKARA

- Adi Shankara was born in Kalady village along the river Periyar in present-day Kerala's Ernakulam district.
- Scholar-Monk Life: Initiated into studies by Govindacharya, Shankara became a scholar-monk. He extensively traveled, challenging prevailing philosophical traditions, establishing mathas, and organizing monastic orders.
- Geographical Travels: Shankara's journeys spanned from Kanchi in Tamil Nadu to Kamrup in Assam, covering regions like Kashmir, the Himalayan Kedar and Badri dhams, Kashi (Varanasi) on the Ganga, and Puri on the Bay of Bengal.
- Preaching Advaita Vedanta: Adi Shankara propagated Advaita Vedanta philosophy throughout India, emphasizing radical nondualism where empirical perception is deemed illusory, and the principle of Brahman is the true reality.
- Prolific Author: He is credited as the author of 116 works, including renowned commentaries (bhashyas) on 10 Upanishads, the Brahmasutra, and the Bhagavad Gita.

4.10. INDIAN NATIONAL ARMY (INA)

Context

In 2024, January 23rd marks the 127th anniversary of Netaji Subhas Chandra Bose.

ABOUT INA

- It is also known as Azad Hind Fauj (Free Indian Army).
- **Aim:** To secure Indian independence from British rule. Headquarters – Singapore, later shifted to Rangoon in Myanmar (since January 1944).
- **Fighting brigades:** They were named after Gandhi, Azad, Nehru, Bose, and the Rani Jhansi brigade (an exclusive women's force).
- **Revival:** In 1943 by Subhas Chandra Bose. 12,000-strong INA eventually grew to more than 40,000 personnel.
  - ✓ Many civilian volunteers from the Indian expatriate population in Malaya (Malaysia) and Burma also joined. It had its currency, postage stamps, and symbols portraying a vision of a liberated India.
- **Successful activities:** INA crossed the Burma border and stood on Indian soil by March 1944 hoisted the tricolor flag and subsequently advanced up to Kohima and Imphal.

  - ✓ It controlled the Andaman Islands and parts of Manipur briefly. The 2 slogans 'Delhi Chalo' and 'Jai Hind' were the war cry of the INA.
- **Positive impact**
  - ✓ Though INA was disbanded in 1945, it made a significant impact in the Indian freedom struggle. It ignited the Indian soldiers and led to the revolt of the Royal Indian Navy and Royal Indian Airforce in 1946.
  - ✓ Shah Nawaz Khan, Prem Sahgal, and Gurbaksh Singh Dhillon faced the 1st and most high-profile of court martials (INA trials), and became a potent symbol of the unity of Indians.
  - ✓ INA was not at all affected by communal divisions. They demonstrated the capabilities of Indian Women waging armed struggle and also the enthusiasm and concern of overseas Indians for the freedom of their motherland.

5. ENVIRONMENT

5.1. GENETICALLY MODIFIED MUSTARD- DMH-11

Context

Recently the SC has questioned the Centre on why it did not consider the reports of the Technical Experts Committee (TEC), which was appointed by the court to examine the biosafety of GM crop of mustered DMH-11.

GENETICALLY MODIFIED (GM) CROPS

- **Genetically Modified (GM) Crops is a subtype of Genetically Modified (GM) Organisms.**
- **According to WHO,** Genetically Modified Organisms (GMOs) can be defined **as organisms (i.e. plants, animals or microorganisms)** in which the **genetic material (DNA)** has been altered in a way that does not occur naturally by **mating and/or natural recombination**.
- The technology is often called "**modern biotechnology" or "gene technology**", sometimes also "**recombinant DNA technology**" or **"genetic engineering".**
- **Genetic engineering** facilitates the transfer of **specific genes from one organism to another**, even across unrelated species.
- The resulting products, derived from or utilizing genetically modified (GM) organisms, are commonly referred to **as GM foods or crops.**

PURPOSE OF GENETICALLY MODIFIED (GM) CROPS

- **Genetically modified (GM) crops,** altered using genetic engineering, aim to introduce traits like **pest resistance, disease resistance, and herbicide tolerance.**
- These crops are also modified for **increased nutritional value, pharmaceutical production, and biofuel development.**

Mustard cultivation
• Mustard, a vital Rabi crop (winter crop) in India, is traditionally sown between **mid-October and late November.**
• Conventional mustard varieties yield an average of 1,000-1,200 kilograms per hectare, whereas DMH-11 surpasses this with a global average exceeding 2,000-2,200 kgs.
• The introduction of DMH-11 marks a significant advancement, exhibiting a remarkable **30% increase in yields compared to existing varieties.**
DMH-11
• DMH-11, short for Dhara Mustard Hybrid-11, represents a genetically-modified mustard variety.
• Engineered using the Genetic Male Sterility (GMS) technique, particularly the 'barstar-barnase' system, DMH-11 boasts herbicide resistance.
Mustard oil
• It is a popular cooking oil in many Indian homes.
• Mustard oil contains omega-3 fatty acids, vitamin E

PRODUCTION OF GM CROPS

- GM crops first introduced in the USA in the mid-1990s, are presently widely cultivated and used globally.
- In India, **Bt cotton is the only approved GM crop**, occupying **over 90% of the country's cotton area.**
- **GM crops R&D in India:** Rice, **Wheat**,

ADVANTAGES OF GMO FOODS

- **Pest Control**
  - ✓ Genetic modification introduces protective genes, like the Bt gene from Bacillus thuringiensis, **providing natural resistance to pests in crops** such as corn, cotton, and soybeans.
- **Reduced Pesticides:** Insect-resistant GM corn, **introduced in the U.S. in 1996**, has reduced **pesticide use by 90%,** saving farmers time and resources.
- **Improved Survival and Greater Yield:** Some GMO crops are modified with genes that enhance survival under stressful conditions like **droughts and resistance to diseases like blight which** results in higher yields for farmers.
- **Increased Nutritional Value**
  - ✓ Genetic modification can boost the **nutritional content of foods**, for example, golden rice with high beta-carotene to address **vitamin A deficiency.**
- **Sustainable Agriculture**
  - ✓ GMO technology facilitates **sustainable practices**, such as **no-till farming, which captures carbon from the atmosphere and enhances soil health**.
- **Climate Change Mitigation**
  - ✓ GM crops played a role in **cutting greenhouse gas emissions** equivalent to removing 15.6 million cars from the road.
- **Crop Protection**
  - ✓ GMOs provide targeted protection **against damaging insects, invasive weeds, and diseases, safeguarding crops** without harming other organisms or the environment.

DISADVANTAGES OF GENETICALLY MODIFIED (GM) CROPS

- **Ecosystem Disruption and Biodiversity Risks**
  - ✓ Genetic engineering to produce desired traits may favour specific organisms, **posing high risks to ecosystem disruption and biodiversity.** This alteration can disturb the natural process of gene flow.
- **Increased Cultivation Costs and Marketization**
- GM crop production **can lead to higher cultivation costs and a focus on profit-driven farming practices.**
- **Development of Pest Resistance**

✓ Excessive production of GM crops with **pest-resistant traits** may lead to diminishing effectiveness over time. Pests could **develop resistance** to the toxins used as deterrents.

- **Herbicide Usage and Health Risks**
  ✓ Biologically altered **GM foods may present risks to human health**, necessitating a thorough evaluation of the impact on consumers.
  ✓ GMO crops engineered to **resist herbicides, like Roundup**, raise concerns about increased herbicide usage and associated health risks.

GLOBAL CONVENTIONS RELATED TO GENETICALLY MODIFIED ORGANISMS

- Convention on Biological Diversity
  ✓ Legally binding treaty for **biodiversity conservation.**
  ✓ Objectives include **conserving biological diversity, sustainable use of components, and fair sharing of benefits from genetic resource utilization**.
- **Cartagena Protocol on Biosafety:**
  ✓ Focuses on transboundary movement of **living modified organisms (LMOs).**
  ✓ Addresses **handling, transport, and use of GMOs**, including those in animals.
  ✓ Approved in 2000, came into force in 2003.
- **Nagoya Protocol**
  ✓ Pertains to access to **genetic resources and fair sharing** of benefits from their utilization, including GMOs.
  ✓ Adopted in 2010 in Nagoya, Japan, at COP10.
  ✓ Entered into **force in 2014.**

REGULATORY FRAMEWORK FOR GMOS IN INDIA

- **Ministry of Environment, Forest and Climate:**
  ✓ Governed by the **Environment (Protection) Act, 1986.**
  ✓ Oversight of all GMO-related **activities, operations, and products**.
- **Genetic Engineering Appraisal Committee (GEAC):**
  ✓ Authorized body under the **Ministry of Environment, Forest and Climate.**
  ✓ Responsibilities include **reviewing, monitoring, and approving GMO activities**.

✓ Covers import, export, transport, manufacture, **use, and sale** of GMOs.
- **Environment Protection Act, 1986 (EPA)**
  ✓ Approval from GEAC is mandatory for **importing, exporting, transporting, manufacturing, storing, processing, using, or selling any GMOs, substances, or cells**.
  ✓ Research involving **pathogenic organisms, GMOs, or cells** is permitted only in laboratories or designated areas notified by the Act.
  ✓ Scaling up or pilot operations with **GMOs requires explicit permission from GEAC**.
- **Biological Diversity Act, 2002**
  ✓ Approval and benefit-sharing agreements are required with the **National Biodiversity Authority** (NBA) for accessing Indian biological resources.
- **Plant Quarantine Order, 2003**
  ✓ Regulates **import and export of GMOs**, including GM plants and plant materials.
- **Food Safety and Standards Act, 2006**
  ✓ FSSAI empowered to **establish safety standards** for GMO-derived foods.
  ✓ Includes provisions for **safety assessments ensuring suitability** for human consumption.

WAY FORWARD

- Promoting responsible GMO practices involves conducting **thorough risk assessments** before release, ensuring transparency.
- Clear labelling empowers consumers with informed choices, respecting their rights.
- **Collaborative research** is crucial for **understanding long-term GMO effects** on the environment, biodiversity, and health.
- **Engaging diverse stakeholders** in discussions, implementing ongoing **environmental monitoring,** and designing GMOs for **sustainable agriculture and biodiversity protection** contribute to a comprehensive approach.
- **International collaboration** through standardized agreements **ensures consistent and responsible global development, testing, and trade** of GMOs.

5.2. DEEP-SEA CORAL REEF

Context

World's largest deep-sea coral reef, spanning millions of acres from Florida to South Carolina, surpasses the size of Vermont.

DEEP-SEA CORAL REEF

- Mapping by scientists reveals it as the **largest deep-sea coral mound** region globally, covering three times the area of Yellowstone National Park.

- Cold-water coral mounds on the Blake Plateau constitute the reef, formed over time from skeletal material and sediment trapped by coral rubble.
- The reef stretches approximately 310.69 miles long and

68.35 miles wide, extending from Miami to Charleston, South Carolina.

Source: One Ocean Foundation
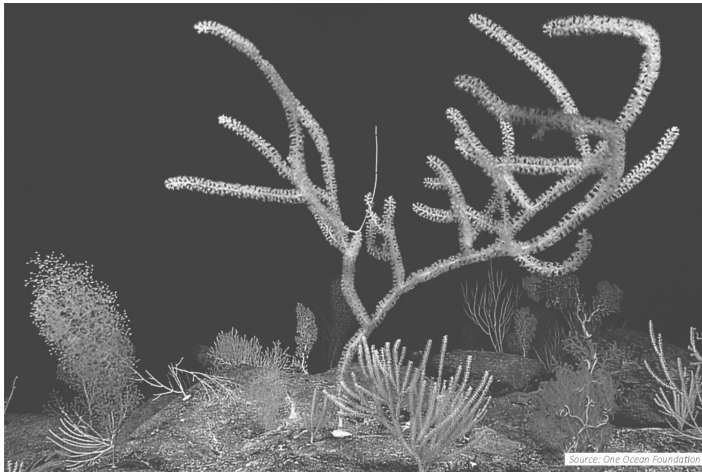
HOW DISCOVERED?

- Discovered using 31 multi-beam sonars mounted on research ships, as the depth prevents scuba diving exploration.
- Remotely operated subs guided by maps from sonar data were used for exploration, with live video feeds broadcasted to the public.

DEEP-SEA REEFS VS SHALLOW REEFS

- Cold-water corals in deep-sea reefs differ biologically from shallow-water reefs like the Great Barrier Reef due to their depth.
- Unlike shallow reefs, deep-water reefs don't rely on photosynthesis; instead, they capture filter-feeding particles from the water column.
- While deep-water reefs avoid coral bleaching caused by warming waters affecting shallow reefs, they are still impacted by changing environmental conditions.

CORAL REEFS

- Coral reefs are intricate underwater ecosystems formed by the accumulation of calcium carbonate exoskeletons secreted by coral polyps.
- These small organisms, belonging to the phylum Cnidaria, form colonies that create the diverse and colorful reef structures found in tropical and subtropical marine environments.

HOW ARE CORAL REEFS MADE

- Coral reefs develop through a slow process involving the growth and deposition of coral skeletons over time.
- Coral polyps secrete calcium carbonate, forming the hard structures that make up the reef.

- The growth is influenced by factors such as water temperature, light availability, and water clarity.

TYPES OF CORAL REEFS

1. **Fringing Reefs:** These reefs are located close to the shore and are directly attached to the coastline.
2. **Barrier Reefs:** Parallel to the shore but separated by a lagoon. The Great Barrier Reef is a notable example.
3. **Atolls:** Circular reefs surrounding a lagoon with no central island. They often form from the subsidence of volcanic islands.

CORAL REEF IMPORTANCE

- **Biodiversity:** Coral reefs support a vast array of marine life, providing habitat and breeding grounds for numerous species.
- **Economic Value:** Fisheries dependent on coral reefs contribute significantly to coastal economies. Additionally, tourism related to coral reefs generates income and employment.
- **Medicinal Resources:** Compounds derived from coral organisms have pharmaceutical potential.
- **Global Climate Balance:** Coral reefs play a role in carbon dioxide absorption, helping to mitigate climate change.

CORAL REEFS IN INDIA

- India is home to diverse coral ecosystems, particularly in the Andaman and Nicobar Islands, the Gulf of Mannar, and the Lakshadweep Islands.
- These reefs contribute to the country's marine biodiversity and attract tourists interested in underwater ecosystems.

IMPORTANT CORAL REEFS IN THE WORLD

1. **Great Barrier Reef (Australia):** The world's largest coral reef system, known for its exceptional biodiversity.
2. **Mesoamerican Barrier Reef (Caribbean):** The second-largest reef system, spanning multiple countries.
3. **Andaman and Nicobar Islands (India):** These islands boast extensive coral reefs with unique marine life.

CORAL REEFS ECOSYSTEM

- Coral reef ecosystems are complex networks of interconnected organisms.
- They include a variety of fish, invertebrates, and microorganisms that rely on each other for survival.
- Coral reefs also provide essential services such as coastal protection and nutrient cycling.

MICROBIAL BIODIVERSITY OF CORAL REEFS

- Coral reefs host a diverse range of microorganisms, including bacteria and archaea, forming intricate symbiotic relationships with coral organisms.

- These microorganisms contribute to nutrient cycling, disease resistance, and overall ecosystem health.
- Understanding microbial biodiversity is crucial for comprehending the resilience of coral reef ecosystems.

WHAT IS CORAL BLEACHING?

- Coral bleaching occurs when coral polyps expel the symbiotic algae (zooxanthellae) from their tissues due to stress, often caused by elevated sea temperatures.
- This leads to a loss of color and can result in the death of corals if the stress is prolonged.

THREATS TO CORAL REEFS

- **Climate Change:** Rising sea temperatures contribute to coral bleaching.
- **Ocean Acidification:** Increased absorption of carbon dioxide by oceans affects coral growth.
- **Overfishing:** Depletes fish populations, disrupting the balance within coral reef ecosystems.
- **Pollution:** Runoff from coastal areas introduces pollutants, and marine debris can physically damage coral.
- **Destructive Fishing Practices:** Dynamite fishing and trawling harm coral reefs directly.
- **Snowflake Coral – A Threat to Biodiversity:** Snowflake coral (Carijoa riisei) is an invasive species that competes with native corals for space, potentially leading to a decline in biodiversity within coral reef ecosystems.

CORAL REEFS CONSERVATION EFFORTS

- **Marine Protected Areas:** Establishing zones where human activities are regulated to protect coral reefs.
- **Coral Restoration:** Growing corals in nurseries and transplanting them to degraded areas.
- **Sustainable Fishing Practices:** Implementing regulations to prevent overfishing and destructive practices.
- **Public Awareness and Education:** Promoting awareness about the importance of coral reefs and their conservation.

WAY FORWARD

1. **Sustainable Management**
- Implement and enforce sustainable management practices in areas with coral reefs.
- This includes regulations on fishing, tourism, and coastal development to prevent further degradation.
2. **Research and Monitoring**
- Invest in ongoing research and monitoring of coral reef ecosystems to better understand their dynamics, resilience, and responses to environmental changes.
3. **International Collaboration**
- Foster international collaboration and information-sharing to address global threats to coral reefs.
- Joint efforts can include knowledge exchange, capacity building, and coordinated conservation initiatives.
4. **Community Engagement**
- Involve local communities in coral reef conservation efforts.
- Engage in education programs, empowering communities to be stewards of their marine resources and fostering a sense of responsibility.
5. **Climate Change Mitigation**
- Actively participate in global efforts to mitigate climate change.
- Reducing greenhouse gas emissions and supporting initiatives that promote climate resilience are critical for the long-term survival of coral reefs.
6. **Technological Innovation**
- Explore and invest in innovative technologies for coral restoration, such as advanced coral farming techniques and genetic interventions to enhance resilience.

CONCLUSION

- Coral reefs, vital marine ecosystems of immense ecological and economic value, face numerous threats that necessitate urgent and coordinated action. The discovery of the world's largest deep-sea coral reef underscores the importance of continued exploration and understanding of these fragile ecosystems.

5.3. KUMKI

Context

Recently, the Odisha government has sought four Kumki elephants and their mahouts from Tamil Nadu.

ABOUT KUMKI

- Kumki or Koomkie used in India for **trained captive Asian elephants** used in operations to trap wild elephants, rescue injured elephants, or offer medical treatment.
- They can be deployed strategically to help manage and drive wild elephants, thereby reducing damage to crops, human habitation, and the potential loss of both human and elephant lives.
- The training procedure seeks to retain some of the wild dominant characteristics in them, allowing them to manage wild elephants by force if necessary.
- When wild elephants invade human settlements and kumkis are used to drive them away, direct physical contact may not be required because territorial behavior is facilitated by scent and other forms of animal communication.
- **Tamil Nadu** has successfully trained and utilized Kumki elephants and their mahouts for wildlife conservation efforts.

| Human elephant conflict |
|---|
| • Habitat loss and fragmentation lead to conflict between elephants and humans. When elephants and humans interact, conflict arises from crop raiding, elephant-caused injuries and fatalities, and elephants murdered by humans for causes other than ivory and habitat damage. |
| • Elephants cause damage ranging from thousands to millions of dollars. Every year, 100 people and 40-50 elephants are murdered during crop raids in India. |
| • In Odisha, there **were 230 contacts between humans and elephants** in the fiscal year 2023-2024. |
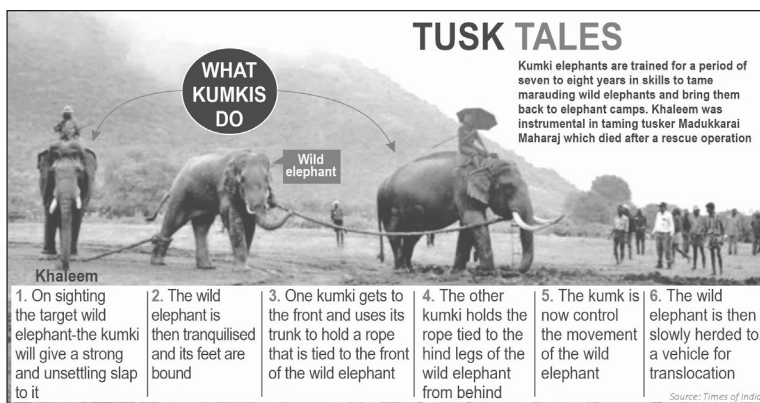
5.4. SILVERLINE BUTTERFLY

Context

A new species of Silverline butterfly, Cigaritis meghamalaiensis, has been discovered in the Meghamalai hills in the Periyar landscape of southern Western Ghats.

- **Name and Origin:** The species is named after the Meghamalai region where it was discovered.
- **Discovering Organization:** Researchers from the Travancore Nature History Society (TNHS) and Vanam Trust made the discovery.
- **Location of Discovery:** The distinct Cigaritis was found in the high elevations of Periyar in the Idukki district.
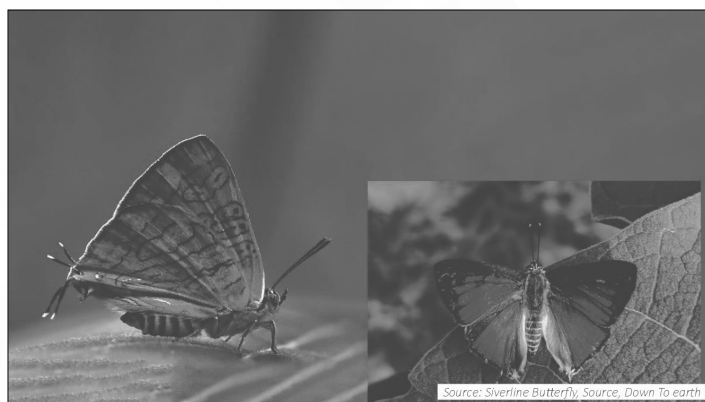
SIGNIFICANCE OF THE DISCOVERY

- Cigaritis meghamalaiensis is the first butterfly species to be described from the Western Ghats in 33 years.
- The researchers initially encountered the distinct species of the Cigaritis genus in the high elevations of Periyar in 2018.

HABITAT RANGE

- Further explorations revealed that the species is confined to the Meghamalais and the adjoining Periyar Tiger Reserve.

CIGARETTE SPECIES IN THE WESTERN GHATS

- There are seven species of Cigaritis in the Western Ghats, including C. elima elima, C. schistacea, C. ictis, C. lohita lazularia, C. lilacinus, and C. abnormis, C. vulcanus.

Source: Siverline Butterfly, Source, Down To earth

- All Cigaritis species, except C. lilacinus, have been reported from the southern Western Ghats.

CONSERVATION IMPLICATIONS

- The discovery underscores the importance of the Meghamalai region and the Periyar Tiger Reserve for biodiversity conservation.

RESEARCH ORGANIZATIONS

- Travancore Nature History Society (TNHS) and Vanam Trust played a crucial role in the research and discovery.

5.5. MELANISTIC TIGERS

Context

Odisha will start a melanistic tiger safari near Similipal Tiger Reserve (STR).

MELANISTIC TIGERS

- These tigers are often referred to as "black tigers" and are a rare subspecies of Bengal tigers.
- They have strong black stripes on their bodies, which are caused by **pseudo-melanism.**

PSEUDO-MELANISM

- ✓ Pseudo-melanism differ from melanism is induced by a single mutation in **transmembrane aminopeptidase Q (Taqpep),** which also causes **similar traits in other cat species.**
- ✓ **The STR,** located in Odisha's Mayurbhanj district and
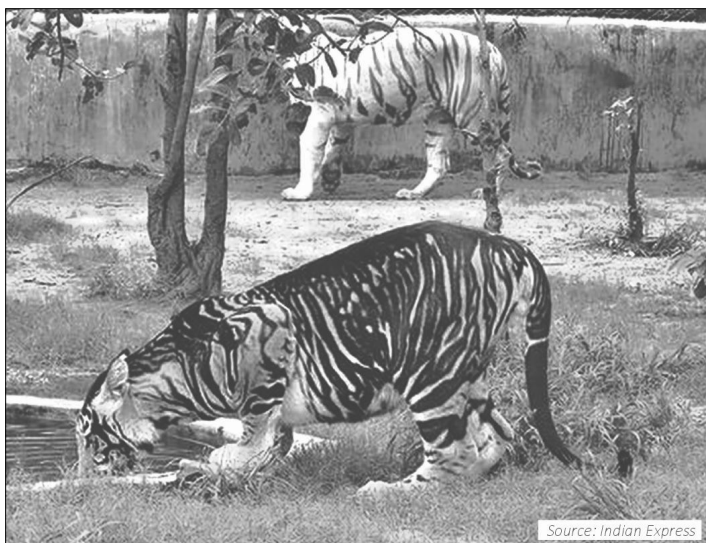
Source: Indian Express

bordering Jharkhand and West Bengal, is Asia's second-largest biosphere and the **only natural habitat for melanistic royal Bengal tigers in the country.**

IMPACT ON LOCAL COMMUNITIES AND ECOSYSTEMS

Effective Impacts

- Up -raise awareness about melanistic tigers and gain international attention.
- Conservation initiatives can generate cash through ecotourism and sustainable practices.
- Enlarging tourism revenue could improve local infrastructure, healthcare, and education facilities.

FATALISTIC IMPACT

- potential disagreements between government and local communities on the usage of traditional resources.
- Excessive tourism can harm local resources.

SIMILIPAL TIGER RESERVE

- The Similipal Tiger Reserve is situated in the northernmost region of Odisha, in the Mayurbhanj District.
- The topography is primarily undulating and mountainous, with open **grasslands and woodland areas.** The plateau rises suddenly from the district's low coastal lowlands.
- The steep side overlooks the Bay of Bengal and merges with **Chhota Nagpur.**
- The tract contains high water levels and seasonal water sources that connect to rivers such as **Budhabalanga, Salandi, and tributaries of the Baitarani River.**

Periyar Tiger Reserve
• **Location:** Western Ghats of Kerala, India.
• **Name Origin:** Named after the Periyar River.
• **River Drainage:** Drained by two major rivers, Pamba and Periyar.
• **Tribal Communities:** Home to Mannans and Palians.
• **Vegetation Types:** Tropical evergreen, semi-evergreen, and moist deciduous forests.
• **Flora:** Teak, mangoes, rosewood, jamun, jacarandas, terminalias, tamarind, royal ponciana, bamboo.
• **Fauna:** Tigers, Elephants, mouse deer, wild pigs, sambar deer, gaur, Indian wild dog.
• **Ecosystem Recognition:** Part of the UNESCO-declared Western Ghats World Heritage Site.
• **Periyar Lake:** Formed by Mullaperiyar Dam, central to the reserve's landscape.
• **Biodiversity Hotspot:** High biodiversity in mammals, birds, amphibians, and reptiles.
• **Conservation Efforts:** Initiatives and community-based programs for sustainable coexistence.
• **Tourism:** Popular ecotourism destination with boat safaris, trekking, and nature walks.

FLORA

- The forest is predominantly **moist mixed deciduous forest** with **tropical semievergreen forest** in areas with suitable microclimatic conditions and sporadic patches of **dry deciduous forests and grasslands.**
- Some patches of old plantations of **tropical pines and eucalyptus are also present.**

FAUNA

- **Herbivores: largest** population of elephants (Elephas maximus) in Odisha. Indian Bison (Bos gaurus), Chital (Axis axis), Barking deer (Muntiacus muntjac), and Mouse deer (Moschiola meminna).
- **Carnivores: leopard** cat, fishing cat, jungle cat, wolf, jackal, and hyaena. mammalian species of Similipal include Ratel, Civet, Giant Squirrel, Flying Squirrel, Mongoose, Pangolin, Hare, Langur, and Rhesus Macaque.
- **Reptiles:** A significant population of Mugger Crocodiles is present in the river system and perennial streams of Similipal. The snake species found in the habitat are Python, King Cobra, Common Cobra, Krait, Viper, and several others.
- **Birds:** There are 361 species of birds, and the most common ones are peafowl, jungle fowl, patridge, malabar pied hornbill, grey hornbill, etc.

5.6. TEST-TUBE RHINO

Context

Recently, the scientists of Berlin-based Leibniz-Institute for Zoo and Wildlife Research announced the first-ever in-vitro fertilization (IVF) rhino pregnancy that has been achieved by transferring a lab-made rhino embryo.

ABOUT IVF (IN-VITRO FERTILIZATION)

- Assisted reproductive technology (ART) includes in vitro fertilization (IVF), a key method for treating infertility.
- The process entails creating an embryo outside of the body by fusing an egg and sperm, which is subsequently inserted back into the woman's uterus for implantation and pregnancy.

POSSIBILITIES OF IVF TECHNOLOGY OVER RHINOS

- In 2009, four northern white rhinos were relocated from a Czech Republic Zoo to a Kenyan reserve to reproduce naturally.
- The two males, Suni and Sudan, have now perished, while the two females, Najin and her daughter Fatu, were found to be unable to reproduce due to pathological conditions. This meant that surrogacy was the only way to generate a northern white calf via IVF.

ABOUT WHITE RHINOCEROS

- White rhinos are the second-largest terrestrial mammal after elephants.
- Also known as the square-lipped rhinoceros, white rhinos have a square upper lip with almost no hair.
- Adult males can reach 1.85 meters in height and weigh 3.6 tons. Females are much smaller, but can still weigh an astonishing 1.7 tons.
- White rhinos are also known as square-lipped rhinoceros because their upper lip is square (rather than pointed).

LIFE CYCLE

- White rhinoceros have complex social structures. Groups of up to 14 rhinos may form, particularly females with calves. Adult males defend regions of about 1-3 km2. Adult females' home ranges can be over seven times bigger, depending on habitat quality and population density.
- Females acquire sexual maturity at 4-5 years of age but do not breed until 6-7 years. Males typically do not mate until they are 10 to 12 years old. They can live for up to forty years.
- Subspecies: The white rhinoceros has two genetically distinct subspecies, northern and southern, occurring in two different locations in Africa.
- The majority of white rhinos (98.8%) live in just four countries: South Africa, Namibia, Zimbabwe, and Kenya.

IUCN STATUS

- **Northern White Rhino: Critically Endangered.**
  - ✓ Northern white rhinos were originally found in southern Chad, the Central African Republic, southwestern Sudan, northern Democratic Republic of the Congo (DRC), and northwestern Uganda.
- **Southern White Rhino: Near Threatened**
  - ✓ Southern white rhinos, which were once prevalent throughout southern Africa, were assumed to be extinct in the late nineteenth century, but in 1895 a tiny group of less than 100 individuals was discovered in Kwazulu Natal, South Africa.

Source:The Guardian

OTHER RHINO SPECIES

- **Sumatran Rhino:** The smallest among rhino species, Sumatran Rhinos possess two dark grey to black horns. Renowned for their speed and agility, these rhinos are classified as Critically Endangered by the IUCN.
- **Javan Rhino:** With a population of approximately 60 individuals confined to Java, Indonesia, the Javan Rhino is the most endangered among the five rhino species. Sporting a dusky grey color and a single horn of up to 10 inches, it closely resembles the greater one-horned rhinoceros. It is also categorized as Critically Endangered.
- **Black Rhino:** Native to eastern and southern African countries, the Black Rhino is the smaller of the two African rhino species. Distinguished by their browsing habits rather than grazing, they are herbivores. Unfortunately, they are also listed as Critically Endangered by the IUCN.

5.7. MOSQUITOFISH

Context

The government and NGOs in Andhra Pradesh, Odisha, and Punjab are using mosquito fish to control mosquito populations in response to local complaints.

WHAT IS MOSQUITO FISH?

- The Western **Mosquito fish (Gambusia affinis)** is a small, live-bearing fish native to fresh and brackish waters of the **Gulf Coast and lower Mississippi River drainage in North America.**
- Introduced to **many parts of the world for mosquito control,** but has become an invasive species in some areas.
- One of the **"100 worst invasive species"** by the IUCN.
- **Features**
  - ✓ **Size:** Females reach a maximum of 70mm, while males are smaller at 51mm.
  - ✓ **Appearance:** Greyish-brown with a cross-hatched pattern of black scales. Females are larger and have a dark spot near the urogenital opening. Males have a bowed appearance due to curved pectoral fins.
  - ✓ **Diet:** Omnivorous, feeding on insects, crustaceans, worms, molluscs, tadpoles, smaller fishes, and algae.
  - ✓ **Reproduction:** Live-bearing, with females releasing fully developed juveniles. Multiple broods per year are possible, with clutch sizes ranging from 5 to 100.
- **Habitat**
  - ✓ Shallow, slow-flowing waters, including marshes, swamps, lagoons, and estuaries.
  - ✓ Tolerates a wide range of temperatures and salinities, from freshwater to brackish water with up to 40 PSU.
- **Ecological Impact**
  - ✓ Introduced to control mosquito populations due to their voracious appetite for mosquito larvae.
  - ✓ Can compete with and prey on native fish species, especially in small, confined bodies of water. May also alter food webs and disrupt ecosystems.

Source:Filming Florida

MOSQUITOFISH IN INDIA

- Mosquitofish were initially introduced to India in the **1910s and later in the 1960s** with the primary objective of mosquito control in ponds and freshwater bodies.
- These fish have successfully established themselves in various regions across India, including **Andhra Pradesh, Odisha, Punjab, Delhi, and West Bengal.**
- Mosquitofish exhibit a preference for specific habitats, aligning with their native tendencies:
  - ✓ Shallow, Slow-Flowing Waters: They can be found in a range of water bodies such as **ponds, wetlands, marshes, rice paddies, and ditches**.
  - ✓ Dense Vegetation: Juveniles tend to seek refuge in areas with abundant aquatic plants.
  - ✓ **Warmer Temperatures:** Thriving in India's warmer climate, they show adaptability within a **temperature range of 24-34°C,** with the optimal conditions falling within this spectrum.

6. GEOGRAPHY AND DISASTER MANAGEMENT

6.1. COLD WAVES

Context

The India Meteorological Department (IMD) has issued a forecast indicating the likelihood of a cold wave affecting portions of North India.

COLD WAVES

- A cold wave is defined as a rapid and significant drop in temperature over a specific geographic area, accompanied by chilly conditions and often characterized by cold and dry air masses.
- The India Meteorological Department (IMD) uses certain criteria to declare the onset of a cold wave. The criteria typically include temperature thresholds and duration.

COLD DAYS CRITERIA OF IMD

Temperature Thresholds

- **Plains:** Cold day declared when the minimum temperature of a station is below 10°C.
- **Hilly Regions:** Cold days are declared when the minimum temperature of a station is below 0°C.

Departure-based Criteria

- **Cold Day:** Maximum temperature departure from normal is between -4.5°C to -6.4°C.
- **Severe Cold Day:** Maximum temperature departure from normal is greater than -6.5°C.

ACTUAL MINIMUM TEMPERATURE CRITERIA (FOR PLAINS ONLY)

- **Cold Wave:** Declared when the minimum temperature is below 4°C.
- **Severe Cold Wave:** Declared when the minimum temperature is below 2°C.

COASTAL STATIONS

- Cold wave declared for coastal stations when the minimum temperature departure is below -4.5°C or when the actual minimum temperature is below 15°C.

CAUSES BEHIND COLD WAVES

1. **High-Pressure Systems**
   - ✓ The presence of high-pressure systems can lead to the subsidence of air, resulting in the adiabatic compression of air, leading to warming at higher altitudes and cooling at the surface.
2. **Incursion of Cold Air Masses**
   - ✓ During certain weather patterns, cold air masses from polar regions or high-altitude areas move southward, invading regions that are not accustomed to such low temperatures.
3. **Clear Skies and Radiational Cooling**
   - ✓ Clear skies during winter nights allow the Earth's surface to radiate heat rapidly into space. This radiational cooling effect leads to a significant drop in temperatures.
4. **Geographical Features**
   - ✓ The local geographical features, such as mountains and valleys, can influence the movement and trapping of cold air, intensifying the cold wave effect.
5. **Seasonal Changes**
   - ✓ Seasonal transitions, such as the withdrawal of the monsoon, can set the stage for the establishment of cold wave conditions.

IMPACT

1. **Health Issues**
   - ✓ The increased prevalence of respiratory diseases during cold waves puts additional stress on healthcare facilities.
   - ✓ Vulnerable populations in urban slums often face challenges in accessing healthcare services during extreme weather conditions.
2. **Agricultural Impact**
   - ✓ Cold waves can result in "black frost," damaging crops by freezing the water content in plant cells.
   - ✓ Fruit-bearing crops such as citrus fruits, which are sensitive to cold, can suffer significant losses.
3. **Energy Consumption**
   - ✓ Cold waves lead to a surge in energy consumption as households and industries increase heating requirements.
   - ✓ This increased demand can strain power grids, leading to localized power outages.
4. **Livestock**
   - ✓ Livestock, particularly in the northern regions, face challenges such as frostbite and scarcity of fodder during extended cold periods.

GOVERNMENT MEASURES

1. **Technology Adoption to Predict Effectively**

✓ The government invests in modern technology, including satellite imagery and advanced weather models, to enhance the accuracy of cold wave predictions.

✓ Automated weather stations are deployed to provide real-time data for better decision-making.

2. **Social Welfare Programs**

✓ Schemes are implemented to ensure that homeless individuals have access to shelter during extreme cold conditions.

3. **Agro-Advisories**

✓ The government issues agro-advisories based on weather forecasts to guide farmers on protective measures for crops during cold waves.

✓ Agricultural extension services play a key role in disseminating this information at the grassroots level.

CONTROL MEASURES

1. **Emergency Healthcare Services**

✓ Emergency medical services are bolstered during cold waves, with additional healthcare staff deployed in affected areas.

✓ Mobile medical units are set up to reach remote regions where healthcare facilities may be limited.

2. **Transportation Management**

✓ Authorities implement traffic management measures, including speed restrictions and advisories, to prevent accidents on icy roads.

✓ Public transportation services are strengthened to ensure the safe movement of people during adverse weather conditions.

WAY FORWARD

1. **Research and Development**

✓ Continued research into climate patterns and their impact on cold waves is essential for developing more accurate prediction models.

✓ Investment in climate-resilient agricultural practices can help mitigate the impact on crops.

2. **Green Infrastructure**

✓ Urban planning includes the development of green spaces and tree cover, which can act as natural buffers against extreme temperatures.

✓ Green infrastructure also contributes to reducing the urban heat island effect.

3. **International Collaboration**

✓ Collaborative efforts with neighbouring countries and international organizations can enhance the exchange of knowledge and resources for managing and mitigating the impact of cold waves.

4. **Community Engagement**

✓ Community-based disaster preparedness programs are crucial, emphasizing the importance of community involvement in developing and implementing response plans.

✓ Training programs can educate communities on first aid, emergency response and the establishment of community-led shelters.

✓ Addressing the challenges posed by cold waves in India requires a comprehensive and multi-faceted approach. The incorporation of technological advancements targeted social welfare programs, and community engagement are pivotal for building resilience.

6.2. MINING IN INDIA

Context

The mines ministry has planned to send an industry delegation to Zambia (copper-rich).

MINING

• Mining is the process of extracting precious materials from the earth. It is used to obtain any resource that cannot be grown or produced artificially. More specifically, mining is utilized to obtain nonrenewable resources such as fossil fuels, minerals, and water.

EXTRACTION METHOD

1. **Surface mining (open-cast method):** ideal for minerals near the surface. This is a low-cost approach that produces large quantities quickly.

2. **Underground Mining (Shaft Method):** When the ore is deep, this method requires sinking vertical shafts and constructing galleries for mineral extraction and transportation.

DISTRIBUTION OF IMPORTANT MINERALS IN INDIA
MINERALS DEMAND GROWTH

• Being the third-largest energy-consuming country in the world, there is always increased demand for power and electricity in the country, hence the surge in demand for coal.

• Steel demand is likely to grow by 10% as the government's augmented focus on infrastructural development continues with increased construction of roads, railways, airports, etc.

• India has set targets of achieving a total crude steel capacity of 300 million metric tons per year (MTPA) and a total crude steel demand and production of 255 MTPA by 2030–31.

MINING LAWS IN INDIA

• **Serial No. 23 of List II (State List)** mandates state governments to own minerals within their boundaries.

- **The entry at serial No. 54 of List I (Central List)** stipulates that the central government owns the minerals within India's exclusive economic zone. The Mines and Minerals (Development and Regulation) (MMDR) Act of 1957 was enacted.

INDIA
Important Mineral

Iron Ore Fields
Iron Ore Exporting Port
Mangnese
Mica
Bauxite
Iron Ore Mines

Source: Times of India
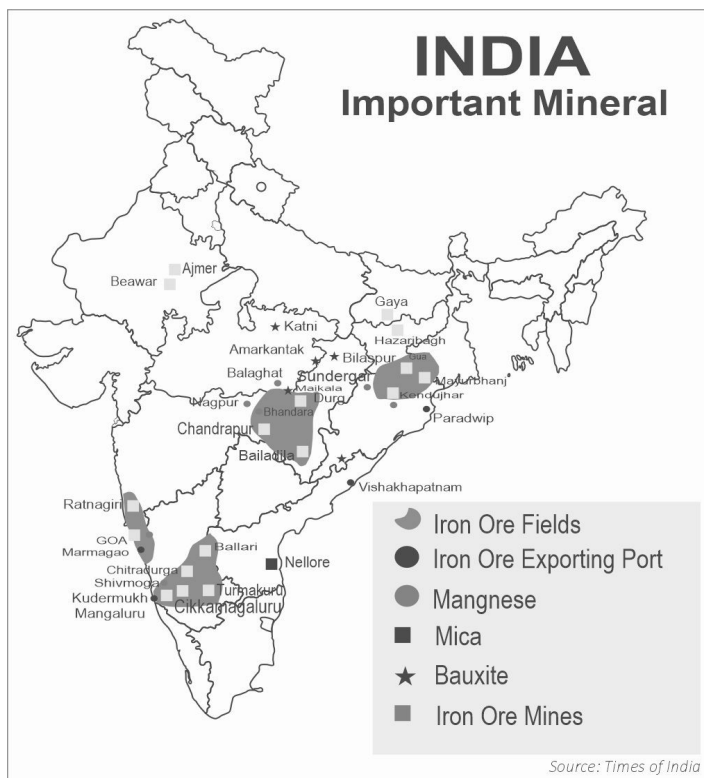
Provision under the Mines and Minerals (Development and Regulation) Amendment Act, 2021

- **The** Act regulates the mining sector in India and it amends the Mines and Minerals (Development and Regulation) Act, of 1957.
- **Reserve mines**
  - ✓ The Act allows the central government to reserve mines (except coal, lignite, and atomic minerals) for specific end-uses through auctions.
- **Production sell**
  - ✓ The bill allows captive miners (except atomic minerals) to sell up to 50% of their yearly mineral production in the open market after meeting their requirements.
- **Mineral concession negotiation**
  - ✓ The Act allows states to hold negotiations for mineral concessions (except coal, lignite, and atomic minerals). The bill authorizes the national government to set a deadline for completing the auction process in conjunction with the state government.
  - ✓ Expiring mining leases (except for coal, lignite, and atomic minerals) are auctioned off to new owners. The prior lessee's statutory approvals are passed to the new lessee for a duration of two years.

The National Mineral Policy 2019

- It contains clauses that will support the mining industry, like: encouraging the exploration of the private sector through a revenue-sharing approach.
- To support the private sector, the program also aims to align taxes, levies, and royalties with global standards.
- Regulations now include provisions for IT-enabled systems, awareness and information campaigns, and e-governance.
- The use of the District Mineral Fund to promote equitable development of project-affected individuals and communities.
- It also introduces the concept of intergenerational equity, which addresses the well-being of both current and future generations.
- It also suggests establishing an inter-ministerial council to institutionalize the method for assuring long-term development in mining.

  - ▪ The central government will extend mining leases for government enterprises.
- Conditions **for mining lease lapse:** the state government may extend the lease›s threshold period if the lease fails to begin operation within 2 years.
- **Non-exclusive reconnaissance**: previously, it allowed for preliminary mineral prospecting through surveys. The bill eliminates the requirement for this permit. The Act grants non-exclusive reconnaissance permission (for minerals other than coal, lignite, and atomic minerals).

CHALLENGES

- **Displacement:** Large-scale displacement causes people to grow alienated and mistrust the government apparatus, resulting in grievances and inadequate rehabilitation attempts. More than just land, the local populace is losing their tribal way of life and cultural legacy.

SAFETY CONCERN

- The primitive procedures used and the lack of sufficient safety equipment and protocols endanger the lives of miners.
- Human rights breaches have occurred as a result of mine-related deaths, insufficient rehabilitation and development efforts, and other factors.
- For example, mine-related accidents occurred at the Ksan coal mine in Meghalaya's Jaintia Hills in 2018.

ILLEGAL MINING

- Illegal mining is the exploitation of minerals, ores, or other valuable resources from land or water bodies without the proper permissions, licenses, or regulatory clearances from government authorities.
- This type of illegal mining is particularly prevalent in North Eastern states such as **Meghalaya (Ksan coal mine catastrophe).**
- Lithium reserves were discovered in Rajasthan. After

Jammu and Kashmir, lithium reserves were discovered in **Rajasthan's Degana.**

Note: Section 23C of the Mines and Minerals (Development and Regulation) *Act (MMDR Act) 1957 authorizes state governments to formulate measures to prevent illicit mining, transportation, and storage of minerals.*

ENVIRONMENTAL/HEALTH ISSUES

- Mining activities have caused a loss of biodiversity and cultural heritage. The Makrana marble mines in Rajasthan harmed the environment; the granite mines in Karnataka created a massive hole in the ground; and coal mining seriously polluted the Damodar River.
- Mining in a specific location produces diseases like fibrosis, pneumoconiosis, and silicosis in both workers and locals.
- Water pollution: in mining areas, water from streams and rivers has become corrosive and unsafe to drink.
- In mining-rich areas, dirty air with high particulate matter is also a serious concern.

ADMINISTRATIVE ISSUES

- Arbitrary coal mine allocations lead to prolonged litigation, annulment of allocations, and allegations of corruption in block allocations.
- Bureaucratic impediments cause delays in environmental clearances**.**
- Investors face significant delays and losses as a result of

judicial intervention.

- ✓ For example, in 2017, the Supreme Court ordered severe punishments in Andhra Pradesh, Telangana, Karnataka, and Odisha for illicit mining without green clearances. In 2018, the Vedanta group was forbidden from operating in Odisha's Niyamgiri Hills, while 88 illegal mining leases were cancelled in Goa.

GOVERNMENT'S INITIATIVES

- Mining leases are given a star rating to create a framework for the Indian mining sector's long-term development.
- **In January 2016**, the Indian Bureau of Mines (IBM) and the National Remote Sensing Centre (NRSC), ISRO signed a Memorandum of Understanding to conduct a pilot project on "mining activity monitoring using satellite imagery" to deter illegal mining.
- The Mining Surveillance System (MSS) is a technology that uses automatic remote sensing to detect illegal mining.
- Under **the Pradhan Mantri Khanij Kshetra Kalyan Yojana [PMKKKY], the District Mineral Foundation Fund (DMF)** was established for the benefit of mining-affected people and areas.
- The National Mineral Exploration Policy was published to entice private exploration companies.
- For mining and exploration of metal and nonmetal ores, 100% FDI is permitted via the automatic route.

6.3. LITCHI CULTIVATION

Context

Recently, the National Research Centre on Litchi (NRCL) actively supports farmers with technical assistance, plant materials, and training to facilitate this expansion.

MORE ABOUT LITCHI CULTIVATION

- Litchi cultivation is **no longer limited to Muzaffarpur, Bihar,** but now thrives in **19 states** across India.
- The shift towards **commercial cultivation** in diverse regions reflects increased farmer **interest and confidence,** encouraged by NRCL's efforts.

LITCHI

- Lychee, a **sweet and juicy fruit**, originated in **Southeast Asia** and has been cherished by Cantonese people for centuries.
- It's enjoyed **fresh, canned, or dried, offering** a range of flavours from aromatic and musky to acidic and sweet.
- Commercial cultivation thrives in **China and India, with Western introductions in Jamaica (1775) and Florida (1916).**
- The evergreen lychee tree boasts **bright green foliage year**-round.
- Its **oval, strawberry-red fruits enclose a translucent white flesh** and a single large seed.
- Propagation occurs through **seeds or air layering,** with

minimal pruning and regular watering needed.
- Trees reach maturity and fruiting **within 3-5 years.**
- **Andhra Pradesh, Tamil Nadu, Karnataka, Uttar Pradesh, Himachal Pradesh, Madhya Pradesh, Odisha, Manipur, Assam, Punjab, Maharashtra, Jammu & Kashmir, Gujarat, Arunachal Pradesh, Rajasthan, and Mizoram** are embracing **litchi farming.**
- Lychee consumption has been linked to **hypoglycemic encephalopathy and death**, mainly in undernourished children in **India, Bangladesh, and Vietnam**.
- The toxins **hypoglycin A and methylene cyclopropyl-glycin** in unripe fruits and seeds inhibit glucose synthesis, causing acute hypoglycemia**.**
- **Over 0.1 million** hectares of land are now dedicated to **litchi cultivation in India**, a testament to the fruit's growing popularity and economic importance.
- The NRCL actively develops and distributes high-yielding litchi varieties **like Shahi, China, Gandki Lalima, Gandki Sampada, and Gandki Yogita, boosting production and farmer income**.

6.4. INDIA'S DEAL WITH ARGENTINA FOR LITHIUM BLOCK

Context

Recently, India has been close to striking a deal on **Acquiring Five Lithium Blocks** for exploration and development in **Argentina with the negotiations** entering the final stages.

MORE ABOUT AGREEMENT

- The Mines Ministry, through the **state-owned Khanij Bidesh India Ltd (KABIL),** has entered into a draft exploration and **development agreement with Argentinan miner CAMYEN** for possible acquisition and development of five-odd lithium blocks.
- The company has also entered into a non-disclosure agreement with Chilean miner ENAMI for "**possible exploration, extraction, processing and commercialisation**" of the mineral and has appointed consultancy major PwC for identification of investable projects in Australia

LITHIUM

- Lithium is a **soft, silvery-white, metal** that heads group 1, the alkali metals group, of the periodic table of the elements.
- It **reacts vigorously** with water. Storing it is a problem. It cannot be **kept under oil, as sodium can**, because it is less dense and floats.

USES OF LITHIUM

- The most important use of lithium is in **rechargeable batteries for mobile phones, laptops, digital cameras and electric vehicles.**

Lithium Reserves in world
• Chile, **which has 11 percent (world's largest lithium reserves) of the world's lithium reserves,** supplies 26 per cent of the requirements; while **Argentina with nearly one**-fifth of the global resources supplies about 6 percent.
• India is followed by Argentina (2.7 million tonnes) and China (2 million tonnes).

- Lithium is also used in some **non-rechargeable batteries** for things like heart pacemakers, toys and clocks.
- Lithium metal is made into **alloys with aluminium and magnesium, improving their strength** and making them lighter.
- A **magnesium-lithium alloy** is used for **armour plating. Aluminium-lithium** alloys are used in **aircraft, bicycle frames and high-speed trains.**
- Lithium oxide is used in **special glasses and glass ceramics.**
- Lithium chloride is one of the most **hygroscopic materials** known and is used in air conditioning and industrial drying systems (as is lithium bromide).

PRODUCTION

- Lithium is currently **produced from hard rock or brine mines.**
- Australia is the world's biggest supplier, with production

Pacific Ocean — Iquique, Chile, Antofagasta, Copiapo, Salar de Atacama, Salar de Uyuni, Bolivia, Salar de Olaroz, Jujuy, Argentina, Salar de Hombre Muerto

Source:Researchgate

from hard rock mines. Argentina, Chile and China **mainly produce it from salt lakes.**

- Global lithium production surpassed 100,000 tonnes for the first time in 2021, quadrupling from 2010. **Currently, Australia alone produces 52% of the world's lithium.**
- World output was 737,000 tonnes of Lithium Carbonate Equivalent (LCE) in 2022 and is estimated to reach 964,000 tonnes in 2023 and 1,167,000 tonnes in 2024, **According to The Resources and Energy Quarterly Report By The Australian Department Of Industry, Science And Resources In March.**

Lithium Triangle
• Chile, Argentina, and Bolivia- together referred to as the "Lithium Triangle"- hold more than **75 percent of the world's** supply beneath their salt flats.
• The Lithium Triangle is one of the driest places on earth, which complicates the process of **lithium extraction:** miners have to drill holes in the salt flats to pump salty, mineral-rich brine to the surface.

LITHIUM IN INDIA

- In February 2023, **India discovered lithium-inferred resources to the tune of 5.9 million tonnes** in the **Salal-Haimana area of the Reasi district of Jammu and Kashmir.**
  - ✓ Mines are at the preliminary exploration stage (also called G3)
- The country is planning to auction these **blocks of lithium**

mines, between April and June of the year. Indian companies and foreign entities with local subsidiaries can participate in the auction.

- The **Geological Survey of India (GSI) is also exploring the Panasa-Dugga-Baldhanum-Chakar-Sangarmarg region of the Reasi district of Jammu and Kashmir.** The extractable reserve will be established by the lessee post-auction of the **Salal-Haimna block.**

WHY IS IT IMPORTANT FOR INDIA?

- **Lithium-ion batteries:** Lithium is a crucial component of lithium-ion batteries, powering electric vehicles, electronics, and renewable energy storage. With **India aiming to transition to electric mobility and boost renewables, securing lithium becomes vital**.

- **Reducing dependence on imports:** Currently, **India heavily relies on lithium** imports, leading to high costs and supply chain vulnerabilities.

- **Geopolitical advantage:** Securing lithium **resources in Argentina strengthens India's ties with Latin America and reduces dependence on countries** like China for critical minerals.

- Economic growth: The deal could potentially lead to investments in exploration, mining, and battery manufacturing, propelling economic growth and creating new jobs.

- **Green Energy transition:** Secure access to lithium fa**cilitates India's ambitious renewable energy and electric vehicle goals**, aiding in reducing carbon emissions and combating climate change. The country has a target of 500 GW of **renewable energy capacity by 2030**.

6.5. PRITHVI (PRITHVI VIGYAN) SCHEME

Context

The Union Cabinet Chaired by the Prime Minister has approved the overarching scheme "PRITHvi VIgyan (PRITHVI)" of the Ministry of Earth Sciences.

ABOUT PRITHVI VIGYAN (PRITHVI)

- The Prithvi Scheme is **aimed at the augmentation and sustenance of long-term observations** of the **atmosphere, ocean, geosphere, cryosphere, and solid earth** to record the vital signs of **the Earth System and change**.

- It is also intended for the development of modelling systems for understanding and predicting weather, ocean, and climate hazards and understanding the science of climate change.

- **The scheme encompasses five ongoing sub-schemes namely:**
  - ✓ "**Atmosphere** & Climate Research-Modelling Observing Systems & Services (ACROSS)",
  - ✓ "**Ocean Services**, Modelling Application, Resources and Technology (O-SMART)",
  - ✓ "Polar Science and **Cryosphere** Research (PACER)",
  - ✓ "**Seismology** and **Geosciences** (SAGE)" and
  - ✓ "Research, Education, Training and Outreach (REACHOUT)".

- **The major Objectives of the overarching Prithvi Scheme are**
  - ✓ Augmentation and sustenance of long-term observations of the atmosphere, ocean, geosphere, cryosphere and solid earth to record the vital signs of the Earth System and change.
  - ✓ Development of modelling systems for understanding and predicting weather, ocean and climate hazards and understanding the science of climate change.
  - ✓ Exploration of polar and high seas regions of the Earth towards the discovery of new phenomena and resources;
  - ✓ Development of technology for exploration and sustainable harnessing of oceanic resources for societal applications.
  - ✓ Translation of knowledge and insights from Earth systems science into services for societal, environmental and

economic benefit.

SIGNIFICANCE OF THE SCHEME

- The overarching scheme of PRITHVI will holistically **address all five components of the Earth system to improve the understating of the Earth System Sciences** and to provide reliable services for the country.
  - ✓ **Earth System Sciences deal** with all the **five components of the earth system:** atmosphere, hydrosphere, geosphere, cryosphere, and biosphere and their complex interactions.

- The overarching scheme of **Prithvi Vigyan will enable the development of integrated multi-disciplinary earth science research and innovative programs** across different MoES institutes.

- These integrated R&D efforts will help **in addressing the grand challenges of weather** and climate, ocean, cryosphere, seismological science and services and explore the living and non-living resources for their sustainable harnessing.

- It will help in taking up cross-disciplinary projects and even use funds allocated for the separate verticals together. Thus, it will also facilitate ease of doing research.

- These integrated R&D efforts will help in addressing the grand challenges of weather and climate, ocean, cryosphere, seismological science and services.

- It will also help in exploring the living and non-living resources for their sustainable harnessing.

- It will allow the Ministry to award research projects to overseas institutes.

7. SCIENCE AND TECHNOLOGY

7.1. RARE DISEASES

Context

According to Rare Research Report, there are about **7,000 known rare diseases, affecting around 8% of the world's population"** and "75% of patients are children.

RARE DISEASE

- Lifelong disease or disorder condition with a prevalence of **1 or less, per 1000 population** is defined by **the World Health Organization (WHO)** as a rare disease.
- A rare disease (also called "**Orphan" disease**) is a health condition of low prevalence that affects a small number of people compared with other prevalent diseases in the general population.
- It is estimated that globally **around 6000 to 8000 rare diseases exist** with new rare diseases being reported in the medical literature regularly.
- However, **80% of all rare disease patients are affected by approximately 350 rare** diseases.
- About **72 to 96 million people** are affected by rare diseases in India.
- **In India, while there are about 500 identified rare diseases, DCGI's approved** treatment is currently available for only a few, **including Gaucher disease, Pompe disease, MPS I and Fabry disease.**

Types of Rare Disease
• Genetic diseases: These are caused by changes in genes or chromosomes. Examples include cystic fibrosis, sickle cell anaemia, and Down syndrome.
• Metabolic diseases: These are caused by problems with the way the body breaks down or uses food or nutrients. Examples include Tay-Sachs disease, phenylketonuria (PKU), and maple syrup urine disease.
• Neurological diseases: These affect the nervous system. Examples include amyotrophic lateral sclerosis (ALS), Huntington's disease, and multiple sclerosis (MS).
• Cancer: Some types of cancer are considered rare, such as leukaemia and Hodgkin lymphoma.
• Infectious diseases: A few infectious diseases are rare, such as Creutzfeldt-Jakob disease (CJD) and Ebola virus disease.

CHALLENGES IN THE FIGHT AGAINST RARE DISEASES

- **Limited Therapies: Less than 5%** of rare diseases have available treatments, leaving about **95% without approved options**.
- **Financial Strain:** Available drugs for rare diseases are often prohibitively expensive.
- **Incomplete policy framework:** While India has a **National Policy for Rare Diseases (NPRD)**, its implementation remains slow and faces limitations.
  - ✓ Access to financial support and designated treatment centres is still limited.
- **Clinical Development Challenges:** Hurdles such as the small patient pool, logistical complexities in reaching dispersed patients, a lack of validated biomarkers, limited surrogate endpoints, and a scarcity of clinical expertise and expert centres exist.
- **Epidemiological Data Gap:** Despite an **estimated 70 million patients in India,** the absence of detailed prevalence information hampers effective management and resource allocation.

GOVERNMENT INITIATIVES

- **National Policy for Rare Diseases (NPRD), 2021**
  - ✓ **Categorizes rare diseases:** Group 1 (one-time cure), Group 2 (long-term, lower cost), and Group 3 (expensive, lifelong therapy).
  - ✓ **Financial support:** Up to Rs. 50 lakhs for any category, at designated Centres of Excellence (CoEs).
  - ✓ **Diagnosis and treatment:** 8 CoEs and 5 Nidan Kendras established across India.
  - ✓ **R&D and affordability:** Promoting local drug production and waiving taxes on imported medicines for specific cases.
- **The National Rare Diseases Committee,** a five-member panel that will work together to address the challenges faced by patients with rare diseases, was established by the Delhi High Court.
- **Rare Diseases International (RDI)** is a global alliance of patient organisations, to ensure greater equity for all persons living with a rare disease.

WAY FORWARD

- **Affordable healthcare for all**, including those with rare diseases, should be a national priority.
- The government needs to **step up and find innovative solutions, moving beyond voluntary crowdfunding** to ensure equitable access to care for even the most marginalized.

7.2. HUNTINGTON'S DISEASE

Context

Recently, the medical genetics clinic in **Nizam's Institute of Medical Sciences, Hyderabad**, witnesses monthly cases of **Huntington's Disease**, impacting families significantly.

HUNTINGTON'S DISEASE (HD)

- It is a **progressive genetic disorder** affecting the brain that causes **uncontrolled movements, impaired coordination of balance and movement**, a decline in cognitive abilities, difficulty in concentrating and memory lapses, mood swings and personality changes.
- It is caused by a mutation in a gene called **HTT**.
- The HTT genes are involved in the **production of a protein called huntingtin.**
- They provide the **instructions for making** the protein.
- When the genes mutate, they provide faulty instructions leading to the **production of abnormal huntingtin proteins** and these form into clumps.
- The clumps disrupt the **normal functioning of the brain cells**, which eventually leads to the death of neurons in the brain, resulting in Huntington's disease.
- While it is known that the clumps formed by the abnormal **huntingtin protein** disrupt several cellular processes, it is not known whether they also influence the key process in the formation of other proteins in the cell.

GENETIC BASIS AND DOMINANCE

- Individuals carry two copies of the HTT gene; the disease is triggered even if one copy is mutated (**dominant inheritance**).
- Mutated genes encode abnormal HTT proteins that harm neurons regulating movement, thinking, and memory.
- **Polyglutamine Tracts and Neuronal Degeneration:**
  - ✓ Mutant genes with expanded polyglutamine tracts lead to neuronal degeneration.

- ✓ Short fragments with polyglutamine interfere with cellular processes, causing toxicity.

Causes of Huntington's Disease
• **Genetic mutation:** The primary cause of HD is the mutation in the HTT gene. This mutation is inherited from one parent, with a 50% chance for each child to inherit it.
• **External factors:** While the genetic mutation is the primary trigger, some environmental factors, like head injuries or exposure to certain toxins, might influence the disease onset or progression.

- **Research Utilizing Fruit Flies:**
  - ✓ Researchers from the University of Szeged, Hungary, employed genetically engineered fruit flies (**Drosophila melanogaster**) to study Huntington's disease progression.
- **Gal4/UAS System**
  - ✓ The Gal4/UAS system from baker's yeast was used to express the mutated HTT gene in **fruit fly** neurons selectively.
  - ✓ **Fruit flies** with polyglutamine tracts **of 120 repeats exhibited symptoms** resembling Huntington's disease.
- **Role of Yod1 Gene**
  - ✓ Overexpression of the Yod1 gene in fruit flies with the longer polyglutamine tract alleviated disease-like effects, including **neurodegeneration, motor issues, and reduced viability and longevity.**
- **Potential Therapeutic Implications:**
  - ✓ Identifying the ameliorative effects of Yod1 in fruit flies suggests potential therapeutic implications for Huntington's disease in humans.

7.3. MALARIA VACCINE ROLLOUT

Context

Recently Cameroon (in Africa) became the **first country** in the world to incorporate the RTS, S malaria vaccine for children into normal national immunization services.

RTS, S MALARIA VACCINE

- **UNICEF project:** The vaccine rollout is part of a UNICEF project, with British firm GSK awarded the contract for the first delivery.
- **Funding:** UNICEF's initiative is sponsored by a contract worth up to $170 million, resulting in the availability of 18 million doses over three years.
- **Manufacturing & Supply: The Serum Institute of India will manufacture the second jab (R21) that** Oxford University plans to roll out, with a target of 100 million doses per year.
- **Dose Schedule:** For children aged five months and up, the

vaccine requires four doses, with a fifth dose possible after one year in areas with persistent malaria risk.

SIGNIFICANCE OF VACCINE

- **Lifesaving Potential:** The vaccine marks a crucial step in preventing and mitigating the impact of malaria, particularly in high-risk areas.
- **Equal Access:** GAVI and other organizations aim to provide equal access to the vaccine for children in the world's poorest countries.

GLOBAL MALARIA BURDEN

- Malaria remains a major danger worldwide, particularly among children under the age of five, with more than 30 nations experiencing moderate to high transmission rates.
- **Regional disparities:** Africa accounts for 94% of malaria cases and 95% of deaths worldwide, but India contributes 66% of malaria cases in the WHO South-East Asia Region.

GLOBAL INITIATIVES AGAINST MALARIA

a. **WHO's Global Malaria Program (GMP)**
   - ✓ The WHO Global Malaria Programme (GMP) is responsible for coordinating WHO's global efforts to control and eliminate malaria.
   - ✓ The World Health Assembly acknowledged the Global Technical Strategy for Malaria 2016-2030 in May 2015, which was amended in 2021.
   - ✓ The initiative aims to reduce worldwide malaria incidence and mortality rates by at least 90% by 2030.

b. **E-2025 Initiative:** The WHO launched the **E-2025 initiative in 2021**. The effort intends to halt malaria transmission in 25 countries by 2025. The WHO has identified 25 countries with the capacity to eliminate malaria by 2025.

c. **Malaria Elimination Initiative:** Spearheaded by the Bill and Melinda Gates Foundation, aims to eradicate malaria using a variety of measures, including increased **treatment accessibility,** mosquito population reduction, and technological development.

Malaria cases in India

- In 2022, India was responsible for a frightening 66% of malaria cases in the WHO South-East Asia Region.
- Plasmodium vivax, a protozoal parasite, was responsible for over 46% of the cases in the region.
- Despite a 55% decline in cases since 2015, India continues to contribute significantly to the global malaria burden.
- India confronts problems, including an increase in cases in 2023 due to unseasonal rains.
- India and Indonesia accounted for almost 94% of malaria deaths in the WHO South-East Asia Region.

INDIAN INITIATIVES AGAINST MALARIA

a. **National framework**
   - ✓ The National Framework for **Malaria Elimination 2016-2030** is aligned with WHO's approach and plans to eliminate malaria in India by 2030 while maintaining malaria-free zones.
   - ✓ The **National Vector-Borne Disease Control Programme** addresses a variety of vector-borne diseases, including malaria, using prevention and control strategies

b. **National Malaria Control Programme (NMCP)**
   - ✓ At the time of India's independence in 1947, 22% of the country's population was believed to be affected by malaria, with 75 million illnesses and 0.8 million fatalities annually.
   - ✓ The National Malaria Control Programme (NMCP) was established in 1953 to battle the deadly effects of malaria.
   - ✓ It is based on three main activities: insecticidal residual spray (IRS) with DDT, case monitoring and surveillance, and patient treatment.

c. **High Burden to High Impact (HBHI) Initiative:** In 2019, four states (West Bengal, Madhya Pradesh, Jharkhand and Chhattisgarh) launched an initiative to accelerate the pace of malaria elimination in these states.

CHALLENGES

- ✓ **Malaria and Climate Change**: Climate change has emerged as a major factor impacting malaria transmission and burden.
- ✓ Regions such as **eastern India,** Bangladesh's hill tracts, sections of Myanmar, and Indonesian Papua are particularly vulnerable as temperatures rise and climate conditions change.
- ✓ **Inadequate infrastructure:** Malaria primarily affects low and **middle-income** nations with inadequate infrastructure and funding. Vaccine producers have limited incentive to develop malaria vaccines and have continued to focus on industrialized world markets. Even it did not receive the same level of attention as other **diseases like HIV/AIDS.**

WAY FORWARD

- **Structured Vaccine Rollout:** Prioritize areas with seasonal or perennial malaria transmission, using age-based or seasonal administration approaches.
- **Sustainable Approaches:** Malaria responses must be long-term and resilient in light of climate change.
- **Regional adaptation: Regions** that are vulnerable to the effects of climate change on malaria should adjust their preventive and treatment efforts accordingly.
- **Collaboration Efforts:** Effective vaccine distribution and implementation require cooperation among governments and international organizations.
- **Global Collaboration for Research and Development:** Continued funding in R&D for better vaccinations and malaria prevention strategies.

7.4. CERVICAL CANCER

Context

The Union Government intends to initiate a 3-Phase vaccination drive against Human Papillomavirus (HPV) for girls aged 9 to 14, aiming to mitigate the risk of cervical cancer.

CERVICAL CANCER OVERVIEW

- Cervical cancer is a type of cancer that occurs in the cells of the cervix, the lower part of the uterus that connects to the vagina.
- It is a non-communicable disease.
- Most cases of cervical cancer are linked to various strains of the Human Papillomavirus (HPV**).**
- **Nearly 85% of cervical cancers** are attributed to persistent infections with specific high-risk HPV strains

CAUSES

- Most cases of cervical cancer are caused by persistent infection with high-risk types of human papillomavirus (HPV), primarily transmitted through sexual contact.
- There are at least 14 identified oncogenic HPV types with the potential to cause cancer.
- Notably, **HPV types 16 and 18**, recognized as the most oncogenic, are responsible for approximately 70% of cervical cancer cases worldwide.

PREVALENCE

- Cervical cancer ranks as **the second most prevalent cancer** in Indian women, following breast cancer.
- India shoulders a significant portion of the global cervical cancer burden, contributing to **nearly one in four global deaths** due to this form of cancer.

TYPES OF HPV VACCINES AVAILABLE

1. **Quadrivalent vaccine (Gardasil, Cervavac):** Guards against four HPV types (16, 18, 6, and 11), with the last two causing genital warts.
2. **Bivalent vaccine (Cervarix):** Protects against HPV 16 and 18 only.
3. **Nonavalent vaccine (Gardasil 9):** Shields against nine HPV strains.

CERVAVAC

- 'Cervavac' is the first indigenous HPV vaccine developed by Pune-based Serum Institute of India (SII).
- It aims to prevent cervical cancer and other HPV-associated cancers.
- The study focused on 9 to 15-year-old girls and boys, marking a significant inclusion of both genders.
- The research aimed to assess the safety and immunogenicity of 'Cervavac' in comparison to Gardasil, a quadrivalent HPV vaccine by Merck.

Human Papillomavirus (HPV) is a group of DNA viruses that can infect the genital area, as well as the mouth and throat. It is the most common sexually transmitted infection (STI) globally. There are more than 200 types of HPV, and they are categorized as high-risk or low-risk based on their association with cancer.

1. **Low-risk HPV types:** These are associated with warts, both genital and non-genital. While they can be bothersome, they are not likely to cause cancer.
2. **High-risk HPV types:** These are the ones that can lead to cancer. In particular, persistent infection with high-risk HPV is a major cause of cervical cancer. It can also cause other cancers, including cancers of the vulva, vagina, penis, anus, and throat.

WORLD HEALTH ORGANIZATION (WHO)

- WHO estimates that cervical cancer is the **fourth most common** cancer in women globally.
- **Approximately 90% of cervical cancer** deaths occur in low- and middle-income countries.
- **World Health Organisation's Global Strategy:** The Global strategy to eliminate cervical cancer, proposed by the World Health Organisation, outlines the 90-70-90 targets to be achieved by 2030 for countries to progress toward cervical cancer elimination:

1. 90% of girls are fully vaccinated with the HPV vaccine by the age of 15.
2. 70% of women screened with a high-performance test at 35 and 45 years of age.
3. 90% of women diagnosed with cervical disease receive treatment (90% of pre-cancer cases treated, and 90% of invasive cancer cases managed).

INDIA'S EFFORTS

1. **National Health Mission (NHM)**
   ✓ India has implemented various programs under the NHM to address cervical cancer, focusing on prevention, screening, and treatment.
2. **Screening Programs**
   ✓ The Government of India has initiated screening programs like the 'Pap smear test' and more recently, the introduction of HPV testing.
3. **Vaccination Programs**
   ✓ Introduction of HPV vaccination in the national immunization schedule to prevent cervical cancer among young girls.
- **National Immunization Program**
   ✓ Although existing HPV vaccines are expensive, 'Cervavac'

is expected to be included in India's national program.

✓ The vaccine is set to be rolled out across seven states in early 2024.

4. **Awareness Campaigns**

✓ Public awareness campaigns to educate women about the importance of regular screenings, early detection, and vaccination.

5. **ASHA Workers**

✓ Accredited Social Health Activists (ASHA) play a vital role in creating awareness and facilitating healthcare services at the grassroots level.

6. **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS)**:

✓ The NPCDCS includes interventions for cancer control, including cervical cancer.

CHALLENGES

1. **Lack of Awareness**: Many women in India lack awareness about cervical cancer, preventive measures, and the importance of early detection.

2. **Infrastructure and Accessibility Issues**: Limited healthcare infrastructure and accessibility to remote areas pose challenges in implementing effective screening and vaccination programs.

3. **Stigma and Cultural Barriers**: Sociocultural factors and stigma associated with reproductive health can hinder awareness and preventive measures.

WORLDWIDE INITIATIVES

1. **Global Alliance for Vaccines and Immunization (GAVI)**:

✓ GAVI supports the introduction of HPV vaccines in developing countries to prevent cervical cancer.

2. **WHO's Global Strategy to Accelerate the Elimination of Cervical Cancer**

✓ WHO has launched a global strategy to eliminate cervical cancer as a public health problem.

3. **Cervical Cancer-Free Coalition**

✓ International collaborations and coalitions are working towards eliminating cervical cancer globally.

7.5. SEMICONDUCTOR DESIGN-LINKED INCENTIVE (DLI) SCHEME

Context

Recently, experts have opined that overhauling and strengthening India's **Semiconductor Design-Linked Incentive scheme** would enhance the country's competitive edge and support its expansion into other segments of the global semiconductor value chain.

ABOUT THE SCHEME

- **Objective:** The DLI scheme is a **Central Sector Scheme** under the **Ministry of Electronics and Information Technology (MeitY)** which aims to provide financial and infrastructural support to companies establishing fabs or semiconductor manufacturing plants in India.

FINANCIAL SUPPORT

- Fiscal support of up to 50% of the total cost for eligible participants setting up fabs in India.
- 30% fiscal support of the capital expenditure for building compound semiconductors, silicon photonics, and sensors fabrication plants in the country.

INCENTIVES FOR SEMICONDUCTOR DESIGN COMPANIES

- Companies engaged in semiconductor design for integrated circuits, chipsets, system on chips, systems, and IP cores are eligible.
- Incentive of 4% to 6% on net sales for a duration of five years.

EXPECTED IMPACT

- Anticipated growth of a minimum of 20 indigenous semiconductor design companies with a turnover exceeding ₹1500 crore in the next five years.

Semiconductor

- **Definition:** Semiconductors are materials with electrical conductivity between conductors (like metals) and insulators (like non-metals). The conductivity can be controlled and modified, making them essential for electronic devices.
- **Example:** Silicon (Si), Germanium (Ge), Gallium (Ga)

Types

✓ Intrinsic Semiconductors: Pure semiconductors without impurities.

✓ Extrinsic Semiconductors: Doped semiconductors with added impurities to enhance conductivity.

✓ N-type: Doped with elements that provide extra electrons.

✓ P-type: Doped with elements that create electron "holes" or vacancies.

- **Used in** Transistors, Integrated Circuits (ICs), Diodes, Light-Emitting Diodes (LEDs), Solar Cells, Memory Devices, Microprocessors, Sensors
- The global semiconductor sales reached 618 billion U.S. dollars in 2022, a rise of more than 30 percent in just two years The industry's global market revenue is expected to reach $1.2 trillion by 2030.

WHY THE NEED FOR AN OVERHAUL

Restrictions on Domestic Status

- Requirement for beneficiary start-ups to maintain domestic status for at least three years after receiving incentives.

• Limitation on raising more than 50% of requisite capital via foreign direct investment, serving as a significant barrier.

CHALLENGES IN FUNDING LANDSCAPE

• Semiconductor R&D typically yields results in the long term, posing funding viability challenges for start-ups.
• Lack of a mature start-up funding ecosystem for hardware products in India contributes to difficulty in securing capital.
• Capital requirements, coupled with the absence of successful chip start-up stories in India, reduce the risk appetite of domestic investors.

MODEST INCENTIVES

• The DLI scheme offers relatively modest incentives, capped at ₹15 Crore for Product DLI and ₹30 Crore for Deployment Linked Incentive per application.
• Inadequate incentives may not be perceived as a worthwhile trade-off for start-ups, especially considering potential limitations on long-term funding.

CONCERNS ABOUT NODAL AGENCY

• The role of the Centre for Development of Advanced Computing (CDAC) as the nodal agency may pose conflicts of interest, as it is also a market player in the Indian chip design sector.

OTHER GOVERNMENT INITIATIVES

• The market value of the Indian semiconductor industry, estimated at around $23.2 billion, is anticipated to expand significantly, reaching $80.3 billion by the year 2028. This growth is expected to occur at a compound annual growth rate (CAGR) of 17.10% throughout the forecast period. To support the industry, the Government has taken several initiatives.
• **India Semiconductor Mission (ISM),** to build a vibrant semiconductor ecosystem to enable India's emergence as a **global hub for electronics manufacturing and design**.
• Union Cabinet approved a financial outlay of **Rs 76,000 crore** for the development of the semiconductor manufacturing ecosystem in India.
• In 2021, the Government unveiled a **Production-Linked Incentive (PLI)** scheme of **$10 billion**, aimed at promoting semiconductor and display manufacturing in the country.
• Modernization and commercialization of the **Semiconductor Laboratory (SCL) at Mohali**.

WAY FORWARD

• The financial outlay of the scheme needs substantial enhancement to support the shift in policy toward promoting indigenous chip design capabilities in India.
• Delinking ownership from semiconductor design development and adopting more start-up-friendly investment guidelines is suggested.
• Setting up an independent and impartial implementing agency, such as the Semiconductor Fabless Accelerator Lab (SFAL) in Karnataka, is suggested.

7.6. INSAT-3DS SATELLITE

Context

Recently, the Indian Space Research Organisation (ISRO) announced the upcoming launch of the INSAT-3DS satellite from the Satish Dhawan Space Centre in Sriharikota.

ABOUT INSAT-3DS

• **Objective:** INSAT-3DS, is an exclusive meteorological satellite realized by ISRO with the primary objective to provide continuity of services to the existing in-orbit INSAT-3D and 3DR satellites.
• **Assembly and Testing:** The satellite has completed assembly, integration, and testing activities at U.R. Rao Satellite Centre in Bengaluru.
• **Pre-Shipment Review:** A Pre-Shipment Review was conducted on January 25, 2024, with the participation of members from the user community.
• **User-Funded Project:** INSAT-3DS is a user-funded project in collaboration with the Ministry of Earth Sciences. The satellite is based on ISRO's proven I-2k bus platform, with a lift-off mass of 2275 kg.
• **Contributions from Indian Industries:** Indian industries have played a significant role in the development of the satellite.
• **Payloads**
  ✓ **Meteorological Payloads:** Includes a 6-channel Imager and a 19-channel Sounder for enhanced meteorological observations and monitoring of land and ocean surfaces.
  ✓ **Communication Payloads:** Features the Data Relay Transponder (DRT) to receive meteorological, hydrological, and oceanographic data, enhancing weather forecasting capabilities.
  ✓ **Satellite-aided Search and Rescue (SAS&R) Transponder:** Incorporated to relay distress signals/alerts for search and rescue services with global coverage.
  ✓ Overall, INSAT-3DS is designed to contribute to weather forecasting, disaster warning, and search and rescue operations with advanced payloads and capabilities.

7.7. THE THIRTY METER TELESCOPE

Context

Recently an official delegation from the Ministry of Science and Technology visited Mauna Kea on the island of Hawai'i to discuss the challenges of the TMT Project.

TMT PROJECT OVERVIEW

- The Thirty Meter Telescope (TMT) is a collaborative effort involving the US, Japan, China, Canada, and India.
- It is designed as an optical and infrared primary mirror telescope with a 30-meter diameter.

INDIA'S ROLE

- India, approved by the Union Cabinet in 2014, is a key participant in the TMT project.
- Expected to contribute $200 million worth of hardware, instrumentation, and software.
- Indian contribution includes 83 out of 492 precisely polished mirrors required for the telescope.

CHALLENGES IN MAUNA KEA

- Mauna Kea, an inactive volcano in Hawaii, was initially chosen as the project site.
- Local opposition based on religious and cultural concerns resulted in invalidated permits in 2015.
- Permits were reinstated in 2018, but ongoing local opposition has delayed construction.

ALTERNATIVE LOCATION

- Consideration of Observatorio del Roque de los Muchachos (ORM) in Spain's Canary Islands as an alternative site.

GLOBAL COLLABORATION AND DELAY CONCERNS:

- TMT represents a global collaboration for advanced space observations.
- Plans to move the project to avoid potential future unrest during construction.

SIGNIFICANCE OF INDIAN CONTRIBUTION:

- India's substantial contribution involves providing key components essential for the telescope's functionality.

Mauna Kea
Mauna Kea is a significant geographic and cultural feature located on the Big Island of Hawai'i.

- **Location:**
  - ✓ Mauna Kea is situated on the island of Hawai'i, which is part of the Hawaiian archipelago in the central Pacific Ocean.
- **Geological Nature:**
  - ✓ It is a **dormant or inactive volcano** and is considered one of the five volcanoes that form the island of Hawaii.

7.8. GIANT RADIO TELESCOPE (SQUARE KILOMETRE ARRAY OBSERVATORY)

Context

Recently, India (through the Pune-based National Centre for Radio Astrophysics and some other institutions) has been involved in the development of the Square Kilometre Array Observatory.

SQUARE KILOMETRE ARRAY OBSERVATORY (SKAO)

- **SKAO:** Intergovernmental organization dedicated to constructing and operating advanced radio telescopes.
- **HQ:** Jodrell Bank Observatory, UK.
- **Network:** Deployment of thousands of antennas in remote areas of Australia and South Africa.

SKA PROJECT DETAILS

- Built in two parts; initiation of SKA1 in December 2022.
- Scheduled commencement of SKA1 operations in 2029.
- Participating Countries: UK, Australia, South Africa, Canada, China, France, India, Italy, Germany.

SKA TELESCOPE DESIGN AND FEATURES

- Essential components: A big parabolic dish or an array of smaller dishes, a receiver converting **radio waves into electrical signals**, and a computer unit for data processing.
- Allows astronomers to position the telescope towards various portions of the sky.
- In South Africa, SKA will consist of 197 parabolic radio antennas.

INDIA'S INTEGRAL ROLE

- India has been part of this since the 1990s, with Significant contributions through the National Centre for Radio Astrophysics (NCRA) in Pune.
- NCRA was entrusted with the construction and operation of the **Giant Metrewave Radio Telescope (GMRT).**

IMPORTANCE OF SKA TELESCOPE

- Aims to address a spectrum of astrophysical, cosmological, and astrobiological inquiries.
- Targets understanding interstellar magnetism, dark matter, dark energy, and the search for extraterrestrial life.
- Scientific questions encompass the origins of the universe, the birth of the first stars, a galaxy's lifespan, exploration

of technologically advanced civilizations in our galaxy, and tracing the origins of gravitational waves.

RADIO TELESCOPE BASICS

- **Function:** Detects and collects radio waves emitted by celestial objects.
- **Comparison with Optical Telescopes:** Specifically designed for capturing radio waves rather than visible light.
- **Wavelengths:** Captures longer wavelengths, ranging from a few millimeters to several meters.
- **Usability:** Operable both during the day and at night.
- **Significance:** Essential for analyzing astronomical phenomena like pulsars, quasars, galaxies, and cosmic microwave background radiation.
- **Advantages:** Provides insightful data about the universe, particularly on radio-emitting objects and processes.
- **Observation Range:** Allows astronomers to examine celestial phenomena and processes not visible in the optical spectrum by observing in the radio frequency range.

Major Radio Telescopes Worldwide
• **GMRT (India):** Giant Metrewave Radio Telescope.
• **FAST (China):** Five-hundred-meter Aperture Spherical Telescope.
• **RT-70 (Ukraine):** Yevpatoria RT-70.
• **GBT (USA):** Green Bank Observatory.
• **ALMA (Chile):** Atacama Large Millimetre/submillimetre Array.

CONCLUSION

- India's participation in the Square Kilometre Array Observatory project signifies opportunities for technological growth, global cooperation, and talent development, and elevates India's reputation in the international scientific community. It positions India as a proactive contributor to scientific exploration rather than a mere consumer of scientific tools.

7.9. DRISHTI 10 STARLINER UAV

Context

The first Drishti 10 Starliner Unmanned Aerial Vehicle (UAV) was unveiled by Chief Admiral R Hari Kumar of the Indian Navy.

ABOUT STARLINER UNMANNED AERIAL VEHICLE (UAV)

- This platform is advanced in terms of intelligence, surveillance, and reconnaissance (ISR).
- **Developed by** Adani Defence and Aerospace.
- **Technologies acquired:** from Elbit Systems (an Israeli defense company).

FEATURES OF STARLINER UNMANNED AERIAL VEHICLE (UAV):

- It has an impressive 36 hours of endurance and a notable **450 kg payload capacity.**
- It is over **60% indigenous content.**
- UAVs would be critical in shaping future naval operations and protecting India's national maritime interests in the Indian Ocean region.
- UAVs would promote the Navy's maritime domain awareness and augment their **anti-piracy sea-borne mission.**
- It is the only all-weather military platform certified with **NATO's STANAG 4671** (standardized agreement 4671) for airworthiness, allowing it to operate in both **segregated and unsegregated airspace.**
- **Drishti 10 Starliner is outfitted with** cutting-edge sensors, greater endurance, advanced communication capabilities, and cutting-edge technologies.

Unmanned Aerial Vehicle (UAV)
• It is an aircraft that carries no human pilot or passengers.
• UAVs sometimes called drones can be fully or partially autonomous but are more often controlled remotely by a human pilot.
• **Abraham E. Karem** is known as father of UAV Technology. He built his first drone during the Yom Kippur War for the Israeli Air Force.

7.10. REJUPAVE TECHNOLOGY

Context

Recently Arunachal Pradesh adopted indigenous road tech, REJUPAVE technology.

REJUPAVE TECHNOLOGY

- REJUPAVE Technology is a road construction technology developed by the CSIR-Central Road Research Institute (CSIR-CRRI).
- It is developed for sub-zero conditions, overcoming winter construction challenges.
- It is used to build and maintain bituminous roads in high-altitude and cold regions, such as near the India-China border in Arunachal Pradesh. It has the following advantages:
- It reduces the production and rolling temperature of bituminous mixes by 30°C to 40°C, which saves energy and lowers greenhouse gas emissions.

- It preserves the bituminous mix temperature during transit, even in long haulage time and snowfall conditions.
- It improves the durability and resistance of bituminous roads to thermal cracking and rutting.
- It uses a bio-oil-based product, which is eco-friendly and biodegradable.
- REJUPAVE Technology is a significant innovation for enhancing the operational capacity of the defense forces along the Indo-China border, as well as for providing all-weather connectivity to the remote and strategic areas of Arunachal Pradesh.

IMPLEMENTATION BY BORDER ROADS ORGANIZATION (BRO)

- Utilized in the construction of the Sela Road Tunnel and LDY road in Arunachal Pradesh.
- Specifically designed for challenging terrains near the China border.
- BRO faced difficulties in traditional bituminous road construction during winter months.

CHALLENGES IN HIGH-ALTITUDE BITUMINOUS ROAD CONSTRUCTION

- Halting or delays in construction during winter.
- Hot bituminous mix production requires high temperatures.
- Cooling of the mix during transportation due to hilly terrains.

STRATEGIC IMPLICATIONS AND FUTURE PROSPECTS

- Potential to transform construction schedules for northern border infrastructure.
- Enhances all-weather connectivity for defence forces and border populations.
- Promotes cost-effective indigenous technology developed by Indian scientists.

Sela Tunnel

- About Sela Tunnel
  ✓ Under- construction road tunnel at 3,000 meters, connecting Guwahati to Tawang in Arunachal Pradesh.
  ✓ Expected to be the world's longest bilane tunnel at 13,000 feet.
  ✓ **Nechiphu Road Tunnel:** The first road tunnel in Arunachal Pradesh and the entire northeastern India.

- Location and Connectivity
  ✓ Sela Tunnel excavated below the 4,200 meters Sela Pass on NH 13, part of the Trans-Arunachal Highway.
  ✓ Connected to NH 13 via a new 12.4 km road.
  ✓ Aim to reduce the distance between Dirang and Tawang by 10 km.
- Strategic Importance
  ✓ Enhances all-weather connectivity to Tawang in the western region of Arunachal Pradesh.
  ✓ Provides a vital transportation link throughout the year.

7.11. MPEMBA EFFECT

Context

Many researchers have conduted numerous experiments to determine the cause of Mpemba Effect.

MPEMBA EFFECT

- The Mpemba Effect, named after **Tanzanian student Erasto Mpemba**, who brought attention to this **phenomenon in 1969**, defies intuition by revealing that **hot water can freeze faster than cold water in similar conditions.**
- Despite numerous experiments, a consensus conclusion on the causes of the Mpemba Effect remains elusive.
- **Several potential contributing factors have been proposed:**
  ✓ **Micro-bubbles:** Boiling water traps tiny air bubbles (micro-bubbles) that act as nucleation sites for ice crystals to form, potentially speeding up freezing.
  ✓ **Evaporation:** Warmer water loses heat through evaporation more readily, leading to faster cooling. This explains why sweating cools us down.
  ✓ **Convection:** Hot water's lower density encourages stronger convection currents, efficiently transferring heat away from the water during freezing.
  ✓ **Frost insulation:** Cold water forms an insulating layer

of frost on the surface, which can slightly slow down its further cooling compared to hot water.
- ✓ **Dissolved impurities:** Minerals or other impurities in water might precipitate during boiling and then re-dissolve upon cooling, altering the freezing point and potentially influencing the process.

7.12. EXERCISE CYCLONE

Context

The 2nd edition of India-Egypt Joint Special Forces Exercise CYCLONE conducted at Anshas, Egypt from 22nd January to 1st February 2024.

ABOUT EXERCISE CYCLONE

- **Aim:** To acquaint both sides with each other's operating procedures in the backdrop of Special Operations in desert/semi-desert terrain
- It is designed to develop bilateral military cooperation and strengthen the bond between two armies through the conduct of discussions and rehearsal of tactical military drills.
- The Exercise will involve planning and execution of special operations in sub conventional domain.
- It will be conducted in three phases:
  - ✓ **Phase I:** It will include Military Exhibitions and Tactical Interactions.
  - ✓ **Phase II:** It will focus on training on Improvised Explosive Devices (IED), counter-IED IED, and Combat First Aid.
  - ✓ **Phase III:** It will encompass Joint Tactical Exercise based on Fighting in Built-up Area and Hostage Rescue Scenarios.

7.13. EXERCISE SADA TANSEEQ

Context

Recently, the inaugural edition of the India-Saudi Arabia Joint Military Exercise, named 'SADA TANSEEQ,' has commenced in the desert terrain of Mahajan, Rajasthan.

ABOUT SADA TANSEEQ EXERCISE

- **Members participated**
  - ✓ Saudi Arabian Contingent: Comprising 45 personnel from the Royal Saudi Land Forces.
  - ✓ Indian Army Contingent: A Battalion from the Brigade of the Guards (Mechanised Infantry) with 45 personnel.
- **Objective:** The primary goal of 'SADA TANSEEQ' is to train troops from both nations for Joint Operations in semi-desert terrain, as outlined in Chapter VII of the United Nations Charter.
- **Key Focus Areas**
  - ✓ **Tactics, Techniques, and Procedures:** To facilitate the sharing of best practices in the tactics, techniques, and procedures involved in conducting operations within sub-conventional domains.
  - ✓ **Interoperability:** To develop interoperability between the Saudi Arabian and Indian contingents to enhance their collaborative capabilities.
  - ✓ **Bond and Camaraderie:** To foster bonhomie and camaraderie among the troops from both sides, strengthening the spirit of cooperation.
- **Other Exercises:** In addition to 'SADA TANSEEQ,' the two nations recently conducted their first naval joint exercise, named 'Exercise Al-Mohad Al-Hindi.'

8. INTERNAL SECURITY

8.1. EUROPEAN PORT ALLIANCE

Context

Recently the European Union has inaugurated the **"European Ports Alliance"** to harmonize methods in the **fight against drug smuggling and combating criminal infiltration.**

ABOUT THE EUROPEAN PORTS ALLIANCE
Parties to Alliance

- The European Ports Alliance is a partnership between the **European Commission**, the **Belgian Presidency** of the Council of the EU, **16 EU ports**, and **sea transport organizations**.

European Union (EU)
• It is international organization comprising 27 European countries and governing common economic, social, and security policies.
• The EU's members are Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

LAUNCHED AT
- It was launched on January 24, 2024, in Antwerp, Belgium.

OBJECTIVES OF ALLIANCE

- The main goal of the alliance is to fight drug trafficking and organized crime in EU ports, by enhancing security, cooperation, and information-sharing among all relevant stakeholders.
- The alliance is part of the EU's broader strategy to tackle the serious security threat posed by drug trafficking and organized crime.

SUPPORTED BY

- The alliance is also supported by a **Public-Private Partnership**, which will help port authorities and shipping companies to protect their logistics, staff, and processes from criminal infiltration.

STATUS OF DRUG TRAFFICKING AT THE GLOBAL LEVEL

- The global drug trafficking market is estimated to be worth $32 billion, making it one of the most lucrative forms of illegal activity.
- **According to World Drug Report 2023.**
  - ✓ **One in every 17 people** worldwide had used a drug in 2021, **23 per cent more than a decade earlier.**

GLOBAL CONSEQUENCES

- **Addiction and Health Issues:** Drug usage leads to addiction, dependence, and a spectrum of health problems, encompassing mental health disorders, organ damage, and heightened susceptibility to infectious diseases such as HIV/AIDS.
- **Violence and Crime:** Drug trafficking underpins violence and criminal activities, manifesting in gang conflicts, territorial disputes, and systemic corruption, thereby destabilizing communities and compromising public safety.
- **Economic Strain:** Drug addiction strains healthcare systems, resulting in diminished economic productivity due to the burdens imposed on public health resources.
- **Family and Community Disintegration:** Drug abuse can rupture familial and community ties, fostering social isolation and eroding trust among individuals.
- **Environmental Degradation:** The production of illegal drugs often contributes to environmental degradation, encompassing issues like deforestation, toxic waste, and water pollution.
- **Corruption and Instability:** Drug trafficking has the potential to infiltrate and corrupt governmental institutions, thereby weakening governance structures and impeding overall development.
- **Conflict and Terrorism:** Criminal organizations associated with drug trade can incite conflict and terrorism, posing a tangible threat to national security.

CONSEQUENCES IN INDIA

- **Geopolitical Vulnerabilities**
  - ✓ India's strategic geographic location between the **Golden Crescent (Afghanistan and Pakistan) and the Golden Triangle (Myanmar, Laos, and Thailand)** renders it a crucial transit route for illegal drugs, particularly heroin.

In India according to the latest report by the Narcotics Control Bureau (NCB), about 70% of the illegal drugs are smuggled into the country through the sea routes from Bay of Bengal and Arabian sea.

- **Societal Ramifications**
  - ✓ India grapples with a substantial issue of **drug abuse, with millions contending with addiction** to opioids, cannabis, and synthetic drugs.
- **Economic and Social Costs**
  - ✓ Drug abuse in India exacts a considerable economic and social toll, **impacting productivity, straining healthcare resources, and placing a burden on social welfare** programs. The multifaceted costs extend across various sectors, necessitating comprehensive strategies for mitigation and prevention.

FACTORS CONTRIBUTING TO DRUG ADDICTION

- **Dopamine Impact:** Drugs target specific neurotransmitters, such as dopamine, a key player in the brain's reward system. This manipulation creates intense euphoria, altering the brain's chemistry and reinforcing addictive behaviours.
- **Diverse Origins:** Both **natural (e.g., cocaine, marijuana)** and **synthetic (e.g., methamphetamine, ecstasy) drugs** can be highly addictive, depending on their specific interactions with the brain.
- **Legality Not Indicative of Addiction Potential:** Addiction potential varies; legal drugs like **tobacco and alcohol can be highly addictive**, while some illegal drugs like marijuana may have lower addiction rates.
- **Curiosity and Peer Pressure:** Initial drug use often stems from curiosity, peer pressure, or attempts at self-medication.
- **Positive Reinforcement:**
  - ✓ **Association with Pleasure**: The brain associates drug use with pleasure and reward, reinforcing the behaviour through the release of dopamine.
  - ✓ **Cycle Creation:** This positive reinforcement establishes a cycle of seeking the drug to recreate the positive feelings.

GLOBAL INITIATIVES TO COUNTER DRUG SMUGGLING

- **United Nations Office on Drugs and Crime (UNODC)**
  - ✓ The UNODC serves as the central hub for coordinating international efforts against drug smuggling. Key programs include the **World Drug Report, Global Synthetics Monitoring Program, and Container Control Program.**
- **International Narcotics Control Board (INCB)**
  - ✓ As an independent expert body, the INCB monitors the implementation of international drug control treaties.
  - ✓ Assesses countries' compliance with drug control measures.
- **World Customs Organization (WCO)**
  - ✓ The WCO collaborates with global customs authorities to enhance **border security and control the movement of illegal goods.**
- **Financial Action Task Force (FATF)**
  - ✓ FATF establishes international standards to **combat money laundering and terrorist financing** associated with drug trafficking

INDIA'S DRUG SMUGGLING

- **Production Specifics**
  - ✓ **Cannabis:** Predominantly cultivated in the **hilly terrains of Himachal Pradesh, Uttarakhand, and the Northeastern states**. Additionally, cultivation occurs in **Andhra Pradesh, Odisha, and Tamil Nadu.**
  - ✓ **Opium:** Golden Triangle states such as **Manipur, Nagaland, and Arunachal Pradesh** contribute significantly. Opium is also cultivated in **Rajasthan and Madhya Pradesh.**

- ✓ **Synthetic Drugs:** Operate covertly in remote areas of **Maharashtra, Andhra Pradesh, and Telangana**.
- **Trafficking Routes:**
  - ✓ **Golden Triangle**: Opium, originating from Myanmar and Laos, enters India through the Northeast. It is then either consumed **domestically or trafficked to Europe and North America.**
  - ✓ **Indo-Nepal Border:** Facilitates the smuggling of **cannabis and hashish from Nepal into India,** with subsequent distribution across the country.
  - ✓ **Coastal Routes:** Ports and coastlines are exploited for **smuggling synthetic drugs, particularly directed towards Southeast Asia and Africa.**

INDIA'S MEASURES TO COMBAT DRUG SMUGGLING

- **The Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985:** This act prohibits the **production, possession, sale, purchase, transport, and consumption of narcotic drugs and psychotropic substances.**
- **Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act (PITNDPS) Act, 1988:** This act strengthens **international cooperation in combating drug trafficking and enables** India to fulfil its obligations under international drug control treaties.
- **International Cooperation**
  - ✓ **UNODC:** India actively collaborates with the United Nations Office on Drugs and Crime (UNODC) in various initiatives, **including training programs, information sharing, and joint operations.**
  - ✓ **Interpol:** India is a **member of Interpol and cooperates** with other countries in intelligence sharing, joint investigations, and extradition of drug traffickers.
  - ✓ **Bilateral agreements:** India has **bilateral agreements with several neighbouring countries for enhanced border security,** information exchange, and joint operations against drug trafficking.

WAY FORWARD

- To enhance the global fight against **drug smuggling, allocating additional resources and fostering increased cooperation among key initiatives like UNODC, Interpol, and regional collaborations is crucial.**
- Simultaneously, addressing root causes such as **poverty, inequality, and lack of opportunities is essential, significantly contributing** to reducing the demand for illicit drugs.
- A holistic approach to social and economic challenges is necessary.
- Prioritizing preventive measures, **including educational programs, and awareness campaigns.**

8.2. INDIA – MYANMAR FREE MOVEMENT REGIME (FMR)

Context

During a passing out parade of Assam police commandos in Guwahati, Home Minister Amit Shah promised that the border between India and Myanmar would be fenced shortly.

WHAT IS THE INDIA – MYANMAR FREE MOVEMENT REGIME (FMR)?

- Established through mutual agreement, the Free Movement Regime (FMR) is an arrangement permitting tribes residing along the shared border to travel **up to 16 km** into each other's territory without needing a visa.
- Enacted in 2018 under the Indian government's **Act East policy**, the FMR gained significance amid growing Chinese influence in Myanmar.

HISTORICAL BACKGROUND OF INDIA – MYANMAR BORDER (IMB)

- India shares a 1643 km border with Myanmar, which runs through its four northeastern states. Arunachal Pradesh (520 km), Nagaland (215 km), Manipur (398 km), and Mizoram (510 km).

- The IMB, established through the **Treaty of Yandabo on 24 February 1826** between the British East India Company and the King of Ava, persisted as a colonial legacy until 1969.
- In 1969, the Government of the Republic of India and the Union of Burma (now Myanmar) signed a boundary agreement, marking the end of the colonial-era arrangements.

RATIONALE BEHIND FMR

British Demarcation (1826)

- The British demarcated the India-Myanmar border in 1826 without taking **cognisance of** the local inhabitants, resulting in the division of people sharing **similar ethnicity and culture** into two nations without their consent.

Safeguarding Traditional and Economic Rights

- The Free Movement Regime (FMR) aimed to boost local trade and business in an area with a rich history of cross-border commerce through customs and border haats, especially in the context of the region's low-income economy.
- For people residing on the Myanmar side of the border, Indian towns are more accessible for business, education, and healthcare than facilities in their own country.

Ethnic Ties and Social Bonds

- The Chin people inhabiting the Chin state of Myanmar, which is contiguous with Mizoram, share a common ethnicity with the Mizos and the Kuki-Zomis of Manipur.
- There is a substantial Naga population in Myanmar, primarily concentrated in the Naga Self-Administered Zone in Myanmar's Sagaing region.

WHY THE RECONSIDERATION OF FREE MOVEMENT REGIME (FMR)

Security Challenges

- Only a **10 km** stretch in Manipur is fenced; the rest of the India-Myanmar border through hills and jungles remains **unfenced.**
- Security forces face challenges from **extremist groups such** as the United National Liberation Front (UNLF), the United Liberation Front of Assam (ULFA), and the National Socialist Council of Nagaland (NSCN), operating clandestinely in the **Chin and Sagaing** regions of Myanmar.

Concerns Related to Drug Trade

- Cross-border movement has been associated with concerns such as inward **trafficking of drugs** and outward trafficking of **wildlife body parts**.

Issues of Illegal Migration

- During the **civil war in Myanmar**, a few thousand Myanmar nationals sought refuge in Manipur, coinciding with the conflict in **May 2023.**
- The conflict between the **majority of Meitei** and tribal **Kuki-Zo** communities in Manipur was mainly attributed to the perceived "influx" of Myanmar nationals, particularly Kuki-Chins.

Tribe	Location	Language	Religion	Cultural Features
Kuki	Northeast India (Manipur, Mizoram, Nagaland) and Chin State in Myanmar	Kuki-Chin languages	Primarily Christian (Protestant and Roman Catholic) with traditional animistic beliefs	Known for their martial traditions, distinctive weaving patterns, and vibrant festivals. Historically engaged in shifting cultivation.
Zomi	Northeast India (Manipur, Mizoram), Myanmar, and Bangladesh	Zomi language (also known as Mizo or Lushai)	Predominantly Christian, with a mix of Baptist, Roman Catholic, and other denominations	Primarily agricultural, they are known for their rich oral traditions, traditional dances, and festivals. Strong community ties and a hierarchical social structure.
Meitei	Manipur (mainly in the Imphal Valley), India	Meiteilon (Manipuri)	Predominantly Hinduism, with a minority practicing Sanamahism (indigenous religion)	It is culturally rich with a history of classical dance, music, and art—predominantly settled agriculturists. The Ras Lila dance and the Kangla Fort are significant cultural symbols. Meitei society has both plains and hill inhabitants.

WAY FORWARD

- **Local Aspirations:** Develop a clear FMR plan, actively considering the aspirations of North East Region (NER) residents in India's Myanmar strategy.
- **Formal Trade and Infrastructure:** Revise FMR to formalise trade via infrastructural development at LCSs, effective regulatory mechanisms, and efficient ICPs.
- **Entry Points and Vigilance:** Establish multiple entry points along the IMB, ensuring strict vigilance by border guards for compliance with designated points.
- **Development Initiatives:** Improve connectivity and essential infrastructure; establish schools, hospitals, and vocational training centres to deter youth from illicit activities.
- **Manpower Deployment:** Deploy manpower 24/7, increase numbers, and intensify checks to monitor traders' movement and prevent illegal activities.
- **Monitoring and Review:** Implement a system for regular monitoring and periodic reviews to adapt strategies to evolving challenges and requirements.

CONCLUSION

- Apart from being a strategic issue, the FMR has become a **sentimental issue,** which is very close to the hearts of locals, and any wrong decision by New Delhi might lead to adverse consequences. New Delhi must tackle the issue by pursuing a carefully calibrated approach of **'killing the snake without breaking the stick'.**

8.3. FOREIGN CONTRIBUTION REGULATION ACT 1976

Context

Recently the Union Home Ministry has cancelled the Foreign Contribution Regulation Act (FCRA) registration of the Centre for Policy Research (CPR).

THE FOREIGN CONTRIBUTION REGULATION ACT (FCRA) 1976

- The FCRA was enacted during the Emergency in 1976 in an atmosphere of apprehension that foreign powers were interfering in India's affairs by pumping in funds through independent organisations.
- The FCRA regulates foreign donations and ensures that such contributions do not adversely affect internal security.

> **Centre for Policy Research (CPR)**
> - CPR is a leading policy think-tank since 1973, which conducts advanced and in-depth research on a wide range of policy-relevant issues, with a focus on India's 21st Century challenges.

KEY PROVISIONS OF THE FCRA

- **Applicability:** The FCRA applies **to all associations, groups and NGOs which intend to receive foreign donations.**
- Eligibility of applicant/expectations from applicants:
- To receive foreign contributions in India, an organization must meet certain criteria:
- **Legal Registration:** Be registered under the Societies Registration Act, Indian Trusts Act, as a Section 8 Company under the Companies Act, or any other required law.
- **Financial Stability:** Have spent at least 10 lakh rupees (excluding administrative costs) in the past 3 years towards achieving its goals. Audited financial statements for the past 3 years are required.
- **Specific Application for New Organizations:** Newly registered entities can apply for permission to receive foreign contributions for a specific purpose, or activity, and from a specific source through the "Prior Permission (PP)" method to the Ministry of Home Affairs.

WHO CANNOT ACCEPT FOREIGN FUNDING?

- The **Members of the legislature (MPs, MLAs, MLC)** and **political parties, government officials, judges and media persons** are prohibited from receiving any foreign contribution.
- However, in 2017 the MHA, through the Finance Bill route, amended the FCRA law paving the way for political parties to receive funds from the Indian subsidiary of a foreign company or a foreign company in which an Indian holds 50% or more shares.

MANDATORY PROVISIONS

- All NGOs must register themselves under the FCRA **which intends to receive foreign donations.**
- Filing of annual returns, on the lines of Income Tax, is compulsory for all such NGOs.

VALIDITY AND RENEWAL PROCESS

- The registration is initially valid for **five years** and it can be **renewed** subsequently if they comply with all norms.
- NGOs are expected to **apply for renewal within six months** of the date of expiry of registration.

GROUNDS FOR CANCELLATION OF REGISTRATION

- Foreign funding needed to be stopped as it was receiving foreign contributions for "undesirable purposes" likely to affect the country's economic interest.
- It alleged that CPR transferred foreign contributions to other entities and deposited the contributions in non-designated accounts in violation of FCRA.

ASSOCIATION REGISTERED UNDER FCRA

- According to Ministry of Home Affairs data, September 2023, there are 49,843 FCRA-registered associations.
- **An appeal under FCRA:** The provision of appeal has been provided under this act, an aggrieved person can appeal in the high court against the order of session court.

OFFENCE AND PENALTIES UNDER FCRA

- Violation of FCRA can attract severe penalties which could be as under:
  - ✓ Seizure and confiscation of foreign contribution receipts.
  - ✓ Compulsory prior permission requirement even if the NGO is registered under FCRA.
  - ✓ Imprisonment up to up to up to 5 years and/or fine.
  - ✓ Prohibition on accepting foreign contributions for 3 years for persons convicted twice

Amendments

- **FCRA amendment 2010**
  - ✓ To "consolidate the law" on the **utilisation of foreign funds**, and **"to prohibit" their use** for "any activities detrimental to the national interest".
- **FCRA amendment 2015**
  - ✓ **In 2015, the MHA notified new rules,** which required NGOs to give an undertaking that the acceptance of foreign funds is not likely to prejudicially affect the sovereignty and integrity of India or impact friendly relations with any foreign state and does not disrupt communal harmony.
- **FCRA amendment 2020**
  - ✓ **Ratio of fund utilization:** NGOs earlier could use up to 50% of funds for administrative use, the new amendment restricted this use to 20%.
  - ✓ **Ban on public servants from receiving foreign funds:** The Act bars public servants from receiving foreign contributions.
  - ✓ Aadhaar number is mandatory for all office bearers, directors or key functionaries of a person receiving foreign contribution, as an identification document.
  - ✓ The foreign contribution must be received only in an account designated by the bank as an FCRA account in such branches of the State Bank of India, New Delhi.
- **FCRA amendment 2022**
  - ✓ Exemption from intimation to the government for contributions less than Rs 10 lakh (the earlier limit was Rs 1 lakh) received from relatives abroad, and
  - ✓ Increase in the time limit for intimation of the opening of bank accounts.

CONCERNS RELATED TO FCRA

- **Bureaucratic Hurdles:** The FCRA demands mountains of paperwork and strict adherence to rules, making it tough for NGOs to navigate. Ambiguity in the law's interpretation creates room for authorities to target specific organizations.
- **Time-taking Processes:** Lengthy procedures for registration and renewal can stall operations and hamper access to crucial funding.
- **Lack of Clarity:** Questions often surround how NGOs spend foreign funds received under the FCRA. Concerns mount when the intended purpose and beneficiaries of these funds remain unclear.
- **Political Interference:** Whispers of political influence in the FCRA process raise concerns about unfair decisions regarding registration approvals and denials.

WAY FORWARD

- **Increased Transparency and Objectivity:** Clear guidelines and independent oversight mechanisms can ensure fair and transparent application of the FCRA, reducing accusations of bias and political interference.
- **Simplified Registration Process:** Streamlining the registration process and easing compliance requirements can reduce

the burden on NGOs without compromising legitimate security concerns.

- **Proportionate Regulations:** Tailoring regulations to the nature and size of organizations organizations organisationsorganisations can balance risk assessments

with the need for a vibrant civil society.

- **Open Dialogue and Collaboration:** Engaging in open dialogue with NGOs and civil society organizations can foster trust and cooperation, leading to more effective and balanced regulations.

8.4. OPERATION SARVASHAKTI

Context

Recently, the Indian Army Launched Operation Sarvashakti in Jammu and Kashmir.

ABOUT OPERATION SARVASHAKTI

- **Mission:** To neutralize terrorist threats **emanating from the Pir Panjal Mountain range** in Jammu and Kashmir, particularly in the Rajouri-Poonch sector.
- **Joint Effort:** Security forces from the Srinagar-based 15 Corps and the Nagrota-based 16 Corps, along with other agencies and paramilitary forces, will collaborate in this crucial operation.
- **Operation on the line:** Drawing inspiration from **Operation Sarpvinash of 2003,** which successfully eliminated nearly 100 terrorists in the region, Sarvashakti aims **to achieve similar results** with a renewed focus.

NEED FOR OPERATION SAVASHAKTI

- **Recent Escalation**: A surge in terrorist activity, backed by Pakistani proxies, has claimed the lives of around 20 Indian troops in the Rajouri-Poonch sector. This necessitates decisive action to safeguard the region and its people.
- **Disrupting Networks:** The operation aims to dismantle terrorist hideouts hidden within the dense jungles, mountains, and caves of the Pir Panjal range, effectively disrupting their networks and operations.
- **Restoring Peace and Stability:** Ultimately, **Operation Sarvashakti seeks to create a safer environment** for the residents of Jammu and Kashmir, fostering peace and stability in the region.

9. SOCIAL ISSUES

9.1. CASTE CENSUS

Context

Andhra Pradesh becomes **the second state after Bihar** to take up the Caste Census.

WHAT IS THE CASTE SURVEY?

- A caste census is a government population survey that records people's caste or social group to study disparities, and government policy impact and address caste-based discrimination.

WHAT IS THE CENSUS?

- Periodic population enumeration every 10 years, capturing demographics (age, sex, education, etc.). Vital for policy, research, and business decisions.

DIFFERENCES

- Caste Census supports targeted affirmative action, monitors discrimination, and enhances understanding of social realities.
- Census covers broader demographics, is more frequent (every 10 years), and is widely accepted.
- Caste census is specific, historically less frequent, subject to debate, and data availability is limited.
- Since the Census falls under the Act of 1948, all data are considered confidential, whereas data of SECC is open for use by the government departments to grant and/or restrict benefits to households.
- Socio-economic caste census (SECC) in India (2011) combines caste and socio-economic data. Some states conduct independent caste surveys, adding complexity to the overall debate.

HISTORICAL BACKGROUND

- The first comprehensive caste census was **conducted in 1871** under the **leadership of Lord Risley.**
- The **1871 census** categorized the Indian population **into castes and communities** for administrative purposes, a practice continued in subsequent censuses.
- Caste census **took place in 1931**, and the data was publicly disclosed by the British Government.
- **1951 Onwards:** India's First Home Minister, Sardar Vallabhbhai Patel, **ceased the inclusion of caste enumeration** in national censuses to prevent potential disruptions to national unity and integration.
- **1952:** A comprehensive post-independence caste survey was conducted in **Mysore State (now Karnataka),** marking a singular instance of such enumeration.
- In the **2011 census,** there were discussions about conducting a separate caste census, which ultimately did not occur.
- Instead, the government collected socio-economic data through the **Socio-Economic and Caste Census (SECC) in 2011.**
- Several states in India, including **Rajasthan, Odisha, Maharashtra, Assam, and Karnataka,** are planning or conducting caste surveys.

Socio-Economic and Caste Census (SECC)
- It evaluates the **socio-economic status of rural and urban households,** enabling ranking based on predefined parameters.
- **Conducted by distinct authorities** but **coordinated by the Department of Rural Development** in the Government of India.
- Key Findings ✓ Total Rural Households: **17.91 Crore.** ✓ Excluded Households: **39.39%, Automatically Included: 0.92%.** ✓ Households Considered for Deprivation: 10.69 Crore. ✓ Deprivation Data: Includes categories such as housing, demographics, differently-abled, SC/ST households, and literacy.

MINISTRIES INVOLVED IN SECC

- The SECC (2011) was conducted by three ministries viz. Ministry of Home Affairs, Ministry of Rural Development, and Ministry of Housing & Urban Poverty.
- The Ministry of Rural Development is a nodal agency.
- The Ministry of Home Affairs, constituted a committee to coordinate the survey at the Central Government level.
- The Ministry of Rural Development conducted the census in rural areas and used the data for various programmes such as MGNREGA, the National Food Security Act, and Deen Dayal Upadhyaya Grameen Kaushalya Yojana.
- The Ministry of Housing and Urban Poverty Alleviation (MoHUPA), conducted the census in urban areas and used the data for planning and implementation of urban development schemes.
- The data collected was handed over to the Ministry of Social Justice.

GOVERNMENT ARGUMENT AGAINST PUBLISHING 2011 SEC CASTE DATA

- **Data Quality Concerns**
  - ✓ No standardized caste list resulted in varied spellings, misinterpretations, and inflated caste categories.
  - ✓ Limited training led to potential misunderstandings and inaccuracies.

✓ Different state caste lists added to inconsistencies.

- **Unsuitable for Policy Decisions**
  ✓ Recorded **46 lakh castes**, exceeding realistic estimates, making meaningful conclusions impossible.
  ✓ Numerous castes with populations under 100 raise doubts about representativeness.
  ✓ Flawed data could lead to unreliable policies and potential discrimination.
- **Privacy and Social Concerns**
  ✓ Detailed caste data release may raise privacy concerns and risk discrimination.
  ✓ Inaccurate or inflammatory data might worsen existing social tensions and caste divisions.
- **Administrative Challenges**
  ✓ Processing and anonymizing the vast dataset pose complex, resource-intensive challenges.
  ✓ Potential legal challenges regarding data privacy and enumeration validity.
- **Focus on Existing Data**
  ✓ Government emphasizes reliance on existing data related to Scheduled Castes, Scheduled Tribes, and socio-economic surveys.
  ✓ Openness to conducting more focused and rigorous caste surveys in the future to overcome SECC limitations

SIGNIFICANCE OF THE CASTE SURVEY

- **Informing Policy Decisions**- The survey provides crucial data on the **caste composition of the population,** aiding policymakers in designing targeted policies for social and economic development.
- **Increasing OBC Quota**- The survey results could lead to **demands for expanding the OBC quota beyond the existing 27%** and potentially creating sub-quotas for EBCs.
- The **Justice Rohini Commission,** which has been studying OBC sub-categorization, submitted its report, but the recommendations are yet to be disclosed.
- **Redrawing Reservation Ceiling**- It may prompt a reconsideration of the 50% reservation ceiling imposed by the Supreme Court, as the data could justify adjustments based on the population of different caste groups.
- **Socio-Economic Development**- The survey helps in understanding the socio-economic status of different caste communities, guiding efforts to reduce disparities and promote inclusivity.
- **Constitutional Obligations**- Under **Article 340** of the Indian constitution the President can appoint a Commission to investigate the conditions of socially and educationally backward classes in India.
- **Inequality Reduction**- The data can be used to create targeted measures to reduce inequality, foster equity, and promote social justice in the long term.

- **Realizing Sarvodaya-** The Caste Census can aid in developing targeted strategies to combat widespread inequality, promote equity, and advance social justice in the long term**.**

CONCERNS REGARDING CASTE CENSUS IN INDIA

- **Reinforcement of Caste System**
  ✓ Explicit identification and counting of castes may solidify caste identities, potentially reinforcing the caste system.
  ✓ Increased **social divisions and exacerbation** of existing inequalities.
- **Complexity in Defining Castes**
  ✓ Thousands of **castes and sub-castes** make accurate categorisation challenging.
  ✓ Complexity may lead to **confusion, inaccuracies, and disputes** during data collection.
- **Potential for Social Divisions**
  ✓ Caste census could heighten awareness of differences, leading to increased social tensions.
  ✓ Particularly harmful to **marginalised groups facing discrimination.**
- **Misuse of Data**
  ✓ Caste data may be **misused for discrimination** by individuals or powerful entities.
  ✓ **Political parties could exploit** the data for their purposes.
- **Methodological and Logistical Challenges:**
  ✓ Conducting a comprehensive **caste census is complex and expensive.**
  ✓ Training enumerators, ensuring accuracy, and protecting privacy are significant challenges.
- **Omission of Marginalized Groups:**
  ✓ Groups like **Dalit Muslims and Dalit Christians** may be undercounted or miscategorized.
  ✓ Further **marginalization and distortion** of the caste-based inequality picture.
- **Undercounting of Caste Elites:**
  ✓ Inclusion of a "**no caste**" option may lead to undercounting of upper castes.
  ✓ Obscuring the role of caste in perpetuating **economic and social inequalities.**
- **External Oversight and Public Input**
  ✓ To ensure **accuracy and ethical** use, external oversight and input from anti-caste organisations are crucial.
  ✓ Prevent **misuse and ensure data** is used to address structural inequalities.

GOVERNMENT STANDS ON CASTE CENSUS

- **SECC-2011 Data Flaws:** Lack of pre-census caste registry led to unreliable data, and ballooning castes, making it impractical for use.
- **Impractical Raw Data Release:** The government refuses to release raw SECC-2011 data, citing flaws and misuse potential.

- **Administrative Challenges:** Adding caste questions to the 2021 census was deemed impractical due to list disparities, enumerator training issues, and census disruptions.
- The government asserts caste census is a **policy, not a judicial, decision**. Supreme Court acknowledges government discretion over census content.
- Government contends existing **data on Scheduled Castes, Scheduled Tribes, and socio-economic** surveys suffice for policy needs.
- **Political Parties' Demand:** OBC-representing parties push for a caste census to support reservation policies and address caste-based inequalities.
- **Scholarly Argument:** Some scholars advocate for a comprehensive caste census, encompassing upper castes, to understand caste realities.

WAY FORWARD

- To address caste-related challenges in India, a **multifaceted approach is essential.** Initiatives should include **targeted and well-designed surveys in specific regions or communities, ensuring policy relevance. Simultaneously, bolstering data**

collection on Scheduled Castes, Scheduled Tribes, and **socio-economic indicators** provides a comprehensive foundation for informed policymaking.
- Prioritizing **caste-neutral development initiatives, irrespective of caste, promotes long-term social mobility and inclusivity.**
- Fostering **open dialogues about caste, involving civil society and marginalized communities,** creates a platform for understanding and addressing deep-rooted issues.
- Additionally, stringent enforcement of **anti-discrimination laws is crucial to cultivating a more equitable and just society, combating caste-based prejudices** and ensuring fairness for all.

CONCLUSION

- The concerns surrounding a **potential caste census in India** are diverse and merit meticulous attention. Although the data could offer **valuable insights into caste-based inequalities**, **addressing these concerns** and **implementing safeguards** is paramount to prevent unintended consequences.

9.2. ASER STUDY

Context

Recenty, the **Annual Status of Education Report (ASER) (by NGO Partham)** released the report of children schooling and learning in rural India.

ASER 2023 EXPLORES THREE PRIMARY DOMAINS

- **Activity**: Examines the current engagements of India's youth.
- **Ability:** Evaluates fundamental reading and math skills.
- **Digital Awareness and Skills**: Investigates smartphone access, usage, and proficiency.
- **Survey Coverage**: Conducted across **28 districts in 26 states**, reaching **34,745 rural youth aged 14-18.**

KEY FINDING OF REPORT

1. **Youth Engagement Profile (Ages 14-18)**
- **Enrollment**
  - ✓ Overall, **86.8% of 14-18-year-olds** are enrolled in educational institutions.
  - ✓ Age-based differences are notable, **with 3.9% non-enrollment for 14-year-olds and 32.6% for 18-year-olds.**
  - ✓ Minor gender gaps exist in enrollment.
- **Stream Preferences**
  - ✓ A majority in this age group opt for the **Arts/Humanities** stream, especially in **Std XI or higher (55.7%).**
  - ✓ Notable disparity in STEM stream enrollment, **with 36.3% of males and 28.1% of females choosing it.**
- **Vocational Training**
  - ✓ Only **5.6% of surveyed youth** are pursuing vocational training or related courses.

- ✓ College-level youth, particularly, engage in **vocational training (16.2%),** often opting for short-duration courses.
- **Work Engagement**
  - ✓ A higher percentage **of males (40.3%) than females (28%)** engage in activities other than household work for at **least 15 days** in the preceding month.
  - ✓ Across genders, youth involved in **non-household work** predominantly contribute to family farms.
2. **Youth Ability**
- Foundational skills for youth in the age group of 14-18
  - ✓ Around **25% of youth** in this age bracket struggle with fluent reading of a Std II level text in their regional language.
  - ✓ More than half encounter difficulties with **3-digit by 1-digit division** problems; only **43.3% perform correctly, an expectation for Std III/IV.**
  - ✓ Approximately **57.3% exhibit proficiency** in reading sentences in English, and **73.5% understand their meanings.**
  - ✓ Females outperform males in reading a Std II level text in **their regional language (76% vs. 70.9%),** while males excel in arithmetic and English reading.
- **Everyday Calculations**
  - ✓ Almost **85% of surveyed youth** can measure length using a scale starting from 0 cm, but this **drops to 39%** when the starting point is moved.

✓ Overall, **close to 50% demonstrate** competency in other common calculations relevant to daily life.

- **Reading and Understanding Written Instructions - Daily Life Applications**
  ✓ Among youth capable of reading at least a Std I level text, about two-thirds can answer **at least 3 out of 4 questions based on an O.R.S. packet**.

- **Financial Calculations**
  ✓ Youths proficient in **at least subtraction on the ASER arithmetic test** were evaluated on commonplace financial calculations.
  ✓ Over **60% of those** capable of subtraction or more can manage a budget, **about 37% can apply a discount, but only about 10% can** calculate repayment.

3. **Digital Awareness and Skills**

- **Digital Access**
  ✓ Nearly **90% of youth have a smartphone** at home and possess the knowledge to use it.
  ✓ **Males are more than twice** as likely to own their smartphone **compared to females (43.7% vs. 19.8%).**

- **Communication and Online Safety:**
  ✓ Approximately **90.5% of youth report using social media**, with a slightly higher proportion among males **(93.4%) than females (87.8%).**

- **Education and Learning**
  ✓ **Two-thirds of smartphone-using youth engage** in educational activities during the reference week, such as watching online study-related videos or exchanging study notes.

- **Services and Entertainment**
  ✓ Close to **80% of youth utilize smartphones** for entertainment activities like **watching movies or listening to music during the reference week.**

- **Digital tasks (done on a smartphone in the presence of the survey team)**
  ✓ **Males (72.9%)** were more likely to provide a smartphone **compared to females (62%).**
  ✓ Government policies and campaigns relevant to the education, skilling, and digital literacy of 14-18-year-old youths in India.

- **Draft National Youth Policy, Ministry of Youth Affairs and Sports, 2023**
  ✓ It aims to synergize the **aspirations of India's youth (15-29 years old)** for harmonious societal growth.

- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY) Guidelines 4.0, 2023**
  ✓ **launched in 2015,** promotes **skill development through free short-duration training and monetary rewards for certification**. It targets individuals **aged 15-45,** It focuses on **fresh skilling, re-skilling/upskilling, and marginalized groups.**

- **National Education Policy (NEP) 2020**

✓ NEP 2020 envisions a **holistic and inclusive education system** with a focus on **flexibility, vocational training, technology integration, and eliminating digital disparities.**

- **Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) 2017:**
  ✓ Launched under **'Digital India,'** PMGDISHA strives for universal **digital literacy in rural India,** aligning with the broader vision of a **digitally empowered society and knowledge economy.**

THE RIGHT OF CHILDREN TO FREE AND COMPULSORY EDUCATION (RTE) ACT, 2009

- **Article 21-A in the Constitution of India:** To provide free and compulsory education of all children in the age group of six to fourteen years as a Fundamental Right in such a manner as the State may, by law, determine.

- **National Policy for Skill Development and Entrepreneurship 2015:**
  ✓ It aligned with the **'Skill India' initiative**, which focuses on **empowering youth with employable skills.**
  ✓ Key objectives include bridging the gap between employer requirements and workforce skills.

REASONS FOR DECLINE

- **Enrollment Decline**
  ✓ **Early marriage and family responsibilities,** especially for girls.

- **Stream Preferences**
  ✓ **Perception of STEM** subjects as difficult and less relevant to rural life.

- **Limited Vocational Training:**
  ✓ **Negative perception of vocational education** compared to academic studies.

- **Foundational Skills Decline:**
  ✓ Lack of **effective teaching methods and pedagogies** for foundational skills development.

- **Everyday Calculations and Problem-Solving:**
  ✓ **Rote learning and lack of emphasis on** practical application of math skills.

- **Gender Gap in Access and Proficiency**
  ✓ **Digital divide and limited access to smartphones** and internet connectivity for girls.

- **Limited Online Safety Awareness**
  ✓ Lack of education and awareness about **online threats and scams.**

ANNUAL STATUS OF EDUCATION REPORT (ASER)

- It was founded in January 2008 as an **independent unit within the Pratham** network.
- Aims not only to **generate and disseminate** evidence but also **to strengthen the link between evidence and action**.
- Focuses on **building the capacity of individuals and institutions**

to proficiently **design, conduct, and understand assessments.**
• Approach rooted in Pratham's extensive work across **urban and rural India**, specifically in **enhancing basic reading and arithmetic skills among children**.

9.3. WHO NUTRITION STANDARDS VERSUS INDIAN STANDARD

Context

Recently, a study published by World Health Organistion (WHO) to measure the malnutrition.

WHO MULTICENTRE GROWTH REFERENCE STUDY (MGRS)

• It was undertaken between **1997 and 2003** to **generate new growth** curves for assessing the growth and development of **infants and young children** around the world.

World Health Organization (WHO)
Founded in 1948, it is the United Nations agency that **connects nations, partners and people to promote health, keep the world safe and serve the vulnerable** – so everyone, everywhere can attain the highest level of health.

• The MGRS collected primary **growth data and related** information from approximately 8500 children from widely different ethnic backgrounds and cultural settings (**Brazil, Ghana, India, Norway, Oman and the USA).**

Related Data
• India is ranked at the bottom of the Global Hunger Index **(2022)** at 107th rank out of 121 Countries.
• The National Family Health Survey (NFHS-5) from 2019-21 reported that in children below the age of five years, 35.5% were stunted, 19.3% showed wasting, and 32.1% were underweight.
• The most cases of Severe Acute Malnutrition are in Uttar Pradesh (3,98,359) followed by Bihar (2,79,427).

• The new growth curves are expected to provide a single international standard that represents the best description of physiological growth for all children **from birth to five years of age** and to establish the **breastfed infant** as the normative model for growth and development.

List of Government Initiatives addressing undernutrition/malnutrition in India
• Integrated Child Development Services (ICDS) Scheme
• Pradhan Mantri Matru Vandana Yojana (PMMVY)
• National Food Security Act (NFSA), 2013
• National Nutrition Mission (NNM) or POSHAN Abhiyaan
• Anemia Mukt Bharat Abhiyan
• Mid-day Meal (MDM) scheme
• National Nutrition Strategy

Arguments for Using WHO-MGRS	Arguments against WHO-MGRS
• **Prescriptive approach:** Sets ideal growth patterns under optimal conditions, not just referencing observed growth. • **Validity of comparisons:** Difficult to find equivalent samples meeting MGRS criteria in large Indian surveys due to high inequality. • **Methodological differences:** MGRS included interventions like feeding counselling, unlike other surveys. • **Improved outcomes in other countries:** Similar nations have achieved progress using these standards. • **Regional variations within India:** Some states demonstrate significant reductions in stunting with MGRS. • **Shifting genetic potential:** Socioeconomic development can influence average population heights over time. • **Understanding population trends:** MGRS provides valuable insights for international comparisons and intra-country trends.	• **Overestimation of undernutrition:** MGRS sample drawn from privileged households, potentially inflating nationwide estimates. • **Genetic and maternal height differences:** MGRS standards may not fully account for variations in the Indian population. • **Misdiagnosis and overfeeding:** High standards could lead to misclassification and inappropriate interventions. • **Dietary gaps and program coverage:** Concerns about existing schemes not adequately addressing dietary needs. • **Distal determinants of stunting:** Poverty, education, and women's empowerment require broader interventions.

CONCLUSION

• Completely abandoning the WHO-MGRS standards at this stage might be premature. These standards, **despite their limitations, offer several advantages**.
• They set aspirational yet achievable **goals for child growth, facilitating comparisons** with other countries and tracking progress over time.

9.4. CHILD MARRIAGE RAISING CONCERN IN INDIA

Context

According to a Lancet report on child marriage in India, expect a few states such as Bihar, West Bengal, Uttar Pradesh, and Maharashtra, there has been an overall drop in child marriage across the country

MORE ABOUT THE NEWS

- Child marriage is declining in India, but it remains common, particularly in Bihar (16.7%), West Bengal (15.2%), Uttar Pradesh (12.5%), and Maharashtra (8.2%).
- West Bengal experienced almost 500,000 child marriages, resulting in a 32.3% increase in population. West Bengal's child marriage rate remains high, at 41.6% for women aged 20-24.
- According to UNICEF, Uttar Pradesh is home to the largest number. Nearly one in four young women in India (23 per cent) were married or in union before their 18th birthday.
- Child marriage rates in Murshidabad, an economically depressed area, have risen from 53.5% to 55.4%.
- **Child marriage:** According to UNICEF, Child marriage refers to any formal marriage or informal union between a child under the age of 18 and an adult or another child.

CAUSES OF CHILD MARRIAGE IN INDIA

1. **Tradition and Culture**: The practice is widely regarded as a means of preserving customs and social standing for example child marriage ceremony in Rajasthan at the occasion of aksyhy Tritiya.
2. **Destitution Poverty:** -stricken families may see child marriage as a way to minimize their financial burden because marrying off a daughter at a young age is viewed as one less mouth to feed**.**
3. **Gender Inequality: D**eep-seated gender inequality and females' restricted options increase child marriage. Girls are generally regarded as a burden, and marrying them off at a young age is thought to safeguard their future.
4. **Dowry**: Another cause for child marriage in India is the desire for a dowry. While dowry demand is low if marriage occurs at a younger age. Dowry demands rise as females grow older.
5. **Education Deficit**: Child marriage becomes more common when girls have restricted access to education. Illiterate parents may be unaware of the benefits of educating females and instead prioritize early marriage.
6. **Inadequate legal enforcement**: While India has laws against child marriage, implementation and enforcement are low. Individuals who execute small weddings suffer no serious effects. This encourages the practice to continue.

CHILD MARRIAGE IMPACT

- **Increase illiteracy among girls:** Child brides are routinely expelled from school and are not allowed to continue their education.

- **Violation of human rights:** Child marriage violates the human rights of girls while also making them virtually invisible to the authorities.
- **Domestic Violence:** Due to fragility, child brides are particularly vulnerable to abuse and domestic violence in their married homes. **Abuse and violence can result in PTSD (Post-Traumatic Stress Disorder) and despair.**
- **Health concern:**
  ✓ Delay in growth
  ✓ Premature Pregnancy
  ✓ High Maternal Mortality
  ✓ High Infant Mortality
  ✓ Intergenerational Cycle of Poverty

EFFORTS TO REDUCE CHILD MARRIAGE

1. **Historical Efforts**
   ✓ **1860:** The marriageable age of girls was raised to 10 years by the law passed in 1860.
   ✓ **1891: The Age of Consent Act, of 1891** increased this age to 12 years.
   ✓ **Sharda Act 1929: The Joshi Committee presented its findings on June 20, 1929, and it was passed by the Imperial Legislative Council on September 28, 1929, and it became law on April 1, 1930,** raised the age of marriage to 14 years for girls and 18 years for boys **extending to all of British India**.
2. **Legislative efforts and government policies**
   a. According to the Hindu Marriage Act of 1955, the age for marriage is 18 for girls and 21 for boys.
   b. **Prohibition of Child Marriage Act (PCMA), 2006:** It prohibits child marriages and protects and protects victims of child marriages.
   c. **Beti Bachao, Beti Padhao (Save the Girl Child, Educate the Girl Child.**
   d. **The Criminal Law (Amendment) Act of 2013:** It raised the legally acceptable age for sexual consent from 16 to 18. Section 375 of the Act defines "rape" as having sexual contact with a female under 18 years old, with or without her agreement.
3. **International efforts**
   a. UNFPA-UNICEF Initiative:
   ✓ The Global Programme to End Child Marriage (second phase: 2020-2023, a UNFPA-UNICEF Initiative) promotes the rights of adolescents to delay marriage.
   b. **Girls Not Brides**: The Global Partnership to End Child Marriage is an international non-governmental organization

Measures are required to prevent child marriage
• Raising Education and empowering girls.
• Gender Sensitization Programs.
• Effective Law enforcement.
• Mobilizing the community.

whose mission is to end child marriage globally by bringing together civil society organisations from around the world to prevent child marriage.

c. **Sustainable Development Goal:** SDG 5 'Achieve gender equality and empower all women and girls' includes child marriage as Target 5.3 "Eliminate all harmful practices, including child, early, and forced marriage, and female genital mutilation".

CONCLUSION

• Child marriage can end of childhood. It affects children's rights to education, health, and safety. These consequences touch not only the girl but also her family and community. There is a need for strict laws and awareness to reduce this practice.

9.5. SAPINDA MARRIAGE

Context

Recently, the Delhi High Court rejected a challenge to the constitutionality of Section 5(v) of the Hindu Marriage Act, 1955 (HMA), which prohibits sapinda marriage between two Hindus.

ABOUT SAPINDA MARRIAGE

• A sapinda marriage is one between individuals who are related to each other within a certain degree of closeness.

• Sapinda relationships for the HMA are defined in Section 3 of the Act.

• Two persons are said to be sapindas of each other if one is a lineal ascendant of the other within the limits of the sapinda relationship, or if they have a common lineal ascendant who is within the limits of the sapinda relationship concerning each of them," Section 3(f)(ii) says.

  ✓ Under the provisions of the HMA, on the mother's side, a Hindu individual cannot marry anyone who is within three generations of them in the "line of ascent".

  ✓ On the father's side, this prohibition applies to anyone within five generations of the individual.

  ✓ In practice, this means that on their mother's side, an individual cannot marry their sibling (first generation), their parents (second generation), their grandparents (third generation), or an individual who shares this ancestry within three generations.

  ✓ On their father's side, this prohibition would extend up to their grandparents' grandparents, and anyone who shares this ancestry within five generations.

• If a marriage is found to violate Section 5(v) for being a sapinda marriage, and no established custom allows such a practice, it will be declared void.

• This would mean that the marriage was invalid from the very beginning, and will be treated as though it never took place.

SOME EXCEPTIONS

• The definition of the word "custom" is provided in Section 3(a) of the HMA. It states that a custom has to be "continuously and uniformly observed for a long time", and should have gained enough legitimacy among Hindus in a local area, tribe, group, or family, such that it has obtained "the force of law".

• A custom may not be protected even after these conditions are fulfilled. The rule in question must be "certain and not unreasonable or opposed to public policy" and, "in the case of a rule [that is] applicable only to a family", it should not have been "discontinued by the family".

BACKGROUND OF THE CASE

• Balusami Reddiar v. Balakrishna Reddiar (1956) and Shakuntala Devi v. Amar Nath (1982), the High Court of the respective state upheld the restriction on Sapinda marriages.

• In 2007, the woman's marriage was declared void after her husband successfully proved that they had entered into a sapinda marriage and that the woman was not from a community where such marriages could be considered a custom.

• This ruling was challenged before the Delhi HC, which dismissed the appeal in October 2023.

• The woman then approached the HC again, challenging the constitutional validity of the prohibition on sapinda marriages.

• She argued that sapinda marriages are prevalent even when there is no proof of custom. Hence, Section 5(v) which prohibits sapinda marriages unless there is an established custom, violates the right to equality under Article 14 of the Constitution.

• The petitioner also argued that the marriage had received the consent of both families, which proved the legitimacy of the marriage.

SAPINDA MARRIAGES AROUND THE WORLD

• In France, the crime of incest was abolished under the Penal Code of 1810, so long as the marriage was between consenting adults.

• The Republic of Ireland recognized same-sex marriages in

2015, but the law on incest has not been updated to include individuals in same-sex relationships.

- In the United States, incestuous marriages are banned in all 50 states, though incestuous relationships between consenting adults are allowed in New Jersey and Rhode Island.

9.6. SOLIGAS & YERAVAS

Context

A recent book, Forgotten Trails: Foraging Wild Edibles authored by Malemleima Ningombi and Harisha has looked into the diets of Soligas and Yeravas communities.

ABOUT SOLIGAS COMMUNITY

- **Soligas:** They are an indigenous tribe of Biligiri Rangan Hills (B.R. Hills) in Karnataka who have been dependent on the forests for their livelihood traditionally.
- They are also called Children of bamboo.
- **Food:** Honey is an important part of their diet.
- **Language:** Sholaga, which belongs to the Dravidian family.
- **Occupation:** Shifting cultivation and their main source of income is harvesting and sale of Non-timber Forest Produce (NTFP).
- **Culture:** They follow naturism and animism along with following Hindu practices and their main deities are Madeshwara.

ABOUT YERAVAS COMMUNITY:

- They came to Karnataka from the Wayanad district in Kerala and settled in the Kodagu district of the state whose settlements are called 'Kunju'.
- **Language:** Revula language.
- **Occupation:** Most of them are agricultural workers in coffee plantations and tea estates.
- **Culture:** There are many customs and rituals practiced among the Yeravas who believe in witchcraft. They perform a ritual dance to cure disease, ward off miseries and evil eyes, and safe delivery of the child.
- **Food:** Mushrooms are part of their diet during monsoons while in winter, they depend on wild berries and edible ferns.

10. PRACTICE MCQ'S

Q 1. **With respect to the Indian Stamp Act, consider the following statement:**
1. It is similar to the income tax imposed on securities and real estate.
2. State government imposes stamp duties, under the Article 268 of the Constitution.
3. There is no legal provision for failing the stamp duty on time.

How many of the statements given above is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 2. **Consider the following statement, concerning the Border Security Force:**
1. It was started in reaction to the conflict between India and Pakistan.
2. It performs searches, unauthorized foreign entry, and other actions that are subject to penalties under other Central Acts.
3. The BSF and local police have complementary authority to punish criminals.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) Only three
(d) All four

Q 3. **Consider the following initiatives:**
1. National Scheduled Castes Finance and Development Corporation.
2. National Safai Karamcharis Finance and Development Corporation.
3. Pradhan Mantri Adarsh Gram Yojana.
4. Pradhan Mantri Anusuchit Jaati Abhyuday Yojana.

How many of the above is/are related to the welfare of Scheduled Castes
(a) Only one
(b) Only two
(c) Only three
(d) All four

Q 4. **Consider the following statements regarding the Gini Coefficient**
1. The Gini coefficient is a measure of income inequality.
2. The uneven distribution of wealth is the primary reason for India's low Gini Coefficient.
3. An increase in the Gini Coefficient suggests that government policies are ineffective in addressing income disparities.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 5. **Consider the following statements regarding the SBI's recent research on income inequality in India:**
1. The Gini coefficient for taxable income has significantly declined over the past decade.
2. The research focuses solely on taxpayer data, excluding a large portion of low-income earners.
3. Income polarization exists between the top and bottom earners, especially among self-employed individuals.

How many of the above is/are key findings of the SBI research paper?
(a) Only one
(b) Only two
(c) Only three
(d) None

Q 6. **The report "Income Inequality in India: A Reality Check" was published by one of the following research institutions:**
(a) Institute for Competitiveness
(b) Centre for Monitoring Indian Economy (CMIE)
(c) Indian Council for Research on International Economic Relations (ICRIER)
(d) National Institution for Transforming India (NITI Aayog)

Q 7. **Consider the following:**

1. Bahrain and Iran
2. Iraq and Kuwait
3. Oman and Qatar
4. Jordan and Egypt

How many of the above pairs of countries share a border with the Persian Gulf?
(a) Only one
(b) Only two
(c) Only three
(d) All four

Q 8. **Consider the following statements with respect to the Bharatiya Nyaya Sanhita (BNS) 2023:**
1. The BNS brings organized crime under the realm of ordinary criminal law for the first time.
2. It criminalizes sexual intercourse by employing deceitful means or by making a promise to marry.
3. The BNS brings terrorism under the ambit of ordinary criminal law for the first time.

Which of the above statements is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Q 9. **With reference to the Bharatiya Nyaya Sanhita (BNS) 2023, consider the following statements:**

1. The BNS has completely repealed all aspects of Section 377 of the earlier Indian Penal Code of 1860.
2. It has completely repealed Sedition (Section 124A of IPC) in all its forms.
3. It has completely removed the provision of adultery provided under Section 497 of the earlier Indian Penal Code.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 10. **With reference to the Bharatiya Nyaya Sanhita (BNS) 2023, consider the following statements:**

1. Under the BNS, the spreading of 'fake news' has been made a criminal offence.
2. The BNS has a provision for criminalizing marital rape, thus making India among the few countries in Asia that have criminalised marital rape.
3. The BNS adds community service as a form of punishment for the first time for petty offences.

Which of the following statements is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Q 11. **Consider the following statements regarding cervical cancer**

1. 'Cervavac' is Quadrivalent first indigenous HPV vaccine developed by Pune-based Serum Institute of India (SII).
2. India outlines the 90-70-90 targets to be achieved by 2030 for countries to progress toward cervical cancer elimination:
3. Cervical cancer is caused by human papillomavirus (HPV), which is a group of RNA viruses.

How many of the statements given above is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 12. **Consider the following Pairs:**

Palaeolithic age	Tools
1. Lower or Early Paleolithic	Simple pebble tools and crude stone choppers
2. Middle Paleolithic	Flake tools
3. Upper or Late Paleolithic	Tools of bone, antler, and ivory.

How many of the above pairs is/are correctly matched?
(a) Only one
(b) Only two
(c) All three
(d) None of the Above

Q 13. **Regarding the Post Office Act, 2023 recently seen in the news, consider the following statements:**

1. It has been brought to replace the Indian Post Office Act, of 1898.
2. The Act explicitly mentions grounds of "emergency" on which interception of Posts can be done.
3. The 2023 Act, for the first time, regulates private courier services by bringing it under its scope.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 14. **Consider the following statements regarding the India Meteorological Department's (IMD) criteria for declaring cold waves:**

1. A cold wave in plains is declared when the minimum temperature is below 10°C.
2. The absolute minimum temperature criteria for declaring a cold wave is below 0°C in hilly regions.

Which of the above statements is/are Incorrect?
(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) None

Q 15. **Consider the following statements regarding the Cold wave:**

1. Temperature thresholds in plains and hilly regions ensure uniformity in declaring cold waves.
2. Departure-based criteria enhance the precision of cold wave predictions.
3. IMD's criteria contribute to timely communication, aiding effective preparedness measures.

How many of the above statements is/are Incorrect?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 16. Consider the following statements concerning the Tribes of India:

1. Any tribe or tribal community can be included or excluded from the list only by law made by the State government.
2. The Kuki tribe has a traditon of matrilineal inheritance and succession.
3. Their lifestyle is mainly based on Hunting, gathering forest products, and raising domestic animals.

How many of the statements given above is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 17. In the Kuki culture, what does the term "Chavang Kut" refer to?

(a) Sword dance
(b) Autumn festival
(c) Maize festival
(d) Group dance

Q 18. Consider the following statements regarding the Prerana: An Experiential Learning program:

1. It is a one-month-long residential program for selected students.
2. Students are selected from class V to XII in Prerana.
3. The Ratio of girls and boys is an equal number in a batch of 20 selected students, who will attend the program.

How many of the statements given above is/are correct?
(a) Only one
(b) Only two
(c) All the three
(d) None of the above

Q 19. Consider the following statement concerning the Mines and Minerals (Development and Regulation) Amendment Act, 2021:

1. Without negotiation the central government can reserve mines for specific end-users.
2. Non-exclusive reconnaissance allows for preliminary mineral prospecting through survey provisions included in this act.
3. The state government may extend the lease's threshold

How many of the above statements is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 20. What makes Bab-el-Mandeb Strait one of the world's busiest chokepoints?

(a) Due to its role as a major fishing zone in the Indian Ocean.
(b) Because it connects the Mediterranean Sea to the Indian Ocean.
(c) It serves as a natural gateway between the Arabian Peninsula and the Horn of Africa.
(d) The strait is renowned for its environmental biodiversity.

Q 21. Consider the following statements:

1. A new species of Silverline butterfly, Cigaritis meghamalaiensis, has been discovered in the Meghamalai hills.
2. Periyar Tiger Reserve is not a part of the UNESCO World Heritage Site.
3. UNESCO recognition is limited to the buffer zones and not the core areas.

How many of the statements given above is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 22. Consider the following statements regarding the caste census:

1. Caste census is conducted and coordinated by the Department of Rural Development.
2. TSR Subramanian Commission has submitted the latest report on OBC sub-categorization.
3. Bihar became the first state to conduct the Caste Census.

How many of the above statements are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 23. Consider the following statements regarding genetically modified (GM) crops:

1. GM crops like Bt cotton have significantly reduced pesticide use, leading to environmental benefits.
2. Increased yields from GM crops can alleviate food security concerns in developing countries.
3. Dhara Mustard Hybrid-11 is the only approved GM crop, occupying more than third fourth of the country's Mustard area.

How many of the above statements are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 24. **Consider the following statements:**

1. INS Visakhapatnam's ship design is 100% indigenous.
2. Project 15B Ships Equipped with enhanced stealth technology.
3. INS Visakhapatnam's Stealth technology includes a Full beam superstructure design.

How many of the statements given above is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 25. **Consider the following:**

1. Atmosphere
2. Hydrosphere
3. Biosphere
4. Geosphere
5. Cryosphere

Which of the above Earth systems is/are covered under the Prithvi Scheme?
(a) 1, 2 and 3 only
(b) 2, 3, and 4 only
(c) 2, 3, 4 and 5 only
(d) All of the above

Q 26. **Consider the following statements concerning Lemongrass:**

1. Lemongrass is native to South America.
2. Citral is the primary constituent responsible for the its citrus fragrance.
3. Ayurveda does not recognize lemongrass for any medicinal purposes.

How many of the statements given above is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 27. **Regarding the Berbera Port recently seen in the news, consider the following statements:**

1. It is a port located in the Gulf of Aden
2. The port is part of the Ethiopian Territory.
3. It provides access to the Suez Canal.

How many of the above statements is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 28. **Consider the following statements concerning the REJUPAVE Technology:**

1. It is Indigenous road-building technology.
2. It is utilized in the construction of the Sela Road Tunnel in Arunachal Pradesh.
3. It is an environment-friendly technology.

How many of the statements given above is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 29. **With reference to the 'Bharat Ratna', consider the following statements:**

1. 'Bharat Ratna, ' the highest civilian award in the country, was instituted in 1978.
2. It can only be awarded to an Indian Citizen or a person of Indian origin.
3. It requires a formal recommendation by the Prime minister to the President.

How many of the above statements is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 30. **Which of the following is the main objective of the European Ports Alliance?**

(a) To fight drug trafficking and organised crime in EU ports.
(b) To simplify cargo movement procedure between EU ports.
(c) To enhance environmental sustainability in EU ports.
(d) To streamline immigration processes for port workers within the EU.

Q 31. **Consider the following statements about the Golden Crescent and the Golden Triangle:**

1. The Golden Crescent refers to the region involving Afghanistan and Pakistan and is known for its significant cultivation of illicit opium poppy.
2. The Golden Triangle encompasses Myanmar, Laos, and Thailand and is notorious for being a hub for opium production.

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

Q 32. With reference to the Annual Status of Education Report (ASER), consider the following statements:

1. The report is published by the Ministry of Education (MoE).
2. The latest report shows higher enrollment in Humanities than in STEM subjects.

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

Q 33. Regarding socialist leader Karpoori Thakur' consider the following statements:

1. He was the former Chief Minister of Uttar Pradesh.
2. He has been awarded Bharat Ratna.
3. He implemented 26% reservation for backward classes in his state, famously carrying out the Mungeri Lal Commission's recommendations.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 34. World Drug Report is released by:

(a) International Narcotics Control Board (INCB)
(b) World Health Organization (WHO)
(c) United Nations Office on Drugs and Crime (UNODC)
(d) World Customs Organization (WCO)

Q 35. With reference to the deep sea corals, consider the following statements:

1. They are also known as cold-water corals.
2. They do not rely on photosynthesis for their survival
3. They generally do not suffer from bleaching due to global warming.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 36. Consider the following pairs:

Type of reef	Description
1. Fringing Reefs:	Circular reefs surrounding a lagoon with no central island
2. Barrier Reefs:	Parallel to the shore but separated by a lagoon.
3. Atolls:	These reefs are located close to the shore and are directly attached to the coastline.

How many of the above pairs are correctly matched?
(a) Only one
(b) Only two
(c) All three
(d) None

Q 37. Regarding 'Drishti 10 Starliner ' recently seen in the news, consider the following statements:

1. It is the latest state-of-the-art reconnaissance ship of the Indian Navy.
2. It has been designed and manufactured by Garden Reach Shipbuilders & Engineers (GRSE)

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

Q 38. Consider the following pairs:

1.	(GMRT) Giant Metrewave Radio Telescope	China
2.	(FAST) Five-hundred-meter Aperture Spherical Telescope	India
3.	(GBT) Green Bank Observatory	USA
4.	(ALMA) Atacama Large Millimetre/submillimetre Array	Mexico

How many of the above pairs are correctly matched?
(a) Only one
(b) Only two
(c) Only three
(d) All four

Q 39. South Korea shares its boundary with:

1. North Korea
2. Taiwan
3. Sea of Japan
4. East China Sea

How many of the above are correct?
(a) Only one
(b) Only two
(c) Only three
(d) All four

Q 40. Consider the following statements about India-Korea Defense Cooperation:

1. India played a crucial role in the Korean War through medical personnel and a ceasefire resolution.
2. The Defense Policy Dialogue is a standalone forum and not part of the "2+2 Dialogue."
3. Both countries have signed the Roadmap for Defence Industries Cooperation
4. Both countries are partners in ASEAN-India Maritime Exercise.

How many of the above statements is/are correct?
(a) Only one   (b) Only two
(c) Only three   (d) All four

Q 41. Consider the following statements about Huntington's Disease (HD):

1. HD is caused by a mutation in the HTT gene.
2. The mutation in the HTT gene leads to clump forming.

Which of the above statements is/are correct?
(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) None

Q 42. Consider the statements about the Indian Stamp Act of 1899:

1. The government has proposed repealing the Indian Stamp Act of 1899.
2. Stamp duty in India is primarily imposed on real estate transactions.

Which of the above statements is/are correct?
(a) Only 1
(b) Only 2
(c) Both 1 and 2
(d) None

Q 43. Consider the statements regarding India-UK relations:

1. India will obtain electric propulsion technology for Indian warships form UK.
2. The United Kingdom supports India's request for permanent membership in the United Nations Security Council (UNSC).

Which of the above statements is/are correct?
(a) Only 1   (b) Only 2
(c) Both 1 and 2   (d) None

Q 44. Consider the following statements about Litchi cultivation in India:

1. Litchi cultivation is primarily limited to the state of Bihar.
2. The National Research Centre on Litchi (NRCL) provides support to farmers in terms of technical assistance, plant materials, and training.
3. Litchi consumption has been linked to hypoglycemic encephalopathy and death, mainly in under-nourished adults.
4. The NRCL actively develops and distributes litchi varieties such as Shahi, China, Gandki Lalima, Gandki Sampada, and Gandki Yogita.

How many of the above statements is/are correct?

(a) Only one

(b) Only two

(c) Only three

(d) None of the above

Q 45. Consider the following statements about mining in India:

1. The Mines and Minerals (Development and Regulation) Act of 1957 governs the mining sector in India.
2. The Mines and Minerals (Development and Regulation) Amendment Act, 2021, allows captive miners to sell up to 50% of their yearly mineral production in the open market.
3. Mining leases for government enterprises are extended indefinitely under the recent amendments.
4. The Mining Surveillance System (MSS) is a technology using automatic remote sensing to promote illegal mining.

How many of the above statements is/are correct?

(a) Only one

(b) Only two

(c) Only three

(d) All four

Q 46. Consider the following statements regarding the Palna Scheme:

1. The Palna Scheme primarily focuses on rural areas to provide childcare support.
2. Under the scheme, two additional Crèche workers and helpers are deputed along with the existing Anganwadi workers and helpers.
3. Women from low-income groups, who work at least 10 days a month, are eligible for crèche facilities under the Palna Scheme.
4. The monthly charge for subsidized facilities under the scheme is uniform for all families, regardless of their income.

How many of the above statements is/are correct?
(a) Only one   (b) Only two
(c) Only three   (d) All four

Q 47. Consider the following statements regarding the Privileges Committee:

1. The Privileges Committee is composed of 20 members, with equal representation from Lok Sabha and Rajya Sabha.
2. The Chairperson of the committee is elected by members of the house.
3. The committee is responsible for examining cases of breach of parliamentary privileges and matters of contempt of the House.
4. Parliamentary privilege includes the Freedom from arrest in civil cases during the session of the Parliament.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) Only three
(d) All four

Q 48. With reference to Exercise CYCLONE, consider the following statements:

1. It aims to analyse the operating procedures of the Special Forces of India and Egypt in desert regions.
2. Training on Improvised Explosive Devices is a part of the exercise.
3. Phase III of the exercise focuses on training rescue operations and providing first aid.

How many of the above statements is/are correct?
(a) Only one   (b) Only two
(c) All three   (d) None

Q 49. The Bab-el-Mandeb Strait connects:

(a) Mediterranean Sea and Black Sea
(b) Gulf of Mexico and Caribbean Sea
(c) Red Sea and Gulf of Aden
(d) Arafura Sea and Gulf of Papua

Q 50. Consider the following statements regarding 'Mauna Kea', recently in the news:

1. It is the only active volcano in Hawaii.
2. It is represented by tropical, alpine as well as Arctic climatic zones at various elevations.
3. It is revered as a sacred site by Indigenous People of adjoining areas.
4. Several astronomical observatories are located here.

How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) Only three
(d) All four

ANSWER KEY

1.	a	11.	a	21.	d	31.	c	41.	c
2.	b	12.	c	22.	a	32.	a	42.	c
3.	d	13.	b	23.	b	33.	b	43.	c
4.	c	14.	d	24.	b	34.	c	44.	b
5.	c	15.	a	25.	d	35.	c	45.	c
6.	a	16.	a	26.	b	36.	a	46.	a
7.	c	17.	b	27.	b	37.	d	47.	b
8.	d	18.	a	28.	d	38.	a	48.	b
9.	b	19.	a	29.	d	39.	c	49.	c
10.	c	20.	c	30.	a	40.	c	50.	c

Our Other Programmes

यूपीएससी (प्रीलिम्स + मेन्स) फाउंडेशन बैच 2025
हिन्दी माध्यम

Offer fee
~~₹10,000/-~~ ₹8,500/-

Register Now

By Khan Sir & Team

- ✓ 1000+ घंटे की इंटरैक्टिव लाइव कक्षाएँ
- ✓ टेस्ट सीरीज़ (विषयवार + फुल लेंथ + करेंट अफेयर्स)
- ✓ मासिक करेंट अफेयर्स पीडीएफ
- ✓ अपडेटेड विषयवार अध्ययन सामग्री (e-PDF)

NCERT
Foundation Batch
BILINGUAL Live Classes

OFFER FEE
₹1299/-

For UPSC & Various State PSC Exams

Register Now

By Khan Sir & Team

- ✓ 500+ Hours of live classes covering all Relevant NCERTs from 6th to 12th
- ✓ Detailed Analysis of Each Topic
- ✓ UPSC & State PSC PYQ Analysis & Discussion
- ✓ UPSC & State PSC Current Affairs Booklets

UPSC PRELIMS + MAINS
FOUNDATION BATCH 2025
English Medium

Fee : ~~₹10,000/-~~ ₹8,500/-

Register Now

By Khan Sir & Team

- ✓ 1000+ Hours of Interactive Live Classes
- ✓ Test Series (Subject Wise + Full Length + Current Affairs)
- ✓ Monthly Current Affairs PDF
- ✓ Updated subject wise study material (e-PDF)

KHAN GLOBAL STUDIES
Most Trusted Learning Platform

Read Daily Current Affairs

SCAN ME
SCAN

Our Other Offline Center's Now in:

Delhi   **Prayagraj**   **Dehradun**

Patna

Follow Us

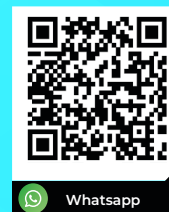YouTube   Website   Telegram   Whatsapp

For more informaiton: 📞 8757354880 | ✉ enquiry@khanglobalstudies.com