

Current Affairs

Quarterly

REVISION

DECEMBER 2023 TO
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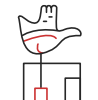
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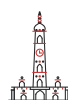
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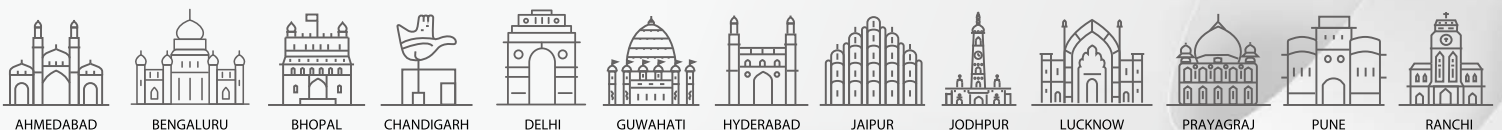
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What is it?

The Quarterly Revision document is a curated document designed to reinforce the learning and revision process for your Civil Services Examination preparation.

The document gathers all the insightful articles covered in our latest three Monthly Current Affairs magazines, providing you with a comprehensive but precise resource to revisit the pivotal topics.

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The aspirants preparing for the Civil Services Examination have diverse backgrounds, age groups, work and familial engagements.

Considering this fact, the Quarterly Document seeks to aid the preparation of such aspirants, who have a busy working schedule, seldom find time to read and revise the Monthly Current Affairs Magazine, and have a basic and prior understanding of the syllabus.

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Read from Essential Material: It has been included to nudge you to explore the link of current affairs with static content and support your understanding regarding a topic. It includes basic reading material including the NCERTs.



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Test Your Learning: A set of 5 MCQs and 2 descriptive questions for each section, allowing you to assess your understanding and also to aid effective retention of key concepts/facts.

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“We are what we repeatedly do. Excellence, therefore, is not an act but a habit” -Aristotle

**All the Best,
Current Affairs Team,
Vision IAS**

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POLITY



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1.1. INDIAN CONSTITUTION, PROVISIONS AND BASIC STRUCTURE

1.1.1. ABROGATION OF ARTICLE 370



CONTEXT

The Supreme Court has upheld the Union Government's 2019 decision to repeal the special status of Jammu and Kashmir under Article 370.

ANALYSIS



Judgment and its rationale

- ▶ **No Internal Sovereignty:** The SC held that J&K did not retain any element of sovereignty after it acceded to India in 1947.
 - Court relied on Yuvraj Karan Singh's proclamation which stated that the Indian Constitution would govern the relationship between the J&K and India.
 - Apart from Articles 1 and 370 of the Indian Constitution, the court cited Section 3 of the J&K Constitution which stated that J&K is and shall be an integral part of the Union of India.
- ▶ **Nature of Article 370:** The SC held that Article 370 is a temporary, transitional provision.
 - Dissolution of the Constituent Assembly of J&K could not limit the powers of the President to abrogate Article 370.
- ▶ **Constitutionality of Presidential proclamations**
 - The 2019 Presidential order amended Article 367 to read 'Constituent Assembly of the State' in Article 370 (3) as 'Legislative Assembly of the State'.
 - The court held that consultation with the state government was not essential under 370(3) as the President had "unilateral" power to declare that Article 370 ceases to exist.
- ▶ **Power of President during State Emergency:** SC held that declaration of State emergency and subsequent actions of the President should have reasonable nexus.
- ▶ **Elections to Legislative Assembly:** The court directed the Election Commission to conduct elections to the Legislative Assembly of Jammu and Kashmir by 30th September 2024.
- ▶ **Truth and Reconciliation Commission:** It is to be set up by the Centre to investigate and report on the violation of human rights actors in J&K.

Impacts of Abrogation of Article 370

- ▶ **Extension of rights:** The people of J&K and Ladakh now have access to all the rights and benefits outlined in the Constitution of India.



Read From Essential Material

Chapter 7th, 'Politics in India since Independence' of class XII NCERT

BRIEF BACKGROUND

- ▶ The President of India issued the 'Constitution (Application to Jammu and Kashmir) Order, 2019' on August 5th, 2019, stating that all provisions of the Indian Constitution apply to the state.
 - This effectively abolished all provisions that constituted a separate Constitution for Jammu and Kashmir.
 - ◊ With this, Article 35A too was automatically scrapped.
- ▶ Parliament also enacted the Jammu and Kashmir Reorganization Act 2019 which bifurcated the State into two Union Territories (UTs).

Article 370: A Historical Context

- ▶ **Instrument of Accession (IoA):** In October 1947, Maharaja Hari Singh, signed the IoA, agreeing to accede his state to the Dominion of India.
- ▶ **Temporary provisions for J&K:** The Constitution of India included Article 370 in Part XXI, titled "Temporary and Transitional provisions."
- ▶ **Article 370:** Except for defence, foreign affairs, finance and communications, Parliament needed the state government's concurrence for applying all other laws.
 - The Constitution, except Article 1 and Article 370, does not apply to Jammu & Kashmir.
 - The President of India could make any provisions of the Constitution to apply to this State with 'modifications' or 'exceptions' but only in consultation with the State's government.

- ▶ **No separate symbols/laws:** J&K no longer has its own flag, constitution, and its own penal code (called the Ranbir Penal Code).
- ▶ **Ending exclusive property rights:** of permanent residents over the land.
- ▶ **Social Justice:** Provision given for the **SCs and STs** in the rest of the country is also now available to the community in J&K.
- ▶ **Local Government:** Constitutional status to local government through application of **73rd and 74th Amendments** of Constitution to J&K.
- ▶ **Rights of women married to non-locals:** Abrogation allowed the **issue of domicile certificates to the husbands** of local women married to non-locals.

- ▶ **Article 370** itself could not be amended or repealed—unless the **Constituent Assembly of J&K** consented to it.
- ▶ **Article 35A:** It **stemmed out of Article 370** and gave powers to the J&K Assembly to define **permanent residents of the state**, their special rights, and privileges

Conclusion

With the judiciary upholding the abrogation of Article 370, it is important to foster **economic development in J&K** and **ensure early elections** for the realization of the democratic aspirations of the people of J&K.

1.1.2. ARTICLE 142

CONTEXT

The Supreme Court (SC) recently nullified the outcome of the Chandigarh Mayor election, exercising its power under Article 142 of the Constitution to ensure “complete justice”.


ANALYSIS

Positive Impacts of Article 142

- ▶ **Civil rights and social justice:** By addressing issues overlooked or avoided by the legislative and executive branches.
 - ▶ In **Vineeta Sharma vs. Rakesh Sharma & Ors. (2020)** SC addressed conflicting judgments on daughters’ coparcenary rights under Hindu Succession Act.
- ▶ **Promotes equality:** By challenging discriminatory laws and practices, ensuring equal protection under the law irrespective of race, gender, sexual orientation, or other characteristics.
 - ▶ In **The Secretary, Ministry of Defence vs. Babita Puniya (2020)** case SC granted permanent commission to women officers in the Indian Army.
- ▶ **Provides Checks and Balances:** It serves as a crucial check on government branches, preventing overreach and protecting citizens.
 - ▶ In 2014, the SC cancelled all but four of the 218 coal block allocations deemed illegal and arbitrary.
- ▶ **Address urgent issue with legislative vacuum**
 - ▶ For e.g., **Bhanwari Devi and Ors. vs State of Rajasthan (2002)**, the SC provided “the **Vishaka Guidelines**” to address workplace sexual harassment, eventually resulting in “the **Prevention of Sexual Harassment Act, 2013**”.
- ▶ **Strengthen Democracy**
 - ▶ **K.S. Puttaswamy (Privacy) vs. Union of India (2017)** established guidelines for safeguarding individual privacy.

BRIEF BACKGROUND

- #### About Article 142
- ▶ The Supreme Court (SC) in **the exercise of its jurisdiction may pass** such order as is necessary for doing complete justice in any cause or matter pending before it.
 - ▶ The “**idea of complete justice**” means to **ensure justice by filling gaps in the law and overriding legal provisions** when necessary.
 - ▶ Enables the **SC to exercise executive and legislative functions in specific scenarios**, including issuing guidelines, directives, or orders to governmental bodies or other authorities.
 - ▶ Permits the SC to intervene in matters concerning public interest, human rights violation, constitutional values, or fundamental rights.
 - ▶ Elevates the SC’s role **as the protector of the constitution and ultimate interpreter of the law**, catalyzing judicial activism and innovation.



Judicial pronouncements related to complete justice

- Indira Sawhney V. Union of India (1992):**
Capped 50% limit on reservation and introduced concept of creamy layer

- T.M. Pai Foundation V. Union of India (2003):**
State cannot make reservation of seats in admissions in privately run educational institutions

- Janhit Abhiyan case (2022):**
Upheld the EWS Reservation

- Ashok Kumar Thakur V. Union of India (2008):**
Article 15 (5) added through 93rd amendment was upheld by the SC

Issues with Article 142

- ▶ **Subjectivity in the definition:** Possibility of court's arbitrary exercise or misuse due to the absence of a standard definition for the term "complete justice".
- ▶ **Blurs the Lines Between Branches:** Judicial activism may sometimes blur boundaries between judiciary and legislature.
 - ▶ **S.R. Bommai vs. Union of India (1994):** The SC's intervention in Karnataka's political crisis with a floor test blurred judiciary-executive lines, sparking concerns of overreach.
- ▶ **Unaccountability:** Article 142 grants the judiciary, unlike the executive and legislative branches, **immunity from easy scrutiny or challenge for its decisions.**
 - ▶ The power has also been criticised on **grounds of the separation of powers doctrine.**
- ▶ **Lack of Consistency:** Inconsistent legal rulings under Article 142 complicate litigation planning and operations for individuals and businesses.

Way forward

- ▶ **Addressing Arbitrariness:** Decisions made under Article 142 Should be based on relevant facts.
- ▶ **Defining 'complete justice':** Clear guidelines or principles can help mitigate misuse of power under the guise of achieving 'complete justice'.
- ▶ **Establishing a regulatory framework:** To prevent misuse of Article 142 decisions should be subject to scrutiny and accountability, ensuring that all relevant parties are heard before invoking Article 142.
- ▶ **Referral to Constitution Bench:** Referral of all cases invoking Article 142 to a Constitution Bench of at least five judges.

1.1.3. CASTE-BASED RESERVATION

CONTEXT

The Maharashtra State legislative assembly passed the Maharashtra State Reservation for Socially and Educationally Backward Classes (SEBC) Bill, 2024, to provide 10% Reservation to the Maratha Community.

- ▶ It was drafted based on a Maharashtra State Backward Class Commission (Shukre Commission) report.

ANALYSIS

Reasons for the rise in demand for reservation

- ▶ **Challenges in the job market:** Wages in the private sector, at the entry-level, are much lower than in the public sector.
 - ▶ Further, the latter provides **more social security** and is comparatively stable.
- ▶ **Structural factors:** Declining income from agriculture, and inability to find employment in the techno-innovation-driven new job market.
- ▶ **Political Factors:** Political mobilization based on caste too has fuelled demands for reservation. **E.g.** Patidars in Gujarat, the Kapus in Andhra Pradesh and the Jats in Haryana.
- ▶ **Relative deprivation:** A community claims the same status when it feels other economically and socially similar communities in their region are benefiting from reservation.

Impact of Caste-based reservation

- ▶ **Social Justice:** Correct the historical injustice faced by the persons belonging to specific castes, and to provide them a level playing field to compete.

BRIEF BACKGROUND

Judicial pronouncements related to reservation.

- ▶ **Indra Sawhney & Others v. Union of India (1992):**
 - ▶ Set a **ceiling of 50% on reservations** under Article 16(4).
 - ◊ For exceeding reservation **beyond 50%**, **extraordinary circumstances** should exist, for which extreme caution is to be exercised.
 - ▶ Court introduced the **concept of a 'creamy layer'** (socio-economically advanced among backward classes) who must be excluded from the benefits of reservations.
- ▶ **M. Nagaraj v. Union of India Case (2006):** SC set three prerequisites for states before providing reservations in promotions.
 - ▶ **Quantifiable data** on the backwardness of SCs/STs.
 - ▶ Facts about **their inadequate representation** in public employment.
 - ▶ Justification in favour of maintaining overall administrative efficiency.

- ▶ **Representation:** To ensure adequate representation of marginalized communities in various sectors, including government jobs.
- ▶ **Substantive equality:** Equality in the Constitution is not merely formal equality but embodies substantive equality, which means striking at vast socio-economic inequalities often based on caste.

Issues with caste-based reservation

- ▶ **Social backwardness not necessarily caste based:** Backwardness may include other factors too, like, residence, occupation, economic status or some other dominant feature.
- ▶ **Recurring benefit:** Solely applying caste criteria as the basis of reservation leads to recurring benefits to those who may already have improved their position.
- ▶ **Antithetical to casteless society:** Caste-based reservation policy leads to perpetuation of the caste system.
- ▶ **Multiplication of demand for reservation:** Post reservation, there is a tendency even among dominant casts to seek the "backward" tag.
- ▶ **Ignores intra-caste inequalities:** Significant intra-community variations in terms of income and educational outcomes, get ignored in a solely caste-based reservation.

Way Forward

- ▶ **Comprehensive socio-economic survey:** To evaluate the implementation of reservation, and its outcomes, and to find out which group deserves reservation based on constitutional provisions.
- ▶ **Promote balanced economic growth:** Addressing underlying issues like agrarian distress, lack of quality jobs, and relative deprivation requires rural development, job creation, and balanced regional development.
- ▶ **Creamy layer criterion:** There is a need to uphold this criterion to ensure that those genuinely deserving, enjoy the benefits of reservation.

- ▶ **Jarnail Singh & Ors. v. Lachhmi Narain Gupta & Ors (2018):** SC eliminated the need for quantifiable data on SC/ST backwardness for promotions in government jobs.
- ▶ **Janhit Abhiyan v Union of India (2022):** SC upheld 103rd Constitution Amendment Act which provided for **EWS reservation**, based on economic criteria.

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1.2. PARLIAMENT AND STATE LEGISLATURES: STRUCTURE AND FUNCTIONING

1.2.1. EXPULSION OF LAWMAKERS



CONTEXT

Recently, India's Lok Sabha and the US House of Representatives have both dismissed members accused of illegal gratification and criminal corruption charges respectively.

ANALYSIS



Expulsion of Lawmakers in India




- ▶ **Constitutional basis:** An MP found guilty of **breach of privileges or contempt of the house** can be suspended from the house or face expulsion.
 - **Article 122** says parliamentary proceedings can't be questioned by the judiciary, although the courts have intervened in some cases.
- ▶ **Legal basis of suspension and expulsions of MPs:**
 - The **Presiding Officer of the House** has the **power to force a member to withdraw** from the House.
 - In **cases of extreme misconduct**, the House may expel a member "to rid the House of persons who are unfit for membership."

BRIEF BACKGROUND

Disqualification of Members of Either House of Parliament

- ▶ **Constitutional Provisions**
 - **Article 102:** provides for the disqualification of members under certain conditions: -
 - ◊ If he holds **any office of profit** under the Union or state government, **unsound mind, undischarged insolvent**
 - ◊ **not a citizen** of India or has **voluntarily acquired the citizenship of a foreign state**
 - ◊ If he is so **disqualified under any law made by Parliament.**
- ▶ **Legal Provisions under Representation of the People Act, 1951**
 - if convicted and sentenced to imprisonment for **two years or more.**
 - If an MP is found guilty of **certain election offences or corrupt practices** in the elections.
 - If an MP has failed to **lodge an account of his/her election expenses** within the time.
- ▶ **Tenth Schedule:** Disqualified on the ground of defection
- ▶ **Note:** Under disqualification member of the parliament cannot contest the elections further while under expulsion he/she can.

Comparison of Indian and US forms of expulsion

 Basis	 Indian process of expulsion	 US process of expulsion
Conduct that Warrants expulsion	Breach of Privileges and contempt of the House/ Disregarding Rules of Procedure and Conduct of Business	No limitation on Congressional power to determine what conduct warrants expulsion.
Majority Required	Simple majority is needed for passing a motion in each house.	A two-thirds majority of the House is required.
Ethics Committee	Involvement of the ethics committee is not always necessary for expulsion.	A recommendation from the ethics committee is required.
Disqualifications	A total of 17 MPs have been expelled (Indicating a relatively simple procedure)	Only 6 House of Representatives have been expelled (Indicating relatively a complex process).

1.3. ELECTIONS IN INDIA

1.3.1. CHIEF ELECTION COMMISSIONER AND OTHER ELECTION COMMISSIONERS ACT, 2023



CONTEXT

The President gave her assent to the **Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023**.

ANALYSIS



Key provisions of the Act

- ▶ The Act replaced the **Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991**.
- ▶ **Aim:** To regulate:
 - the appointment, conditions of service and term of office of the Chief Election Commissioner (CEC) and other Election Commissioners (ECs),
 - the procedure for the transaction of business by the Election Commission.
- ▶ **Selection committee:** The CEC and other ECs shall be appointed by the President on the recommendation of a Selection Committee consisting of:
 - **Prime Minister** as Chairperson.
 - **Leader of Opposition or leader of the largest opposition party** in the Lok Sabha.
 - **Union Cabinet Minister** to be nominated by the Prime Minister.
- ▶ **Search Committee:** A Search Committee shall prepare a panel of five persons for consideration of the Selection Committee.
 - The committee, headed by the **Minister of Law and Justice**, will consist of **two** members, not below the rank of **Secretary to the Government of India**
- ▶ **Eligibility:**
 - Persons who are holding or have held a **post equivalent to the rank of Secretary** to the Government of India.
 - Should be **persons of integrity, who have knowledge of and experience in management and conduct of elections.**
- ▶ **Salary, term of office and reappointment:**
 - **Salary:** is equal to the salary of a **Judge of the Supreme Court**.
 - **Term of office:** 6 years from the date on which he assumes his office or **till he attains the age of 65 years**, whichever is earlier.
 - **Reappointment:** not be eligible for re-appointment.
- ▶ **Removal and resignation:** CEC can only be removed on grounds **similar** to that of a **Supreme Court judge**. An EC can be removed upon the recommendation of the CEC.
 - The CEC or any EC may **resign at any time by writing to the President**.



Read From Essential Material

Chapter 3rd, 'Indian Constitution at work' of class XI NCERT.

BRIEF BACKGROUND

About Election Commission of India (ECI)

- ▶ **Article 324:** (ECI) is an autonomous constitutional authority **responsible for administering Union and State election processes in India**.
- ▶ **Article 324(2):** the President of India is empowered to appoint the CEC and the ECs.
 - It also **empowers the President** of India to fix from time to time the **number of Election Commissioners other than the CEC**.
- ▶ In **Anoop Baranwal vs. Union of India case (2023):** SC ruled that the CEC and ECs will be chosen by a committee comprising the **Prime Minister, the Leader of the Opposition in Parliament, and the Chief Justice of India**.
 - Till this SC ruling, ECs and CECs had been appointed by the President after recommendations from the government.

Concerns highlighted with the Act

- ▶ **Independence of the Election Commission:** The Selection Committee has a majority of members from the government.
- ▶ **Vacancy in Selection Committee:** The act upholds the validity of the Selection Committee **even if there is a vacancy or defect in constituting the Committee**.

- ▶ **Undermining the role of the search committee:** The act provides that the Selection Committee **may go beyond the names** suggested by the Search Committee.
- ▶ **Limiting eligibility criteria:** By limiting the eligibility criteria of the CEC and ECs to civil servants, the act may exclude other qualified individuals for the post.
- ▶ **Lack of parity in the removal of the CEC and ECs**
- ▶ **Silence over post-retirement jobs**

Way forward

- ▶ **Balanced composition of the Selection Committee:** Goswami Committee on Electoral Reforms (1990) and **255th Law Commission Report** had recommended that,
 - The select committee should consist of the Prime Minister, the Leader of the Opposition of the Lok Sabha and the Chief Justice of India.
- ▶ **Post-retirement:** Goswami Committee (1990) had recommended that the CEC and ECs should not be eligible for any further office under the government, including the office of Governor.
- ▶ **Administrative Independence:** The Goswami Committee recommended an **independent secretariat** for the functioning of the ECI.
- ▶ **Equal constitutional protection to all members of the ECI:** As per the 255th Law Commission Report, **Article 324(5)** of the Constitution should be amended to equate the removal procedures of the ECs with that of the CEC.

1.3.2. ELECTORAL BOND SCHEME



CONTEXT

- ▶ Supreme Court in the **Association for Democratic Reforms & Anr. v. Union of India (Uoi) & Ors. (2024)** unanimously struck down the Electoral Bonds Scheme (EBS).

ANALYSIS



Highlights of the judgement

- ▶ EBS, by anonymising contributions, **violates the right to information** traceable to **Article 19(1)(a)** and thus, is **unconstitutional**.
- ▶ Accordingly, **amendments made by the Finance Act, 2017 to the Income Tax (IT) Act 1961, the Representation of Peoples Act 1951, and the Companies Act 2013**, to allow donations through Electoral Bonds have **been held to be unconstitutional**.
- ▶ **Amendment to Companies Act** permitting **unlimited corporate contributions** to political parties is arbitrary and violative of **Article 14**.
- ▶ **The court issued the following directions:**
 - The issuing bank shall **stop the issuance of electoral bonds**.
 - **Directed SBI (State Bank of India) to submit to the ECI (Election Commission of India) the following information:**
 - ◇ Details of **electoral bonds purchased since the court's interim order (April 12, 2019)**.
 - ◇ Details of **political parties which have received contributions** through Electoral Bonds since the interim order.
- **Valid Electoral Bonds which are not encashed must be returned to the issuing bank**, which would refund the amount to the purchaser's account.
- **EBS not proportionally justified to curb black money:** The court ruled that the government did not use the **least restrictive method** to balance **informational privacy** and **right to information of political contributions**.

BRIEF BACKGROUND

Electoral Bond Scheme (EBS)

- ▶ **An electoral bond** means a bond issued like a **promissory note** which shall be a bearer banking instrument and shall not carry the name of the buyer or payee.
- ▶ **Features of Electoral Bonds**
 - Issued to the Purchaser on a **non-refundable basis**.
 - Citizens of India or a body incorporated in India will be eligible to purchase the bond, from **authorized branches of the State Bank of India (SBI)**.
 - It could be used for donating **only to the registered political parties** which secured not less than **1% of votes polled in the last general election** to the Lok Sabha or a Legislative Assembly.
- ▶ **The rationale of the scheme was to enhance transparency** in electoral funding since electoral bond transactions can only be made through legitimate banking channels.
- ▶ Each **EB had a unique alphanumeric number** visible under ultraviolet rays.

Change in Political Funding in India with Finance Act 2017		
Subject	Before Finance Act 2017	After Finance Act 2017
Corporate Contributions (Section 182 of the Companies Act 2013)	<ul style="list-style-type: none"> ▶ Political contributions by a company in financial year (FY) shall not exceed 7.5% of its average net profits during the 3 preceding FYs. ▶ Required companies to disclose political contributions in its profit and loss account along with particulars of the total amount and of name of the party. 	<ul style="list-style-type: none"> ▶ Omitted the cap on corporate funding to political parties. ▶ Allowed any company incorporated or established in India to contribute via Electoral Bonds. ▶ Only required disclosure of the total amount of political contribution and not the particulars of the amount contributed to each political party.
Curbing black money (Section 13A to the IT Act,1961)	<ul style="list-style-type: none"> ▶ Political party to maintain a record of voluntary contributions in excess of Rs. 20,000 along with the name and address of the contributor. ▶ Cash mode for political donations allowed for individuals. 	<ul style="list-style-type: none"> ▶ Political parties not required to maintain a record of contributions from electoral bonds. ▶ Donation in excess of Rs. 2000 must be received only by a cheque, bank draft, electronic clearing system or through electoral bond.
Transparency (Section 29C of the RP Act,1951)	<ul style="list-style-type: none"> ▶ Political parties to report on all contributions above Rs 20,000 to the ECI. 	<ul style="list-style-type: none"> ▶ Parties will not have to submit records of electoral bonds received to the ECI.

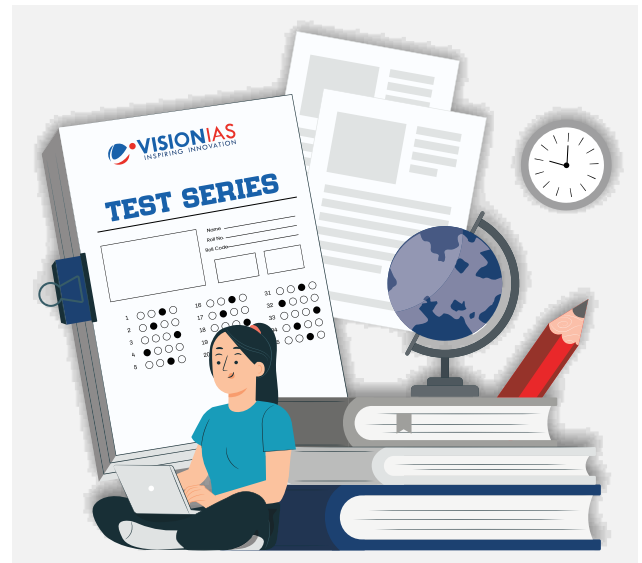
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1.4. JUDICIARY AND OTHER QUASI-JUDICIAL BODIES

1.4.1. 75 YEARS OF THE SUPREME COURT OF INDIA



CONTEXT

Prime Minister inaugurated the **Supreme Court of India's Diamond Jubilee celebration on January 28th** in Delhi, unveiling multiple tech initiatives.

These include **Digital Supreme Court Reports** for free electronic access to judgments, **Digital Courts 2.0** facilitating electronic court records for district court judges, and a **redesigned bilingual website** in English and Hindi for enhanced user experience.

ANALYSIS



Key Features

- ▶ **Highest Court of Appeal:** It is where the citizens of India can seek justice if they are not satisfied with the judgment of the High Court.
- ▶ **Advisory Jurisdiction:** SC can advise the President of India related to the question of law, and the nature of the matter is associated with public importance (**Article 143**).
- ▶ **Adjudicate Federal Disputes:** The Court resolves disputes between the Union and the states and between different states (**Article 131**).
- ▶ **Judicial Review:** The SC reviews laws and actions of the executive to ensure they comply with the Constitution.
- ▶ **Protection of Fundamental Rights:** The Court protects the fundamental rights of citizens by issuing writs and orders (**Article 32**).
- ▶ **Public Interest Litigation (PIL):** The Court can take up cases on its own or on behalf of the public interest.

Challenges Faced by Supreme Court

- ▶ **Massive Case Backlog:** As of 2023, there were over 80,439 cases pending in the SC alone.
- ▶ **Judicial Activism vs. Judicial Restraint:** This debate revolves around the appropriate role of the judiciary in policy-making and governance.
- ▶ **Uncle Judge Syndrome:** The **Law Commission of India's 230th Report** highlighted a concern about potential favouritism in the appointment of judges.
- ▶ **Public Perception and Trust:** There have been concerns about the public perception of the judiciary, including issues related to transparency, accountability, and judicial independence.

Way forward

- ▶ **Case Management and Technology** for e-filing, video conferencing, and virtual hearings can help reduce case backlog and improve efficiency.



Read From Essential Material

Chapter 6th, 'Indian Constitution at work' of class XI NCERT.

BRIEF BACKGROUND

About Supreme Court

- ▶ According to **Article 124(1)** of the Indian Constitution, the **Supreme Court of India must have a Chief Justice of India (CJI)** and a maximum of **seven** additional justices unless Parliament specifies a higher number through a statute.
- ▶ **Constitutional Provisions:** The SC's powers and jurisdiction are outlined in **Articles 124 to 147** of the Indian Constitution.

Evolution of Supreme Court of India



Regulating Act of 1774

- » Supreme Court at Calcutta established
- » Subsequently, SC of Madras (1800) and Bombay (1823) established



India High Courts Act 1861

- » High Courts for various provinces
- » Abolished all three Supreme Courts.



Government of India Act 1935

- » Created Federal Court of India
- » Hears appeal against Judgements from High Courts.



Constitution of India

- » On 28th January 1950, Supreme Court of India came into existence

- ▶ **Judicial Reforms** such as increasing the number of judges, improving infrastructure, and filling up vacancies promptly, can help address the backlog and ensure timely justice delivery.
- ▶ **Enhancing Transparency and Accountability**
- ▶ **Ensure the judiciary is free from undue influence and interference from the executive**

A glance at relations between judiciary and executive

- ▶ **Article 50 in Part IV:** The State shall take steps to separate the judiciary from the executive in the public services of the State.
- ▶ **1947-1964**
 - ▶ **Confrontation began on issues of the right to Property.**
 - ▶ **Kameshwar Singh vs State of Bihar** – The government brought the 1st constitutional amendment Act and inserted the 9th schedule.
 - ▶ **Political class asserted its supremacy through amendments.**
- ▶ **1965-1993**
 - ▶ **Due to frequent amendments to the Constitution,** the Supreme Court had to assert its position.
 - ▶ **Golaknath Case, Kesavananda Bharati case,** etc established the dominance of SC.
 - ▶ However, the government responded with **CAA 24th and 25th** which restricted SC power.
 - ▶ **ADM Jabalpur Case, and Minerva Mills case (1980),** again asserted the position of SC.
- ▶ **1993-2018**
 - ▶ **Three judges’ cases** empowered SC in the appointment of Judges.
 - ▶ **National Judicial Appointments Commission (NJAC)** legislation was brought by the government but struck down by the SC.

1.4.2. REGIONAL BENCHES OF SUPREME COURT

CONTEXT



Recently, the **Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice** informed the Parliament about the **government’s acceptance** of its recommendation to establish regional benches of the Supreme Court (SC).

The suggestion, from the 133rd report titled ‘Judicial Processes and Their Reform,’ proposes **invoking Article 130 of the Constitution to establish four or five such benches.**

These benches would handle appellate matters, with **Delhi retaining jurisdiction over constitutional interpretations.**

ANALYSIS



Need of Regional benches of SC

- ▶ **Access to justice:** It would take justice to the near to common citizen thereby upholding access to justice which is a fundamental right under **Articles 14 and 21.**
- ▶ **Reduce geographical bias:** Delhi-centric SC poses challenges for litigants due to language, lawyer accessibility, and expenses.
- ▶ **Reduce the burden of SC:** Regional benches reduce caseload of the judiciary and reduce the litigation cost to the common man.
- ▶ **Capacity Enhancement:** it lead to an increase in the number of Judges in SC thereby increasing the Judge to Population ratio.

BRIEF BACKGROUND

- ▶ **229th Report of Law Commission (2009):** Recommended setting up,
 - ▶ **Constitution Bench at Delhi**
 - ▶ **Four Cassation Benches** in the Northern region at Delhi, the Southern region at Chennai/Hyderabad, the Eastern region at Kolkata and the Western region at Mumbai.

Challenges in the creation of regional benches

- ▶ **Opposition from SC:** It is rejecting the proposal for setting up the Benches of the Supreme Court at a place outside Delhi.
- ▶ **Affect the unitary character of the SC:** Multiple regional benches could lead to more **divergent views** within SC which may become difficult to resolve entailing time and expenditure of litigants.

- ▶ **Might reduce the position of SC:** Regional benches of SC, deciding only appellate matters would reduce the position of SC.
- ▶ **Classification of the case:** Identifying and categorizing a case as being of constitutional significance poses a challenging task.
 - ▶ The Chief Justice of India may have exclusive power to determine which case is to be classified as a case of Constitutional importance.

Way Forward

- ▶ **Promote Hybrid/Virtual hearing:** Virtual court may help speedy disposal of cases, reduce litigation costs and address the geographical barriers in access to justice.
- ▶ **Learning from the system prevalent in other countries:** E.g. France which implements a system comprising a separate court of appeal and courts of cassation.
- ▶ **Constitutional amendment for separate court:** The government may explore the possibility of a **constitutional amendment to separate the functions of the Supreme Court** into constitutional and appellate.
- ▶ **Facilitate Judicial Reforms:** E.g. Enhancement of the number of judicial staff and judges, improve judicial infrastructure, promote judicial accountability etc. to improve the efficiency of the judiciary at all levels.

1.4.3. TRIBUNAL SYSTEM IN INDIA

CONTEXT

Recently, the Supreme Court (SC) ruled that **tribunals cannot direct the government** to frame policy.

- ▶ SC held that a **tribunal subject to the High Court’s jurisdiction under Article 226, cannot be permitted by law, to direct the framing of a policy** by the Government.
- ▶ Also, SC said that **making policy is not in the domain of the Judiciary.**

ANALYSIS

Significance of Tribunals

- ▶ **Specialization:** Ensures that cases are adjudicated by individuals with a deep understanding of the relevant legal and technical issues.
- ▶ **Speedy Resolution:** Critical in time-sensitive matters such as **service matters, tax disputes, and environmental issues.**
- ▶ **Reduced Case Load:** By handling specific types of cases, tribunals contribute to reducing the burden on traditional courts.
- ▶ **Accessibility:** Tribunals are **geographically dispersed**, with benches located across the country.
- ▶ **Efficiency in Service Matters:** Administrative Tribunals, such as the Central Administrative Tribunal (CAT), expedite the resolution of service-related matters for government employees.

Concerns with Tribunals

- ▶ **Lack of Independence:** In 2019, the SC reiterated that the **lack of judicial dominance in selection committees** of tribunals violates the **doctrine of separation of powers.**
- ▶ **Pendency of cases:** E.g., in 2021, the **Armed Forces Tribunal (AFT) had 18,829** pending cases due to a lack of human resources.
- ▶ **Term of office:** In 2019, SC stated that a **short tenure of members** along with provisions of **re-appointment** increases the influence and control of the Executive over the judiciary.

BRIEF BACKGROUND

About Tribunals System

- ▶ **Nature:** Tribunals are **quasi-judicial bodies.** The objective is to **reduce the caseload of the judiciary** or to **bring in subject expertise for technical matters.**
- ▶ **Constitutional Recognition:** In 1976, Articles 323A and 323B were inserted in the Constitution through the **42nd Amendment.**
 - ▶ **Article 323A:** Empowered **Parliament to constitute administrative Tribunals** (both at central and state level) for adjudication of matters related to recruitment and conditions of service of public servants.
 - ▶ **Article 323B:** Specified certain subjects **(such as taxation and land reforms)** for which **Parliament or state legislatures** may constitute tribunals by enacting a law.
- ▶ **Composition of Tribunals:** Expert members (technical members) along with judicial members.
- ▶ **Jurisdiction:** Each tribunal is given specific jurisdiction to hear and decide cases within its designated area of expertise.
- ▶ **Appeals:** Appeals from tribunals usually lie with the concerned High Court. However, some laws specify that appeals will be heard by the Supreme Court.
- ▶ Currently, tribunals have been **created both as substitutes to High Courts and as subordinate to High Courts.**

Quarterly Revision

- ▶ **Lack of Uniformity in Procedures:** leading to inconsistency in the application of legal principles and potential confusion for litigants.
- ▶ **Overlapping Jurisdictions:** between tribunals and regular courts.
- ▶ **Concerns Regarding Technical Members:** In certain tribunals, technical members may lack legal qualifications.

Way Ahead

- ▶ **Enhance Independence:** Mechanism for appointment and removal of members in **tribunals**, and **tenure of their employment** should have **adequate protection from legislative and executive interference**.
- ▶ **Administration of Tribunals:** Creation of an independent body called the **National Tribunals Commission (NTC)** for the administration of all tribunals in India.
- ▶ **Clear Jurisdictional Boundaries:** This would help to avoid overlapping and conflicting decisions with regular courts.
- ▶ **Training and Qualifications:** Ensure that technical members of tribunals possess adequate legal qualifications or receive training to understand legal principles.

Key developments in the Indian tribunal system	
1941	Income Tax Appellate Tribunal was established as first Tribunal in India .
1976	42nd amendment to the Constitution was passed (Articles 323A and 323B inserted).
1980s	Central Administrative Tribunal for administrative matters, Securities Appellate Tribunal to hear appeals against decisions of financial sector regulators, etc.
2017	Finance Act, 2017 reorganised the tribunal system by merging tribunals based on functional similarity . The number of Tribunals was reduced from 26 to 19. » It delegated powers to the central government to make Rules for qualifications, appointments, removal, and conditions of service for chairpersons and members
2021	Tribunal Reforms Act, 2021 was enacted. » Act abolished certain tribunals (like Film Certification Appellate Tribunal, Intellectual Property Appellate Board etc.) and transfers their functions to existing judicial bodies (mainly High Courts).

Quarterly Revision

1.4.4. NALSA (NATIONAL LEGAL SERVICES AUTHORITY)

CONTEXT

Parliamentary Standing Committee submitted its Report on "Review of the working of Legal aid under the Legal Services Authorities Act, 1987"

ANALYSIS

Functions of NALSA

- ▶ **Legal Aid and Assistance:** It includes advocate representation, process fee payments, document preparation etc
- ▶ **Participation in PILs:** Litigation for social justice on behalf of the marginalized under **Section 4(d) of the Legal Services Authorities Act**
- ▶ **Lok Adalats and Mediation:** Aimed at resolving legal disputes expeditiously and amicably, thereby reducing the burden on the formal judicial system.
- ▶ **Legal Awareness:** It is through various means, including seminars, pamphlet distribution, television and radio appearances, internships for law students, and Legal Aid Clinics in colleges etc.

BRIEF BACKGROUND

About NALSA

- ▶ NALSA is an **apex organization** established under the **Legal Services Authorities Act, of 1987**.
- ▶ **Core principle:** To ensure that the **impoverished and underprivileged** have access to justice through the provision of **free legal services**.
- ▶ The legal aid is applicable to Courts, tribunals, and other bodies with judicial or quasi-judicial powers.
- ▶ **Central Government allocates annual funds to NALSA**, distributed to State and District Legal Services Authorities.
 - ▶ State Governments cover state-level expenses, including salaries.

- ▶ **Victim Compensation:** Through schemes like “Compensation Scheme for Women Victims/Survivors of Sexual Assault/other Crimes” NALSA aims to provide compensation and support to women who are victims or survivors of sexual assault or other crimes.

Government Initiatives for legal aid

- ▶ Designing Innovative Solutions for Holistic Access to Justice in India (DISHA)
- ▶ **Nyaya Bandhu Platform:** Facilitate connection between Pro Bono (for the public good) Advocates and registered beneficiaries, encouraging Pro Bono culture among law students, advocates, and law schools.
- ▶ **Tele-Law Service:** Connect beneficiaries with lawyers via tele/video conferencing.
- ▶ **Legal Aid Defense Counsel System (LADCS):** Initiated by NALSA, ensures efficient legal aid in criminal cases by engaging full-time lawyers across 676 districts nationwide.
- ▶ **Nyaya Mitra programme:** Facilitate disposal of 15-year-old pending cases at the district level.

Issues highlighted by report

- ▶ **Lack of Awareness and Legal Education:** India Justice Report 2019 despite over 80% eligibility, only 15 million have used legal aid since 1995.
- ▶ **Budgetary Constraints and Allocations:** India’s legal aid spend is 0.75 paise per capita annually for year 2017-18 as per India Justice Report, 2019
- ▶ **Role of Lawyers and Compensation:** Lawyers refrain from pro bono due to fee caps; receive nominal honorarium ranging from 1,500 to 7,500 rupees.
- ▶ **Challenges faced by Lok Adalats:** Limited powers and procedural constraints, inability to compel parties to appear causing delays and Insufficient infrastructure and resources.
- ▶ Under-utilisation of **Para-Legal Volunteers (PLVs)**
- ▶ **Shortage of staff and unfilled vacancies:** As of December 2022, NALSA operated with only 20 staff members out of its sanctioned 34 positions.

Recommendations by report

- ▶ **Increase Grant-in-aid** to NALSA substantially to bridge the justice gap.
- ▶ **Ensure Fair Compensation**
 - ▶ **Senior Advocate Panels for pro bono services** in District Judiciary, High Courts, and Supreme Court.
 - ▶ **Merit Certificates to Recognize lawyers’** pro bono contributions for judicial career advancement.
- ▶ **Conduct awareness campaigns and appreciate Para Legal Volunteers (PLVs):** contributions to enhance motivation.
- ▶ **Fill vacant positions promptly and consistently** to prevent the accumulation of unfilled vacancies.

- ▶ **The weaker sections covered under Section 12 of the law include** Women and Children, SC/STs, Persons with Disability, Persons in Custody, Victims of Human trafficking, Victims of Natural Disasters etc.
- ▶ **NALSA grants authority to oversee legal aid initiatives to:**
 - ▶ Legal Services Authority at National/State/District Level
 - ▶ Taluka/Sub divisional Legal Services Committee
 - ▶ High court and Supreme Court Legal Services Committees

History of legal aid movement in India

Year	Initiative
1960	Guidelines for legal aid schemes introduced in India
1976	Article 39A incorporated through 42nd Amendment of Constitution
1980	Formation of The Committee for Implementing Legal Aid Schemes (CILAS) under Justice Bhagwati
1987	Enactment of the Legal Services Authorities Act , providing a statutory framework for legal aid programs in India
1995	Establishment of the National Legal Services Authority (NALSA) , the apex body for legal aid coordination in India
1998	Introduction of Permanent and Continuous Lok Adalats , offering an alternative dispute resolution mechanism
2000	Implementation of various legal aid initiatives, including legal literacy programs and counselling centres

Constitutional Provisions Related to Free Legal Aid

- ▶ **Article 39A:** Mandates the State to ensure justice with equal opportunity, including free legal aid provision.
- ▶ **Article 14:** Guarantees equality before the law for all individuals within India’s territory.
- ▶ **Article 22(1):** Protects individuals arrested or detained, ensuring their right to legal consultation and representation.



1.5. IMPORTANT LEGISLATURE/BILLS

1.5.1. CRIMINAL LAW REFORM ACTS



CONTEXT

The President of India granted assent to three significant bills to overhaul the country's criminal justice system.

- ▶ **The three Acts include:**
 - ▶ **Bharatiya Nyaya Sanhita 2023** replacing the **Indian Penal Code (IPC), 1860.**
 - ▶ **Bharatiya Nagarik Suraksha Sanhita 2023** replacing the **Code of Criminal Procedure (CrPC), 1973.**
 - ▶ **Bharatiya Sakshya Adhinyam 2023** replacing the **Indian Evidence Act (IEA), 1872.**

Need for reforms in criminal laws

- ▶ **Modernising the criminal justice system:** The IPC, IEA, and a large section of the CrPC are older than independent India and do not properly reflect current norms of criminal jurisprudence.
 - ▶ **Societal changes require** an evolving and adaptable criminal justice system. E.g. integrating modern technology in evidence gathering, storage etc.
- ▶ **Addressing large pendency and timely justice:** Complex legal procedures have led to **almost 4.7 crore pending cases** in various courts and many undertrials languishing in jails.
- ▶ **Increasing conviction rates:** The criminal justice system's inefficiencies, including inadequate forensic investigation, policing deficiencies, and the influence of powerful individuals on law enforcement, contribute to **low conviction rates.**
- ▶ **Incorporating recommendations of various high-level Committees:** These include the recommendations of the Law Commission, Malimath Committee (2003), and Justice Verma Committee (2013) on aspects related to arrest, confessions, bail, death penalty etc.

1.5.1.1. BHARATIYA NYAYA SANHITA 2023



OBJECTIVE

It replaces Indian Penal Code (IPC), 1860, the principal law on criminal offences in India.

ANALYSIS



Key provisions

- ▶ **Community service:** for the first time it is proposed as one of the punishments for petty offences.
- ▶ **Sexual offences against women:** It increases the threshold for gangrape victim to be classified as a major, from 16 to 18 years of age.
 - ▶ It also **criminalizes sexual intercourse with a woman by deceitful means** or making false promises.
- ▶ **Sedition:** It removes the offence of sedition. It instead penalizes the following:
 - ▶ **Exciting or attempting to excite secession, armed rebellion, or subversive activities.**
 - ▶ **Encouraging feelings of separatist activities,** or
 - ▶ **Endangering the sovereignty or unity and integrity of India.**

BRIEF BACKGROUND

- ▶ **Prior to IPC 1860:** Indian criminal law consisted of a complex array of Parliamentary Charters and Acts, East India Company Regulations, Hindu law, Muslim law, customary law etc.
- ▶ **First Law Commission (1834)** under **Thomas Babington Macaulay**
 - ▶ It produced **draft of Penal Code in 1837**, which completely ignored existing Indian laws and instead was founded on British common law.
- ▶ **Effect of 1857 Rebellion:** Formation of IPC was delayed for years as it was undergoing multiple revisions.
 - ▶ However, with the **Rebellion of 1857** and the **British Crown taking over direct control** in 1858, IPC was finally enacted in 1860, and came into force in 1862.

- These offences may involve exchange of words or signs, electronic communication, or use of financial means.
- ▶ **Terrorism:** It is defined as an act aimed at threatening the unity, integrity, security, or economic security of a country or causing terror in any section of the population.
- ▶ **Organised crime:** It encompasses continuous unlawful activities such as kidnapping, extortion, contract killing, land grabbing, and cybercrime carried out by individuals or groups, either as members or on behalf of an organised crime syndicate.
- ▶ **Murder or grievous hurt by a group on certain grounds:** When a group of five or more persons acting in concert commits murder or causes grievous hurt on the **ground of race, caste or community, sex, place of birth, language, personal belief or any other similar ground** each member of such group shall be punished with,
 - Death or life imprisonment, and a fine, in case of murder.
 - Imprisonment for a term up to seven years, and a fine, in case of grievous hurt.

▶ **Post enactment of IPC 1860:** Over the years, the IPC has been amended to add new offences, amend existing ones and change the quantum of punishment.

Conclusion

The new law has been drafted by a democratically elected Government, 160 years after IPC 1860, purportedly with a focus on delivering Nyaya (Justice) as opposed to the earlier Penal code that focused on punishments.

1.5.1.2. BHARATIYA NAGARIK SURAKSHA SANHITA 2023



OBJECTIVE

It replaces the **Criminal Procedure Code, 1973 (CrPC)**, which provided for the procedure for arrest, prosecution, and bail under various Acts, including the IPC 1860.

ANALYSIS



Key provisions

- ▶ **Detention of undertrials:** First-time offenders who have completed one-third of the maximum period of imprisonment specified for such offence shall be released on bond.
 - If an accused has spent half of the maximum period of imprisonment specified for an offence, he shall be released by the Court on bail.
 - ◊ This does not apply to offences punishable by death, life imprisonment, and persons against whom proceedings are pending in more than one offence.
- ▶ **Medical examination:** Any police officer can request medical examination of the accused in certain cases, including rape cases.
- ▶ **Forensic investigation:** It mandates forensic investigation for offences punishable with at least 7 years of imprisonment.
 - If a state does not have a forensics facility, it shall utilise such facility in another state.
- ▶ **Signatures and finger impressions:** It empowers a Magistrate to order any person, whether arrested or not, to provide specimen signatures, handwriting, finger impressions and voice samples.
- ▶ **Timelines for procedures:** It prescribes timelines for various procedures. For instance, submission of medical reports to the investigating officer, giving judgment, informing the victim of the progress of the investigation and framing of charges.

BRIEF BACKGROUND

- ▶ **Genesis:** CrPC was first enacted in 1861 under British rule and later substituted by fresh Codes successively enacted in 1872 and 1882.
 - It had undergone several amendments, most importantly in 1898, 1923 and 1955.
- ▶ **CrPC 1973:** The Law Commission of India, in its 41st report, recommended a significant revision of the code, which led to the creation of CrPC 1973.

Conclusion

Incorporation of forensic science, and prescribed time limits for the police, lawyers and judges is expected to expedite justice delivery.

Quarterly Revision

1.5.1.3. BHARATIYA SAKSHYA ADHINIYAM

2023 OBJECTIVE



It replaces the Indian Evidence Act, of 1872 (IEA), which governed the admissibility of evidence in Indian Courts in all civil and criminal proceedings.

ANALYSIS



Key provisions

- ▶ **Admissibility of electronic or digital records as evidence:** These records will have the same legal effect as paper records.
 - It expands electronic records to include information stored in semiconductor memory or any communication devices (smartphones, laptops), emails, server logs etc.
- ▶ **Documentary evidence:** It adds that electronic records will also be considered as documents apart from writings, maps, and caricatures.
- ▶ **Oral evidence:** Oral evidence includes statements made before Courts by witnesses in relation to a fact under inquiry. The Act allows oral evidence to be given electronically.
- ▶ **Joint trials:** A joint trial refers to the trial of more than one person for the same offence.
 - The Act adds that a trial of multiple persons, where an accused has absconded or has not responded to an arrest warrant, will be treated as a joint trial.

BRIEF BACKGROUND

- ▶ **Genesis:** The Evidence Act was enacted in 1872 with a view to consolidate the laws relating to evidence on which the court could come to a conclusion and pronounce the judgment.
- ▶ **Primary issue:** The IEA did not address the technological advancement undergone in the country during the last few decades.

Conclusion

The three laws present an opportunity to truly decolonise the criminal justice system and uphold constitutional values in criminal processes. A framework for regular monitoring and periodic review of new criminal laws will also go a long way in modernising the criminal justice system.

1.5.2. PRESS AND REGISTRATION OF PERIODICALS ACT, 2023

CONTEXT



The President has granted assent to the Press and Registration of Periodicals Bill, 2023 repealing the colonial era law of the Press and Registration of Books Act, 1867

ANALYSIS



Key changes between the PRB Act, 1867 and the PRP Act, 2023

Key provisions	Press and Registration of Books Act, 1867	Press and Registration of Periodicals Act, 2023
Registration of periodicals	Provided for the registration of newspapers, periodicals, and books.	Periodicals do not include books or scientific and academic journals. Books are outside the purview of the act.
Foreign periodicals	No provision for registration of foreign periodicals.	A facsimile (an exact reproduction of the original) of a foreign periodical may be printed in India only with the prior approval of the central government.
Declaration for printing presses	declaration specifying the printer/publisher be made to the District Magistrate (DM). The DM sent the declaration to the Press Registrar, who then issued a certificate of registration.	Act allows the publisher of a periodical to obtain a registration certificate by filing an online application with the Press Registrar General (PRG) and specified local authority.
Penalties	severe penalties leading to conviction and imprisonment up to 6 months for various violations of the Act.	It seeks to decriminalize the colonial-era statute by replacing jail terms with fines.

<p>Cancelling Registration</p>	<p>only the DM could cancel the declaration of a periodical.</p>	<p>It empowers the Press Registrar General to suspend/cancel the Certificate of Registration.</p> <ul style="list-style-type: none"> ▶ Also, a person who has been convicted of a terrorist act or unlawful activity or has acted against the security of the State will not be allowed to publish a periodical.
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Benefits of PRP Act 2023

- ▶ **Digitalization:** The Act makes the process of allotment of title and registration of periodicals simple and simultaneous.
- ▶ **Fast-tracking the process:** Act enables the Press Registrar General to fast-track the process, thereby ensuring that publishers face little difficulty in starting a publication.
- ▶ **Decriminalization:** Decriminalizes all violations under the old one, thus **shedding the colonial legacy**.
- ▶ **Provides clarity:** The act adds clarity on various procedures/cases such as facsimile editions of a foreign publication, Circulation Verification of newspapers, Ownership Transfer, and others.

Conclusion

The 2023 act is in sync with the present age of free press and upholding media freedom. It provides for digital governance with an emphasis on faster and more efficient service delivery through a troika of trust, transparency, and technology.

BRIEF BACKGROUND

Brief history of The Press in India

- ▶ **Censorship of Press Act of 1799 (under Lord Wellesley):** The Act was to silence the press before a potential French invasion of India. However, it was retracted in 1818 by Lord Hastings.
- ▶ **Licensing Regulations (ordinance), 1823 (under John Adams):** No one could start or continue to use a press without registration. Rammohan Roy's, Mirat-ul-Akbar had to cease publication due to this act.
- ▶ **Press Act of 1835 (under Metcalfe):** This Act was seen as a ray of liberation and thus earned Metcalfe the respectable title of "Liberator of the Indian Press."
- ▶ **The Licensing Act of 1857:** Due to the "Revolt of 1857", this Act emerged, which imposed "licensing restrictions" in addition to the pre-existing "registration procedure".
- ▶ **Press and Registration of Books (PRB) Act 1867 (under Lord John Lawrence):** The Act made it mandatory for every article of print to have the names of the printers, publishers, and the places of publication, printed.

Quarterly Revision

1.5.3. TELECOMMUNICATIONS ACT 2023



CONTEXT

The President gave his assent to Telecom Bill 2023, to replace the 138-year-old Indian Telegraph Act.

ANALYSIS



- ▶ The new act seeks to regulate activities related to telecommunication and provide a new legal framework for the Telecom Sector.
- ▶ The act replaces the Indian Telegraph Act, 1885, the Indian Wireless Telegraphy Act, 1933 and Telegraph Wires (Unlawful Possession) Act, 1950.
 - ▶ It also amends the Telecom Regulatory Authority of India (TRAI) Act, 1997.



BRIEF BACKGROUND

Telecom Regulation in India



1850: Electric telegraph started for the first time in Calcutta (Kolkata).



1885: The Indian Telegraph Act 1885 became the primary legislation.









1933: The Indian Wireless Telegraphy Act 1933 (the Wireless Act) formulated.



1997: The Telecom Regulatory Authority of India (TRAI) Act 1997 established TRAI.

Key Provisions of the Act

Key provisions	Telecommunications Act 2023
Assignment of spectrum	<ul style="list-style-type: none"> Spectrum allocation will be through auction and for specified uses on an administrative basis. For the first time, administrative allocation will be done of spectrum for the satellite broadband services, in line with global norms. <div style="border: 1px solid #007bff; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">Specified purposes include</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>National security and defense</p> </div> <div style="text-align: center;">  <p>Disaster management</p> </div> <div style="text-align: center;">  <p>Weather forecasting</p> </div> <div style="text-align: center;">  <p>Transport</p> </div> <div style="text-align: center;">  <p>Satellite services</p> </div> <div style="text-align: center;">  <p>BSNL, MTNL and public broadcasting services</p> </div> </div> </div>
Appointments to TRAI	<ul style="list-style-type: none"> TRAI Act has been amended to allow individuals with: <ul style="list-style-type: none"> at least 30 years of professional experience to serve as the Chairperson, and at least 25 years of professional experience to serve as members.
Adjudication process	<ul style="list-style-type: none"> Appointment of an adjudicating officer to conduct inquiries against civil offences. Appeals may be filed with (Telecom dispute settlement and appellate tribunal) TDSAT within 30 days.
Protection of users	<ul style="list-style-type: none"> e.g. prior consent to receive specified messages, creation of Do Not Disturb registers, and allowing users to report malware or specified messages.
Right of way	<ul style="list-style-type: none"> Entities building infrastructure can seek right of way (facilitating the use of property) over public or private property.
Powers of interception and search	<ul style="list-style-type: none"> Messages can be intercepted, monitored, or blocked on certain grounds including Security of the state, public order and prevention of incitement of offences.
Authorization for telecom-related activities	<ul style="list-style-type: none"> Prior authorization of central government needed to provide, operate, maintain or expand new telecommunication services and to possess radio equipment.
Regulation of OTTs	<ul style="list-style-type: none"> OTT platform will not be regulated under the Telecommunications Act 2023.
Other Provisions	<ul style="list-style-type: none"> Digital Bharat Nidhi: The Bill renames the Universal Service Obligation fund as Digital Bharat Nidhi and allows its use for research and development in telecom sector. Trusted sources regime: Which came into being after the 2020 Indo–Chinese border skirmishes, to stop imports of telecom equipment from hostile nations is now part of the law.

Some concerns highlighted with the Act

- Privacy concerns:** The provision of allowing interception and monitoring of the messages can be misused, leading to issues like **data leakages**.
- Lack of clarity in definitions:** Definition of telecommunication services provided is broad and open to interpretation.
- Delegated legislation:** The government may add, modify, or remove offences in the Third Schedule to the Act by a notification. It has been debated that such changes should only be through an Act of Parliament.

Conclusion

The Act straightens out several issues in the Telecom Sector such as the issue of Spectrum allocation. To further restore the health of the telecom sector and address the apprehensions, **a multi-stakeholder approach should be taken towards its implementation.**

1.5.4. STREET VENDORS (PROTECTION OF LIVELIHOOD AND REGULATION OF STREET VENDING) ACT, 2014



CONTEXT

Recently, the **Minister of Housing and Urban Affairs** highlighted the slow pace of implementation of the provisions of the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014.

ANALYSIS



Key features of the Street Vendors Act, 2014

- ▶ **Rights of street vendors:** Every street vendor shall have the right to carry on the business of street vending activities **as per the terms and conditions** mentioned in the certificate of vending.
- ▶ **Duties of Street Vendors**
 - ▶ **Remove his goods and wares every day** at the end of the time-sharing period allowed to him.
 - ▶ **Maintain cleanliness and public hygiene** in vending zones and adjoining areas.
 - ▶ **Maintain civic amenities and public property** in the vending zone in good condition.
 - ▶ **Payment of maintenance charges** for the civic amenities and facilities as determined by local authorities.
- ▶ **Town Vending Committees (TVC)** These committees are in charge of enumerating, identifying, and allocating vending zones in a city.
 - ▶ TVCs comprise at least **40% of its elected members being street vendors**, of which **one-third** are to be women.
- ▶ **Survey of the Street Vendors:** At least once **every five years** for the issuance of a Certificate of Vending (CoV) to the vendors identified.
- ▶ **Ceiling limit on the number of vendors:** It is set at **2.5% of the population of the ward or zone or town or city** for accommodating the vendors in the respective vending zones.
- ▶ **Grievance redressal Committees:** They are to be set up by the States under the **chairmanship of a retired judicial officer**.
- ▶ **Period for the release of seized goods:** For **non-perishable goods**, the goods are to be **released within two working days** and in the case of **perishable goods**, the goods shall be **released the same day** of claim.

BRIEF BACKGROUND

Street Vendors in India

- ▶ A street vendor is “a person engaged in vending of **articles/goods** in a street or any other public place or private area, from a temporary built-up structure or by moving from place to place”
 - ▶ There are more than **50 Lakhs Street Vendors** in India.
 - ▶ **Uttar Pradesh** has the largest number of Street Vendors in India.

Challenges associated with the functioning of the act

- ▶ **Lopsided implementation:** Despite a decade since enactment **only 17 States** have constituted **Grievance redressal Committees** for the welfare of the street vendors.
 - ▶ The TVCs are yet to be formed in many Urban local bodies and existing TVCs also **lack proper representation** in many states.
- ▶ **Ceiling on Number of Vendors:** The act has **set the limit of street vendors to 2.5% of the total population of the ward/ city**, which is inadequate for a major metropolis like Delhi, Mumbai etc.
- ▶ **Exclusion of Railways land and its premises:** The act does not apply to **any land, premises and trains owned and controlled by the Railways**, which is a huge business area for the vendors.
- ▶ **Lack of uniformity:** Currently, **street vending is regulated under municipal laws** enacted by state legislatures
 - ▶ For e.g., **Brihanmumbai Municipal Corporation** issued a **Certificate of Vending** based on domicile certificates till 2022, despite domicile not being a criterion under the 2014 act.

Way forward

- ▶ **Revision of the ceiling on the number of vendors:** It can be **increased in consonance with the nature of the city** and as per the latest survey of street vendors.
- ▶ **Creation of Vending Zones near Railway Stations:** This will provide more opportunities for the vendors and ensure more consistent implementation of the Act.
- ▶ **Integration with the Smart City mission:** Including members from the **Street vendor’s community** in deliberations and formulation of the **Smart City projects**.

- ▶ **Establishment of Model Vending zones** as “Light House Projects” by the Ministry of Housing and Urban Affairs, to be replicated in states.
- ▶ **Sensitize police force and local body officials:** The Street Vendors Act should be included in their training curriculum to avoid excessive actions over street vendors.

1.5.5. EPIDEMIC DISEASES ACT (EDA), 1897



CONTEXT

Recently, the 22nd Law Commission of India (LCI) submitted a report titled “A Comprehensive Review of the Epidemic Diseases Act, 1897” to the Government of India.

- ▶ The report acknowledges **limitations in the legal framework relating to health** were prominently visible during the management of **COVID-19 pandemic** when **Disaster Management Act, 2005** was invoked to **impose lockdown**.

ANALYSIS



Key issues in the EDA, 1897 as highlighted by the LCI.

- ▶ **Outdated colonial-era law:** Over the years, **new variants of communicable diseases** have emerged posing fresh challenges to the healthcare system.
- ▶ **Lack of definition:** Does not define an ‘**epidemic**’ or an ‘**infectious**’ disease, and does not differentiate between an ‘**outbreak**’, ‘**epidemic**’ and ‘**pandemic**’.
- ▶ **Management of Epidemic:** The Act lacks specific guidelines for **effective disease surveillance**, **quarantine** process, ensuring availability of **drugs and vaccines**, and **disposal of infectious waste** and **Corpses**.
- ▶ **Lack of decentralisation:** The Act does **not** provide statutory **power to local governments** to regulate epidemic diseases.
- ▶ **Lack of demarcation of power:** The EDA, does not specify authority will take precedence in case of disagreements between the States and the Centre.
- ▶ **Inadequate Punishment for violation**

Key highlights of the Comprehensive law proposed by the LCI

- ▶ **Define terminologies:**
 - The **stages of the diseases** should be defined in the act
 - The **difference between ‘quarantine’ and ‘isolation’** should be clarified.
 - Incorporate the terms ‘**physical distancing**’ instead of ‘**social distancing**’ to contain the spread by restricting people’s movement.
- ▶ **Decentralisation and demarcation of power:**
 - **Prevention and management:** This power should lie with the **State government** since ‘**public health and ‘sanitation’** is a **state subject**.
 - **Outbreak happens in the State:** The State may empower the district or local authority to take measures to effectively **prevent, control and manage the epidemic**.
- ▶ **Frame an epidemic plan:** The government should prepare the epidemic plan in collaboration with other stakeholders which should be revised periodically.

BRIEF BACKGROUND

Key highlights of the EDA, 1897

- ▶ **Genesis:** The British government introduced EDA to tackle the **epidemic of bubonic plague** in the erstwhile Bombay Presidency in 1896 when Lord Elgin-II was the Viceroy (1894-1899).
- ▶ **Powers to Government:** Grants extensive powers to the Government to regulate, prevent and control dangerous epidemic diseases.
 - Allows the **Central Government** to inspect ships and vessels departing from or arriving at ports within its jurisdiction.
- ▶ **Provides punishment:** Violation of the Act may result in a fine of up to **Rs. 1,000** or imprisonment of up to six months.
- ▶ **2020 Amendment:** The Epidemic Diseases (Amendment) Act, 2020 was enacted to **stop the violence faced by healthcare Workers** during the Covid-19 Pandemic.

Definition of Pandemic and its Development Stages

- ▶ **Outbreak:** Sudden occurrence of an infectious disease **limited to a localized area**, having the potential to result in an epidemic.
- ▶ **Epidemic:** An infectious disease, or anything resembling a disease cause of which is unknown; resulting in **widespread and rapid transmission** to other people over normal expectancy.
- ▶ **Pandemic:** Any occurrence or transmission throughout a **widespread geographical region** of an infectious disease that has the potential to **adversely affect human health** and may pose a danger internationally.

- ▶ **Guidelines for Quarantine and isolation:** The proposed guidelines should align with the
 - ▶ **Indian Port Health Rules, 1955** (deals with the isolation of infected ships) and
 - ▶ **Aircraft (Public Health) Rules 1954** (deals with the isolation of infected persons in an aircraft).
- ▶ **Other recommendations**
 - ▶ **Enhanced penalty for violation** and given statutory recognition under the EDA.
 - ▶ **Separate guidelines for Safe disposal of infectious waste** which aligns with Bio-Medical Waste Management Rules, 2016.
 - ▶ **Devise regulations for controlling, and regulating the availabilities of essential medicines** to combat their shortages during peak demand.
 - ▶ **Identify nodal authorities responsible for developing vaccines** and other necessary drugs.

Sources of Finance for PRIs	
Internal/Own sources of revenue	<ul style="list-style-type: none"> ▶ Tax Revenue: from Property tax on lands (other than Agriculture Land) or buildings or both; Taxes on Duties and Commodities; Service tax; Taxes on Profession Trades etc. ▶ Non-tax revenue: from market fees on persons exporting goods for sale in Panchayat area; Fees on Registration of Cattle sold within the Panchayat area etc.
Transfer of Funds from Central Finance Commission (CFC) and State Finance Commission (SFC)	<ul style="list-style-type: none"> ▶ Tied Grants: Earmarked for specific purposes or sectors, like sanitation, education etc. ▶ Untied Grants (General purpose grants): These are provided without specific conditions or restrictions and can be utilised for local needs and priorities. ▶ Performance-based Grants: Additional funds granted to PRIs based on recommendations of CFCs and specific performance criteria. ▶ Special Category Grants: These grants are additional financial support designed to address unique challenges or particular needs of PRIs in specific regions or contexts.
Other Sources	<ul style="list-style-type: none"> ▶ Transfer from Central Government and State Government under different schemes like MGNREGA, PMAY (Rural), Sansad Adarsh Gram Yojana etc. ▶ Grants from international bodies like World Bank, etc.



PERSONALITY DEVELOPMENT PROGRAMME

CIVIL SERVICES EXAMINATION - 2023

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1.6. LOCAL GOVERNANCE

1.6.1. FINANCES OF PANCHAYATI RAJ INSTITUTIONS (PRIS)



CONTEXT

Recently, the Reserve Bank of India (RBI) released its report titled "Finances of Panchayati Raj Institutions". The report discusses the fiscal position of PRIs for the years 2020-21 to 2022-23.

ANALYSIS



Challenges associated with the finance of PRIs

- ▶ **Structural challenges:** Inadequate financial resources, and heavy reliance on grants from upper tiers of government.
 - ▶ Around 95 % of their revenues come from grants by higher levels of government.
- ▶ **Inconsistency in data:** Lack of data on their revenues and expenditures and a lack of skilled staff to maintain data in standardised formats.
- ▶ **Tax revenue:** They face challenges in raising tax revenue due to a **limited tax base, shortage of staff and lack of clear guidelines** for introducing new taxes.
- ▶ **Corruption:** Instances of **misuse of funds for personal gain** have hindered the ability of PRIs to effectively carry out their roles and responsibilities.
- ▶ **State Finance Commissions (SFC):** As per rural development and Panchayati raj report, only **9 states** have been constituting SFCs regularly, and out of them, only **two are active**.

Way forward

- ▶ **Increase Budgetary support:** To ensure PRIs have **sufficient resources** to fulfil their responsibilities. Also, steps should be taken to diverse funding sources of the PRIs.
- ▶ **Training and capacity-building of PRI members:** To enhance their financial management skills, ensuring effective and transparent handling of funds.
- ▶ **Accountability:** Enforce strict financial accountability measures, **regular and independent audits, and transparent reporting mechanisms** to prevent misuse of funds and corruption.
- ▶ **Strengthening SFC:** It should be **constituted timely every 5 years**.
- ▶ **Raise citizen's Awareness:** Encourage citizen's participation in local governance processes.



Read From Essential Material

Chapter 8th, 'Indian Constitution at work' of class XI NCERT.

BRIEF BACKGROUND

- ▶ **73rd Constitutional Amendment Act 1992:** institutionalised the PRIs at **three levels**.
 - ▶ Mandate for setting up of Panchayats is **provided by Article 243 in Part IX** of the Constitution of India.
 - ▶ Panchayats, being **Local Government**, is a **state subject**.
- ▶ **Article 243H:** Provides for **finance for the Panchayats** by securing authorization from State Legislatures for grants-in-aid to the Panchayats from the Consolidated Fund of the State.
 - ▶ It empowers **panchayats to impose, collect, and allocate taxes, duties, tolls, and fees**.
- ▶ **Article 243-I:** Setting up a **State Finance Commission (FC) every 5 years** to review the financial position of Panchayats and make recommendations to improve their financial position.
- ▶ **Article 280(3) (bb):** Mandates Central FCs to recommend measures needed to augment the Consolidated fund of the state and supplement panchayat resources to the President.



Initiatives taken to improve financial ecosystem of PRIs

e-Gram Swaraj: Enhance the credibility of Panchayats which would induce greater devolution of funds to PRIs.

Gram Panchayat Development Plan (GPDP):
Participatory Annual Planning

Capacity Building- Panchayat Sashaktikaran Abhiyan (CB-PSA): Training Elected Representatives

Rashtriya Gram Swaraj Abhiyan (RGSA):
Strengthening Rural Governance.

1.7. MISCELLANEOUS

1.7.1. CRIMINAL DEFAMATION



CONTEXT

The Law Commission in its report No. 285 titled “The Law of Criminal Defamation” has recommended that the offence of criminal defamation should be retained in the new criminal law.

- ▶ Law commission highlighted that **reputation is an important facet of Article 21 of the Constitution**, which “cannot be allowed to be jeopardised just because an individual has to enjoy his freedom of speech” at the expense of hurting the sentiment of another.

ANALYSIS



Arguments for Retaining the Law of Criminal Defamation

- ▶ **Stronger Deterrent:** Compared to possible monetary damages in civil lawsuits, **criminal punishment** has a greater deterrent effect against intentional and destructive defamation.
- ▶ **Public Interest in Protection Reputation:** Criminal prosecution conveys a message stating that such injury is not acceptable.
- ▶ **Protections of Vulnerable Groups:** It can provide important safeguards against discrimination and hate speech.

Arguments against Retaining the Law of Criminal Defamation

- ▶ **Violates freedom of speech:** Criminal defamation rules could unintentionally **violate people’s fundamental right to freedom of speech and expression 19(1) (a)** since people may be afraid of facing legal consequences for publicly expressing their thoughts.
- ▶ **To silence dissent:** It has the **potential to be weaponised by powerful entities**, including corporations, or influential individuals, to silence dissent, and intimidate journalists, and critics.

BRIEF BACKGROUND

About Criminal Defamation

- ▶ As per the **Black’s Law Dictionary**, defamation means “The offence of injuring a person’s character, fame, or reputation by false and malicious statements”.
- ▶ **Indian Penal Code (IPC):** section 499 makes it unlawful to communicate any false information about an individual to harm their reputation and the prescribed maximum punishment is **two years**.
 - **However, Section 354(2) of the 2023 Bharatiya Nyaya Sanhita Act states:** “Whoever defames another shall be punished with simple imprisonment for a term which may extend to **two years, or with fine, or with both or with community service.**”
- ▶ **Subramanian Swamy v. Union of India (2016):** SC upheld criminal defamation, balancing free speech and the right to protect reputation.
- ▶ According to data published by UNESCO, **160 countries in the world criminalize defamation.**

Quarterly Revision

1.7.2. NATIONAL CADET CORPS (NCC)



CONTEXT

National Cadet Corps (NCC), the largest uniformed youth organization in the world, celebrated its **75th Anniversary in 2023**.

ANALYSIS



- ▶ **Aims of NCC:**
 - To create **organized, trained and motivated youth** to provide leadership in all walks of life and always available for the service of the nation.
 - To **motivate the youth to take up a career in the Armed Forces.**

BRIEF BACKGROUND

- ▶ NCC came into existence under the **National Cadet Corps Act XXXI of 1948**.
- **Pandit H.N. Kunzru** committee had recommended a cadet organization to be established in schools and colleges at a national level.



- ▶ To develop **character, commandership, discipline, leadership, secular outlook, spirit of adventure and the ideals of selfless service** amongst the youth of the country.

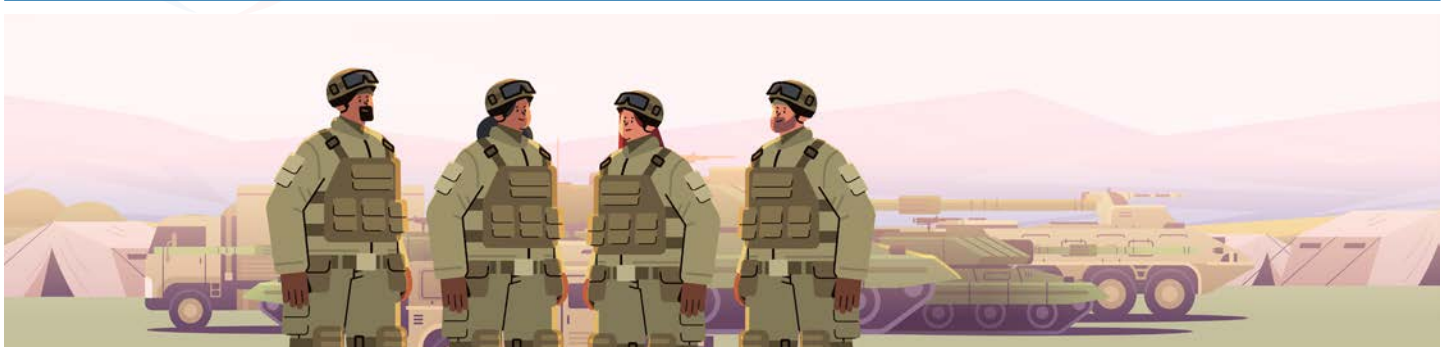
Contributions of the NCC

- ▶ **Assistance during wartime:** During the Indo-China War (1962), Indo-Pak wars (1965 and 1971) and Kargil War (1999),
- ▶ **Social Service:** like the Blood donation drives, anti-polio drives, plantation drives, etc.
- ▶ **Rescue and relief work:** NCC cadets are the **first to reach the affected location** and provide selfless assistance to the victims during calamities like earthquakes, cyclones, floods, train accidents etc.
 - ▶ E.g., during the **Bhopal Gas Tragedy (1984)**, NCC cadets immediately engaged themselves in the evacuation of casualties, administering medicine etc.
- ▶ **Other contributions:**
 - ▶ Developing **leadership and Officer-like qualities among the youth.**
 - ▶ Increasing **mutual understanding, trust, friendship and peace among the countrymen.**

- ▶ It's a tri-service organisation comprising the Army, the Navy, and the Air Wing.
- ▶ **Headquarter:** New Delhi
- ▶ **NCC Directorate:** NCC at the state level is divided into 17 Directorates, in which each state or group of states or UTs forms a Directorate.
- ▶ **Nature of the NCC Programme:** Voluntary
 - ▶ The students have no liability for active military service.

Difference between NCC and NSS

Parameters	NCC 	NSS 
Ministry	Ministry of Defence	Ministry of Youth Affairs & Sports
Year of establishment	1948	1969
Aim	To foster disciplined, selfless youth leadership for national service and military careers.	Development of Student's personality through community service.
Established through	National Cadet Corps Act XXXI of 1948	A Central Sector Scheme
Uniform	Compulsory uniform for NCC cadets	No uniform prescribed for NSS volunteers
Who can join?	<ul style="list-style-type: none"> » Junior Division/Wing: Students from schools (of 13 Years or more of age) » Senior Division/Wing: Students from Colleges and XI and XII classes 	<ul style="list-style-type: none"> » 11th & 12th Class students » Students of Technical Institution, Graduate & Post Graduate at colleges and University level of India



1.8. TEST YOUR LEARNING

MCQs

1. Consider the following statements:

1. Prime Minister
2. Home Minister
3. Lok Sabha Speaker

How many of the above are part of the Selection Committee for appointment of Chief Election Commissioner?

- a) 1 and 2 only
- b) 1,2 and 3
- c) 2 only
- d) 1 only

2. Consider the following statements regarding the National Cadet Corps (NCC):

1. It is under the Ministry of Youth Affairs & Sports
2. Pandit H.N. Kunzru committee had recommended it.
3. Only 11th & 12th Class students can join

How many of the above statements are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

3. Consider the following statements with reference to Tribunal in India:

1. The Central Administrative Tribunal (CAT) was established under Article 323A.
2. Articles 323A and 323B were inserted in the Constitution through the 44th Amendment.

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

4. Consider the following statements with reference to National Legal Services Authority

1. Legal aid provided by the National Legal Services Authority is applicable only to the Supreme Court and High Courts.
2. It is established under the Legal Services Authorities Act, of 1987

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

5. Consider the following statements with regard to Press and Registration of Periodicals Act, 2023

1. It empowers the Press Registrar General to suspend/cancel the Certificate of Registration.
2. No provision for registration of foreign periodicals.
3. Severe penalties leading to conviction and imprisonment up to 6 months for various violations of the Act.

How many of the above statements are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Questions

1. Who are entitled to receive free legal aid? Assess the role of the National Legal Services Authority (NALSA) in rendering free legal aid in India. (150 Words/10 marks)
2. Discuss the significance of local finance in Panchayats for grassroots development. Highlight the challenges faced in mobilizing adequate resources and suggest measures to enhance fiscal autonomy and effectiveness in local governance. (250 words/15 marks)



INTERNATIONAL RELATIONS



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2.1. BILATERAL RELATIONS

2.1.1. INDIA-NEPAL



CONTEXT

India and Nepal ink agreements during the 7th India-Nepal Joint Commission meeting held in Kathmandu.

ANALYSIS



Areas of Cooperation between India and Nepal

- ▶ **Diplomatic relations:** India-Nepal Treaty of Peace and Friendship (1950) forms the bedrock of the special relations. Nepal is a priority partner of India under its 'Neighbourhood First' policy:
 - ▶ Following 2015 earthquake in Nepal, India was first responder under **Operation Maitri**.
 - ▶ India supplied Covishield to Nepal under its **Vaccine Maitri Initiative**.
 - ▶ **Infrastructure and connectivity projects:**
 - ▶ **Power Exchange Agreement** was signed in 1971 for meeting the power requirements in border areas.
 - ◊ India's Line of Credit (LoC): **Bheri, Nijgadhinaruwa and Gandak-Nepalgunj Corridor**.
 - ▶ **Railway sector:** Inaugural run of freight rail operations between **Bathnaha (India)** and **Nepal custom yard on Jogbani-Biratnagar rail link**.
 - ◊ **Kurtha-Bijalpura rail section of Jaynagar-Kurtha passenger rail link** was handed to Nepal.
 - ▶ **Energy sector:** Laying foundation for **phase II of Motihari-Amlekhgunj Pipeline**, and decision to extend the pipeline from **Amlekhgunj to Chitwan (both in Nepal)**, and planning **Siliguri-Jhapa cross-border pipeline**.
 - ▶ **Other areas of Connectivity:**
 - ◊ **Inaugurated Twin Integrated Check Posts (ICPs)** in **Rupaidiha (India)** and **Nepalgunj (Nepal)** in 2023.
 - ◊ **Revised treaty of transit** that would provide Nepal access to inland waterways of India.
 - ▶ **Economic and Trade relations:** India is the largest trading partner of Nepal and the highest source of FDI. Bilateral trade crossed US\$ 7 billion in FY 2019-20 (trade deficit in favour of India).
 - ▶ **Defence Cooperation:** Recruitment of Nepalese soldiers in Gorkha regiments of the Indian Army; **Surya Kiran** (annual Joint military exercise).
 - ▶ **Cultural and P2P:** Prevalence of deep people-to-people connect (Roti-Beti ties).
- #### Major Issues in India-Nepal Relations
- ▶ **Border Dispute:** Nepal's claim of the Indian territories of **Limpiyadhura, Kalapani, Lipulekh**.
 - ▶ **Chinese influence:** China's increasing engagement with Nepal through its **Belt and Road Initiative**.
 - ▶ **Trust Gap:** Due to India's slow pace of project implementation, etc.
 - ▶ **Porous border:** That facilitates arms smuggling, terrorist activities, etc.
 - ▶ **Nepal blocked recruitment:** Of Nepalese Gorkhas for the Indian Army's Gorkha Regiment.
 - ▶ **The Treaty of Peace and Friendship:** Nepal has declared "not in tune with time."

BRIEF BACKGROUND

About the Country: Nepal (Capital: Kathmandu)



Political features:

- ▶ **Bordering Nations:** It is a landlocked country located between India (east, south, and west) and the Tibet Autonomous Region of China (north).
- ▶ It lies along the southern slopes of the Himalayan Mountain ranges.
- ▶ It shares 1850 km border with Sikkim, West Bengal, Bihar, Uttar Pradesh and Uttarakhand.

Physical features:

- ▶ Roughly 75 percent is covered by mountains.
- ▶ **Highest Peak:** Mt Everest.
- ▶ **Major rivers:** the Kosi, Nārāyani (Gandak), and Karnāli, etc.

Way Forward

- ▶ **Bilateral mechanisms:** To discuss contentious issues such as border disputes.
- ▶ **Multilateral platforms:** Like BBIN, BIMSTEC, and SAARC can be utilised to serve common interests.
- ▶ **Enhancement of air connectivity** between the countries which is crucial for Nepal's economy.
- ▶ **Revisiting the Friendship treaty** as recommended by the Eminent Persons Group.
- ▶ **Hydropower Cooperation:** Further explore and implement joint hydropower projects.

2.1.1.1. INDIA-NEPAL HYDROPOWER COOPERATION

CONTEXT

Nepal and India have inked an agreement setting the target to reach 10,000 megawatts of electricity export to India in the coming decade

ANALYSIS

Significance of cooperation for India

- ▶ **Bilateral cooperation:** Hydro-power cooperation is a solid pillar in India-Nepal relations.
- ▶ **Energy demand:** Nepal's enormous water wealth and huge hydropower potential can cater to India's increasing energy requirement.
- ▶ **China Factor:** It will help minimize the geopolitical influence of China and firm India's presence in Nepal.

Significance of cooperation for Nepal

- ▶ **Technological Expertise:** Collaboration with India provides access to technological expertise, etc.
- ▶ **Infrastructure Development:** Investments from India can help build the necessary infrastructure in Nepal.
- ▶ **Export Revenue:** Exporting surplus electricity to India can become a source of revenue for Nepal.

Major areas of concern in the development of hydropower

- ▶ **Geomorphological challenges:** like high sediment load in rivers of Nepal, and the presence of glacial silt along with inadequate hydrological data.
- ▶ **Lack of infrastructure:** Inadequate transmission grid for power evacuation.
- ▶ **Chinese-run hydropower:** India is hesitant to buy energy from such projects in Nepal.
- ▶ **Lack of policy, and regulatory mechanism** for the third-party access to the grid.
- ▶ Issue of downstream water-use and flood control, etc.

Road Ahead

- ▶ **Resilient and effective infrastructure:** Aiding Nepal in developing its transmission network.
- ▶ **Hydropower as a multiplier:** Both sides should view hydropower projects in Nepal as an enabler of long-term cooperation and regional stability.
- ▶ **More Coverage:** The projects can also be extended to other regional partners under the Bangladesh-Bhutan-India-Nepal (BBIN).

BRIEF BACKGROUND

Indian Hydropower projects in Nepal

HYDRO PROJECT IN NEPAL

- ▶ **West Seti and Seti River (SR6) projects** (1,200 MW).
- ▶ **Sapta Kosi high dam project** on Kosi River.
- ▶ **Mahakali Treaty** (6,480 MW), **Upper Karnali Project** (900 MW) and **Arun - III projects** (900 MW).
- ▶ **Phukot Karnali Hydroelectric Project**
 - ▶ Through agreements between NHPC and VUCL (Vidyut Utpadan Company Ltd), Nepal.
- ▶ **Lower Arun Hydroelectric Project**
 - ▶ Through an agreement between SJVN (India) and the Investment Board of Nepal.

Quarterly Revision

2.1.2. INDIA-MYANMAR

CONTEXT

Union Ministry of Home Affairs has decided to scrap Free Movement Regime (FMR) between India and Myanmar and also to fence the Indo-Myanmar border.

ANALYSIS

- ▶ **FMR permits individuals residing within a 16 km radius of the border** to traverse freely, without requirements of a visa or other documentation.
- ▶ It was **formalized in 2018 as part of India's Act East Policy**.
- ▶ FMR regime was conceptualized due to **strong ethnic and familial ties across the border alongwith local trade and business**.
- ▶ **Reasons for Scrapping FMR** includes illegal immigration, ethnic violence and insurgency and surge in narcotics production in Myanmar

India-Myanmar relations

- ▶ **Diplomatic relations:** Signed a Treaty of Friendship in 1951.
 - India strengthens Myanmar ties through **Act East and Neighborhood First Policies**.
- ▶ **Economic and trade relations:** **Bilateral Investment Promotion Agreement (BIPA)** and **Double Taxation Avoidance Agreement (DTAA)** signed in 2008.
 - India is **5th largest trading partner**.
 - **Bilateral trade:** US\$ 1.03 billion in 2022
 - Bilateral trade is conducted under **ASEAN-India Trade in Goods Agreement (AITIGA)** and **India's Duty-Free Tariff Preference (DFTP)** scheme.
- ▶ **Connectivity projects:** Two international entry/ exit points were inaugurated at Tamu-Moreh and Rih-Zowkhawthar in 2018.
 - **Kaladan Multimodal Transit Transport Project**
 - **Trilateral Highway Project, which is an East-West corridor connecting our Northeast with Myanmar and Thailand**
- ▶ **Strategic convergence:** Both countries are members of BIMSTEC and Mekong-Ganga Cooperation. Myanmar was given status of observer in SAARC in 2008.
 - **Exercise IMBAX (military).**
 - **Cultural ties:** Restoration of the Ananda Temple in Baga; close cultural ties due to India's Buddhist heritage.

Challenges:

- ▶ **Uncontrolled immigration:** Of Chin people from Myanmar leading growing ethnic tension.
- ▶ **Junta soldiers: Seeking shelter** in Mizoram which has serious security implications.
- ▶ **Myanmar's political turmoil:** This would further lead to surge in flow of narcotics in the region.

Way Forward

- ▶ **Union and the state cooperation:** to secure and regulate the border.
- ▶ **Need of diplomatic agility:** In India's engagement with Myanmar, including with military junta.
- ▶ **Involve tribal communities** In decision making to address sensitive issues.

BRIEF BACKGROUND

About the Country: Myanmar (Capital: Nay Pyi Taw)



Political features

- ▶ **Four northeastern states, viz., Arunachal Pradesh, Nagaland, Manipur and Mizoram, have a boundary with Myanmar.**
- ▶ **Bordering nations:** China (north and northeast), Laos (east), Thailand (southeast), Bangladesh (west), and India (northwest).
- ▶ **Maritime boundaries:** Andaman Sea and Bay of Bengal to south and southwest.

Geographical features

- ▶ **Mountains:** From north to south, Patkai Range, Naga Hills, and Chin Hills.
- ▶ **Highest Point:** Mount Hkakabo
- ▶ **Important Plateaus:** Shan Plateau
- ▶ **Rivers:** Irrawaddy and Salween (rises in China).

2.1.3. INDIA-UAE

CONTEXT



Recently, India and the UAE signed a **Bilateral Investment Treaty (BIT)**, during an official visit of Prime Minister of India to UAE.

- ▶ Also, UAE-India Comprehensive Economic Partnership Agreement (CEPA) Council (UICC) was launched at India- United Arab Emirates (UAE) Business Summit.

ANALYSIS



Areas of Cooperation between India and UAE

- ▶ **Diplomatic relations:** it was established in 1972; elevated to strategic partnership in 2015.
- ▶ **Economic and trade relations:** UAE's investment in India US\$ 20-21 Bn of which US\$15.5 billion is in the form of FDI.
 - **India and UAE agreement** on interlinking of payment platforms: **UPI (India) and AANI (UAE)** and domestic debit/credit cards: **RuPay (India) with JAYWAN (UAE)**.
 - **CEPA**, signed in 2022, aims **\$100B goods trade, \$15B services trade in 5 years**.
 - It's an important supplier of **crude, LNG and LPG** to India.
- ▶ **Defence and Security cooperation:**
 - **Participated in** International Defence Exhibition and Conference (**IDEX**) and the Naval Defence and Maritime Security Exhibition (**NAVDEX**); **defence exercise: Desert Flag (air), Desert Cyclone (military)**
 - They are part of **BRICS, I2U2 (India-Israel-UAE-USA), UAE-France-India (UFI) Trilateral**.
 - Also, **India-Middle East Economic Corridor (IMEC)** declared on the sidelines of G20.
- ▶ **Space cooperation:** **ISRO** and the **UAE Space Agency** have signed agreement for exploration and use of outer space.
- ▶ **India Diaspora:** UAE has over 3.5 million Indian diasporas; PM inaugurated **Bochasanwasi Akshar Purushottam Swaminarayan Sanstha (BAPS) Hindu temple** in Abu Dhabi.

Challenges in India-UAE relationship

- ▶ **Deteriorating regional peace:** Conflict in Israel-Palestine and Red Sea attacks may impact **IMEC**.
- ▶ **Exploitation of emigrant laborers:** Kafala system grants excessive power to employers.
- ▶ **Trade and Market access barriers:** like in agrochemicals along with **biased qualification clauses**.

Way Forward

- ▶ **Address migrant worker rights:** Devise an amicable solution so as to ensure rights migrants.
- ▶ **Further deepening of defence ties:** will counter **Chinese influence** in the Indian Ocean region.
- ▶ **Minimization of Non trade barriers:** will improve India's exports in various sectors.

BRIEF BACKGROUND

About the Country: The UAE (Capital: Abu Dhabi)



Political features:

- ▶ **United Arab Emirates**, federation of seven emirates along the eastern coast of the **Arabian Peninsula**.
- ▶ **Bordering Nations:** **Saudi Arabia (west and south), Oman (east and northeast)**.

Geographical features:

- ▶ The Arabian peninsula's, protrusion north toward **Iran** forms **Strait of Hormuz** linking **Persian Gulf** to **Gulf of Oman**.
- ▶ It has **no perennial streams** nor any **regularly occurring bodies** of surface water.



2.1.4. INDIA-OMAN

CONTEXT

A Joint Vision document titled 'A Partnership For the Future' was adopted during the visit of the Sultan of Oman.

ANALYSIS

Key highlights

- ▶ The Joint Vision acknowledges synergy between Oman Vision 2040 and India's development objectives, under 'Amrit Kaal'.
- ▶ **Focused areas:** Digital connectivity, medical tourism, maritime security, hospitality, etc.

Areas of cooperation between India and Oman

- ▶ **Diplomatic relations:** Oman is a crucial pillar of India's West Asia policy.
 - Oman is a strategic partner of India (2008).
 - An important interlocutor at Gulf Cooperation Council (GCC), Arab League and Indian Ocean Rim Association (IORA) fora.
- ▶ **Economic and trade relations:** Bilateral trade more than doubled from USD 5.4 billion in 2020-21 to USD 12.3 billion in 2022-23.
 - India was the second largest market for Oman's crude oil exports (2022).
 - For Oman, India was the 3rd largest (after UAE and China) source for its imports.
 - In October 2022, India and Oman launched the Rupay debit card in Oman.
- ▶ **Strategic partnership:** Oman was one of the few countries to have been invited by India to its G-20 presidency as a guest nation.
- ▶ **Defence and security:** It is governed by a memorandum of understanding (MoU) signed in 2005.
 - Oman is the first Gulf country with which all the three wings of India's defence forces hold joint exercises.
 - ◊ Exercises: Al Najaf (military), Eastern Bridge (air), Naseem Al Bahr' (Sea Breeze)
 - Oman has allowed overflights/transit by Indian military aircraft.
 - **Maritime security in the Indian Ocean region:** India and Oman inked an agreement for exchange of white shipping information and to boost maritime security cooperation.
 - ◊ Since 2012-13, an Indian naval ship has remained on duty in the Gulf of Oman for anti-piracy operations.
- ▶ **Indian Diaspora:** Approx 7 lakh Indians reside in Oman.

BRIEF BACKGROUND

About the Country: Oman (Capital: Muscat)



Political features:

- ▶ It occupies the southeastern coast of the Arabian Peninsula at the confluence of the Persian Gulf and Arabian Sea.
- ▶ **Bordering nations:** Yemen (South-west), United Arab Emirates (north-west) and Saudi Arabia (west)
- ▶ A small exclave, Ru'ūs al-Jibāl ("the Mountaintops"), occupies the northern tip of the Musandam Peninsula at the Strait of Hormuz.
 - It gives Oman frontage on the Persian Gulf.
- ▶ **Bordering water bodies:** Arabian Sea (south and east), Gulf of Oman (north)

Physical features:

- ▶ **Desert:** Rub' al-Khali ("Empty Quarter")
- ▶ **Highest Point:** Jebel Shams.



2.1.5. INDIA-RUSSIA

CONTEXT

Recently, India and Russia signed three documents including a **Protocol on consultations** during the External Affairs Minister's official visit to Russia in December 2023.

ANALYSIS

Areas of India-Russia Cooperation

- ▶ **Bilateral cooperation:** Treaty of Friendship and Cooperation (1993); India-Russia Strategic Partnership (2000).
- ▶ **Defence and security cooperation:** Russia is a major supplier of defense items: Bilateral projects include the supply of S-400, licensed production of T-90 tanks and Su-30 MKI, production of Ak-203 rifles in India and BrahMos missiles among others.
 - Cooperation is guided by the **Agreement on the Programme for Military-Technical Cooperation for 2021-2031**.
 - **Exercise: INDRA** as a tri-service bilateral military exercise.
- ▶ **Strategic convergence:** Russia supports India's bid for a permanent seat in UNSC and Nuclear Suppliers Group (NSG).
 - Also, both nations have an active engagement in BRICS and SCO; Connectivity projects such as INSTC.
- ▶ **Economic and trade relations:** Bilateral trade during FY 2021-22 amounted to \$13.2 billion. Bilateral investments between the two countries crossed the US\$30 billion target set in 2018.
- ▶ **Nuclear Energy:** Both have also signed a tripartite pact with Bangladesh for civil nuclear cooperation.
- ▶ **Space Cooperation:** Russia has supported India's space programme since its early days. E.g. Russia is supporting India's 1st manned space mission 'Gaganyaan'.
- ▶ **Science and Technology:** India-Russia relationship extends to the field of basic sciences as well including Russian-Indian Network (RIN) of Universities, Arctic and Antarctic research etc.

Challenges to India-Russia Relationship

- ▶ **Reduction in import:** Fall in defence imports due to India's defence modernization.
- ▶ **The USA-China rivalry:** Has led to bipolar world and is against India-Russia's vision of multipolarity.
- ▶ **Indo-Pacific and Eurasian Region:** Where India is partnering with countries inimical to Russia.
- ▶ **Natural inclination towards the West:** Due to India's democratic set-up as opposed to Russia's authoritative polity.
- ▶ **High trade deficit:** Caused by regulatory impediments imposed by Russia.

Way Forward

- ▶ **Modernization of Defence Supplies:** From Russia through joint development and co-production.
- ▶ **Protect Multilateralism:** At UN and other forums for more rules-based international order.
- ▶ **Diversification of Trade:** To overcome issues of limited trade with high trade deficit.
- ▶ **Operationalising Eastern Maritime Corridor:** The proposed sea route that connects Chennai and Vladivostok (Russia's Far East) will improve logistical connectivity.

BRIEF BACKGROUND

About the Country: Russia (Capital: Moscow)



Political features:

- ▶ **Bordering nations:**
 - North Korea, China, Mongolia, and Kazakhstan, Azerbaijan, and Georgia (south).
 - Ukraine, Belarus, Latvia, and Estonia, as well as Finland and Norway (southwest and west).
 - It has small frontages in the northwest on the Baltic Sea at St. Petersburg and at the detached Russian oblast (region) of Kaliningrad which also abuts Poland and Lithuania.
- ▶ **Bordering water bodies:** Russia is bounded to the north and east by the Arctic and Pacific oceans.

Physical features:

- Russia has a maximum east-west extent.
- **Important rivers:** the Volga (Europe's Longest River), the Ob, the Lena, etc.
- **World's deepest lake:** lake Baikal.
- **The Highest Point:** Mt. Elbrus

2.1.6. INDIA-FRANCE

CONTEXT

India and France have announced **Defense Industrial Roadmap** for cooperation on defense production during French President's visit to India as **Chief Guest at the Republic Day celebrations**.

ANALYSIS

Areas of cooperation between India and France

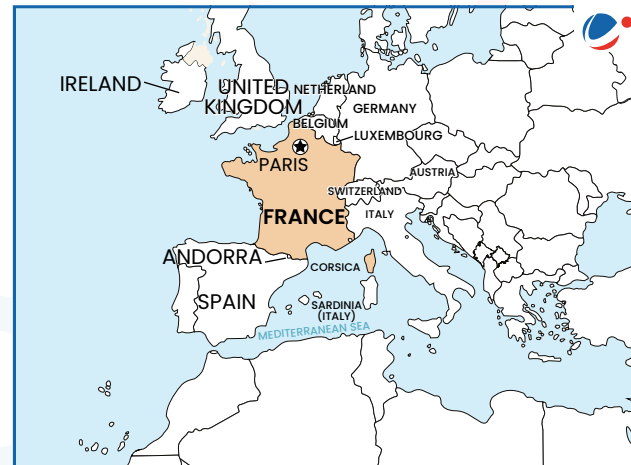
- ▶ **Diplomatic Relations:** It was established in 1948, elevated to **strategic partnership** in 1998.
- ▶ **Defence and Security cooperation:** Supply of Rafale aircrafts, Scorpene class submarines. Also,
 - ▶ Exercises: Varuna (naval), Garuda (Air) and Shakti (Army).
 - ▶ France is 2nd largest supplier of arms (33%) (SIPRI, 2023) to India.
- ▶ **Climate Change cooperation:** International Solar Alliance (ISA) (a joint effort)
 - ▶ India joined **High Ambition Coalition for Nature and People** and France expressed its support to join **One Future Alliance (OFA)**.
 - ▶ 2021 was declared as **Year of Indo-French alliance towards a Greener Planet**.
- ▶ **Strategic convergence:** Both Committed towards free, open, inclusive, secure Indo-Pacific.
 - ▶ Both leaders aim to revive trilateral cooperation with **Australia** and **deepen ties with UAE**.
 - ▶ France support India's permanent membership of the **UNSC**.
- ▶ **Space and technology cooperation:** Strategic Space Dialogue launched in 2023, also, both agreed to convene a special task force on nuclear energy.
 - ▶ Declared 2026 as the **India-France Year of Innovation**.
- ▶ **Economic and Trade:** Currently, France is the 11th largest foreign investor in India.
- ▶ **Cultural and P2P:** Partnership Agreement on Migration and Mobility.

Key Challenges in India-France relations

- ▶ **Divergence of stance in Ukraine- Russia war:** France condemned Russia's military intervention; India maintained strategic restraint
- ▶ **Low trade:** Trade potential between the two countries remains underutilized; absence of FTA.
- ▶ **Nuclear Liability issue:** Civil nuclear liability, among other things, hinders Jaitapur reactor (Maharashtra) implementation.
- ▶ **Sub-optimal:** Business-to-Business (B2B) and People-to-People (P2P) cooperation.

BRIEF BACKGROUND

About the Country: France (Capital: Paris)



Political features:

- ▶ France lies near the western end of the great Eurasian landmass.
- ▶ **Bordering Nations:** Belgium and Luxembourg (north-east), Germany, Switzerland, Italy (east), Spain, and Andorra (south).
- ▶ Monaco is an independent enclave on the south coast and the island of Corsica in the Mediterranean is part of the country.
- ▶ **Bordering Water Bodies:** Mediterranean, Bay of Biscay, English Channel, Strait of Dover.

Geographical Features:

- ▶ **Mountain ranges:** French Alps; Jura and Pyrenees.
- ▶ **Highest Point:** The Mont Blanc.
- ▶ **Major Rivers:** Seine, Loire, Rhône and Rhine



2.1.7. INDIA-ITALY

CONTEXT

Recently, the Union Cabinet approved the **Migration and Mobility Agreement** between India and Italy.

ANALYSIS

Key provisions of the agreement:

- ▶ **Temporary residence of Indian students**, after completing training in Italy.
- ▶ **Italy** has reserved a quota for non-seasonal and seasonal Indian workers for 2023, 2024, and 2025 under the **current Flows Decree**.
- ▶ The agreement will remain in force for **five years**.

Areas of cooperation between India and Italy

- ▶ **Diplomatic relations:** Relationship was elevated to Strategic Partnership in 2023.
- ▶ **Defence and security cooperation:** India - Italy Military Cooperation Group (MCG) is a forum established to boost defence cooperation.
 - India and Italy signed a **defence cooperation agreement** in 2023.
- ▶ **Economic and trade relations:** Italy is India's 4th largest trading partner in EU. Trade between the two countries was valued at US\$ 14.25 billion in 2022-23 (balance of trade in India's favour).
- ▶ **Strategic convergence:** Italy supported India's entry into the Wassenaar Arrangement and Australia Group. Also, supported initiatives like the ISA, the IMEC, and the GBA. Recently, Italy withdrew from China's BRI.
- ▶ **Technological cooperation:** The **Blue-Raman project** will bring the Mediterranean and the Indian Ocean closer in exchange of digital data through a submarine cable system.

Issues in India-Italy Relations

- ▶ **Low current volume of trade and investment** between India and Italy.
- ▶ **Trust deficit due to earlier issues:** Italian Mariners' case and Agusta Westland helicopter scandal.
- ▶ **Unrealized Alliance:** India-Italy-Japan trilateral partnership has not been operationalised.

Way forward

- ▶ **Strengthen trade ties:** To increase trade volume, explore new avenues for investment.
- ▶ **India and EU trade pact:** If signed, then Italy and India can enjoy major two-way trade benefits.
- ▶ **Convergence** of both the countries on multilateral issues.
- ▶ **Celebrate and promote the culinary heritage:** Through food festivals and gastronomic events.

BRIEF BACKGROUND

About the Country: Italy (Capital: Rome)



Political Features:

- ▶ **Bordering nations:** Alps separate Italy from France, Switzerland, Austria, and Slovenia (north)
- ▶ **Bordering waterbodies:** Elsewhere Italy is surrounded by the Mediterranean Sea.
 - Adriatic Sea (northeast)
 - Ionian Sea (southeast)
 - Tyrrhenian Sea (southwest)
 - Ligurian Sea (northwest)

Physical Features:

- ▶ Mountain ranges occupy **more than one-third of Italy**.
- ▶ **The Alps** run in a broad west-to-east arc.
- ▶ **The Longest River:** the Po.



2.1.8. INDIA-KENYA

CONTEXT

President of Kenya paid State visit to India to boost bilateral relationship.

ANALYSIS

Key highlights:

- ▶ **Joint vision document** was unveiled to scale up maritime engagement in the Indian Ocean region (IOR) to address issues such as piracy, drug trafficking, and terrorism.
- ▶ India also announced a US \$250 million line of credit (LoC) to Kenya for modernisation of the agricultural sector.

Areas of cooperation between India and Kenya

- ▶ **Diplomatic relations:** Kenya is a strong partner in the East African Community (EAC)
- ▶ India has signed cooperation agreement in 2003.
- ▶ Also, Kenya is part of India's approach to emerge as the 'Voice of global south'.
- ▶ **Economic and Trade relations:** Bilateral trade currently is around of 3.39 billion USD.
 - Under India-Kenya Trade Agreement of 1981 both countries accorded Most Favored Nation (MFN) status to each other.
 - The Double Taxation Avoidance Agreement (DTAA) signed in 1989 was revised in 2016 and came into force in 2017.
- ▶ **Cultural and People to people (P2P) contacts:**
 - Approximately 80,000 people of Indian origin in Kenya; India is one of the third largest source of inbound tourists to Kenya.
 - Training and scholarships programmes: ITEC and India-Africa Forum Summit and Aid to Africa Programme.
- ▶ **Maritime cooperation:** Both are members of Indian Ocean Rim Association (IORA).

Challenges:

- ▶ **Emerging threats** in the maritime domain.
- ▶ **Increasing Kenya-Pakistan ties:** This development strains India-Kenya partnership.
- ▶ **Strong Chinese presence** through their Belt and Road Initiative.

Way forward:

- ▶ **Focus on:** boosting maritime trade, maritime security, harnessing blue economy, etc
- ▶ **Co-operation in defence equipment:** Such as maritime surveillance equipment, etc.

BRIEF BACKGROUND

About the country: Kenya (Capital: Nairobi)



Political features:

- ▶ It is bisected horizontally by Equator
- ▶ **Bordering nations:** South Sudan and Ethiopia (north), Somalia (east), Tanzania (south) and Uganda (west).
- ▶ **Bordering water bodies:** Lake Victoria (west) and Indian Ocean (East).

Physical features:

- ▶ The Eastern Rift Valley which begins in Dead Sea continues southward along the Red Sea and into the Ethiopian Denakil Plain to Lakes Rudolf (Turkana), Naivasha, and Magadi in Kenya.
- ▶ **Highest Point:** Mt. Kenya.
- ▶ **Longest river:** River Tana.

About East African Community (EAC)

- ▶ **Headquarters:** In Arusha, Tanzania.
- ▶ **Genesis:** 2000.
- ▶ It is a regional intergovernmental organization.
 - It is a Customs union since 2005.
- ▶ **Member: 8 Partner States**
 - Burundi, Democratic Republic of the Congo, Kenya, Rwanda, Somalia, South Sudan, Uganda, and Tanzania.

2.2. INDIA AT REGIONAL AND MULTILATERAL FORUMS

2.2.1. INDIA'S NEIGHBOURHOOD FIRST POLICY (NFP)



CONTEXT

Parliamentary Standing Committee on External Affairs submitted an Action Taken report on observations contained in its 22nd report on India's NFP.

ANALYSIS



Significance of NFP

- ▶ **Enhanced regional integration:** To counter external influence such as of China in South Asia
- ▶ **Strengthen multilateralism:** Through regional/ sub-regional organizations such as SAARC, BIMSTEC, etc
- ▶ **Soft power influence:** India's rich cultural and historical ties with its neighbours helps to promote its diverse cultural values and exercise soft power.
- ▶ **Improved trust and cooperation:** They build capacity to address traditional and non-traditional threats.
- ▶ **Regional development:** Facilitates increased regional trade, investment, and cross-border infrastructure.

Challenges in India's Neighbourhood

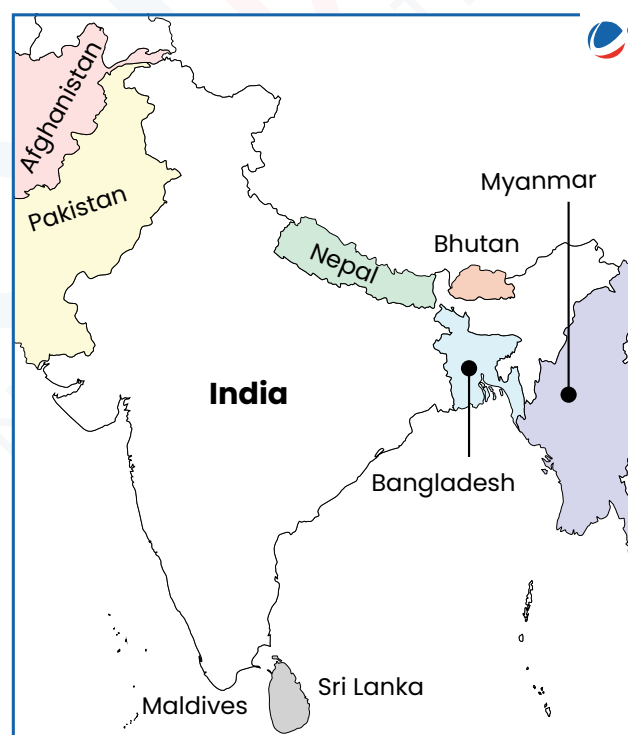
- ▶ **Border issue:** Unresolved border disputes with countries like Pakistan results in frequent tensions.
- ▶ **Big-brother attitude:** It leads to strained bilateral relations and divergences of interests.
- ▶ **Internal politics:** India's domestic politics and federal dynamics also act as a determinant with its neighbourhood. e.g., Tamil sentiments determining India's Sri Lanka policy.
- ▶ **Political instability:** Along with weak governance, and internal conflicts hinder sustained cooperation of long-term projects. e.g., Political instabilities in Afghanistan and Myanmar.
- ▶ **Delayed Projects:** Untimely implementation of projects lead to frustration and mistrust.
- ▶ **Dysfunctional regional multilateral institutions:** like SAARC limit the capacity to promote regional cooperation.

Key Recommendations by the Parliamentary Committee

- ▶ **Establishment of cell:** To identify specific initiatives, projects and programmes.
- ▶ **Increased investment,** pooling of resources for regional infrastructure development.
- ▶ **Regional Development Fund:** Explore feasibility of setting-up a fund for connectivity infrastructure under regional frameworks like BIMSTEC.

BRIEF BACKGROUND

About Neighbourhood First Policy (NFP)



- ▶ **Neighbourhood First construct as a policy** came around 2008.
 - Aims to forge strong neighbourhood relations based on a **consultative, non-reciprocal, and outcome-oriented approach.**
- ▶ Focuses on **delivering benefits like greater connectivity, improved infrastructure, stronger development, security and people-to-people contacts.**
- ▶ It is a **dynamic policy** that adjusts to our renewed interests in the region, and to evolving regional circumstances.

- ▶ **Capability building:** Scale-up academic cooperation, scholarships schemes and exchanges programs.
- ▶ **Synergy between NFP and Act East Policy:** as it holds significant potential to bring about connectivity, economic development and security of the North-Eastern Region.

2.2.2. NON-ALIGNMENT MOVEMENT (NAM)

CONTEXT

Recently, 19th Summit of the Non-Aligned Movement (NAM) was held in Kampala, Uganda.

ANALYSIS

Key Highlights of the 19th Summit:

- ▶ **Theme of the summit:** 'Deepening Cooperation for Shared Global Affluence'
- ▶ **Kampala declaration** was adopted at the summit.
- ▶ **South Sudan became the new member (121st)** of NAM

Current Relevance of NAM

- ▶ **Push UNSC reforms:** NAM advocates for expediting reform of the United Nations Security Council.
- ▶ **Noble Principles:** NAM countries support the principles of self-determination, respect for territorial integrity, non-aggression, etc.
- ▶ **Strategic autonomy:** Many developing countries like India still follow the NAM policy of 'independence of action' in foreign policy.
- ▶ **It's a tool against colonization and imperialism** of small and developing countries.
- ▶ **South-south cooperation:** NAM with over 100 countries voices the concern of the global south.
- ▶ **Rising importance of the concept of Active Non-Alignment (ANA).**

Challenges faced by NAM

- ▶ **Change in world order from bipolar to a more complex and multipolar global system.**
- ▶ Evolving alliances are in the form of plurilateral partnerships such as QUAD, I2U2, etc.
- ▶ Many NAM members support ideas of **socialism and state control**; and are dependent on the US.
- ▶ Regional organizations such as **ASEAN, SCO and BRICS** address specific regional challenges more effectively.
- ▶ **Emerging global issues** such as climate change, cyber security, and pandemics.
- ▶ **Lack of leadership**, internal disagreements, and a failure to take clear positions on global issues.



BRIEF BACKGROUND

About Non-Aligned Movement (NAM)

- ▶ **Genesis:** Asia-Africa Conference held in Bandung, Indonesia in 1955.
- ▶ **About:** NAM was created during the independence struggles of Africa, Asia, Latin America and other regions of the world at the height of the Cold War.
- ▶ **Principles:** "Ten Principles of Bandung" proclaimed during Bandung Conference were later adopted as the main goals/principles of NAM.
- ▶ **NAM's first conference** - The Belgrade Conference in 1961.
- ▶ **Membership:** It has 121 members (including India) comprising 53 countries from Africa, 39 from Asia, 26 from Latin America and the Caribbean and 2 from Europe.
 - ▶ 18 countries and 10 international organizations are observers at NAM.
- ▶ **Other Key information:**
 - ▶ The policy of NAM was based on the 5 principles of Panchsheel (principles for the conduct of international relations, signed between India and China in 1954).
- ▶ The NAM does not have a formal founding charter or treaty, nor does it have a permanent secretariat

Key Principles of NAM

- ▶ Respect for UN Charter and International Law.
- ▶ Sovereignty, equality, and territorial integrity of all states
- ▶ Peaceful resolution of international conflict as per UN Charter.
- ▶ Respect for Self -defense under UN Charter.
- ▶ Non-Interference in internal affairs of states.
- ▶ Promotion of Multilateralism and cooperation through dialogue.

2.2.3. EXPANSION OF BRICS

CONTEXT

Recently, five new members namely **Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates** have joined BRICS as full-time permanent members. However, **Argentina has withdrawn.**

ANALYSIS

Significance of BRICS Expansion

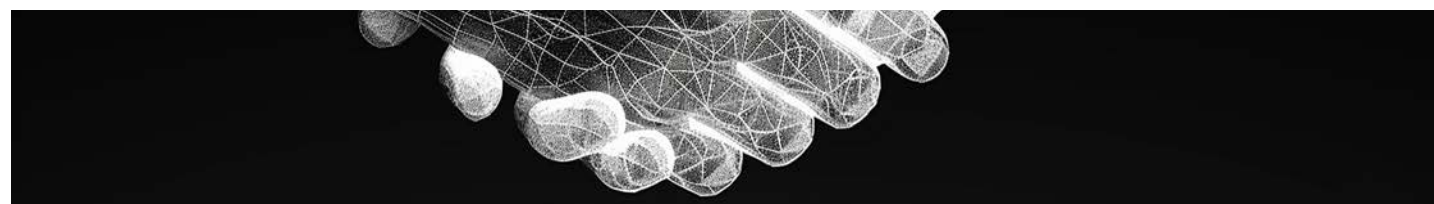
- ▶ **A key player:** Expansion of BRICS with diverse regions and economic powerhouses makes BRICS a global player.
- ▶ **BRICS footprint:** BRICS' presence in Middle East, Africa, and South America increases its footprint.
- ▶ **BRICS nations:** Comprise more than **40% of the world's population** have **surpassed the G7 countries** in terms of purchasing power parity.
- ▶ **De-dollarization:** Such expansion would encourage usage of local currency.

Issues in Expansion of BRICS

- ▶ **Unequal economic status:** Added BRICS countries differ significantly in terms of economic development.
- ▶ **Lack of consensus building:** Some members were not in favour of expansion.
- ▶ **Nascent stage:** BRICS as a grouping is yet to evolve as an organization.
- ▶ **Expanding Chinese influence:** Geopolitically, the expansion is seen as a move to increase China's sphere of influence.
- ▶ **Contrasting polity:** Internal differences among members as the grouping has mix of democratic and authoritarian regimes.
- ▶ **Still dominant financial institutions:** BRICS countries are still dependent on other international organisations such as G20, IMF, etc.
- ▶ **Present day conflict:** Be it Russia-Ukraine war or Israel-Hamas conflict, they raise concerns about future policy directions of BRICS member.
- ▶ **Low economic integration:** Low Intra-country trade, imports and exports among BRICS nations are low due to geographical distance and restrictive trade environments.
- ▶ **Lack of capital:** BRICS lacks funds to compete with Institutions such as World Bank and IMF.

Way Forward

- ▶ **Permanent secretariat:** Setting a secretariat will provide legitimacy to BRICS.
- ▶ **Collective stand:** Against trade protectionism, terrorism, etc.
- ▶ **Socioeconomic convergence:** Among the existing member countries through greater trade.
- ▶ **Following bottom-up approach:** It can lead to increase in participation of private sector and citizen.
- ▶ **Trust building:** Among countries by sharing knowledge, promoting trade, etc.



BRIEF BACKGROUND

About BRICS

- ▶ British economist **Jim O' Neill** coined and used the acronym '**BRICs**' for the first time in **2001**.
- ▶ BRIC started **functioning as a formal grouping** on the margins of **G8 Outreach Summit** in **2006**.
- ▶ **First BRIC Summit** was held in **Yekaterinburg (Russia)** in **2009**.
- ▶ **BRIC became BRICS** with the inclusion of **South Africa** in **2010**.

Major Initiatives of BRICS

- ▶ **New Development Bank (NDB)** (HQ: **Sanghai**) and **Contingent Reserve Arrangement (CRA)**.
- ▶ **Ufa Declaration** was adopted to prevent the spread of infectious diseases.
- ▶ **BRICS Science, Technology and Innovation (STI) Framework Programme (2015)** helped facilitate a common response to **COVID-19**.
- ▶ **BRICS Payments Task Force** as a step towards cooperation between central banks
- ▶ **BRICS Rapid Information Security Channel** promotes exchange of information on cyber threats among their central banks.

2.2.4. SOUTH ASIA SUB REGIONAL ECONOMIC COOPERATION (SASEC)

CONTEXT

PM laid the foundation stone of multiple projects in Assam as part of the SASEC corridor connectivity.



ANALYSIS



Significance of SASEC for India

- ▶ Link between South Asia and Southeast Asia.
- ▶ **Additional gateways:** To the landlocked North Eastern region.
- ▶ **Development of multi-modal connectivity** between North Eastern region of India, Bangladesh and Myanmar.
 - ▶ E.g. India-Myanmar-Thailand Trilateral Highway, which will run from Moreh in Manipur to Mae Sot in Thailand via Myanmar.
 - ▶ Act as an alternative to One Belt One Road.

Challenges of SASEC

- ▶ **Least integrated: lack of cross-border transport infrastructure** in South Asia minimizes potential of trade;
- ▶ **Lack of modern automated border procedures** lead to higher costs, more time for goods, vehicles and traders to cross borders
- ▶ **Underutilized intra-regional trade in South Asia:** it comprises merely ~5% whereas as compared to ASEAN makes up 25% (World Bank).
- ▶ **Red tapism:** It leads to barriers such as lengthy administrative procedures, unnecessary documentation, etc.
- ▶ **Lack of cross-border energy interconnection infrastructure** such as national power grids to ensure efficient and reliable energy supplies.
- ▶ **Non-integration in GVCs: The industrial bases are not connected** with regional and global value chains (GVCs)
- ▶ **Low FDI in South Asia:** Due to inadequate infrastructure connectivity and 'business unfriendly' regulatory and institutional frameworks.

Way Forward

- ▶ Improving the efficiency of regional transport and trade facilitation through **Multimodal Transport Connectivity**.
- ▶ **Upgrading infrastructure** at border-crossing.
- ▶ Implement **policy, regulatory,** and institutional reforms.
- ▶ **Regional Energy Cooperation** can strengthen energy security during external shocks.
- ▶ **Strengthening existing value chains** related to supply chain, trading and logistics capacities
- ▶ **Synchronizing and integrating urbanization and industrialization** to boost productivity and living standards in South Asia.

BRIEF BACKGROUND

About SASEC

- ▶ **Established:** In 2001 in response to Bangladesh, Bhutan, India and Nepal's request from ADB.
 - ▶ ADB serves as SASEC secretariat.
- ▶ **Objective:** Project based partnership to promote regional prosperity, improve economic opportunities, and build a better quality of life.
- ▶ **Vision:** Boost intra-regional trade and cooperation in South Asia through Myanmar to the People's Republic of China, and the global market.
- ▶ **Members:** Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal and Sri Lanka.

Focus areas of SASEC

There are mainly four pillars of SASEC cooperation:

- ▶ **SASEC Transport Sector Strategy**
- ▶ **SASEC Trade Facilitation:** Implement SASEC Trade Facilitation Strategic Framework (2014-18)
- ▶ **SASEC Energy Sector Strategy:** Improve cross-border electricity transmission connectivity
- ▶ **Economic Corridor Development Strategy:** In 2016, countries approved the **SASEC Operational Plan 2016-2025**.



2.2.5. INDIA-GCC RELATIONS

CONTEXT

The Parliamentary Standing Committee on External Affairs recommended **legal assistance** to Indian nationals imprisoned in **Gulf Cooperation Council (GCC) countries**.

- ▶ Over **8,000 Indians** are currently imprisoned in foreign jails.

ANALYSIS

About India's Legal Assistance Abroad: It provides initial legal assistance to distressed Indians, if he/she is unable to afford such legal help on his/her own.

- ▶ **Indian Mission does not fight Court cases by itself.**
- ▶ Expenditure on lawyers' fees is paid from **Indian Community Welfare Fund (ICWF)**.

About India-GCC Relations

- ▶ GCC countries are strategically important due to its **proximity to important maritime trade routes**.
- ▶ It has the largest number of Indians abroad and the second most prominent **contributors to India's remittance inflow**.
- ▶ It is currently India's **largest trading partner bloc** (about **one-sixth of India's total trade**). **UAE is India's third largest trade partner** while **Saudi Arabia is at the fourth place**.
- ▶ It contributes **almost 35% of India's oil imports and 70% of gas imports**.
- ▶ India has **defense agreement with Qatar**; **intelligence sharing with UAE, Saudi Arabia and Oman**.
- ▶ India's firm stand against **terrorism has been acknowledged** by GCC countries. **UAE, Oman and Bahrain** support to India's claim for a permanent seat at the UNSC.
- ▶ **PSLV launched the UAE's first nano-satellite, Nayif-1**, to collect environmental space data.

Challenges in India-GCC relations

- ▶ **Geopolitical rivalries:** Such as the **Iran-Saudi Arabia rivalry**, the **Yemen civil war**, **Syrian civil war**, etc.
- ▶ Pakistan's **strong political presence** in 'West Asia', fueled by **Islamic identity and military ties**
- ▶ **China's global influence:** It has investments in oil and gas sector, and successful market penetration.
- ▶ **Economic slowdown** in Arab Gulf economies, salary cuts, layoffs, and nationalization of workforces at the cost of the expatriate community.

Way ahead

- ▶ Expand **beyond oil and gas trade** by fostering collaborations in diverse sectors.
- ▶ Address security concerns **by working together on maritime security and disaster response**.
- ▶ **Enhancing cultural exchanges**, tourism, and facilitating people-to-people contacts.

BRIEF BACKGROUND

About GCC



- ▶ GCC is a political and economic **alliance of 6 countries** in the Gulf region - **Saudi Arabia, UAE, Qatar, Kuwait, Oman, and Bahrain**.
- ▶ **Iran and Iraq are not members.**
- ▶ GCC was established in **Riyadh, Saudi Arabia in 1981**.
- ▶ The official language is Arabic.

Steps taken to strengthen India-GCC relations

- ▶ Regular high-level visits between leaders of India and GCC countries.
- ▶ Recently, GCC has proposed to **restart Free Trade Agreement talks (FTA)** with India.
- ▶ The **proposed India-Middle East-Europe Economic Corridor (IMEC)** Project will have a huge impact on trade.
- ▶ India regularly signs **Cultural Exchange Programmes** for enhancing cultural cooperation.
- ▶ **e-Migrate** for more transparent and orderly migration of Indian workers to the Gulf, **MADAD portal for addressing consular grievances**

2.2.6. INFORMATION FUSION CENTRE FOR INDIAN OCEAN REGION (IFC-IOR)

CONTEXT

Recently, IFC-IOR played a crucial role in tackling the hijacking incident of the Malta-flagged vessel (Merchant Vessel) m.v. Ruen.



ANALYSIS



Significance of IFC-IOR

- ▶ **Enhance maritime security** in IOR in line with India's vision of Security and Growth for All in the Region (SAGAR).
- ▶ **Checking Piracy & Armed Robbery, Contraband Smuggling, IUU Fishing, Irregular Human Migration** etc.
- ▶ **Reduce logistical and bureaucratic processes** in the dissemination of information.
- ▶ **Capability building**, coordination of disaster relief, and share submarine safety information.
- ▶ Monthly **weather forecasts** and weather warnings are also hosted.

How does IFC-IOR strengthen India's foreign relations?

- ▶ **Strengthening Neighbourhood relations** through the information-sharing framework.
- ▶ It **promotes** regional cooperation by facilitating information exchange related to maritime security.

Implementation challenges faced by IFC-IOR

- ▶ **Challenges in information sharing** such as issues with standardization, duplicative efforts, etc.
- ▶ Member countries face challenge in **making sense of information** amid external influences.
- ▶ Challenge arising from **restricted coordination scope** or **unwillingness to share data equitably**.

Way forward

- ▶ India should also deploy its officials in **other nations' centres**.
- ▶ **Standardize** info-sharing, **reduce duplication** through collaboration.
- ▶ **Expand its information-sharing** with more countries in and beyond the IOR
- ▶ **Enhanced Maritime Surveillance**: To cover grey shipping (military) and dark shipping (identity-hidden vessels) at the surface level.

BRIEF BACKGROUND

About IFC-IOR

- ▶ **Genesis**: IFC-IOR was **established in 2018**, based at **IMAC**, and hosted by the **Indian Navy**.
- ▶ Soon after 26/11, India brought together countries of the Indian Ocean rim to form the **Information Management and Analysis Centre (IMAC)** in 2014 in Gurugram.
- ▶ IMAC is jointly administered by the **Indian Navy and Indian Coast Guard**.
- ▶ **Aim**: **Strengthening maritime security** in the region by building a common coherent maritime situation picture using **White Shipping Agreements**.
- ▶ **Region covered**: Indian Ocean Region and adjoining Seas.
- ▶ **67 linkages in 25 countries** have been established.
- ▶ **The Maritime Information Sharing Workshop (MISW)**: It is the flagship platform of IFC-IOR that conducts training programs and is attended by delegates from a large number of countries.



2.2.7. INTERNATIONAL MARITIME ORGANISATION (IMO)

CONTEXT

India was re-elected to the International Maritime Organisation (IMO) Council, with the highest tally at elections held for the 2024–25 biennium.

ANALYSIS

Significance of IMO

Environment protection:

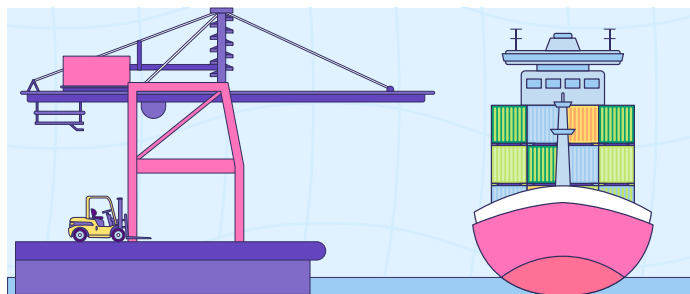
- ▶ **MARPOL Convention** is a key treaty to prevent and minimise shipping pollution.
- ▶ It **protects marine biodiversity** by preventing the spread of invasive aquatic organisms.
- ▶ It's **guidelines on reducing underwater noise from commercial shipping**.
- ▶ It has **adopted mandatory energy-efficiency measures for international shipping**.
- ▶ It adopted **London Dumping Convention and Protocol**.

Maritime Safety and Security:

- ▶ It adopted the International Convention for the Safety of Life (SOLAS Convention), 1974.
- ▶ It specifies **minimum standards** for the construction, equipment and operation of ships, for their safety.
- ▶ **Prevent piracy and armed robbery against ships**
 - E.g. Djibouti Code of Conduct around the western Indian Ocean.
- ▶ **Suppression of Unlawful activities (SUA) Treaties**.
- ▶ **IMO's Maritime Safety Committee (MSC) and Facilitation Committee (FAL)** cooperate to prevent drug smuggling on international ships.

Challenges faced by IMO

- ▶ **Unequal funding mechanism:** IMO's finance mechanism requires states with greater tonnages to contribute a greater level of funding making them more influential.
- ▶ **Disproportionate influence of industry:** As Industry groups made up 57 per cent of all consultative members at the committee level within IMO. (Transparency International)
- ▶ **Limited capacity to regulate emerging technologies:** due to small organizational strength of IMO.
- ▶ **Lack of political consensus during negotiations.**



BRIEF BACKGROUND

About IMO Council

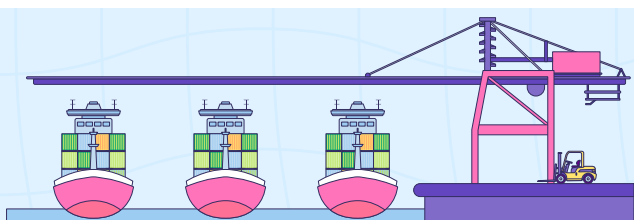
- ▶ **Executive organ of IMO** and responsible for supervising the work of the Organization.
- ▶ Made up of **40 Member States**, elected by the Assembly for **2-years terms**.
- ▶ Members are **divided into 3 categories**,
 - **Category (a):** States with interest in **providing international shipping services**.
 - **Category (b):** States with interest in **international seaborne trade**.
 - ◊ **India was re-elected in this category.**
 - **Category (c):** States with Special interests in **maritime transport or navigation** and whose election will **ensure the representation of all major geographic areas of the world**

About IMO:

- ▶ **Genesis:** United Nations specialised agency established in 1948 with the adoption of IMO Conventions.
- ▶ **Purpose:** Promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation.
- ▶ **Structure:** Consists of an Assembly, a Council and five main Committees: Maritime Safety Committee; Marine Environment Protection Committee; Legal Committees; Technical Cooperation Committee; Facilitation Committee.
- ▶ **Members:** 175 Member States and 3 Associate Members.
 - **India is a member.**

About Biofouling

- ▶ It is **accumulation of various aquatic organisms** on ships' hulls, acting as a vector for the transfer of invasive aquatic species.
- ▶ **IMO's initiatives on Biofouling**
 - **IMO's Biofouling Guidelines.**
 - **GloFouling Partnership project:** GEF-UNDP-IMO collaboration to address biofouling.



Quarterly Revision

2.2.8. UN COMMISSION FOR SOCIAL DEVELOPMENT (UN CSocD)

CONTEXT



Ruchira Kamboj India's permanent representative to the United Nations (UN) chaired member-state briefing in preparation for the 62nd UN CSocD (to be held in February 2024).

ANALYSIS



About the UN CSocD

- ▶ **Genesis:** CSocD was established by Economic and Social Council (ECOSOC) in 1946 as the Social Commission and renamed as CSocD in 1966.
 - ▶ ECOSOC, under the overall authority of the UN General Assembly, coordinates the economic and social work of the UN
- ▶ **Membership:** 46 Members who are elected by ECOSOC based on equitable geographical distribution.
- ▶ **Bureau:** Bureau members are elected by the Commission and comprises a chair and four vice-chairs (elected officers serve for a term of office of two years).

Key Roles:

- ▶ Promotes social policies that support the overall development goals of the UN, particularly in relation to:
 - ▶ eradicating poverty,
 - ▶ advancing social integration, and
 - ▶ ensuring full employment and decent work for everyone.
- ▶ It is in charge of implementation of the Copenhagen Declaration and Programme of Action adopted in the World Summit for Social Development (WSSD) in 1995.
- ▶ Each year, the CSocD adopts a priority theme and an emerging issue to guide its work and discussions.
 - ▶ **Theme for the 62nd session** is "Fostering Social Development and Social Justice through Social Policies to accelerate progress on the Implementation of the 2030 Agenda for Sustainable Development and to achieve the overarching goal of poverty eradication".
- ▶ **India's membership:** In February 2023, India took on the Chair of the 62nd session of the CSocD for the first time since 1975.

BRIEF BACKGROUND

About WSSD

- ▶ The WSSD was held in 1995 in Copenhagen, Canada.
- ▶ Governments reached a new consensus on the need to put people at the centre of UN's development efforts.
- ▶ The Social Summit pledged to make the conquest of poverty, the goal of full employment and the fostering of social integration overriding objectives of development.
- ▶ The Copenhagen Declaration, and a Programme of Action was adopted which represents the new consensus among Government.

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2.3. MISCELLANEOUS

2.3.1. GENOCIDE CONVENTION

CONTEXT

The International Court of Justice (ICJ) gave its **interim ruling** on South Africa's genocide case against Israel.



ANALYSIS



More on news

- ▶ South Africa argued that the manner in which Israel was conducting its **military operations in Gaza violated the Genocide Convention**.
- ▶ ICJ ruled that **Israel must take all measures to prevent genocidal acts in Gaza (Palestine)**. However, it did not order ceasefire and did not find Israel guilty yet.

About Genocide convention

- ▶ **Name:** Officially known as **Convention on the Prevention and Punishment of the Crime of Genocide, 1948**.
 - It codified the crime of genocide for the first time.
 - It was also the **first human rights treaty** adopted by the UN General Assembly.
- ▶ **Definition of Genocide:** The crime of genocide is defined in Article II of the Genocide Convention.
 - Genocide is defined as **acts committed with the intent to destroy, in whole or in part, a national, ethnic, racial, or religious group**.
 - According to the convention, genocide is a crime that **can take place both in time of war as well as in time of peace**.
- ▶ **Membership:** The Genocide Convention has been ratified by 153 States. **India has signed** the treaty in 1949 and **ratified in 1959**.
 - However, **India did not enact any legislation on the subject**.
- ▶ **Jurisdiction:** International Court of Justice (ICJ) hears cases related to the interpretation and application of the convention.



BRIEF BACKGROUND

About International Court of Justice (ICJ)

- ▶ **Genesis:** It is a principal judicial organ of the United Nations (UN) established in 1945.
- ▶ **HQ:** The Peace Palace in The Hague (Netherlands)
 - It is the only principal organ of the UN which is not located in New York.
- ▶ **Role:** To settle legal disputes as per international law and to provide advisory opinions.
 - Judgment is binding on the parties to a case and without appeal.
 - Only States are eligible to appear before the Court in contentious cases.
- ▶ **Composition: 15 judges** (Currently India serves one Judge), who are elected for nine years by the UN General Assembly and the Security Council.
- ▶ **Official languages:** English and French.

About International Criminal Court (ICC)

- ▶ **Genesis:** Established by the Rome Statute of the International Criminal Court in 1998.
- ▶ **HQ:** The Hague (Netherlands)
- ▶ **About:** It is an **international court to investigate and prosecute individuals** accused of serious international crimes: **genocide, crimes against humanity, war crimes, and aggression**.
- ▶ **Members:** 123 countries are party to Rome Statute. **India is not a member**.
- ▶ **Jurisdiction:**
 - It has **jurisdiction only over crimes committed after July 1, 2002**, when the Rome Statute entered into force.
- ▶ **Other Key information:**
 - Its **judgments are final without appeal and binding** upon the parties concerned.
- ▶ The Court **does not have its own police force and relies on State cooperation, to the arrest and surrender of suspects**.

Comparison of ICJ with ICC

- ▶ ICJ hears disputes between nations over matters of law, unlike the International Criminal Court (ICC) which holds **individuals criminally responsible for offences** and crimes against humanity.

2.3.2. THE GLOBAL COOPERATION BAROMETER 2024 REPORT

CONTEXT

World Economic Forum (WEF) in collaboration with McKinsey & Company released the report.



ANALYSIS



The 5 pillars of Global Cooperation Barometer

- ▶ **Trade and capital:** Grew through the pandemic disruption, but slowed in 2023.
- ▶ **Innovation and technology:** Flows of data, IP and international students powered an increase in cooperation until 2020.
 - The race to dominate the frontiers of technology development has led to **import and export bans on 5G network technologies.**
- ▶ **Climate and natural capital:** Level of cooperation has been **rising steadily.**
 - **Net-zero commitments in the private sector have also proliferated.**
 - **Emissions intensity (emissions relative to GDP) improved over the decade**
- ▶ **Health and wellness:** Rose swiftly in response to the **pandemic**, but appears to be **settling back to historical patterns.**
 - **Maternal mortality rates increased for the first time in three decades.**
- ▶ **Peace and security:** Cooperation in peace and security has **declined since 2016** and plummeted recently.

Report suggested following measures to foster global cooperation:

- ▶ **Coopetition:** Stakeholders should focus on "coopetition", that is **identifying avenues toward advancing shared interest that can exist despite competition.**
- ▶ **Raise the capabilities of management.**
- ▶ **Think diversifying, not decoupling.**
- ▶ **Promote innovation:** Commit to greater cross-border collaboration.
- ▶ **Bolstering cooperation:** To achieve interdependent climate objectives through lower cost solutions.
- ▶ **Preservation of global health norms and infrastructure** established during and before the pandemic to improve health outcomes.
- ▶ **Integrating public and private sector:** To boost sharing of data flows on cybersecurity threats.

BRIEF BACKGROUND

About Global Cooperation Barometer

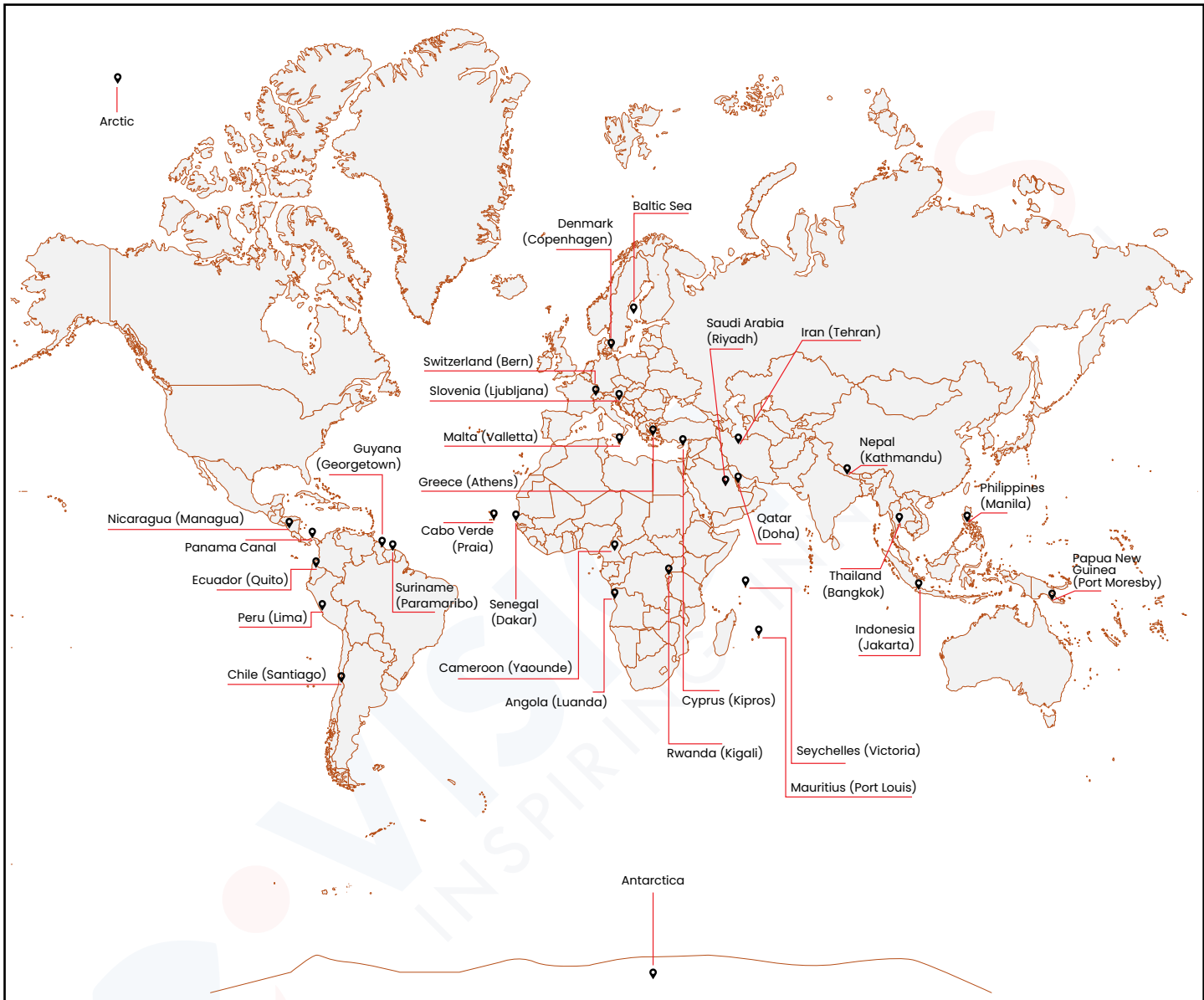
- ▶ It is a tool for leaders to **better understand the contours of cooperation broadly along five dimensions** using 42 indicators of global connection.
 - These **five pillars were chosen** because of their **impact on global development and their explicit dependence** on cooperative efforts among nations and economies.
- ▶ It **measures cooperation from 2012 through 2022** and could help business and government stakeholders to face global challenges and unlock new opportunities.

About WEF:

- ▶ **Genesis:** It was established in 1971 as a not-for-profit foundation.
- ▶ **Aim:** The forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.
- ▶ **Major reports:**
 - The Future of Growth Report
 - Global Risks Report
 - The Future of Global Fintech: Towards Resilient and Inclusive Growth



2.4. PLACES IN NEWS



Places	Context and Few Important Facts
ASIA	
Saudi Arabia (Riyadh)	India and Saudi Arabia signed an agreement on annual Haj pilgrimage. <ul style="list-style-type: none"> ➤ In its western highlands, along the Red Sea, lies the Hejaz, which is the cradle of Islam and the site of that religion's holiest cities, Mecca and Medina.
Nepal (Kathmandu)	Nepal became the first South Asian Nation to formally register same sex marriage. It contains the world's highest peaks— Mt Everest.
Philippines (Manila)	A strong earthquake of magnitude 7.6 sparked a tsunami warning in the Philippines.
Papua New Guinea (Port Moresby)	Recently, \$1 million relief assistance announced by India for those who were affected by the volcanic eruption of Mount Ulawun.
Qatar (Doha)	India and Qatar extended Liquefied Natural Gas (LNG) supply deal for another 20 years beyond 2028.
Thailand (Bangkok)	Sacred relics of Lord Buddha and his two disciples Arahata Sariputra and Arahata Maudgalyayana displayed in Thailand.
Indonesia (Jakarta)	Recently, India and Indonesia commemorated the 75th anniversary of establishing their diplomatic relations.
Iran (Tehran)	Iran announced 15-day visa-free policy for Indian tourists.
Europe	
Baltic Sea	Russia accused Ukraine of an attack on a gas terminal at a Baltic Port of Ust-Luga.
Denmark (Copenhagen)	Denmark's queen Margrethe II, Europe's longest-reigning living monarch, announced plans to abdicate after 52 years.
Malta (Valletta)	Indian Navy extended help to MV Ruen, a ship of Malta hijacked in the Arabian Sea. <ul style="list-style-type: none"> ➤ Malta, island country located in the central Mediterranean Sea.
Cyprus (Kipros)	Cyprus won cheese trade mark case against Indian Company. <ul style="list-style-type: none"> ➤ Cyprus, an island in the eastern Mediterranean Sea.
Slovenia (Ljubljana)	23rd Meeting (COP23) OF Barcelona Convention took place in Slovenia.
Greece (Athens)	PM of Greece paid state visit to India.
Switzerland (Bern)	Switzerland and India have reached consensus on Free Trade Agreement after 16 years of negotiations. <ul style="list-style-type: none"> ➤ Matterhorn, one of the best-known mountains (14,692 feet [4,478 metres]) in the Alps, straddling the frontier between Switzerland and Italy,

Africa	
Senegal (Dakar)	Lake Retba or Lac Rose or the Pink Lake of Senegal is on verge of disappearing due to sudden increase in nitrate level.
Angola (Luanda)	Angola withdraws from OPEC
Cabo Verde (Praia)	Cabo Verde has been certified as Malaria-free by WHO, becoming 3rd African country to achieve this status after Mauritius and Algeria.
Cameroon (Yaoundé)	It has adopted the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their utilisation.
Rwanda (Kigali)	As per UN document, Rwandan army is using sophisticated weapons like Surface-to-air missiles in eastern DR Congo.
Seychelles (Victoria)	Seychelles declared state of emergency after explosion amid flooding.
Mauritius (Port Louis)	<p>Cabinet approves MoU between ISRO and Mauritius Research and Innovation Council on Development of Joint Small Satellite.</p> <ul style="list-style-type: none"> ➤ Physiographically, it is part of the Mascarene Islands ➤ Approximately two-thirds of the population is of Indo-Pakistani origin, most of whom are descendants of indentured labourers brought to work in the sugar industry during the 19th and early 20th centuries.
The Americas	
Nicaragua (Managua)	Recently a Nicaragua-bound plane carrying Indians were grounded in France over concerns of 'human Trafficking'.
Panama Canal	Panama Canal has been hit by severe drought forcing authorities to slash ship crossings by 36%.
Ecuador (Quito)	<p>Ecuador has declared a nationwide emergency following escape of high-profile Prisoner.</p> <ul style="list-style-type: none"> ➤ It is situated on the Equator.
Peru (Lima)	<p>Peru has lost more than half of its glacier surface in last six decades.</p> <ul style="list-style-type: none"> ➤ Lake Titicaca, the world's highest lake lying at 12,500 feet above sea level in the Andes Mountains of South America, astride the border between Peru to the west and Bolivia to the east. Titicaca is the second largest lake of South America (after Maracaibo).
Guyana (Georgetown)	Venezuela and Guyana saw tension over a border dispute around the Essequibo river, and an offshore area.
Suriname (Paramaribo)	A parliamentary delegation from the Republic of Suriname, called on the President of India.
Chile (Santiago)	Chile records its deadliest wildfire.
Arctic	Ministry of Earth Sciences Launched India's 1st Winter Scientific Expedition to Arctic.
Antarctica	India celebrated 40th years of its permanent residency in Antarctica.

2.5. TEST YOUR LEARNING

MCQs

Q.1. Consider the following statements regarding International Court of Justice (ICJ)

1. It was established by the Rome Statute in 1945.
2. Only States are eligible to appear before the Court in contentious cases.
3. Judgment is binding on the parties to a case and without appeal.

Select correct answer from the codes given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Q.2. Which among the following initiatives/outcomes are related to BRICS?

1. New Development Bank (NDB)
2. Contingent Reserve Arrangement (CRA)
3. Ufa Declaration
4. Kampala declaration
5. The Maritime Information Sharing Workshop

Select correct answer from the codes given below.

- (a) Only 2
- (b) Only 3
- (c) Only 4
- (d) All Five

Q.3. Consider the following pairs:

Military exercise	Bilateral exercise between India and
1. IMBAX	Indonesia
2. Desert Flag	Oman
3. Eastern Bridge	UAE

How many of the above pairs is/are correctly matched?

- (a) only one
- (b) only two
- (c) All three
- (d) None

Q.4. Consider the following statements with regards to Convention on the Prevention and Punishment of the Crime of Genocide, 1948.

1. The crime of genocide is defined under Genocide Convention.
2. India has signed the treaty and but not ratified yet.

Which of the above statement/s is/are correct?

- (a) 1 Only
- (b) 2 Only
- (c) Both 1 and 2
- (d) None

Q.5. The Global Cooperation Barometer Report is released by

- (a) UNDP
- (b) UNESCO
- (c) World Economic Forum
- (d) World Bank

Questions

- Q.1. Discuss the relevance and significance of the Non-Alignment Movement (NAM) in shaping India's foreign policy in contemporary times.**
- Q.2. Critically analyse the efficacy of India's Neighbourhood First Policy for India's regional influence and security.**

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ECONOMY



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3.1. GOVERNMENT FINANCE AND POLICIES

3.1.1. STATE FINANCES



CONTEXT

Reserve Bank of India published an annual report titled “State Finances: A Study of Budget of 2023–24”. Its theme is ‘Revenue Dynamics and Fiscal Capacity of Indian States’.

ANALYSIS



Key Findings of the Report

- ▶ **Prudent Fiscal Management:** States consolidated gross fiscal deficit to gross domestic product (GFD-GDP) ratio declined from 4.1 % in 2020–21 to 2.8 % in 2021–22.
 - GFD is the excess of total expenditure including loans net of recovery over revenue receipts (including external grants) and non-debt capital receipts.
 - ◊ Net fiscal deficit is the gross fiscal deficit less net lending of the Central government.
- ▶ **Capital Outlay:** To increase by 42.6% in 2023–24 to 2.9 % of GDP.
 - Capital outlay is expenditure towards the creation of assets and has a multiplier effect on economic output.
- ▶ **States’ Total Outstanding Liabilities:** Overall, the debt-to-GDP ratio declined to 27.5% (2023), supported by fiscal consolidation.
- ▶ **Increased Tax Buoyancy:** The implementation of goods and services tax (GST) increased tax buoyancy for the States.
 - It has led to greater formalization of the economy which is important for expanding the tax base.
- ▶ **Committed Expenditure:** Includes interest payments, administrative services, and pension, is expected to remain at 4.5% of GDP.

BRIEF BACKGROUND

N K Singh Committee Recommendations

- ▶ The combined debt-to-GDP ratio of the centre and states should be brought down to 60 % by 2023 (comprising of 40 % for the Centre and 20% for states).
- ▶ The committee suggested incorporating “escape clauses” that allow deviation from the fiscal targets under specific circumstances, such as national security, acts of war, national calamities etc.

Concerns with State Finance

- ▶ **Non-Tax Revenues Collection:** Remained around 1% of GDP in the last 10 years compared to 10 % or more in Singapore, Egypt etc.
- ▶ **Reduced Development Expenditure:** For education, sports, agriculture, rural and urban development, etc.
- ▶ **Old Pension Scheme (OPS):** If all States revert to OPS, the cumulative fiscal burden could be as high as 4.5 times of existing National Pension System.
- ▶ **Precarious Fiscal Situation:** Any further provision of non-merit goods and services, subsidies, transfers and guarantees may disrupt the overall fiscal consolidation achieved in the last two years.

Ways to Improve State Finance

- ▶ **Increase non-tax revenue:** Revisions of user charges public services, royalties and premiums from mining, asset monetization etc.
- ▶ **Prevent Revenue Loss due to Illegal Mining:** Utilize modern technologies such as Drone Surveys to curb illegal mining activities.
- ▶ **Performance-Based Transfers:** Finance Commissions could consider recommending an increased share of conditional transfers based on reforms, quality of expenditure and fiscal sustainability.
- ▶ **Increase Fiscal Capacity:** For uninterrupted and efficient delivery of services to the people and for upgrading the quality of physical and human capital.



3.1.2. G-SECURITIES



CONTEXT

Reserve Bank of India (RBI) has permitted the lending and borrowing of G-Securities (G-Secs) by issuing RBI (Government Securities Lending) Directions, 2023

ANALYSIS



Government Securities Lending (GSL)

- ▶ Under GSL transaction, **G-Secs** issued by the Central government **excluding Treasury Bills (T-Bills)** shall be **eligible for lending/borrowing**.
 - Also, **G-sec** issued by the Central Government **including T-Bills and State Governments bonds** shall be eligible for placing as collateral under GSL transaction.
- ▶ **Benefits of GSL**
 - It will **add depth and liquidity to the G-sec market**, aiding efficient price discovery.
 - It will **facilitate wider participation in the securities lending market** by providing investors an avenue to deploy idle securities and enhance portfolio returns.
 - It will **enhance the operational efficiency** of government bonds by insurers.

Initiatives taken for Government -Securities (G-Secs)

- ▶ **G-sec Acquisition Programme:** RBI **conducts open market operations to purchase G-Secs** from the market, which helps in **controlling excessive volatility**.
- ▶ **RBI Retail Direct Scheme:** Providing online access to the G-Sec market for retail investors.
- ▶ **Scheme for Non-competitive Bidding Facility in Auctions of G-Secs:** Introduced by RBI to **encourage retail participation in the primary market** for G-Secs and SDLs.

Concerns Associated with G-Sec

- ▶ **Captive investor base:** Large portion of G-Secs are held by captive investors such as banks, and insurance companies.
- ▶ **Exchange rate management:** Inflows of foreign funds via government bonds can lead to rupee appreciation.
- ▶ **Liquidity:** G-sec market lacks liquidity due to the non-availability of buyers for the security in the secondary market. It can lead to distressed sales causing loss to sellers.

Way forward

- ▶ **Unified market:** Having the same regulatory regime for trade, clearance, and settlement of corporate bonds and G-Secs will result in economies of scale and scope, leading to greater competition, efficiency, and liquidity in markets.
- ▶ **Trading:** To facilitate **greater investor participation and achieve ease of doing business**, G-Secs should be issued and traded through the stock exchange mechanism.
- ▶ **Tax Incentives:** Providing tax incentives on interest income generated from the G-Sec can boost their demand.

BRIEF BACKGROUND

G-Securities (G-Secs)

- ▶ **Definition:** G-Sec is a tradeable instrument issued by **Central or State Governments**. It acknowledges the government's debt obligation.
 - G-Secs carry **practically no risk of default** and, hence, are called **risk-free gilt-edged instruments**.
- ▶ **Treasury Bills (T-Bills):** These are G-sec with **short-term maturities of less than one year** (91 days, 182 days, or 364 days).
 - T-bills are **zero coupon securities and pay no interest**. Instead, they are issued at a discount and redeemed at the face value at maturity.
- ▶ **Dated G-secs:** Also known as **Government bonds** or dated securities. These are G-sec with **long-term maturity of one year or more** (between 5 years and 40 years).
- ▶ **Issuers:** In India, **Central Government issues both T bills and dated securities**, while State Governments can issue only dated securities, which are called **State Development Loans (SDLs)**.
 - G-Secs are issued through auctions conducted by RBI on the electronic platform called the **E-Kuber**, the Core Banking Solution (CBS) platform of RBI.



3.1.3. STATE GOVERNMENT GUARANTEES (SGGS)



CONTEXT

Reserve Bank of India (RBI) released the Report of the Working Group on State Government Guarantees (SGGs).

ANALYSIS



Current Status of State Government Guarantees

- ▶ **Extent: Outstanding guarantees (2018-21) constituted less than 10% of the Gross state domestic product (GSDP) for the majority of the states.**
 - However, it has been rising over the years.
- ▶ **States with a relatively higher outstanding guarantee level** include Sikkim (12.0%), Telangana (12.0%), Andhra Pradesh (10.4%), and Uttar Pradesh (8.8%).
 - For several states, the **power sector accounted for the largest share of guarantees.**

Issues Regarding State Guarantees

- ▶ **Moral hazards:** Guarantees could create moral hazard, leading to the guaranteed entity being **sub-optimal in performing its obligation.**
 - Similarly, **investors and lenders may be less motivated** to thoroughly assess projects.
- ▶ **Fiscal Risks:** It may **burden the state finances** leading to large unanticipated cash outflows and increased debt.
- ▶ **Crowding Out Private Investment:** Excessive guarantees can discourage private lenders from directly financing projects, potentially leading to higher borrowing costs for the government.
- ▶ **Lack of Uniformity:** Some states have fixed ceilings in terms of annual incremental risk-weighted guarantees, while others have fixed in terms of total outstanding guarantees.
- ▶ **Transparency and Accountability:** Limited disclosure about the **specific purpose, terms, and conditions** of guarantees.

Way Forward - Major Recommendations of the Working Group

- ▶ **Expanded Definition of Guarantee:** The word 'Guarantee' should **include all instruments, which create an obligation, contingent or otherwise, on the part of the State Government.**
 - Also, the purpose for which Government guarantees are issued should be clearly defined.
- ▶ **Uniform Guarantee Ceiling:** State Governments may consider fixing a **ceiling for incremental guarantees issued during a year at 5 % of Revenue Receipts or 0.5 % of Gross State Domestic Product, whichever is less.**
 - For instance, the **Fiscal Responsibility and Budget Management Act, 2003** prescribe a **limit of 0.5% of GDP for guarantees** to be given in any financial year (since FY 2004-05).
- ▶ **Risk Categorization:** Classify the projects/ activities as **high risk, medium risk and low risk** and assign appropriate risk weights before extending guarantees.
- ▶ **Guarantee Redemption Fund (GRF):** The States which are currently not members of the GRF should consider becoming members at the earliest.
 - **GRF** has been established in the **Public Account of India** for redemption of guarantees given to Central Public Sector Enterprises (CPSEs), Financial Institutions, etc., by the Central Government.



BRIEF BACKGROUND

What is a State Government Guarantee?

- ▶ A 'guarantee' is a **legal obligation for a State to make payments and protect an investor/lender from the risk of default by a borrower.**
- ▶ **Article 292 of the Constitution of India extends the executive power of the Union to the giving of guarantees** on the security of the Consolidated Fund of India. Similar powers are given to **States under Article 293.**
- ▶ State Governments often issue guarantees **on behalf of various PSEs/ Cooperative Institutions/ Urban Local Bodies, etc.** for financing developmental schemes/projects.

Importance of Government Guarantees

 To improve viability of projects or activities undertaken by Government entities with significant social and economic benefits	 To enable Public Sector Companies to raise resources at lower interest charges or on more favorable terms	 Fulfill requirement in cases sovereign guarantee is a precondition for concessional loans from bilateral/multilateral agencies
---	--	---

3.1.4. ECONOMIC NATIONALISM IN INDIA



CONTEXT

Vice President of India termed economic nationalism as quintessentially fundamental to India's economic growth.

ANALYSIS



Economic Nationalism in India

- ▶ **Genesis of the idea:** Developed in the context of its subordination to Britain (colonial) rule and with unequal capitalist expansion on a world scale (first globalization).
- ▶ **Early economic critiques of colonial rule:** From the 19th century, intellectuals including **Raja Rammohan Roy, Bhaskar Pandurang Tarkhadkar, Govind Vitthal Kunte (Bhau Mahajan) and Ramkrishna Vishwanath** criticised the British rule for economically exploiting India.
- ▶ **Emerging economic nationalist thought:** During the late 19th century and early 20th century, economic critique widened to 'political economy of nationhood', criticizing the process of 'ruralization' and 'de-industrialization'.
- ▶ **Drain theory/ Drain of wealth:** propounded by Naoroji highlighted the unilateral transfer of resources from India to Britain without any corresponding economic and commercial gain.

These developments presented the case for developing independent national economic policies for the country.

Economic Nationalism creating Atmanirbhar Bharat

Since, independence, India has initiated several policies which can be understood as policies of Economic nationalism and contribute to the realization of Atmanirbhar Bharat.

- ▶ **Promoting domestic industry:** Initiatives such as Production-Linked Incentives (PLI) schemes, Make in India, Vocal for Local, One District One Product (ODOP) scheme etc.
- ▶ **Participation in Global Supply Chain:** Ease-of-doing-business reforms, infrastructural development initiatives like PM Gati Shakti, and standardizing products and services will India integrate into **global supply chains**.
- ▶ **Strategic autonomy:** Capacity development in strategic sectors such as defence, space, digital services etc. and strengthening multilateral partnerships would **reduce the impact of geopolitics on foreign policy**.
- ▶ **Research and Development promotion:** Initiatives including Uchhatar Avishkar Yojana (UAY), Impacting Research Innovation and Technology (IMPRINT) etc. will make India **technologically capable and self-reliant**.



Read From Essential Material

Chapter "Indian Economy 1950-1990" of Class 11th Indian Economic Development.

BRIEF BACKGROUND

Economic Nationalism

- ▶ **Definition:** Economic ideology which **favours domestic control of the economy, labour and capital formation**.
- ▶ **Changing nature:** The present notion of economic nationalism is **concerned with the nation and not with particular economic policies**.
 - ▶ It may adopt a **variety of forms** as it may advocate policies of economic liberalism or protectionist policies **depending on the situation**.

Potential ill Effects of Not Subscribing to Economic Nationalism



Risk of de-industrialization with industries migrating to countries with lower labour costs.



Limited technological advancement due to losing out in R&D opportunities.



Import dependence leaving country vulnerable to supply chain disruptions.



Reduction in employment opportunities due to decline in manufacturing.



National Security Concerns from over reliance on foreign countries for critical goods.



Limited investment sources thus limiting growth.

3.1.5. SPECIAL ECONOMIC ZONES



CONTEXT

Ministry of Commerce and Industry notified **Special Economic Zones (SEZ) (Fifth Amendment) Rules, 2023** in the exercise of powers conferred by section 55 of the SEZ Act, 2005.

ANALYSIS



SEZ (Fifth Amendment) Rules, 2023

- ▶ Rules **amended SEZ Rules 2006**.
- ▶ Allowed **demarcation of a portion of the built-up area in an Information Technology (IT) or Information Technology Enabled Services (ITES) SEZ as a non-processing area**, subject to conditions.
 - The processing area in an SEZ is **for the manufacture of goods or rendering of services**.
 - ◊ The non-processing area is for **supporting infrastructure**.
 - Demarcation of a non-processing area **shall not be allowed if it results in decreasing the processing area to less than 50 % of the total area** or less than the area specified.
- ▶ The businesses engaged in IT/ITES SEZ in a non-processing area shall not avail any rights or facilities available to SEZ Units.

Significance of Amendments

- ▶ **Increases flexibility** in carrying out business in SEZs.
- ▶ **Protect the interests** of both developers as well as occupiers of SEZ.
- ▶ Freed-up space will lead to **better utilization** for a diversified set of occupiers.

Challenges Associated with SEZ in India

- ▶ **Policy Reversals:** Withdrawal of incentives such as exemption from minimum alternate tax, and dividend distribution tax in 2011-12.
- ▶ **Unutilised Lands:** 52 % of the land allotted for SEZs was lying idle (Public Accounts committee in 2021-22).
- ▶ **Domestic Sales:** Companies operating within SEZs can sell products in the Indian domestic market only on payment of applicable duties which further deters their growth.
- ▶ **Inconsistent with World Trade Organization (WTO) Norms:** A dispute settlement panel of WTO (2019), ruled that India's export-related schemes (including the SEZ scheme) are like prohibited subsidies under WTO norms.
- ▶ **Other issues:** Concentration of SEZs in developed States and near urban centres etc.

BRIEF BACKGROUND

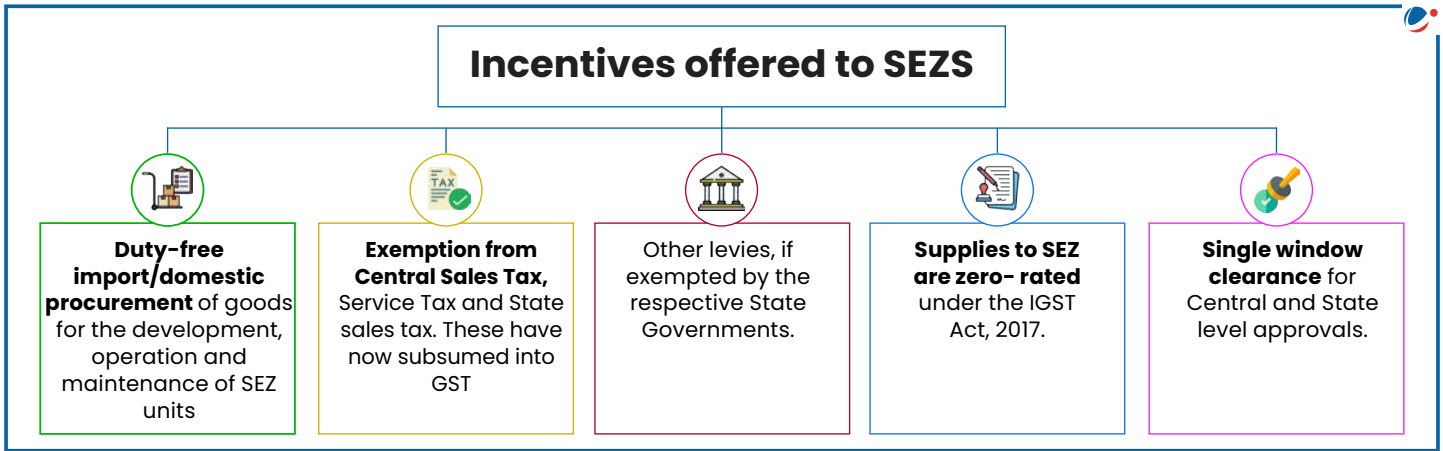
About Special Economic Zones (SEZs)

- ▶ SEZ is a specifically **delineated duty-free enclave, deemed to be foreign territory** for trade operations, duties, and tariffs.
- ▶ **Any private/public/joint sector or State Government** or its agencies can set up SEZ.
- ▶ **SEZ Act 2005** has been enacted followed by **SEZ Rules** which came into effect in 2006.
- ▶ The area under '**SEZ**' covers a **broad range of zone types**, including Export Processing Zones (EPZ), Free Zones (FZ), Industrial Estates (IE), Free Trade Zones (FTZ), Free Ports, Urban Enterprise Zones and others.
- ▶ Presently, **276 SEZs** are operational in India.
 - **Total exports from SEZs stood at \$155.8 billion in 2022-23**. These included \$61.6 billion of goods and \$94.2 billion of service exports.

Objectives of SEZ

- ▶ Generation of additional economic activity
- ▶ Promotion of exports of goods and services
- ▶ Promotion of investment from domestic and foreign sources
- ▶ Creation of employment opportunities
- ▶ Development of infrastructure facilities





Way Ahead

- ▶ **Recommendations of Baba Kalyani committee:**
 - ▶ Enhance competitiveness by enabling ecosystem development,
 - ▶ Migration from export focus in SEZs to focus on broad-based Employment and Economic Growth,
 - ▶ Formulation of separate rules and procedures for manufacturing and service SEZs,
 - ▶ Infrastructure status to SEZs.
- ▶ Providing incentives like removal of export obligation, and allowing sales to Domestic Tariff Areas (DTAs).
- ▶ Optimal utilisation of vacant land in SEZ and removing sector-specific constraints to develop industrial enclaves.
- ▶ Rationalisation of existing models of economic zones such as SEZ, coastal economic zone, etc.
- ▶ Integration of production-linked incentive schemes with the SEZ policy.

Quarterly Revision

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3.2. BANKING, FINANCE AND PAYMENT SYSTEMS

3.2.1. NON-PERFORMING ASSETS (NPA)

CONTEXT



RBI's annual **Trend and Progress of Banking in India report** for the financial year 2022-23, showed that the gross non-performing assets (GNPA) ratio fell to 3.9 % in 2022-23.

ANALYSIS



Trend and Progress of Banking in India 2022-23

Key Highlights

- The consolidated balance sheet of SCBs grew by 12.2% in 2022-23, the highest in nine years.
- During 2022-23, the total amount of fraud reported by banks declined to a six-year low, while the average amount involved in fraud was the lowest in a decade.
- The capital-to-risk-weighted assets ratio (CRAR) of SCBs reached 16.8% at the end of September 2023.
- **Concerns raised by the report**
 - Long tenure of directors, **absence of comprehensive risk management policy** and deficient compliance culture in Urban Cooperative Banks (UCBs).
 - **Concentration risks** of corporate credit in NBFCs and significant exposure of banks to NBFCs.

BRIEF BACKGROUND

About Non- Performing Assets (NPA)

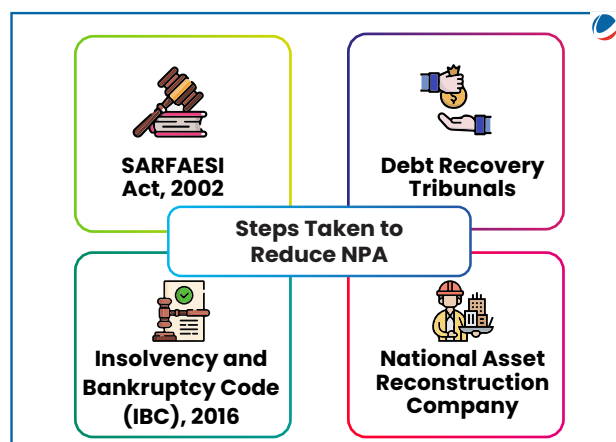
- ▶ **NPA:** It's a loan or advance for which the principal or interest payment remained overdue for 90 days or more.
 - **GNPAs** are the **sum of all loan assets** that are classified as NPAs.
- ▶ **Classification of NPA**
 - **Sub-standard Assets:** Assets that remain NPA for less than or equal to 12 months.
 - **Doubtful Assets:** Assets that have remained in the sub-standard category for 12 months.
 - **Loss Assets:** Assets where loss has been identified by the bank or internal/external auditors, but the amount has not been written off wholly.

Reasons for Non-Performing Assets

Lack of periodic review of the credit profile of borrowers	Significant proportion of Wilful Defaults	Prevalence of Industrial sickness	Non-compliance with regulatory directions	Increasing size of Banking Frauds
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Way forward

- ▶ **Adopting a 4R strategy:** Consisting of the **Recognition of NPAs**, transparent **Resolution and recovery value** from stressed accounts, **Recapitalising PSBs**, and **Reforms in PSBs**.
- ▶ **Strengthen credit monitoring:** Develop **comprehensive MIS (Management Information System)** to enable timely detection of problem accounts and flag early signs of delinquencies.
- ▶ **Approval process:** Banks should have an established **credit approval process, for new credits as well as re-financing of existing credits**, with comprehensive assessment and periodic review.



- ▶ **Institutional mechanism:** To cater to large industrial and infrastructure projects and the need for long-term funding, new Development Financial Institutions (DFIs) can be developed.
- ▶ **Risk Management:** Encourage banks to diversify their loan portfolios to reduce concentration risk on a specific sector or type of borrower.

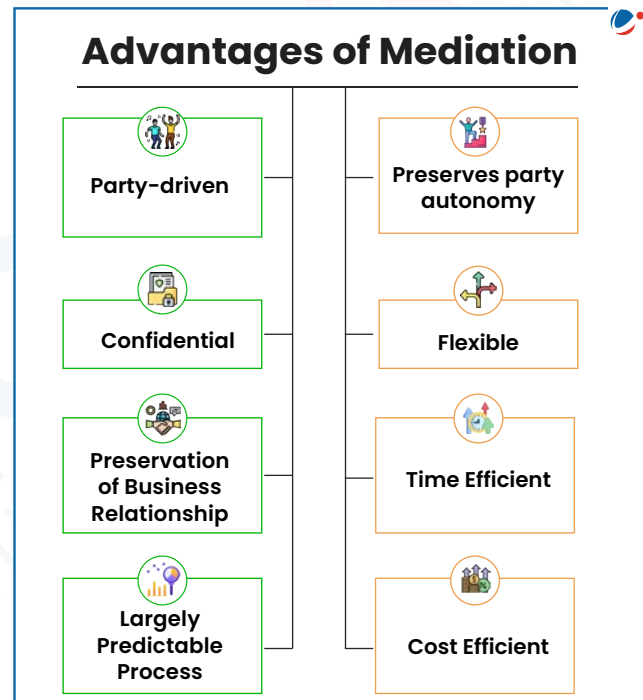
3.2.2. REPORT ON FRAMEWORK FOR INSOLVENCY MEDIATION

CONTEXT

Expert committee was constituted by the Insolvency and Bankruptcy Board of India (IBBI) with T.K. Vishwanathan as Chairperson to examine the scope of using mediation in various processes under the IBC 2016.

ANALYSIS

- ▶ Mediation is the use of a neutral third party to facilitate the negotiated settlement of a dispute between two or more parties.
 - ▶ Typically, it is initiated by mutual consent of the parties, or a pre-agreed contract, court reference or law-mandated requirement.
- ▶ Currently, there are no specific provisions for mediation of insolvency and bankruptcy disputes under IBC.
- ▶ **Mediation framework in India**
 - ▶ **The Mediation Act, 2023** aims to facilitate mediation, especially institutional mediation.
 - ▶ **Provisions in other legislations:** Civil Procedure Code, 1908, Companies Act, 2013, Commercial Courts Act, 2015 and Consumer Protection Act, 2019.
 - ▶ India is signatory to the **Singapore Convention on Mediation.**
- ▶ **Recommendations of the Committee**
 - ▶ **Phased introduction of voluntary mediation** as a dispute resolution mechanism under IBC.
 - ▶ Centre may by rules prescribe **structure of insolvency mediation framework** with specifying categories of mediable disputes.
 - ▶ IBBI to specify **procedures for conduct of mediations** and their enforcement.
 - ▶ **Costs for the mediation to be borne equally** between parties or as mutually agreed.



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3.2.3. UNIFIED PAYMENTS INTERFACE (UPI)

CONTEXT

Reserve Bank of India (RBI) has announced new rules and regulations to enhance the scope of Unified Payments Interface (UPI) payments.

ANALYSIS



About new rules

- ▶ **Enhancing UPI transaction limit:** For hospitals and educational institutions transaction limit has been hiked to Rs 5 lakh.
 - Transaction limit for UPI is capped at Rs. 1 lakh, except in a few categories like Capital Markets Collections (Credit card payments, Loan re-payments), Insurance etc. where transaction limit is Rs. 2 lakhs.
- ▶ **Increased e-Mandates for Recurring Online Transactions:** Limits for execution of e-mandates without Additional Factor of Authentication (AFA) increased from Rs 15,000 to Rs 1 lakh for credit card bill payments, mutual fund subscriptions and insurance premiums.
- ▶ **Setting up of Fintech Repository:** Repository will be operationalised by Reserve Bank Innovation Hub in April 2024 or earlier.

Initiatives to promote UPI

- ▶ **UPI for secondary market:** To enhance the ease of equity trading in India.
- ▶ **MoU between Google India Digital Services and NPCI International Payments:** To enable travellers to make transactions abroad and ease remittances process between countries.
- ▶ **UPI in overseas markets:** Various countries like Oman, UAE, France, Nepal, Bhutan, Sri-Lanka, Mauritius etc. are using UPI system for payment.
- ▶ **UPI 123PAY:** Enables UPI payment service for feature phone users without an internet connection.

BRIEF BACKGROUND

Unified Payments Interface (UPI)

- ▶ UPI powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features e.g., transfer of funds.
- ▶ Developed by NPCI in 2016 and built over Immediate Payment Service (IMPS) infrastructure.

New Features of UPI
<ul style="list-style-type: none"> ▶ Credit Line on UPI: It enables pre-sanctioned credit lines from banks via UPI. ▶ UPI Lite X: Users can both send and receive money offline through any compatible device that supports Near Field Communication (NFC). <ul style="list-style-type: none"> ➤ NFC is a short-range wireless connectivity technology that transmits data through electromagnetic radio fields to enable two devices to communicate with each other. ▶ UPI Tap & Pay: Allows NFC-enabled QR codes at merchants to complete payments, with a single tap without entering the PIN. ▶ Conversational Payments: <ul style="list-style-type: none"> ➤ Hello! UPI: Users can simply give voice commands to transfer funds. ▶ BillPay Connect: Customers can fetch and pay their bills by sending a 'Hi' message or missed call.

Challenges associated with UPI

- ▶ **Regulation:** Expanding UPI globally requires complying with data protection and financial regulations across different countries.
- ▶ **Dominance of Foreign-owned UPI Apps:** Market share of PhonePe and Google Pay was 85% in terms of the transaction volume in October-November 2023 (Parliamentary panel's report).
- ▶ **Security and Fraud:** Cybercriminals may exploit vulnerabilities in the system to gain access to sensitive information leading to financial losses.
- ▶ **Exchange Rates:** Managing currency conversion and exchange rates while facilitating payments and loading money to the wallet poses a significant challenge for cross-border transactions.

Benefits of UPI	
<p> Merchants</p> <ul style="list-style-type: none"> » Low cost of acceptance » Accept payments without credit/debit cards » Eliminates need to return or handle cash change » Suitable for both physical and online merchants » Facilitates access to credit 	<p> Customers</p> <ul style="list-style-type: none"> » Round-the-clock availability » Single app for accessing different bank accounts » Multiple use cases for various kinds of payments » Ability to raise complaints from mobile apps directly » Convenience and ease to use
<p> Banks</p> <ul style="list-style-type: none"> » Low investments towards branch and PoS » Low cost of merchant onboarding » Transaction data for better understanding of customers to uplift cross-selling / upselling 	<p> Fintechs/PSPs</p> <ul style="list-style-type: none"> » Open architecture to promote innovative products » Collaborations with FIs for customer-centric solutions » Possibility to market innovative credit products

Quarterly Revision

Way Ahead

- ▶ **Collaborative approach:** Among nations, financial institutions, etc. to develop a uniform regulatory framework.
- ▶ **Infrastructure:** Banks and Payment service providers need to expand their infrastructure in terms of software, network etc. to process higher transactions per second and **accommodate a global user base.**
- ▶ **Fraud Protection:** A collaborative effort of UPI service providers, banks, and users to identify and respond to UPI frauds.
- ▶ **Education:** Training programs and easy-to-understand guides to educate the masses about the **UPI ecosystem.**

3.2.4. CARD NETWORKS IN INDIA

CONTEXT

Reserve Bank of India (RBI) has ordered a certain card network to stop “unauthorised payments” made using business cards.

ANALYSIS

Card Network Market in India

- ▶ **Authorised card networks in India:** Visa, Mastercard, RuPay, Diners Club, and American Express.
 - RuPay is India’s indigenous payment network launched by NPCI to facilitate India’s entry into the global payments market.
- ▶ **Debit card segment is dominated by RuPay** which has around 700 million cards and a 65% market share.
- ▶ **Visa and Mastercard dominate the credit card market,** accounting for 90%.

Regulation of Card Network Ecosystem in India

- ▶ **RBI as Primary Regulator:** RBI is responsible for overseeing and regulating payment systems in India, including card networks, under the PSS Act, 2007.
- ▶ **Governing Legislation:** PSS Act, 2007 defines a payment system as a **system that enables payment to be effected between a payer and a beneficiary,** involving clearing, payment or settlement service or all of them.
 - “Payment system” includes the systems enabling **credit card operations, debit card operations, smart card operations, money transfer operations** or similar operations.
 - ◊ Although, the definition does not include a stock exchange.

Conclusion

For successful domestic payment network development, India needs **strong infrastructure and nimble regulation** to attract users and merchants, domestic payment card networks will also need to **establish robust telecommunication networks,** and **consumer education** among others.

BRIEF BACKGROUND

What is a Card Network?

- ▶ **Card networks:** They are developed to **utilize one mode of payment to pay for goods and services** at multiple merchants and avoid carrying cash around.
 - The authorised card networks tie up with banks / non-banks for the issuance of debit/credit/prepaid cards and **connect banks, merchants and customers.**
 - A fee is charged to the businesses by companies that process its debit and credit card transactions (known as **Merchant Discount Rate (MDR)**).
- ▶ **Card Issuer:** Banks typically dominate the choice of card networks that will be issued to their customers.
 - However, **RBI has asked card issuers to provide customers the option to choose from multiple card networks** from October 1, 2023.

National Payments Corporation of India

- ▶ **Genesis:** NPCI is an initiative of **RBI and Indian Banks’ Association (IBA)** under the provisions of the **Payments and Settlement System (PSS) Act, 2007,** for creating a robust Payment & Settlement Infrastructure in India.
- ▶ **Statutory:** It has been incorporated as a **“Not for Profit” Company** under the provisions of Section 25 of Companies Act 1956 (now **Section 8 of Companies Act 2013**).
- ▶ Payment products developed by NPCI includes- **Immediate Payment Service (IMPS), National Automated Clearing House (NACH), Aadhaar enabled Payment System (AePS), Unified Payments Interface (UPI)** etc.



Related News

Payment Aggregator (PA)

- ▶ **Juspay, Zoho, and Decentro** have received final authorisation from RBI for **Payment Aggregator (PA)** licences.
 - PAs are entities that **facilitate e-commerce sites and merchants** to accept various payment instruments from the customers **without the need for merchants to create a separate payment integration system** of their own.
 - In the process, they **receive payments** from customers, **pool and transfer them** on to the merchants.
- ▶ PAs are **different from Payment Gateways** as latter only provide technology infrastructure to facilitate payment transaction without any involvement in fund handling.

3.2.5. INSURANCE LANDSCAPE IN INDIA



CONTEXT

National Insurance Academy (NIA) released a report exploring the Indian insurance landscape.

ANALYSIS



Key Highlights of the Report

- ▶ **Health Protection Gap (HPG): HPG of 73%**, leaving over 40 crore (31% of the population) individuals without health insurance.
 - HPG is difference between levels of healthcare costs which would be required to meet consumer needs, versus amount that would be available to cover those costs.
- ▶ **Protection Gap: 87% Life Insurance Protection Gap and Mortality Protection Gap exceeding 90%** in 26-35 age groups across the country.
 - MPG is difference between the cover typically required by a family and the resources they have available should a wage-earner pass away suddenly.
- ▶ **Natural Catastrophe Insurance:** Almost 95% of population does not have natural catastrophe insurance.
- ▶ **Pension and Annuity Coverage:** Only 24% enrolled in employee retirement schemes.
- ▶ **Crop Insurance:** Number of insured farmers declined from 6.1 crore to 5.2 crore in 2023.

Reasons for low insurance coverage in India

- ▶ **Limited Awareness** 30% of the population is devoid of health insurance (NITI Ayog).
- ▶ **High cost:** Private voluntary health insurance costs at least two to three times the affordable level.
- ▶ **Gaps in insurance products:** For example, outpatient medical expenses are not covered under health insurance.
- ▶ **Low crop insurance coverage** due to various reasons. Also, some state governments have opted out of the PMFBY scheme.
- ▶ **Composite Licensing:** IRDAI do not allow composite licensing i.e., for an insurer to undertake life, general, or health insurance under one entity.

BRIEF BACKGROUND






Insurance sector in India

- ▶ India is **10th largest market globally** in terms of total premium volumes.
- ▶ **As per Economic Survey 2022-23**
 - **Insurance penetration** in India increased from **2.7% in 2000 to 4.2% in 2021**.
 - ◊ **Insurance penetration** is percentage of total premiums collected to the country's GDP.
 - **Insurance density** in India has increased from \$11.1 in 2001 to \$91 in 2021.
 - ◊ **Insurance density** is ratio of premiums collected by insurance companies to the country's population)

Regulation of the Insurance Sector in India

- ▶ **Insurance Act 1938:** Provides the **legislative framework** for the functioning of insurance businesses.
- ▶ **Insurance Regulatory and Development Authority of India (IRDAI): Statutory body**, established under the provisions of the IRDA Act, 1999.
 - Its functions include **regulation, promotion** and ensuring **orderly growth** of the insurance business and reinsurance business.
- ▶ **Insurance Division:** Within the Ministry of Finance is responsible for policy formulation and administration of various insurance related legislations.
- ▶ **National Insurance Academy:** Established in 1980 for research and development in insurance pension and allied fields.

Govt Steps to Promote Insurance Coverage

 <p>PM-JAY Ayushman Bharat (Pradhan Mantri Jan Arogya Yojana)</p>	 <p>PMSBY (Pradhan Mantri Suraksha Bima Yojana)</p>	 <p>PMJJBY (Pradhan Mantri Jeevan Jyoti Bima Yojana)</p>	 <p>ESIS (Employees' State Insurance Scheme)</p>	 <p>PMFBY (Pradhan Mantri Fasal Bima Yojana)</p>
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Recommendations of Report to Improve Insurance Coverage

- ▶ **Tax Benefits:** GST reduction on health insurance premiums or waiving GST for low-income and unorganized sector workers.
- ▶ **Customised Products** tailored to the unique risks prevalent in different age groups, genders, and occupations.
 - ▶ For example, **developing standardized health insurance products**, to ensure consumer protection through a guaranteed basic minimum package of services, as suggested by NITI Aayog.
- ▶ **Targeting Higher Income Groups:** Offer **high-value term insurance bundled with annuity and wellness insurance plans** for higher-income groups.
- ▶ **For the Elderly:** Developing long-term care insurance with critical care and disability benefits alongside pension cover.
- ▶ **Strengthening Efforts to Enhance Social Security Schemes** like PM Shram Yogi Maan Dhan and Atal Pension Yojana.

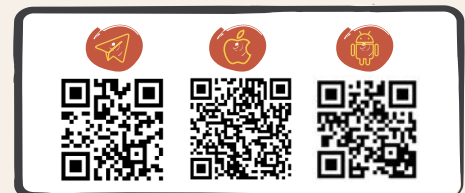
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3.3. POVERTY ALLEVIATION

3.3.1. NATIONAL MULTIDIMENSIONAL POVERTY INDEX



CONTEXT

NITI Aayog released a discussion paper titled 'Multidimensional Poverty in India since 2005-06'.

ANALYSIS



National MPI (NMPI)

- ▶ **Indicators:** Retained the 10 original indicators of GMPI and **added 2 indicators**, viz., Maternal Health and Bank Account.
- ▶ **NMPI Value:** Calculated by **multiplying the headcount ratio (H) and the intensity of poverty (A)**.
 - **Headcount ratio (H):** Indicates **proportion of multidimensionally poor** in the population.
 - **Intensity of poverty (A):** Indicates average proportion of deprivations experienced by multidimensionally poor individuals.
- ▶ **Nodal Agency:** Under the government's Global Indices for Reforms and Growth (GIRG) initiative, **NITI Aayog is the nodal agency for MPI**.
 - It uses **National Family Health Survey (NFHS)** to measure the NMPI.

Key finding of the recent discussion paper

- ▶ **Decline in MPI:** Headcount Ratio decreased from 29.17% in 2013-14 to **11.28% in 2022-23**. **24.82 crore Indians escaped** multidimensional poverty in last 9 years.
- ▶ **Regional Variation:** Poorer states such as **Uttar Pradesh, Bihar, etc.** record faster decline in poverty indicating disparities in reduction.
- ▶ **Factors responsible for decline in MPI:** PM Ujjwala Yojana, Saubhagya, Swachh Bharat Mission, etc.



BRIEF BACKGROUND

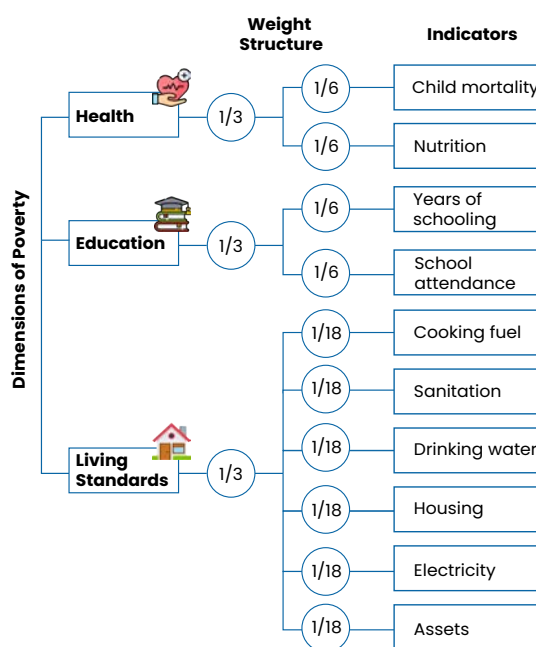
About Multidimensional poverty

- ▶ **About:** It considers **various deprivations beyond income** like poor health, lack of education, inadequate living standards to assess and understand poverty.
- ▶ **Alkire-Foster (AF) Method:** Most often used to compute **Multidimensional poverty indices (MPIs)** which show both breadth and depth of poverty.

Global MPI (GMPI)

- ▶ Released by the **Oxford Poverty and Human Development Initiative (OPHI)** and the United Nations Development Programme (**UNDP**) since **2010**.
- ▶ **MPI assesses poverty at the individual level across 100 developing countries.**
- ▶ If a person is **deprived in a 1/3rd or more** of ten (weighted) indicators, the GMPI identifies them as **'MPI poor'**.

Global MPI: Dimensions, Indicators & Weights



3.3.2. SELF HELP GROUP BANK LINKAGES (SHG-BL) PROJECT



CONTEXT

As per the Ministry of Rural Development, the Bank loans about **Rs. 7.68 lakh Crore** have been accessed by SHGs as of November 2023 since FY 2013-14 under the SHG-BL Project

ANALYSIS



About SHG Bank Linkages Project

- ▶ It is a **savings-led microfinance model**, launched by **NABARD** in **1992**.
 - Banks were allowed to **open savings accounts, accessing credit at subsidized rates of interest** for Self-Help Groups (SHGs).
- ▶ **Components of SHG-BL**
 - Training and sensitization of **Bank Branch Managers**.
 - Training and positioning of **Bank Sakhis at Rural Bank Branches**.
 - Initiate **Community-Based Repayment Mechanism (CBRM)** at Rural Bank Branches.
 - **Credit Linkage of SHGs**.

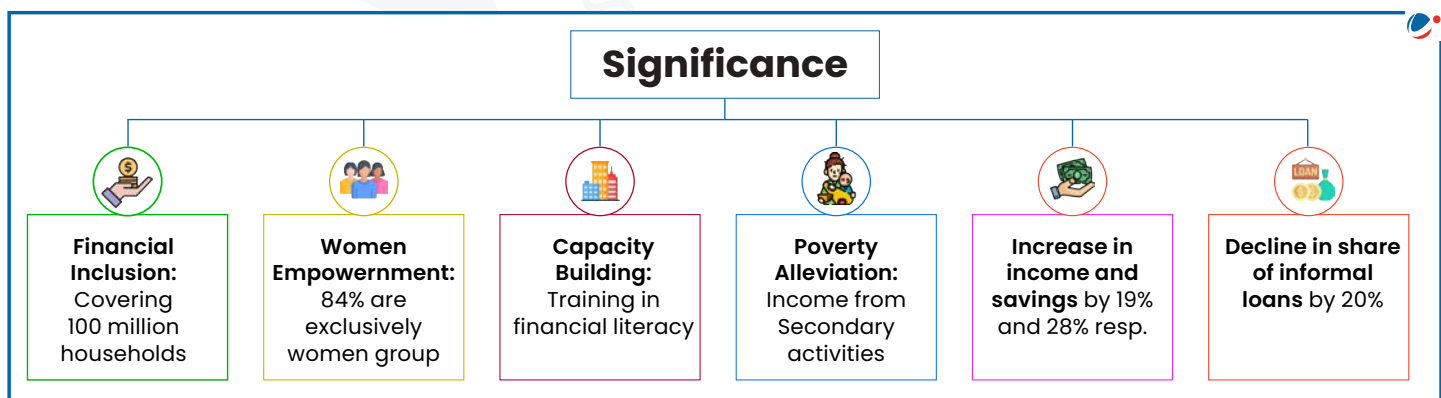
Key Factors in Success of the SHG-BL:

- ▶ **Regular training of staff and community cadres** under State Rural Livelihoods Missions (SRLMs).
- ▶ **Financial education** for Self Help Group (SHG) members through **trained Financial Literacy Community Resource Persons (FLCRPs)** at the village level.
- ▶ Bank Sakhis (**45,746**) are positioned in rural Bank branches, facilitating smoother interactions between the Banks and SHGs.
- ▶ **Web portal** created to overcome **information asymmetry** in SHG-Bank Linkage.

BRIEF BACKGROUND

National Bank for Agriculture and Rural Development (NABARD)

- ▶ **About:** It is the apex **development bank** for Fostering Rural Prosperity.
- ▶ **Genesis:** It formed as a **statutory body** established in **1982** under **National Bank for Agriculture and Rural Development Act, 1981**.
- ▶ **Purpose:** To Promote sustainable and equitable agriculture and rural development.
- ▶ **Function and Responsibilities:**
 - **Financial:** Short- and Long-term finance to financial institutions.
 - **Developmental:** Assist in policy formulation of RBI, Central and state govt. and State Govt. on matters related to agricultural credit and rural development.
 - **Supervisory:** To conduct inspection of Cooperatives and Regional Rural Banks (RRBs).



Challenges

- ▶ **Low bank loan per SHG member:** Although the total amount of loan disbursed is high, the amount per SHG member remains low.
- ▶ **Low Frequency:** Amount and **frequency of SHG loans are far less** than their need which drives villagers to go for other loan sources including usurious money lenders and relentless microfinance.
- ▶ **Loan Repayment Challenges:** Especially when SHG members face economic hardships or natural disasters.
- ▶ **Regional Imbalances:** The regional spread of the SHG-BL Programme is uneven as about 52% of the credit-linked SHGs are located in the southern States.

Way Forward

- ▶ **Community-Based Monitoring and Support Systems:** To track the progress of SHG activities and loan repayments.
- ▶ **Implement Risk Mitigation Strategies:** Such as insurance products or contingency funds, to address unexpected challenges faced by SHG members.
- ▶ **Innovative Collateral Solutions:** Explore alternative collateral solutions like the use of group guarantees, **social collateral**, or **government-backed schemes** to mitigate the collateral challenge.
- ▶ **Long-Term Sustainability Planning:** This includes building the capacity of SHG members to independently manage their financial affairs, reducing dependence on external support, and fostering a culture of self-reliance.



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3.4. AGRICULTURE

3.4.1. NUTRIENT BASED SUBSIDY (NBS)



CONTEXT

Ministry of Chemicals and Fertilizers issued guidelines regarding the **reasonableness of Maximum Retail Prices (MRPs) of Phosphatic and Potassic (P&K) fertilizers under the Nutrient Based Subsidy (NBS) policy.**

ANALYSIS



Key provisions of the guidelines

Through these guidelines, the government has **brought P&K fertilizers** under the NBS support **under reasonable pricing controls.**

- ▶ **Implementation:** These guidelines will be **effective retrospectively** from April 1, 2023.
- ▶ **Profit percentage:** **Differential profit percentages** will be allowed for P&K fertilizer companies based on their category.
- ▶ **Basis of evaluation:** Basis of evaluation of the reasonableness of MRPs will be the **total cost of sales.**
 - ▶ **GST will be excluded** from the evaluation of the reasonableness of MRPs.
- ▶ **Applicability:** **All fertilizer grades for which subsidy is received** by companies under the NBS scheme.
- ▶ **Assessment:** Companies will self-assess unreasonable profit earned by them and refund unreasonable profit to the Department of Fertilizers.

Related news

- ▶ Cabinet Committee on Economic Affairs (CCEA) approved launch of **Urea Gold.**
 - ▶ Urea gold will support the other initiative of government in the sphere of **Environmentally Friendly Fertilizers (EFFs).**
- ▶ **Urea gold is a Sulphur-Coated Urea (SCU).**
 - ▶ It is a **non-organic slow-release fertilizer** and is generally prepared by coating preheated urea granules with molten sulphur.
 - ▶ **Sulphur coating** ensures a more **gradual release of nitrogen.**
 - ◇ It **prolongs the urea action**, thus helping plants to stay greener for longer time.
 - ◇ It will **increase efficiency** and **reduce frequent application of fertilizer**, thus enhancing soil health.
 - ▶ As per **Indian Council of Agricultural Research (ICAR)** study, use of SCU leads to **reduction in urea consumption** by 25%.

BRIEF BACKGROUND

Nutrient Based Subsidy (NBS) Policy

- ▶ **Objective:** Introduced in 2010 with an aim to provide fertilizers to the **farmers at the subsidized prices.**
 - ▶ It has been approved for implementation up to **FY 2025-26.**
- ▶ **Basis:** It has been framed under **Fertilizer (Control) Order (FCO), 1985** issued under **Essential Commodities Act, 1955.**
- ▶ **Eligibility:** NBS is applicable for **25 grades of P&K fertilizers** namely, Di Ammonium Phosphate (DAP), Muriate of Potash (MOP), Mono Ammonium Phosphate (MAP), Triple Super Phosphate (TSP) etc.
 - ▶ **Fertilizer grade** refers to the guaranteed minimum percentage of N, P and K contained in fertilizer material.
- ▶ **Subsidy recommendations:** Inter-Ministerial Committee **recommends per nutrient subsidy for 'N', 'P', 'K' and 'S'** before the start of the financial year for decision by Department of Fertilizers.
- ▶ **Mechanism:** NBS fertilisers – unlike urea, whose MRP is fixed by the government – are **technically decontrolled.**
 - ▶ Under NBS scheme, their **MRPs are supposed to be market-determined** and set by the individual companies selling them.
 - ▶ **Subsidy on urea is paid on dispatch** whereas **NBS is paid on quantities sold.**



3.4.2. INLAND FISHERIES



CONTEXT

India has overtaken China to become the largest contributor of inland capture water fisheries, thereby emerging as one of the top three fish-producing countries in the world.

ANALYSIS



Benefits of Inland Fisheries

- ▶ **Nutritional and Food Security:** Rich in protein, omega-3 fatty acids, and Vitamin D.
- ▶ **Economic benefits** like employment, development of rural infrastructure etc.
- ▶ **Environmental benefits** include maintaining healthy ecosystems, controlling invasive species, habitat restoration etc.
- ▶ **Social and cultural significance** include the promotion of cultural heritage through traditional knowledge systems and recreational fishing.







Challenges Associated with Indian Inland fisheries.

- ▶ **Production Challenges:** Slow adoption of cutting-edge technologies like innovative hatchery technologies.
- ▶ **Limited extension services:** Like shortage of soil and water testing facilities limits scope of development of the sector.
- ▶ **Economic Challenges:** Like lack of timely credit, inadequate price discovery mechanism due to lack of efficient electronic trading platform, post-harvest losses etc.
- ▶ **Infrastructure Challenges:** Like inadequate cold chain facilities, inadequate Post-Harvest Infrastructure, etc.
- ▶ **Environmental Challenges:** Water pollution and sustainability issues due to overfishing and depletion of fishing stocks.

BRIEF BACKGROUND

About Inland Fisheries

- ▶ Inland fisheries refer to the **harvesting, management, and conservation of fish generally** in freshwater bodies such as rivers, lakes, reservoirs, ponds etc.
- ▶ It is mainly done by **two methods:-**
 - **Capture fisheries:** Obtaining fish directly from lakes, rivers or ponds with the help of fishing gear or nets etc. E.g., Riverine Fisheries
 - **Culture fisheries:** Raising and harvesting fish in controlled environments with tools of breeding or feed management etc. E.g., Cage Culture in Reservoirs
- ▶ **2000 onwards Inland fish production started seeing a peak** in India. Production has doubled over the past 9 years to 131 lakh tonnes.

Measures Taken for Fisheries Sector					
					
Pradhan Mantri Matsya Sampada Yojana (PMMSY)	National Genetic Improvement Facility	National Fisheries Development Board (NFDB)	National Surveillance Programme for Aquatic Animal Diseases (NSPAAD)	Fisheries and Aquaculture Infrastructure Development Fund (FIDF)	e-Gopala app to assist farmers in aquaculture

Way Forward

- ▶ **Adoption of emerging technologies** like big data, and blockchain in supply chain systems can help in minimising losses, improving traceability etc.
- ▶ **Enabling policy framework** with **Multi Stakeholder** approach in decision-making process.
- ▶ **Adoption of FAO's Code of Conduct for Responsible Fisheries** for sustainable fish farming practices.
- ▶ **Promotion of fisher community institutions** such as **Fish farmer producer organisations (FFPOs)**.
- ▶ **Infrastructure development** like **food parks, cold storage etc.** to improve the logistical support and shelf life of the product.

Quarterly Revision

3.4.3. FOOD PROCESSING INDUSTRY



CONTEXT

India's processed food exports have grown by 150% in the last 9 years making agricultural exports touch a value of about \$53 billion.

ANALYSIS



India's Status in Agri-food Exports

- ▶ India is 1st in dairy production and 2nd in horticulture production.
- ▶ The sector recorded an average annual growth rate of 8.3% in the last 5 years.
- ▶ It contributed 22.6% of the total agri-food exports in 2021-22.

Initiatives/Institutional measures





- ▶ **Agriculture Export Policy (2018):** Aims to double India's share in world agri exports by integrating with global value chains.
- ▶ **Agricultural and Processed Food Products Export Development Authority (APEDA):** Established under APEDA Act, 1985 for export development by providing financial assistance, fixing standards, improving packaging etc.
- ▶ **The Marine Products Export Development Authority (MPEDA):** Statutory body with the primary task of promoting of export of marine products.
- ▶ **Liberalised FDI regime:** 100% FDI through automatic route for FPIs and 100% FDI through government-approval route for retail trading, including through e-commerce.
- ▶ **Other Initiatives:** Pradhan Mantri Kisan Sampada Yojana, Pradhan Mantri Formalization of Micro Food Processing Enterprises Scheme (PMFME Scheme), Production Linked Incentive Scheme for Food Processing Industry etc.

BRIEF BACKGROUND

What is Food processing?

- ▶ According to the Ministry of Food Processing Industries (MoFPI), if any raw product of agriculture, animal husbandry or fisheries is transformed in such a way that-
 - Its original physical properties undergo a change,
 - The transformed product is edible and Industry (FPI).
 - Has commercial value, then it comes within the domain of Food processing.

Benefits of food processing exports

 Employment and Rural Development	 Reduction in waste	 Nutritional benefits	 Foreign exchange earnings through exports
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Challenges Persisting in the Food Processing Industry

- ▶ **Lack of cutting-edge infrastructure:** Many businesses operate in the small and medium enterprises sector, lacking the resources for technology upgrades.
- ▶ **Logistical challenges:** Inadequate storage and transport facilities and inefficient global supply chains lead to wastage.
- ▶ **Lack of access to credit and financing:** It creates entry barriers for small businesses.
- ▶ **Inadequate quality control & testing infrastructure:** This leads to issues such as pest infestations, presence of chemical residues, and prohibition on Indian products due to quality issues.

Way Forward

- ▶ **Changing the trend from sustenance to market-oriented** by increasing focus on large-scale food processing.
- ▶ **Promoting interaction between farmers and processors** through farmer producer organisations (FPOs).
- ▶ **Strengthening institutional framework** to develop manpower and bringing improvement in R&D capabilities.
- ▶ **Enhance export competitiveness** by developing Efficient Quality control, and Food Safety Assurance of processed food products.



Quarterly Revision

3.4.4. CODEX COMMITTEE ON SPICES AND CULINARY HERBS (CCSCH)



CONTEXT

In its 7th session held in Kochi, CCSCH finalized **quality standards** for **5 spices** – **small cardamom, turmeric, juniper berry, allpice and star anise**. It also **forwarded** the same to **CAC** for adoption **as full-fledged Codex standards**.

ANALYSIS



About CCSCH

- ▶ **Establishment:** CCSCH was established as one of the **Commodity Committees** under CAC in 2013.
- ▶ **Host:** **India** has hosted CCSCH since the beginning and **Spices Board India (Ministry of Commerce and Industry)** serves as the **Secretariat organization**.
- ▶ **Objectives:**
 - **To elaborate worldwide standards** for spices and culinary herbs in their **dried and dehydrated state**.
 - **Consult with international organizations** in the **standards development process** to avoid duplication.

Codex Standards

- ▶ **About:** These are **international food texts**, i.e., **standards, codes of practice, codes of hygienic practice, guidelines, and other recommendations**.
- ▶ **Nature:** Codex texts are **voluntary** and **do not have a binding effect** on national food legislation.
- ▶ **Codex and WTO:** **WTO Agreements on Sanitary and Phyto-sanitary Measures (SPS Agreement)** and on **Technical Barriers to Trade (TBT Agreement)** encouraged WTO members to **harmonies national regulations** with international standards.

BRIEF BACKGROUND

Codex Alimentarius Commission (CAC)

- ▶ **Genesis:** An international food standards body established jointly by Food and Agriculture organization (FAO) and WHO in 1963
- ▶ **Objective:** Protecting consumer's health and ensuring fair practices in food trade.
- ▶ **Members:** 189 Codex Members is India a member
- ▶ **Functioning:** CAC conducts its work through various Codex committees, including CCSCH, hosted by different member countries.
- ▶ **Standards:** Codex standards are voluntary and can be general or specific and are also recognised by WTO Agreements as reference

Lakshya

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Quarterly Revision

3.5. MISCELLANEOUS

3.5.1. LEVERAGING DIASPORA FINANCES



CONTEXT

World Bank released an annual report “Migration and Development Brief: Leveraging Diaspora Finances for Private Capital Mobilization”.

ANALYSIS



- ▶ **Global Remittance:** Global remittance flows are estimated at **\$860 billion in 2023** (an increase of 3% from 2022).
 - ▶ **Largest Source of remittance:** United States followed by Saudi Arabia.
 - ▶ **Remittance recipient countries:** India (\$125 billion), Mexico (\$67 billion), China (\$50 billion)
- ▶ **Remittances to Low and Middle-income Countries (LMICs):** Estimated to reach **\$669 billion at 3.8% growth** in 2023.
 - ▶ Remittances continued to be the **premier source of external finance for LMICs** during 2023.
 - ▶ **Remittances’ growth in South Asia is projected to be the highest** (\$89 billion) among LMICs in 2024, attributable entirely to remittance flows to India.

BRIEF BACKGROUND

Remittances Flow in India

- ▶ **Largest Recipient of the Remittance in the World:** India received an estimated **\$125 billion** in remittances in 2023 but the **share of remittances in the economy was only 3.4%**.
 - ▶ As of September 2023, **non-resident Indian deposits in India amounted to \$143 billion**.
- ▶ **Source Countries:** Remittances from the **US, UK, and Singapore (High-skilled migrants)** collectively account for **36% of total remittances**.
 - ▶ **UAE is the second-largest source** of remittances to India after the US, accounting for 18% of the total.

Significance of Remittance for Developing Countries

- ▶ **Economic Growth:** Remittances received by households **enable increased savings and demand in the economy, resulting in increased revenues**.
- ▶ **Funding Fiscal Deficit:** Remittances are a **major source of external financing** and provide **critical support to Balance of Payment**.
- ▶ **International Borrowing:** Future inflows of remittances can be used **as collateral to lower the costs of international borrowings**.
- ▶ **Sustainable Source of Finance:** Remittances tend to be **stable and even countercyclical during economic downturns**.
- ▶ **Improve Country Creditworthiness:** Remittances can also help **improve a country’s sovereign ratings and its ability to repay debt**.

Concerns Associated with Remittances

- ▶ **Restrictive Measures:** in response to the increase in migration flows.
- ▶ **High Remittance Cost:** Banks continue to be the costliest channel for sending remittances.
- ▶ **Remittance flows through Informal Channels:** Decline in real income for migrants due to high Inflation and low growth.
- ▶ **Volatile nature of Non-Resident Deposits:** Thus, not considered appropriate for financing long-term development projects.

Way Forward

- ▶ **Encouraging Remittance Flows through Formal Channels** like offering incentives to transmit remittances via official channels.
- ▶ **Labour Markets and Social Protection Policies** in host countries should be inclusive of migrants.
- ▶ **Reducing migration costs** to improve migrants’ earnings and savings thereby increasing remittances and diaspora investments.

3.5.2. ROAD INFRASTRUCTURE IN INDIA



CONTEXT

Parliamentary Standing Committee on Transport, Tourism and Culture submitted a report in the Parliament which raised concerns about delays in road projects.



ANALYSIS

Road Network in India

- ▶ 66.71 lakh km of road network in India, which is the second largest in the world.
- ▶ 2% of the total road network is NH which carries over 40% of total traffic.
- ▶ 29 Km/Day Pace of NH Construction in FY 2021-22.

Issues Associated with Road Projects

- ▶ **Delayed projects:** Due to issues like **delay in land acquisition**, unseasonal rainfall, local agitation, forest clearance etc.
- ▶ **Financial shortfall:** Insufficient budgetary allocation led **private contractors to use low-quality materials** to reduce costs.
- ▶ **Lack of Maintenance:** Budgetary allocation made for the Maintenance and Repair of National Highways in India remains less than even 4% of the annual budget, in comparison to 40-50% in developed countries.
- ▶ **Safety Concerns:** Most road accidents occur due to **bad road engineering, lack of service roads** alongside National Highways, **poor road infrastructure, potholes, lack of awareness** about traffic rules, etc.
 - Increase of 11.9% in accidents, 9.4% in fatalities, and 15.3% in injuries compared to 2021 (**Road Accidents in India 2022** report)
- ▶ **Environmental concerns:** Deforestation, Habitat loss for species, impact on freshwater resources etc.

Key Initiatives taken to Improve Road Infrastructure in India





			
Bharatmala Pariyojana: for multi-modal integration	Special Accelerated Road Development Programme for North-East region	Bhoomi Rashi - Land Acquisition Portal	100% FDI under the automatic route in the road and highways sector

Way Ahead

- ▶ **Dispute Resolution:** Speedily resolve pending cases and unlock stuck capital that can be used to expedite the construction of more highways through initiatives like Vivad Se Vishwas.
- ▶ **Reduce Environmental Impact:** Collaborate with stakeholders to reduce road construction's environmental impact on biodiversity and natural habitats.
 - **Utilization of recycled materials**, fly ash, and plastic waste for highway construction etc.
- ▶ **Service Road:** Special budgetary allocation may be made to ensure the provision of service roads alongside NHs.
 - Also, create an effective **policy to curb encroachment of service roads** by local markets.
- ▶ **Ensure Road Safety:** Ensure **good quality of construction material**, **rectify black spots**, make **arrangements for ambulances, patrol vehicles**, mobile phone-based Emergency Response System etc.



Public Private Partnership (PPP Models) to Develop Road Projects

 Build, Operate, Transfer (BOT) Toll Model	 BOT Annuity Model	 Hybrid Annuity Model	 Engineering, Procurement and Construction (EPC) Model
<ul style="list-style-type: none"> ▶ A private player (road developer) is granted a concession to finance, build, and operate a project for specified period (20- or 25-year concession period). ▶ The developer recoups their investments by way of user charges or tolls charged from customers using the facility. 	<ul style="list-style-type: none"> ▶ A developer builds highway, operates it for a specified duration (15- 25 years) and transfers it back to the government. ▶ Road developers are paid pre-fixed amount as an annuity and government bears the risk of toll revenue. 	<ul style="list-style-type: none"> ▶ 40 percent of project cost is paid by government as construction support to private developer, and remaining 60 percent is to be arranged by developer. 	<ul style="list-style-type: none"> ▶ The government pays entire cost to private parties to build roads, thereby insulating the contractor entirely from financial risk. ▶ Government remains responsible for road maintenance or toll collection.

3.5.3. LEADS REPORT 2023

Quarterly Revision

CONTEXT

Ministry of Commerce and Industry unveiled the Logistics Ease Across Different States (LEADS) Report 2023.

ANALYSIS

Key Findings of 2023 Report

- ▶ **Initiatives undertaken by States and UTs**
 - 21 States and 2 UTs have notified their respective **State Logistics policies**.
 - 15 States and 1 UT have given **Industry status to the logistics sector**.
- ▶ The total length of roads and railway tracks grew by about **21% and 9%** since 2014-15.
- ▶ The total number of Container Freight Stations (CFS) increased by **18%** and Inland Container Depots (ICDs) increased by **26%** growth between FY18 to FY22.

Significance of LEADS for the logistics sector





- ▶ **Align State objectives with National priorities.**
- ▶ **Encouraged competition among States** to improve the logistics sector.
- ▶ Empowers the State/UT Governments by providing **region-specific insights for informed decision-making**.


BRIEF BACKGROUND

About LEADS

- ▶ Launched by the **Ministry of Commerce and Industry** on the lines of the **Logistics Performance Index (LPI)** of the World Bank in **2018**.
- LPI relies entirely on perception-based surveys, **LEADS incorporates both perception as well as objectivity**.
- **India ranks 38th/139** countries in LPI 2023.
- ▶ LEAD ranks **States and UTs** on the **efficiency of their logistics ecosystem**.



Groups / Categories	Achievers	Fast Movers	Aspirers
 Coastal	Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu	Kerala, Maharashtra	Goa, Odisha, West Bengal
 Landlocked	Haryana, Punjab, Telangana, Uttar Pradesh	Madhya Pradesh, Rajasthan, Uttarakhand	Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand
 North-East	Assam, Sikkim, Tripura	Arunachal Pradesh, Nagaland	Manipur, Meghalaya, Mizoram
 Union Territories	Chandigarh, Delhi	Andaman & Nicobar, Lakshadweep, Puducherry	Daman & Diu/Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

 **LEADS 2023: Performance Snapshot**
*States/Union Territories within the performance categories are listed in alphabetical order

3.5.4. FDI IN SPACE SECTOR

CONTEXT

Government recently relaxed rules to allow 100% foreign direct investment (FDI) in the space sector.

ANALYSIS

FDI in Space Sector

- ▶ **Existing FDI policy in Space sector:** Earlier, FDI was permitted in the establishment and operation of Satellites through the Government approval route only.
- ▶ **Amended FDI policy:** 100% FDI is allowed in the Space sector in line with the vision and strategy under the Indian Space Policy 2023.

Significance of the amended policy

- ▶ **Integration with global value chains:** It is expected to integrate Indian companies into global value chains.
- ▶ **Indigenisation:** Enabling modern technology absorption, and making the sector self-reliant, encouraging Make in India and Atmanirbhar Bharat initiatives.
- ▶ **Focus on R&D:** Reforms allow ISRO to concentrate on cutting-edge research and development, exploration missions and human spaceflight programme.
- ▶ **Enhance Ease of Doing Business:** Set to lower entry barriers for foreign players, fostering a more inclusive environment for international investments, technology transfers, and collaborative research in space technology.
- ▶ **Greater FDI inflows:** It will contribute to growth of investment, income and employment.
 - ▶ In 2021-22, ₹ 175 Crore was generated towards export of launch services, data sales and in-orbit support services and post-launch operations.
 - ▶ **Enhance share in global space economy:** Currently, India accounts for only around 2-3 % of the global space economy (\$8.4 billion), much behind the major players such as the US and China.

BRIEF BACKGROUND

FDI limits for satellite sub-sector division

- ▶ **Upto 74% under Automatic route:** Satellites-Manufacturing & Operation, Satellite Data Products and Ground Segment & User Segment. Beyond 74% these activities are under government route.
- ▶ **Upto 49% under Automatic route:** Launch Vehicles and associated systems or subsystems, Creation of Spaceports for launching and receiving Spacecraft. Beyond 49% these activities are under government route.
- ▶ **Upto 100% under Automatic route:** Manufacturing of components and systems/ sub-systems for satellites, ground segment and user segment.

Steps taken by India to support the private sector in space

Indian Space Association (ISpA)	Antrix Corporation Limited as a marketing arm of ISRO	Indian National Space Promotion and Authorization Centre (IN-SPACe)	India space policy 2023 makes private sector a critical stakeholder in space
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Way forward to sustain the growth of the Space sector

- ▶ **Regulation:** To compete globally, India requires the **Space Activity Bill** to be passed, fostering a thriving space industry and advancing participation in the global space economy.
- ▶ **Technological Advancement:** Collaborate with the IT sector to **leverage India’s expertise** in information technology for space applications.
- ▶ **Technology Transfer:** Facilitate **technology transfer from ISRO to the private sector**, particularly for initiatives like the Small Satellite Launch Vehicle (SSLV).
- ▶ **International Collaboration:** Foster partnerships with global space agencies (E.g.: **India joined Artemis Accords in 2023**) and industry players to leverage expertise and resources.

3.5.5. PETROLEUM EXPLORATION & PRODUCTION

CONTEXT

Oil and Natural Gas Corporation (ONGC) has started first crude **oil production** from its Cluster-2 deep-sea project in the **Krishna-Godavari (KG) basin in the Bay of Bengal**.



ANALYSIS



Significance of Indigenous Petroleum Exploration and Production

- ▶ **Reduction in Import Bill:** India imports 85.7% oil and 48.2% of natural gas of requirement.
- ▶ **Strategic Importance:** Reduces vulnerability to geopolitical uncertainties, supply disruptions and price fluctuations in the global market.
 - **India is 3rd largest energy and oil consumer in world.**
- ▶ **Revenue Generation:** Through taxes, royalties and profit-sharing agreements.
- ▶ **Employment Generation:** In a range of activities including exploration, production, refining and disruptions.

Steps Taken for Enhancing Petroleum E&P

- ▶ **Directorate General of Hydrocarbons:** Formed to promote sound management of the oil and natural gas resources.
- ▶ **Streamlining of approval processes:** By digitization and standardization of contractual submissions on the e-platform.
- ▶ **National Data Repository (NDR):** Serves as a government data bank promoting E&P activities.
- ▶ **India Hydrocarbon Vision 2025:** Lays the broad contours/targets for the development of Hydrocarbons.

BRIEF BACKGROUND

Petroleum Basin in India

- ▶ **Petroleum Basin:** Includes a diverse collection of rocks and sediments, but most importantly it contains source rocks (shale formations home to oil and gas).
- ▶ **26 sedimentary basins in India:** Covering a total area of 3.4 million square kilometers.
 - Of the total sedimentary area, **49% is located on land, 12% is in shallow water and 39% in deep water area** (farther up to Exclusive Economic Zone or EEZ).
- ▶ **Three Categories:** These basins are also divided into **3 categories (refer map) based on the maturity of hydrocarbon resources.**
- ▶ **Methods of Extracting Crude Oil:**
 - **Offshore drilling:** In marine environments, offshore basins like **Arabian Sea or Bay of Bengal.**
 - **Onshore drilling:** **On land**, covering various sedimentary basins across the country.
- ▶ **ONGC is India’s largest oil and gas producer** contributing 72% of the country’s hydrocarbon production.

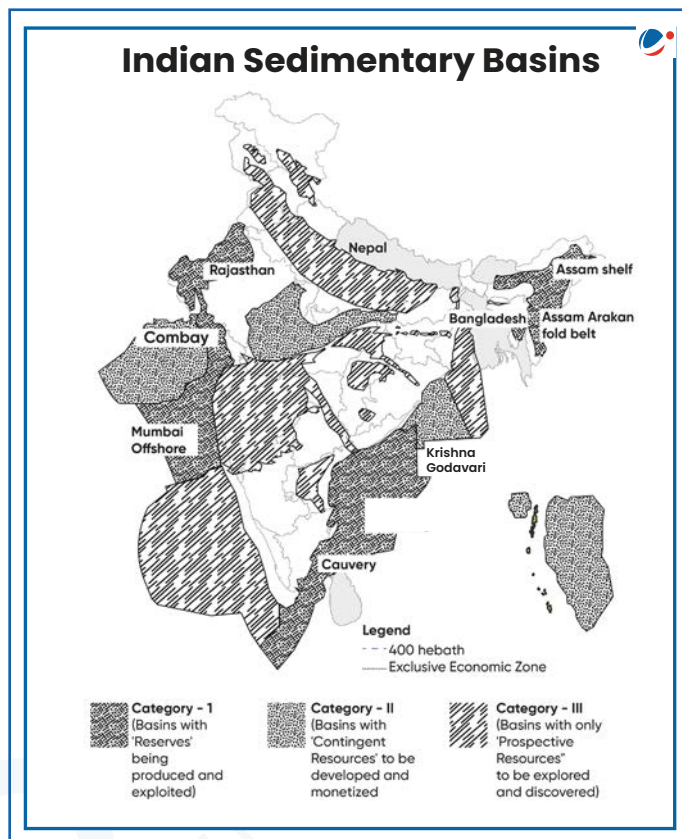
- ▶ **100% FDI through automatic route:** For exploration activities of oil and natural gas fields, and related marketing infrastructure etc.
- ▶ **National Seismic Programme (NSP):** Aims to undertake a fresh appraisal in all sedimentary basins across India.

Challenges in Petroleum E&P

- ▶ **Capital:** Oil production units are capital intensive in nature requiring expensive equipment and highly skilled labours.
- ▶ **Technological:** Extracting petroleum from challenging geological formations requires advanced drilling technologies.
- ▶ **Accidents:** E&P activities involve the risk of spills, leaks, and other accidents. E.g. **Ennore oil spill** in Tamil Nadu.
- ▶ **Environmental:** Loss of habitats and wildlife due to drilling, pipelines, and other infrastructure.

Way Forward

- ▶ **Investment:** Explore opportunities for joint E&P of oil and gas assets with Global companies.
 - Also, a stable tax regime and tax breaks would help attract more private investment.
- ▶ **Sustainable E&P:** E.g., **Oil India Limited** partnered with **Assam State Biodiversity Board** and **IUCN** to study the impact of oil production on **Dibru Saikhowa National Park** (Assam) and develop a sustainable oil production plan.
- ▶ **Control Oil spills:** By using latest technologies like oil-zappers and providing comprehensive industrial training.
- ▶ **Mitigating impact on community:** Project planning should involve impact assessment to understand potential effects on local communities.



3.6. TEST YOUR LEARNING

MCQs

1. With reference to the Government Securities (G-Secs), which of the following statements is/are correct?

1. G-Secs carry practically no risk of default and, hence, are called risk-free gilt-edged instruments.
2. In India, Central Government issues both T bills and dated securities, while State Governments can issue only dated securities, which are called State Development Loans (SDLs).

Select the correct answer using the code given below.

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

2. Which of the following statements is/are correct regarding the Unified Payments Interface (UPI)?

1. The transaction limit for UPI is capped at Rs. 1 lakh for all categories of transactions.
2. It was developed by NPCI in 2016 and built over Immediate Payment Service (IMPS) infrastructure.
3. UPI Tap & Pay allows NFC-enabled QR codes at merchants to complete payments, with a single tap without entering the PIN.

Select the correct answer using the code given below:

- a) Only one
- b) Only two
- c) All three
- d) None

3. Consider the following statements about the National Multidimensional Poverty Index (NMPI):

1. It is released by the Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development Programme (UNDP).
2. It is calculated by multiplying the headcount ratio (H) and the intensity of poverty (A).

Which of the statements given above is/are not correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

4. Which of the following is not correct about the Nutrient Based Subsidy (NBS) Policy?

- a) It was introduced in 2010 with the aim to provide fertilizers to farmers at subsidized prices.
- b) NBS is applicable for 25 grades of P&K fertilizers.
- c) Inter-Ministerial Committee recommends per nutrient subsidy for 'N', 'P', 'K' and 'S' before the start of the financial year for decision by the Department of Fertilizers.
- d) Under the NBS scheme, MRPs of fertilizers are determined by the government and individual companies are accordingly compensated later.

5. Which of the following statements is/are correct regarding the Logistics Ease Across Different States (LEADS) Report 2023?

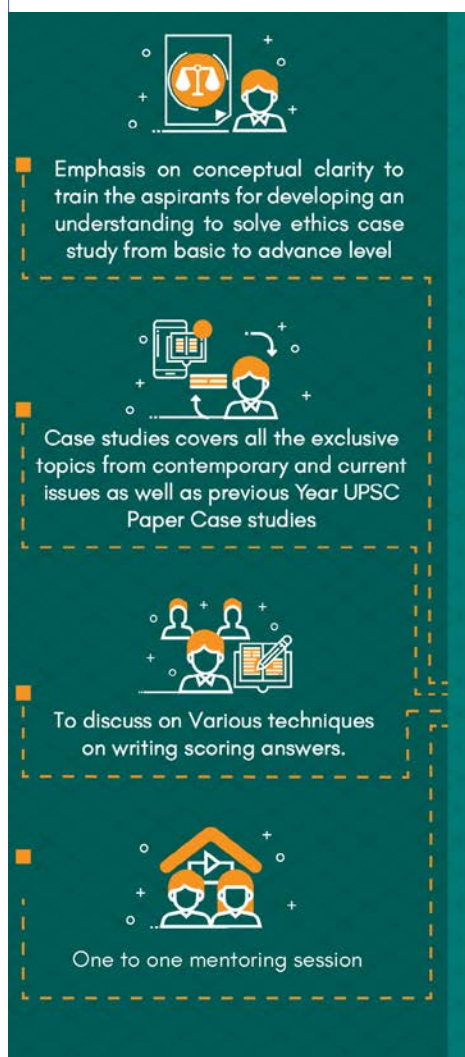
1. Launched by the Ministry of Road Transport and Highways (MoRTH) on the lines of the Logistics Performance Index (LPI).
2. LEADS ranks States and UTs on the efficiency of their logistics ecosystem.
3. LEADS divides States in 2 categories in accordance with their rankings i.e., Achievers and Aspirers.

Select the correct answer using the code given below:

- a) Only one
- b) Only two
- c) All three
- d) None

Questions

1. Vice President of India termed economic nationalism as quintessentially fundamental to India's economic growth. Discuss. (150 words)
2. Private sector would assume a critical role in developing India's growing Space sector. Critically Analyze. (250 words)

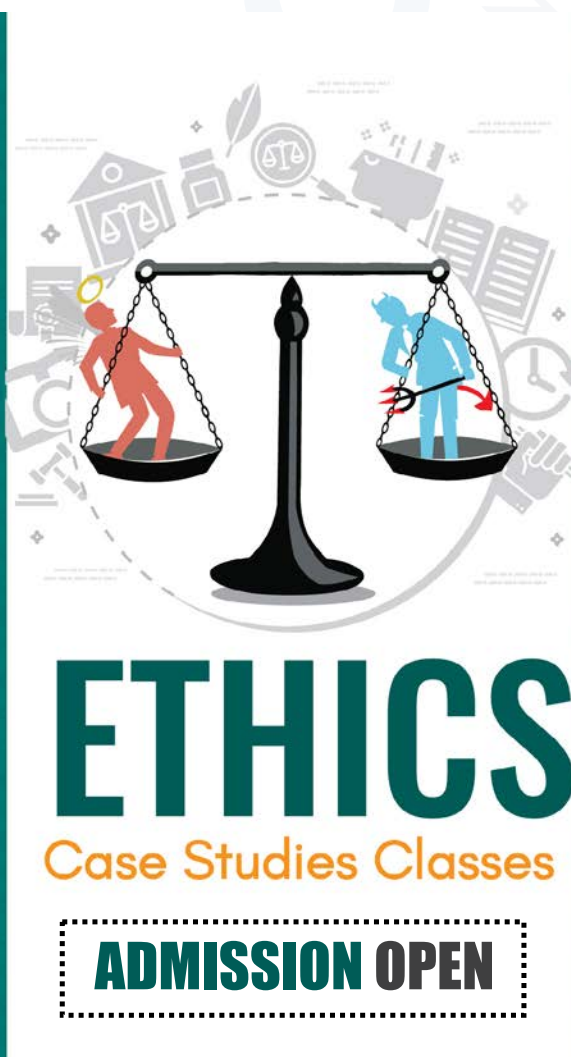


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4.1. 15TH ANNIVERSARY OF 26/11 MUMBAI ATTACKS



CONTEXT

Israel has listed Lashkar-e-Taiba (LeT) as a terror organisation to symbolise the marking of 15th year of commemoration of the 26/11 Mumbai attacks.

ANALYSIS



Lapses that led to 26/11

- ▶ **Police related issues:** lacked simulated training; Availability of arms, etc
- ▶ **Intelligence Failure & security lapses:** lack of specific intelligence from the central intelligence agencies; Mechanical forwarding of intelligence alerts, etc.
- ▶ **Post attack issues like access to the CCTV cameras;** unavailability of majority of the flying squads; Trained NSG & marine commandos took long to arrive.

Improvements made after 26/11

- ▶ **3-layered protection of Indian coastal areas:** - Indian Navy (beyond 200 Nautical Miles (NM)); Indian Coast Guard (12 to 200 NM); Marine Police (Up to 12NM from shore).
- ▶ **Indian Navy:** Given overall charge of maritime security; Indian Coast Guard Charge to monitor territorial waters.
- ▶ **Sagar Prahari Bal (SPB):** As a separate division within the navy was formed.
- ▶ **Fast Interceptor Crafts (FIC):** For patrol and rescue operations in India's EEZ.
- ▶ **Creation of National Investigation Agency (NIA).**
- ▶ **National Security Guard (NSG) hubs:** Set up at Kolkata, Chennai, Gandhinagar, Delhi, and Mumbai.
 - ▶ **Intelligence Bureau's Multi Agency Centre (MAC)** has been strengthened
- ▶ **Sharing of intelligence:** With Western agencies like the FBI and MI6 has improved since 2008.
- ▶ **India's National Security Council Secretariat** held joint exercise with **Regional Anti-Terrorist Structure (RATS)** of SCO to restrict terrorism through the use of new technologies and internet.

Steps to be taken further

- ▶ **A Universal definition of Terrorism** and establishment of a permanent secretariat to fight terror at the international level
- ▶ **No Money for Terror:** Focus should be on curbing terror financing.
- ▶ Actions for **deradicalization** and safe usage of internet, social media.
- ▶ **Indian Ocean Region Security** should be done in a collaborative approach.

About National Investigation Agency (NIA)

- ▶ NIA is a **central counter terrorism** specialised agency formed in the backdrop of 26/11.
- ▶ **Legislation:** National Investigation Agency Act 2008.
- ▶ **Powers:** Can investigate terror crimes **without special permission from the states.**
- ▶ **Offences under NIA:** Atomic Energy Act, 1962, Unlawful Activities Prevention Act, 1967.
- ▶ **2019 Amendment added scheduled offences related to:** Human trafficking, Offences related to counterfeit currency; Manufacture or sale of prohibited arms; Cybercrimes and Explosives Substances Act 1908.

6 Pillars of India's strateg against the financing of terrorism

	Strengthening legislative & technological framework
	Creation of comprehensive & monitoring framework
	Actionable intelligence sharing mechanisms; strengthening Investigation & police operations.
	Prevent misuse of legal entities and new technologies
	Provisions for confiscation of property
	Establishment of international coordination and cooperations

4.2. PEACE AND STABILITY IN NORTHEAST REGION



CONTEXT

The Government of India (GoI) has signed a peace agreement with two groups to bring stability to the Northeastern Region (NER).

ANALYSIS



- ▶ GoI and Government of Manipur signed a Peace Agreement with **United National Liberation Front (UNLF)**.
- ▶ MoU was signed between GoI, Gov of Assam and **United Liberation Front of Assam (ULFA)**.

Significance of bringing peace in NER

- ▶ Opens new avenues of development of NER like tourism, trade etc.
- ▶ **Better future** to the youths from NER
- ▶ **End hostilities** between armed groups.
- ▶ **Reduce incidence of crime:** Limit civilian casualties, extortion, kidnappings, etc.
- ▶ **Encourage other insurgent groups** to join peace process.
- ▶ **Easier to tackle threats** to national security.

Challenges for the peace and stability in NER

- ▶ **Cultural difference:** As there are more than **247 ethnic communities and tribes** in NER.
- ▶ NER has remained a **hotspot of insurgency**.
- ▶ NER is vulnerable to illegal infiltration.
- ▶ There are existing **inter-state and international territorial conflicts**. For example, the **Assam-Mizoram Border Dispute**.
- ▶ Factionalism like the rivalry of the National Socialist Council of Nagalim (**NSCN**) **Muivah faction and the Khaplang factions** has been complicating the Naga negotiations.

Way forward

- ▶ **Peace efforts** to be continued along with infrastructural development and regional industrial value chains.
- ▶ **Preserving and promoting** the unique dialects, languages, etc.
- ▶ **Checking illegal migration** and strengthen border security



Brief Background



Initiatives to bring peace

- Reduction of disturbed areas under **Armed Forces Special Powers Act (AFSPA)**
- Act East policy to promote economic, strategic and cultural relations with the vast Asia-Pacific region.
- **PM-DevINE** aimed at the rapid and holistic development of the Northeast Region.
- **Revised Scheme for Surrender-cum-Rehabilitation** of militants in North East
- **North East Special Infrastructure Development Scheme (NESIDS)**.

Other recent agreements:

- Assam-Arunachal border agreement (2023).
- Assam-Meghalaya Inter-State Boundary Agreement (2022).
- Adivasi Peace Accord (2022).
- Karbi Anglong Agreement (2021)
- Bodo Accord (2020)
- Bru-Reang Agreement (2020)

4.3. SECURING MARITIME TRADE ROUTES



CONTEXT

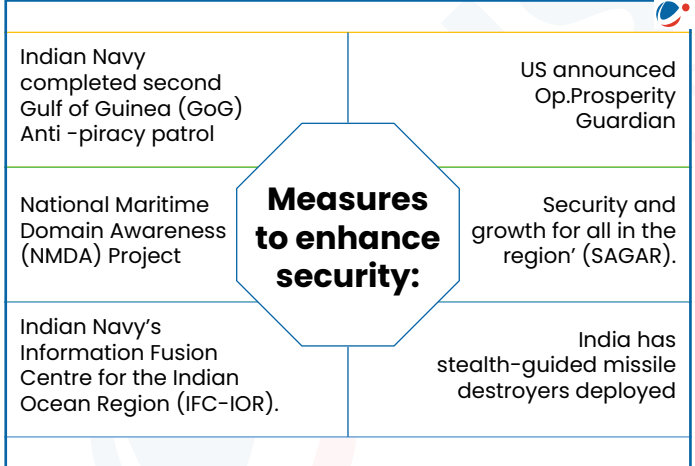
Several recent incidents in the maritime domain have raised concerns regarding the security of maritime trade routes.

ANALYSIS

- ▶ Houthi rebels in Yemen are attacking vessels traveling through **Bab-el-Mandeb Strait** which is south of the **Suez Canal (Red Sea)**.
- ▶ Further, Panama is facing its **driest rainy season in decades**.
- ▶ **Other threats:** Rising geopolitical tensions; Disputed maritime boundaries

Impacts of recent threats to maritime routes

- ▶ Increase in **shipping costs** and **CO2 emissions** with longer travel-time.
- ▶ **Disruption in global supply chain**.
- ▶ **Impact on India:** Suez Canal is a key route for export shipping (**EU 2nd largest in Indian exports**); Red Sea is a key route for **oil and gas shipments**



Way forward

- ▶ **Diversification** of supply chains to ensure resilience and adaptive global trade infrastructure.
- ▶ **Recognition** of increasing military capabilities of groups like Houthis and to counter them successfully.
- ▶ **Restoration** of stability in regional maritime routes, securing choke points, etc.
- ▶ **Mediation** of peace by India given its good relations with various players in the Middle East.

Brief Background

Suez Canal

- Connects: **Mediterranean and Red Seas.**
- **Length:** 193 KM.
- **Sovereignty:** With Egypt.
- **Shortest route** between East and West.
- **Trade Volume:** In 2020, ~12% of global trade passed, representing 30% of global container traffic.
- **7-10% of the world's oil and 8% of LNG** pass through.

Panama Canal

- Connects: **Atlantic and Pacific Oceans.**
- **Length:** ~80 KM.
- Uses a system of **locks compartments** with entrance and exit gates and the locks function as water lifts.
- **Trade Volume:** Represents approximately 6% of the world trade.

Suez Canal

Through the Suez Canal
Around 8,500 nautical miles in a 26-day trip

Around the southern tip of Africa
Around 11,800 Nautical miles in a 36-day trip

Panama Canal

NEW ROUTE:
5,200 nautical miles

South Pacific Ocean

OLD ROUTE:
New York to San Francisco: **13,100** nautical miles

Quarterly Revision

4.4. INTERPOL

CONTEXT

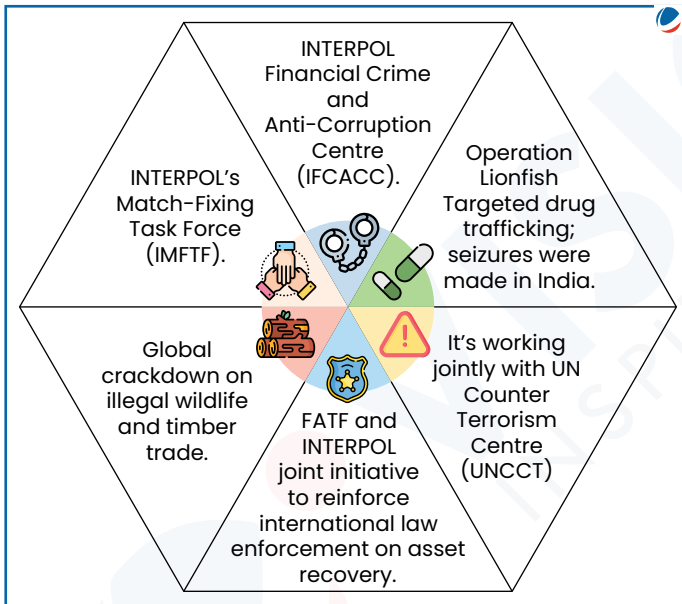
The recently concluded 91st General Assembly of the INTERPOL in Vienna, Austria marked 100-year anniversary of the organization.

ANALYSIS

Key highlights of the 91st General Assembly

- ▶ **Vienna Declaration:** Challenging the rise of transnational organized crime' was released, with 5 priority actions.
- ▶ India stressed need to **deny any safe havens** for crime, criminals, etc.
- ▶ India sought **"concerted action"** to combat & prevent transnational crimes.

Key contributions of INTERPOL



Challenges faced by INTERPOL

- ▶ Relies on **voluntary** cooperation and difficulty in **extradition of criminals**.
- ▶ Allegations of being **politically-motivated** prosecutions.
- ▶ **Bilateral issues** impede information sharing.
- ▶ Organized crime continues **to adapt** and **diversify**.
- ▶ **Anonymity** and **complexities** of dark web marketplaces.

Way Forward

- ▶ **Multidimensional and global advocacy approach to reform.**
- ▶ Establish an **independent body for periodic review of Red Notices.**
- ▶ **Sensitize member states** on white collar crimes, standardization of investigation procedures, etc.

Brief Background

About International Criminal Police Organization (ICPO - INTERPOL)

- ▶ **Creation:** In 1956
- ▶ **Headquarter:** Lyon (France)
- ▶ **General Assembly:** Supreme governing body; meets once a year; Comprises **representatives of every member country.**
- ▶ **Member:** 196 (India joined INTERPOL in 1949).
- ▶ **National Central Bureau (NCB):** Each member country hosts an INTERPOL NCB which is country's focal point for all INTERPOL activities.
- ▶ **Central Bureau of Investigation (CBI)** is the NCB for Interpol in India.
- ▶ **Functions:** Supports national efforts in combating crimes across **four global areas – Terrorism; Cybercrime; Organized crime; and Financial crime and anti-corruption.**
- ▶ **Database:** Maintains databases containing information on **individuals; stolen property; Firearms trafficking; and Organized crime networks.**
- ▶ INTERPOL issues notices. Like:



4.5. POLICING POWER TO CENTRAL ARMED POLICE FORCES (CAPFs)

CONTEXT

Punjab has filed a suit against the **Union government under Article 131 of the Constitution**, challenging the decision of increasing the operational jurisdiction of the Border Security Force (BSF) in Punjab



ANALYSIS



- ▶ The Notification extended BSF's jurisdiction in Punjab, West Bengal, and Assam **from 15 Km to 50 Km** while **reducing it in Gujarat from 80 km to 50 km.**
 - ▶ The 50-Km limit was **already in place in Rajasthan.**

Rationale behind extension

- ▶ **Uniformity:** In BSF operations across states.
- ▶ **Necessity:** To combat specific crimes like illegal entry, etc.
- ▶ **Response:** To emerging challenges like **drones dropping weapons, etc.**
- ▶ **Information Gathering and Proactive** action by the BSF.

Challenges arising from extension

- ▶ **Compromise the federal structure** as law and order is a state subject.
- ▶ **Accountability and Sensitivity Issues** to local populations.
- ▶ **Lack of coordination** with state police leading to conflicts due to the concurrent jurisdiction
- ▶ **Raises apprehensions** about increased human rights violations.

Way Forward

- ▶ **Prioritize inclusive decision making:** Given India's extensive borders and geopolitical significance.
- ▶ **Enhancement of capacity** of police forces and fostering greater cooperation between Central Armed Police Forces (CAPF) and state police.
- ▶ **Strengthening institutional channels of federal communication:** Like **Inter-State Council**, need to be revitalized to ensure that decisions align with diverse state perspectives.

Brief Background



Central Armed Police Forces (CAPFs)

- ▶ The **Seven-Armed Police Organisations, collectively known as Central Armed Police Forces (CAPFs)**, operate under the administrative control of the **Ministry of Home Affairs.**



Article 355

- ▶ The Constitution enjoins the Union to protect every State against external aggression and internal disturbance.



Seven-Armed Police Organisations

- ▶ **Assam Rifles:** Maintenance of law and order in North East along with Indian army; Guards the Indo-Myanmar border.
- ▶ **BSF:** Safeguard India's borders with Pakistan and Bangladesh.
- ▶ **NSG:** Designated as a commando-trained force organization; specializes in executing special operations.
- ▶ **SSB:** Deployed on the India-Nepal and India-Bhutan borders
- ▶ **ITBP:** Deployed on the India-China border
- ▶ **CRPF** Maintenance of law and order, internal security, and counterinsurgency.
- ▶ **CISF:** Security and protection to industrial undertakings and vital installations.



4.6. GEOSPATIAL INTELLIGENCE

CONTEXT



ISRO is planning to launch 50 satellites for intelligence gathering in the next 5 years.

ANALYSIS



Significance of geospatial technology enabled Intelligence gathering:

- ▶ **Improved precision:** It substantially enhances the precision and reliability of intelligence, surveillance, and reconnaissance activities.
- ▶ **Provide actionable insights:** For quick and secure decision-making to handle critical insurgencies.
 - It strengthens **Border Security and Coastal Surveillance System;**
 - Preventing and/or disrupting **potential internal and external security threats;**
 - Helps to **track the movement of troops** and image thousands of kilometres of area.
 - **Targeting & Battle Damage Assessment.**
- ▶ **Predict and counter new threats** like cyber-attacks, hybrid warfare, stealth weaponry etc.
- ▶ **Help in risk reduction, Preparedness, Response and rescue, and recovery** phase of disaster.
- ▶ Help in **quick supply** of medical and health service.
- ▶ Help to **monitor the regional maritime domain** more comprehensively.

Brief Background



Data about object, events, or phenomena that have a location on the surface of the earth.



GEOINT is an intelligence discipline and tradecraft that has evolved from the integration of **imagery, imagery intelligence (IMINT), and geospatial information.**

Geospatial Intelligence

- ▶ Geospatial intelligence is an intelligence discipline that analyzes geospatial data to better understand and visually depict human activity at specific geographic location
- ▶ It uses imagery to **survey and assess human activity and physical geography** anywhere on Earth.
- ▶ This data will be used to **produce real-time maps and simulations.**
- ▶ Geospatial intelligence usually **collects and integrate data** from a network of technologies, including **satellites, mobile sensors, ground-control stations and aerial images**

India's steps towards strengthening Geospatial Intelligence



India has one of the largest constellations of remote sensing satellites in operation e.g. EOS-07



Establishment of dedicated institutions: Like Indian Institute of Remote Sensing,



National Spatial Data Infrastructure established in various data-providing agencies in central and state governments.



Bhuvan portal: National Geo-portal for providing visualization of Satellite Imagery and Maps



NavIC (Navigation with Indian Constellation)



National Geospatial policy: Towards democratization of data for enhanced commercialization



4.7. DRONES AND SECURITY



CONTEXT

Adani Defence and Aerospace recently introduced the Drishti 10 Starliner Unmanned Aerial Vehicle (UAV) for the Indian Navy.

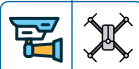

ANALYSIS



About Drishti 10 Starliner:

- ▶ It is Indian Navy's first indigenously manufactured UAV, with over 60% indigenous content.
- ▶ It would promote the navy's Maritime Domain Awareness (MDA) and augment their anti-piracy and seaborne missions.

Key features:

Advanced intelligence, surveillance, and reconnaissance (ISR) Platform		Medium Altitude Long Endurance (MALE) UAV
450 kg payload capacity		Received STANAG 4671 certification (NATO standardization agreement).

Concerns with Drone technology






- ▶ Drones falling in hands of **rouge elements** can pose a threat to national security.
 - ▶ E.g., Cross border infiltration of drones (along Pak border).
- ▶ There is overall **shortage of skilled drone operators**, drone engineers, service engineers, quality inspectors etc.
- ▶ **Imported drones using GPS navigation** devices may find operational issues in GPS-denied environments. E.g., Heron Mk II MALE UAV purchased from Israel.

Way forward

- ▶ To facilitate faster development and deployment of indigenous UAV and counter UAV technology.
- ▶ Defence startups must be encouraged to develop military grade drones under initiatives like **Innovations for Defence Excellence (iDEX) initiative**.



Brief Background

 Drones	<ul style="list-style-type: none"> ▶ Unmanned Aerial Vehicles (UAVs) or Remotely Piloted Aerial Systems (RPAS) that are controlled either by a pilot or with the help of technology.
 Indigenous drones of DRDO	<ul style="list-style-type: none"> ▶ DRDO Lakshya; DRDO Nishant; RUSTOM-1; TAPAS/ Rustom-2; Archer
 Counter Drone or Anti drone tech	<ul style="list-style-type: none"> ▶ Wide range of technology systems that help in the detection, identification and neutralisation of drones.
 Drone regulations in India	<ul style="list-style-type: none"> ▶ National Counter Rogue Drone Guidelines ▶ Drone Rules 2021 ▶ Red zones are no go zones where no drones can be operated except for a permission given by Central Government
 Role of Drones in National Security	<ul style="list-style-type: none"> ▶ Surveillance and Intelligence ▶ Offensive military operations ▶ Replacing manned aircrafts ▶ Replace mules and choppers with drones for supplies along the Line of Actual Control ▶ Serve as force multiplier ▶ Use for maintaining law and order
India's Initiatives for use of Drone Technology in defense sector	
<ul style="list-style-type: none"> ▶ India has imported drone technology from various countries like the US and Israel. ▶ DRDO developed indigenous anti-drone system, inducted into the Indian Armed Forces. ▶ BSF has deployed hand-held static and vehicle-mounted anti-drone systems. ▶ DRDO has been developing UAV systems which are at varying stages of development. ▶ DRDO successfully tested autonomous flying wing technology demonstrator. 	

4.8. GREY-ZONE WARFARE



CONTEXT

India's **Chief of Defence Staff** highlighted issue of Grey-zone warfare (GZW) during the discussion over informal wars at the 9th edition of **Raisina Dialogue**.

ANALYSIS



About Grey-zone Warfare (GZW)

- ▶ **GZW:** It involves the use of unconventional tactics and strategies that fall below the threshold of traditional warfare.
 - ▶ It aims to harm an adversary without them feeling threatened or realising they are under attack.
- ▶ **In GZW:** Activities are generally unseen and insidious. There are no rules and the front line is everywhere.
- ▶ **Benefits:** Dividend of the GZW action may be available only after a long time.
- ▶ **Adverse consequences:** It tends to escalate in multiple dimensions and leads to unintended over-escalation.
- ▶ **GZW is being used in the South China Sea;** along India's borders and against Taiwan.

Key Activities/Components

- ▶ It includes **hacking and stealing data, corrupting data,** etc. E.g. Cyber-attack at power grid in Maharashtra.
- ▶ **Psychological operations** are used to shape public opinion. E.g. Propaganda, rumours and fake news, etc.
- ▶ **Support is provided to non-state actors, insurgents, or militias.** E.g. Insurgent, Naxals groups being supported from outside India.
- ▶ It includes **imposition of sanctions, trade restrictions,** or manipulating financial markets.
- ▶ It **undermines political and administrative system and corrupt** election process. E.g. Alleged involvement of Russia in Presidential election in US.
- ▶ **It conducts itself through:** Irregular Warfare (guerrilla warfare), Legal and Diplomatic Manoeuvring, Military Intimidation, etc.

Way forward

- ▶ The **formation of 'theatre commands'** would contribute to the optimisation of resources
- ▶ **Enhancing informational warfare capability;** raising the Special Operations; Cyber and Space command, etc.
- ▶ **Develop advance systems** to keep eye across various domains (cyber, information, political, etc.)
- ▶ **Capabilities in cyber, information, economic,** other domains can be showcased on a regular basis.
- ▶ **Other:** Counter disinformation, prevent funding to insurgent groups etc.

Brief Background



About Raisina Dialogue

- ▶ It is India's premier conference on **geopolitics and geo-economics** committed to address the issues facing the global community.
- ▶ It is hosted by the **Observer Research Foundation** in partnership with the **Ministry of External Affairs**

- ▶ The theme of the 2024 edition is **Chaturanga: Conflict, Contest, Cooperate, Create.**



Key Initiatives which helped India to counter GZW

- ▶ **Chief of Defence Staff:** It helped in improving **coordination.**
- ▶ Government is **promoting infusion of technology into its war-fighting systems.**
- ▶ Initiative **like Defence Procurement Procedure (DAP) 2020** for self-reliance in defence manufacturing.
- ▶ Army is also **leveraging the vibrant start-up ecosystem under the iDEX** (innovations for defence excellence) initiative.
- ▶ **Cooperation with like-minded country:** E.g. Like signing of General Security of Military Information Agreement (GSOMIA) with US.
- ▶ **Other:** Counter disinformation, prevent funding to insurgent groups etc.



4.9. ILLEGAL MIGRATION



CONTEXT

Gujarat Crime Investigation Department (CID) is probing the case of possible illegal immigration related to the Nicaragua-bound plane carrying Indians, which was grounded in France.

ANALYSIS



Reasons for illegal migration

- ▶ **Poverty, lack of economic opportunities, stagnation of income,**
- ▶ Real or Perceived promise of better opportunities in destination countries.
- ▶ **Human Trafficking networks.**
- ▶ **Political and religious persecution** has led to refugees and illegal immigrants from Tibet, Afghanistan, Sri Lanka, Myanmar, etc.
- ▶ **Overpopulation** leads to crisis of living space.
- ▶ **Natural Disasters** force people to migrate.

Impacts of Illegal Migration

- ▶ **Prone to** informal, temporary or unprotected jobs and even forced labour.
- ▶ **Vulnerable to** inhumane conditions and offences.
- ▶ Face constant fear of being deported.
- ▶ **May distort existing demography** and pose a threat to existing socio-cultural identity.
- ▶ **Often organized criminal** groups are involved in smuggling migrants across borders.

Challenges in Tackling Illegal Migration

- ▶ **'Clandestine and surreptitious'** manner of entry of illegal migrants makes it difficult to have an accurate data collection.
- ▶ **Porous Borders** facilitate the flow of illegal migrants across multiple countries.
- ▶ **Poor regulation of travel agencies** has led to **cropping up of unscrupulous travel and placement agents running illegal operations**
- ▶ **Lack of** International cooperation of law enforcement agencies.
- ▶ Organized criminals have **established professional networks** that **transcend borders** and **encompass all regions.**
- ▶ **Absence or inadequacy of national legislation** to address the smuggling of migrants in many parts of the world.

Way Forward

- ▶ An **institutional mechanism** for cooperation, data exchange, safeguarding human rights etc.
- ▶ Better coordination of law enforcement agencies under ambit of INTERPOL.
- ▶ **Capacity development of local law enforcement** to detect and prevent illegal migration
- ▶ UNTOC can help in addressing the involvement of organized groups.
- ▶ **Demarcate between Refugees and Illegal migrant.**

Brief Background



About Illegal Migration

- ▶ Illegal migration refers to **trans-boundary migration** of people from one country to another **without valid documents, using illegal means.**
- ▶ In Indian context, **as per Citizenship Act, 1955, an illegal migrant is defined** as, a foreigner who enters India,
- ▶ **1. Without a valid passport** or other prescribed travel documents, or
- ▶ **2. With a valid passport** or other prescribed travel documents **but remains in India beyond the permitted time period.**



Initiatives Taken to counter illegal migration

- ▶ **'Surakshit Jayen Prashikshit Jayen' campaign;**
- ▶ **Migration and mobility partnership** agreements
- ▶ Comprehensive Integrated Border Management System (**CIBMS**)



Global Initiatives

- ▶ **Global Compact for Safe, Orderly and Regular Migration**
- ▶ **Protocol against the Smuggling of Migrants** by Land, Sea and Air, under the United Nations Convention against Transnational Organized Crime (UNTOC)

4.10. MILITARY EXERCISES IN NEWS

EXERCISES	ABOUT
Exercise Khanjar	▶ India-Kyrgyzstan Joint Special Forces Exercise Khanjar has held in Himachal Pradesh.
Exercise Cyclone	▶ 2nd edition of the India-Egypt exercise 'Cyclone' held in Egypt.
Exercise Desert Knight	▶ Indian Air Force conducted Exercise Desert Knight along with French Air and Space Force and UAE Air Force.
Ex-Desert Cyclone	▶ It is a joint military exercise between India and UAE .
Exercise Sea Dragon	▶ It is a multinational maritime exercise to enhance interoperability between Indian Navy and participating navies from US, Australia, South Korea and Japan
MILAN 24 Exercise	▶ It is a biennial multi-national naval exercise . ▶ It was first conceived by Indian Navy in 1995 at Andaman and Nicobar Command with participation of four countries (Indonesia, Singapore, Sri Lanka and Thailand).
Ex-Ayutthaya	▶ The maiden Bilateral Maritime Exercise between the Indian Navy (IN) and Royal Thai Navy (RTN) was conducted in December 2023. ▶ Along with this bilateral exercise, the 36th edition of India-Thailand Coordinated Patrol (Indo-Thai CORPAT) was also conducted.
VINBAX-2023	▶ It is a Joint Military Exercise between Armed forces of India and Vietnam.

4.11. TEST YOUR LEARNING

MCQs

Q.1. Which organisation act as a host to INTERPOL National Central Bureau (NCB)

- (a) National Investigation Agency (NIA)
- (b) Enforcement Directorate (ED)
- (c) Central Bureau of Investigation (CBI)
- (d) Directorate of Revenue Intelligence (DRI)

Q.2. With reference to Central Armed Police Forces (CAPFs) consider the following pairs

Police organisations	Mandate
1. Assam Rifles	Deployed on the India-Nepal and India-Bhutan borders.
2. Sashastra Seema Bal (SSB)	Deployed on the Indo-Myanmar border.
3. Central Reserve Police Force (CRPF)	Security and protection to industrial undertakings and vital installations.
4. Border Security Force	Safeguard India's borders with Pakistan, Bangladesh and China

How many of the above pairs are correctly matched?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) None

Q.3. 'Drishti 10 Starliner' best refers to which of the following?

- (a) It is designated as India's first Dark Sky Reserve in Hanle, Ladakh and is about 4,500 metres above sea level.
- (b) It is the World's longest river cruise that traverse through 27 different river systems with 50 tourist spots covering a distance of 3,200 kms.
- (c) It is Indian Navy's first indigenously manufactured Medium Altitude Long Endurance (MALE) UAV, with over 60% indigenous content.
- (d) It is Mission Mode Cataract Surgery campaign launched Under National Programme for Control of Blindness and Visual Impairment across 10 states in India.

Q.4. With reference to Canal systems around the world, consider the following statements:

1. The Suez Canal which connects the Mediterranean and the Red Seas is under the sovereignty of the Kingdom of Saudi Arabia.
2. The Panama Canal connects the Atlantic with the Pacific Ocean.

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.5. Consider the following statements:

Statement- I:

Several recent incidents in the maritime domain have raised concerns regarding the security of maritime trade routes as the Houthi rebels in Yemen are attacking vessels traveling through Bab-el-Mandeb Strait

Statement- II:

A joint maritime security initiative called Operation Prosperity Guardian was announced by India to aid the safe movement of ships in the Red Sea.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect.
- (d) Statement-I is incorrect but Statement-II is correct.

Questions

Q.1. What are the challenges faced by the Northeastern Region? What steps have been taken to tackle the prevalent challenges? 10 Marks

Q.2. Introduce the concept of Geospatial Intelligence (GS). What is the significance of geospatial technology and the steps India has taken to strengthen geo-spatial intelligence? 15 Marks



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ENVIRONMENT



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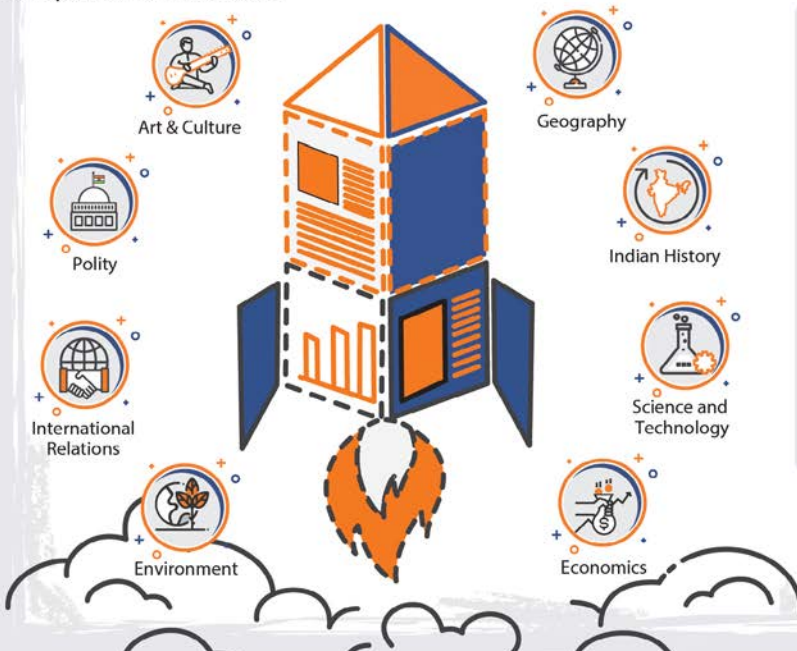
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5.1. BIODIVERSITY

5.1.1. 50 YEARS OF PROJECT TIGER

CONTEXT

The Indian government officially marked 2023 as the 50th year of 'Project Tiger'.

ANALYSIS

About Project Tiger

- ▶ Launched in 1973 by the **Ministry of Environment, Forests, and Climate Change (MoEFCC)**.
 - **Initially launched in 9 Tiger reserves (TRs)**
 - Provides central assistance including funding for in-situ conservation of tigers in designated TRs.
- ▶ **Objective:** To ensure the maintenance of a viable population of tigers in India for scientific, economic, aesthetic, cultural, and ecological values.
- ▶ **Implementing Agency:** National Tiger Conservation Authority (NTCA), which got **statutory status** by amendment of Wildlife (Protection) Act, 1972 in 2006.
- ▶ **Funding pattern:** 60% central assistance for non-recurring items and 50% for recurring items.
 - 90% central assistance for both in **North Eastern and Himalayan States**.
- ▶ **Project Tiger and Project Elephant merged** as Project Tiger & Elephant.
- ▶ **Activities undertaken under Project Tiger**
 - **Establishment and development of Tiger Reserves:** 55 tiger reserves till now
 - **Core-buffer strategy to manage tigers**
 - **Technological advancements** like e-Bird project and M-STRIPES for assessment and monitoring.
 - **Special Tiger Protection Force (STPF)** focused on anti-poaching operations.

Tiger Conservation Challenges

- ▶ **Habitat Loss and Fragmentation-** Only one-third of tiger forests in relatively healthier condition (**Status Tiger Report 2022**).
- ▶ **Human-Wildlife Conflict** due to Humans encroaching upon tiger habitats.
- ▶ **Poaching and illegal** wildlife trade for tiger parts.
- ▶ **Climate Change** altering tigers' habitats.
- ▶ **Monitoring Issues** in TRs located on State boundaries.
- ▶ **Threat from Invasive Plant Species:** Lantana camara.

Way ahead

- ▶ **Habitat Protection and Restoration** by measures like **wildlife corridors** to connect fragmented habitats.
- ▶ **Implement Anti-poaching measures**, including law enforcement, intelligence gathering with local communities, and penalties for wildlife crimes.
- ▶ **Support research** on the impacts of climate change on tiger habitats and populations.
- ▶ **Promote corporate social responsibility (CSR)** initiatives in tiger conservation.



Read From Essential Material

Chapter 2: Forest and Wildlife Resources
(Geography class X)

BRIEF BACKGROUND

About Tiger

- ▶ **National Animal of India.**
- ▶ **Habitat:** In Bangladesh, Nepal, Bhutan, China and Myanmar.
 - About 75% of wild tigers live in India.
- ▶ **Significance of Tiger:**
 - **Ecological:** Both **Flagship and Umbrella species**.
 - **Economic:** Ecotourism and related industries.
 - **Cultural and spiritual:** Symbols of power, and strength.
- ▶ **Characteristics:** Solitary and territorial animals, unique stripes, Excellent swimmers.

TIGER PROTECTION STATUS

RED DATA BOOK STATUS

EN

CITES

Appendix I

Wildlife Protection Act, 1972

Schedule I

Schedule IV

5th Cycle of All India Tiger Estimation 2022 Report

- ▶ **Minimum number of tigers in India:** 3,167.
- ▶ **Highest number of tigers:** Central Indian highlands and eastern Ghats.
- ▶ **Largest tiger population:** Madhya Pradesh (785), Karnataka (563)
- ▶ **Highest tiger abundance within the TR:** Corbett (260), Bandipur (150).

5.1.2. DEFINITION OF FOREST

CONTEXT

The Supreme Court (SC) recently directed the Government to follow the definition of “forest” as laid down in the 1996 judgment in *T.N Godavarman Thirumalpad v. Union of India*.



ANALYSIS



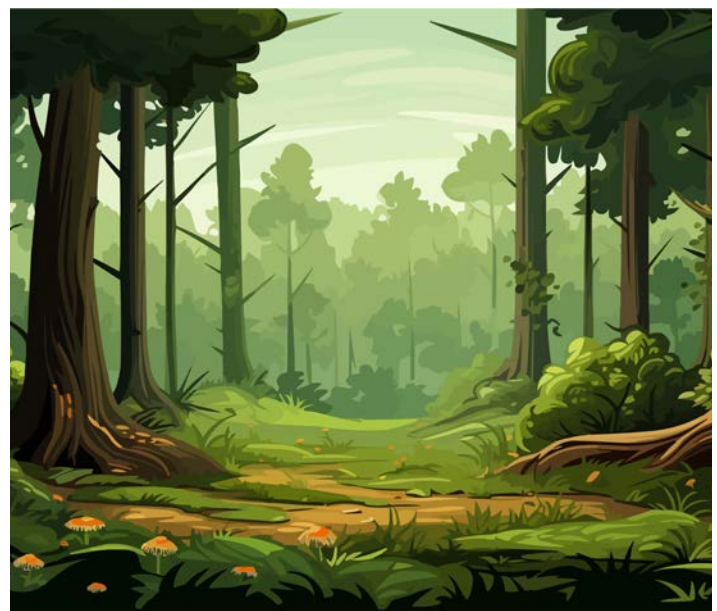
History of the definition of forest

Act/Judgement	Description
Indian Forest Act, 1865	<ul style="list-style-type: none"> Defined forest as land covered with trees, brushwood, and jungle.
The Forest Act, 1878	<ul style="list-style-type: none"> Redefined forests, expanding the definition to include any land that could be designated as such.
The Indian Forest Act, 1927	<ul style="list-style-type: none"> Contained all the major provisions of the previous act; the amendment included duty on timber.
Forest Conservation Act, 1980	<ul style="list-style-type: none"> Made central government approval mandatory before diverting forestland for non-forest use. The provisions predominantly apply to tracts of forest land recognized by States.
T N Godavarman case (1996)	<ul style="list-style-type: none"> Definition of “forest” expanded to include: <ul style="list-style-type: none"> All areas recorded as “forest” in any government record. All areas that conformed to the “dictionary” meaning of forest. Areas that are identified as “forest” by expert committees set up by the State governments following the 1996 order.
Forest Conservation (Amendment) (FCA) Act, 2023	<ul style="list-style-type: none"> Specified forest land as- <ul style="list-style-type: none"> Land declared/notified as a forest under the Indian Forest Act, 1927 or other laws. Land recorded in Government as forest, as on or after 1980.
Van (Sanrakshan Evam Samvardhan) Rules, 2023	<ul style="list-style-type: none"> As per rule 16, State Governments/ UT Administrations must create a consolidated record of lands covered by the Forest Conservation (Amendment) (FCA) Act, 2023, within one year.

BRIEF BACKGROUND

Other Key provision of the Forest Conservation Amendment Act (2023)

- New name:** ‘Van (Sanrakshan Evam Samvardhan) Adhiniyam’ (Forest (Conservation and Augmentation) Act), 1980.
- Addition of Preamble:** It encompasses India’s Nationality Determined Contribution and other National targets.
- Activities excluded from the definition of non-forest purposes:**
 - Establishment of **zoos and safaris under the Wild Life (Protection) Act, 1972**, in forest areas other than protected areas;
 - Eco-tourism facilities** included in plans of the area;
 - Silvicultural operations**, including regeneration operations; and
 - Any other purposes specified by the **Central Government.**
- Specifies exempted Categories of Land** such as connectivity to a habitation, or to a rail, Projects of national importance and concerning national security.
- State governments require prior approval of the central government before assigning of forest land by way of lease or otherwise** to government entities (earlier needed for only private entities).



Directions of the Supreme Court

- ▶ **Continuation of principles of TN Godavarman judgment:** until exercise by State Governments has been completed under rule 16 of Van (Sanrakshan Evam Samvardhan) Rules, 2023.
- ▶ **Broader meaning of forest** as explained in the decision in TN Godavarman to be used by State Governments and UT administrations.
 - Lands worthy of protection can be included beyond this.
- ▶ **Other Key directions**
 - **Database creation:** State/UTs should submit a “consolidated record” of all the lands recorded as ‘forest’.
 - ◊ Records to be maintained and digitised by the MoEFCC, and made available on the official website
 - **Prior approval of the court** is needed for the establishment of zoos or safari by any government or authority.
 - ◊ FCA Act 2023 excluded the establishment of zoos or safaris in forest areas.

Implications of SC judgment

- ▶ Expanded protection of forest land.
- ▶ Consistent with the spirit of FCA, 1980
- ▶ Consensus about the definition of a forest across the country.
- ▶ Encourage Sustainable Development.

5.1.3. BIODIVERSITY HERITAGE SITE

CONTEXT



- ▶ **Gupteswar Forest** in Odisha has been declared as the **fourth Biodiversity-Heritage Site (BHS)** of the state.
- ▶ It is situated in the **southernmost region of Odisha** and a **part of Eastern Ghats** and holds **immense cultural significance due to its sacred groves**.
- ▶ India has a **total of 45 BHS** as of February 2024.

ANALYSIS



About Biodiversity-Heritage Site (BHS)

- ▶ BHS are **well-defined areas** that are **unique, ecologically fragile ecosystems**.
- ▶ Under **Section 37 of Biological Diversity Act, 2002**, **State Government in consultation with local bodies may notify** areas of biodiversity importance as BHS.
- ▶ Also, **State Government in consultation with Central Government may frame rules for management and conservation** of BHS.
- ▶ **National Biodiversity Authority (NBA)**, an **Autonomous and Statutory Body of MoEFCC**, advises the State Government in the selection and management of BHS.

Criteria for identification of BHS

- ▶ **Natural, semi-natural, and man-made habitats**, which together contain significant diversity of life forms.
- ▶ Areas that contain **domesticated biodiversity component**
- ▶ **Important cultural spaces** such as **sacred groves/trees and sites**.
- ▶ Areas that **provide refuge or corridors** for **threatened and endemic fauna and flora**.
- ▶ **All kinds of legal land uses**.
- ▶ Sites which are **not covered under Protected Area network** under the **Wildlife Protection Act 1972** as amended.

Objectives of BHS

- ▶ Strengthen **biodiversity conservation** in **traditionally managed areas**.

BRIEF BACKGROUND

About Biodiversity Management Committee (BMC)

- ▶ Constituted under **Section 41(1) of the Biological Diversity Act, 2002**, by every local body in the State.
- ▶ Roles:
 - **Preparing a Peoples’ Biodiversity Register (PBR)**.
 - **Facilitating access and benefit sharing** as per Nagoya protocol.

- ▶ Foster harmony between nature, culture, society, and technology.
- ▶ Instill and nurture conservation ethics in all sections of society.
- ▶ Enhance the quality of life of the local communities.

Management of BHS

- ▶ Biodiversity Management Committee (BMC) or other appropriate institution as determined by relevant local body.
- ▶ Responsibility of BMC/BHS Management Committee to prepare and implement a management plan for BHS.
- ▶ Generally, **no restriction is to be placed on the community on prevailing practices and the utilization of resources** from the proposed BHS.

Biodiversity heritage sites in India



Himachal Pradesh

- Biodiversity heritage sites in India
- Sacred Grove at Bhatari Monastery
- High Altitude Meadow
- Birch Pine Forest Patch

Uttar Pradesh

- Ghariyal Rehabilitation Centre

Sikkim

- Tungkyong Dho

Assam

- Borjuli Wild Rice Site
- Hajong Tortoise Lake
- Majuli

Manipur

- Dialong Village

Tripura

- Unakoti
- Baramura Waterfall
- Silachari Caves
- Debbari or Chabimura
- Betlingshib

Meghalaya

- Khlaw Kur Syiem

West Bengal

- Chilkigarh Kanak Durga
- Baneshwar Shiva Dighi
- Tonglu
- Dhotrey
- State Horticulture R&D Station
- Namthing Pokhari
- Char Balidanga
- Amkhoi Wood Fossil Park
- Haldir Char Island
- Birampur-Baguran Jalpai

Odisha

- Mahendragiri Hill Mandasaru
- Gandhamardan Hill
- Gupteshwar Forest

Telangana

- Ameenpur Lake

Madhya Pradesh

- Naro Hills
- Amarkantak
- Patalkot

Maharashtra

- Glory of Allapalli
- Landorkhori
- Ganeshkhind Garden
- Schistura Hiranyakeshi
- Bambarde Myristica Swamps

Goa

- Purvatali Rai

Karnataka

- University of Agricultural Sciences, GKVK Campus
- Nallur Tamarind Grove
- Hogrekan, Chikmagalur
- Ambaraguda, Shimoga

Kerala

- Asramam

Tamil Nadu

- Arittapatti

Quarterly Revision



5.1.4. WILDLIFE (PROTECTION) LICENSING (ADDITIONAL MATTERS FOR CONSIDERATION) RULES, 2024



CONTEXT

Ministry of Environment Forest and Climate Change (MoEFCC) notified **Wildlife (Protection) Licensing (Additional Matters for Consideration) Rules, 2024** to replace Wildlife (Protection) Licensing (Additional Matters for Consideration) Rules, 1983.

ANALYSIS



1983 rules

- ▶ Prohibited issuing licences to trade in a wild animal categorized under Schedule I or Part II of Schedule II under the Wildlife Protection Act (WPA) 1972.
 - Licences were granted in exceptional cases with previous approval of central government.
 - This condition has been changed in 2024 rules.





New 2024 rules

- ▶ No such licence shall be granted if it relates to any wild animal specified in Schedule I to the Act, except with previous consultation of Central Government.
- ▶ Chief Wildlife Warden or an Authorised Officer issues the licence based on certain parameters.
- ▶ Impact of New Rules: Might adversely affect mammals and birds enlisted in Schedule II Examples: Bulbuls, Falcons, Turtles, Geckos, Snakes, Bats etc.

BRIEF BACKGROUND

Wildlife Protection (Amendment) Act, 2022 has reduced the number of Schedules from 6 (as of 1972 act) to 4.

New Schedules

 <p>Schedule-I Animal Species with highest level of protection.</p>	 <p>Schedule-II Animal Species with lesser level of protection.</p>
 <p>Schedule-III Protected plant species.</p>	 <p>Schedule-IV Specimen listed in the Appendices under CITES.</p>

5.1.5. CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES (CMS)



CONTEXT

The **Fourteenth Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP 14)** was held in Samarkand, Uzbekistan.

ANALYSIS



Key-outcomes:

- ▶ Slogan: "Nature knows no borders"
- ▶ Addition of 14 species to Conservation of Migratory Species (CMS) Appendices.
- ▶ New Concerted Actions for six species.
- ▶ Single Species Action Plans (SSAPs): for aquatic species



Read From Essential Material

Chapter 5: Conservation of plants and animals (Science Class VIII)

- ▶ **Agreement on Central Asian Flyway (CAF):** Spans 30 Range States of migratory birds and has a coordinating unit in India.
- ▶ **Global Partnership on Ecological Connectivity (GPEC)** was launched.
- ▶ The **first-ever** "State of the World's Migratory Species" report was launched.

India and CMS

- ▶ Signed a **non-legally binding** Memorandum of Understanding (MoU) with CMS on **Siberian Cranes, Marine Turtles, Dugongs, and Raptors.**
- ▶ Hosted **COP-13** of CMS in 2020 at Gandhinagar (Gujrat).
- ▶ Part of **Central Asian Flyway and Central Asian Mammals Initiative.**
- ▶ **Zoological Survey of India** first time compiled the list of migratory species before COP 13.
- ▶ **Initiative taken in India to conserve Migratory Species**
 - ▶ National Action Plan for conservation of Migratory birds along the Central Asian Flyway (2018-2023)
 - ▶ Identification of **Important Bird Areas (IBAs)** programme by Birdlife International
 - ▶ National Marine Turtle Action Plan (2021-2026)

Way Forward

- ▶ Need to identify **critical habitats and sites.**
- ▶ **Tackle overexploitation.**
- ▶ Reduce the **impacts of environmental pollution.**
- ▶ Address the **root causes and cross-cutting impacts of climate change.**
- ▶ Ensure the **CMS Appendices protect all migratory species** in need of further conservation action.

BRIEF BACKGROUND

About Convention on the Conservation of Migratory Species of Wild Animals (CMS) or Bonn Convention.

- ▶ **Intergovernmental treaty** under the **United Nations Environment Programme (UNEP).**
- ▶ **Global platform for migratory animal conservation and sustainable habitat use.**
- ▶ Introduced in **1979** and came into force in **1983.**
- ▶ **Membership: 133 Parties. India has been a member (since 1983).**
- ▶ **CMS Appendices:**
 - ▶ **Appendix I:** Migratory species that are considered endangered.
 - ▶ **Appendix II:** Migratory species that have an unfavorable conservation status and require international agreements for their conservation and management.





About Conference of Parties (COP) to CMS





- ▶ **Principal decision-making body** of the Convention.
- ▶ Meets once **every 3 years.**
- ▶ Sets **budget and priorities** of following 3 years and decides on the **amendment of the Appendices.**

About Migratory Species

- ▶ **Definition:** A species of wild animals of which the entire population or any geographically separate part of the population cyclically and predictably **cross one or more national jurisdictional boundaries.**

Important Migratory species in India & IUCN Status

	Amur Falcons » IUCN: Least Concern » CMS: Appendix II
	Bar headed Geese » IUCN: Least Concern » CMS: Appendix II
	Black necked cranes » IUCN: Near Threatened » CMS: Appendix I
	Humpbacked Whales » IUCN: Least Concern » CMS: Appendix I

	Asian elephant » IUCN: Endangered » CMS: Appendix I
	Great Indian bustard » IUCN: Critically Endangered » CMS: Appendix I
	Bengal florican » IUCN: Critically Endangered » CMS: Appendix I
	Snow Leopard » IUCN: Vulnerable » CMS: Appendix I

5.1.6. KUNMING – MONTREAL GLOBAL BIODIVERSITY FRAMEWORK (KMGBF)

CONTEXT

- ▶ KMGBF, adopted at the **Convention on Biological Diversity's (CBD) 15th Conference of Parties (CoP15)**, completed One Year.
- ▶ It is **legally non-binding framework** that replaced **Aichi Biodiversity Targets** (time period 2011-2020).

ANALYSIS

Key highlights of KMGBF

- ▶ **Four overarching goals for 2050:**
 - Halt human-induced species extinction
 - Sustainable use of biodiversity
 - Equitable sharing of benefits
 - Closing the biodiversity finance gap of \$700 billion per year.
- ▶ **Sets 23 Global Targets for 2030, such as-**
 - 30 % conservation of land, sea, and inland waters,
 - 30 % restoration of degraded ecosystems,
 - Integration of biodiversity into policies,
 - Halving the introduction of invasive species, etc.
- ▶ **Funding: Global Biodiversity Framework (GBF) Fund, a Special Trust Fund by Global Environment Facility (GEF).**
- ▶ **Monitoring and Reporting:** Countries to monitor and report progress every 5 years or less on a set of indicators.
- ▶ **Progress made by KMGBF:** It led to adoption of the **Treaty on the Conservation and Sustainable Use of Marine Biodiversity beyond Areas of National Jurisdiction (BBNJ)**.

BRIEF BACKGROUND

About Convention on Biological Diversity

- ▶ **Headquarters:** Montreal, Canada
- ▶ **Established:** 1992 at Rio earth Summit (enforced in 1993)
- ▶ **About:** It is an international legal instrument (ratified by 196 countries) (India a Member)
- ▶ **Main Protocols:**
 - **Nagoya Protocol,** Access to genetic resources and the fair and equitable sharing of benefits arising from the utilization
 - **Cartagena Protocol:** on Biosafety and the convention on biological diversity

5.1.7. UPDATED RED LIST BY IUCN

CONTEXT

- ▶ **International Union for Conservation of Nature (IUCN)** released an updated Red List of threatened species

ANALYSIS

About Red list

- ▶ **Critical indicator of the health** of the world's biodiversity.
- ▶ It provides information about **range, population size, habitat and ecology, use and trade, threats, and conservation actions.**
- ▶ **Categories (Decreasing order of risk):** Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, and data deficient.

Read From Essential Material

Chapter 14: Biodiversity and Conservation
(Fundamentals of Physical Geography- XI)

- ▶ **Criteria used to determine the risk of species**
 - ▶ Population size reduction.
 - ▶ Restricted geographical range.
 - ▶ A small population and declining.
 - ▶ Very small or lives in a restricted area.
 - ▶ Quantitative analysis of extinction risk.

Key-findings

- ▶ **44,000 species threatened with extinction**, up from 2000 last year.
- ▶ **Saiga**, an antelope, moved from **Critically Endangered to Near Threatened**.
- ▶ **25% of freshwater fish at risk**, 17% affected by climate change (This is the First global freshwater fish assessment)
 - ▶ **Four freshwater subterranean fish species from Kerala** included in list are:
 - ◊ **Endangered:** Shaji’s Catfish, Abdulkalam’s Blind Cave Catfish, Pangio Bhujia
 - ◊ **Vulnerable:** Gollum snakehead

BRIEF BACKGROUND

About International Union for Conservation of Nature (IUCN)

- ▶ **Headquarters:** Gland, Switzerland
- ▶ **Established:** 1948 (It is not an Organ of United Nations)
- ▶ **About:** It is a membership union composed of both government and civil society organisations
- ▶ **Function:** It provides public, private and non-governmental organizations with the knowledge and tools that enable human progress, economic development and nature conservation.

Related news: Species Threat Abatement and Restoration (STAR) Metric

- ▶ STAR metric, **developed by International Union for Conservation of Nature (IUCN)** in partnership with other organizations and experts, has been expanded for use in marine areas.
 - ▶ It was first unveiled in **2021 for use in terrestrial areas**.
- ▶ **The STAR metric** utilizes existing data from **IUCN Red List of Threatened Species** to quantify extinction risks and threats faced by species.
- ▶ STAR assesses the **potential of specific actions at specific locations to contribute to international conservation targets and** estimates the contribution of two kinds of action – **threat abatement and habitat restoration**.

Quarterly Revision

5.1.8. STATUS OF SNOW LEOPARDS IN INDIA

CONTEXT

- ▶ Recently, the Ministry of Environment, Forest, and Climate Change (MoEFCC) released a report on the **Status of Snow leopards in India**.
- ▶ Result of the **Snow Leopard Population Assessment in India (SPAI)** program, **launched by MoEFCC in 2019** as part of **Global Snow Leopard and Ecosystem Protection Program (GSLEP)**, carried out between 2019 and 2023.
- ▶ **First-ever scientific exercise** estimating snow leopard population with **Wildlife Institute of India (WII)** as the **National Coordinator**.

ANALYSIS

Key findings of report

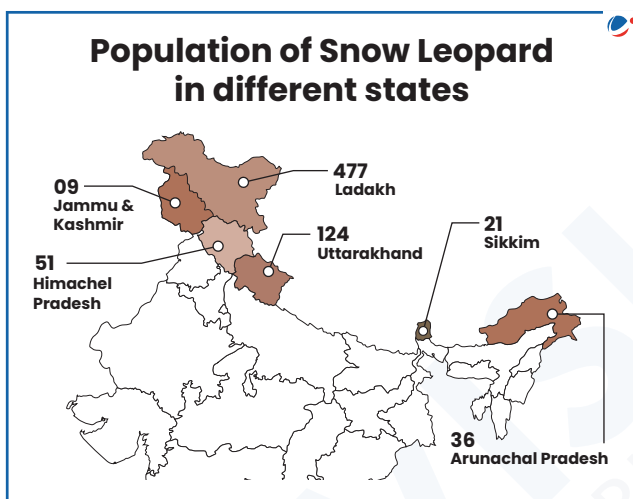
- ▶ **70% of land** used by snow leopards is still **unprotected**.
- ▶ **Challenges in counting Snow Leopard**
 - ▶ Majority of their **habitat remains inaccessible**.
 - ▶ **Evade detection by artificial intelligence software**.

Indian Initiatives to conserve Snow Leopard

- ▶ Three landscapes under GSLEP: Hemis-Spiti (Ladakh and Himachal Pradesh), Nanda Devi-Gangotri (Uttarakhand), and Khangchendzonga Tawang (Sikkim and Arunachal Pradesh).
- ▶ Project Snow leopard.
- ▶ International Snow Leopard Day (October 23).
- ▶ Snow leopard breeding project at Padmaja Naidu Himalayan Zoological Park, Darjeeling.

Recommendations from report to conserve Snow Leopard

- ▶ Proposed establishing dedicated Snow Leopard Cell at WII under MoEFCC.
- ▶ Adopting a periodic population estimation approach (every 4th year) in Snow leopard range.
- ▶ Landscape-level management planning and coordination.
- ▶ Engage Indian security forces on border of neighbouring countries.



BRIEF BACKGROUND

About Snow Leopard (*Panthera Uncia*)

- ▶ State animal of Ladakh and Himachal Pradesh.
- ▶ Characteristics: Medium-sized cats and have smoky grey fur patterned with dark grey to black rosettes.
- ▶ Habitat Distribution: 12 snow leopard range countries (Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan, and Uzbekistan)
- ▶ Khelo India Winter Games 2024 has adopted snow leopard as its mascot ('Sheen-e She' or Shan in Ladakh region)

Protection Status of Snow Leopard



Among 22 species covered under **Species Recovery Programme**



5.1.9. VULTURE RESTAURANT

CONTEXT

A 'Vulture Restaurant' has been established in **Koderma** district, Jharkhand to **address adverse impact of livestock drugs, particularly diclofenac, on vultures.**



ANALYSIS



- ▶ Vulture restaurant is an **undisturbed area where non-toxic, poison-free meat and carcasses are provided** for vultures and other scavengers.
 - ▶ Other such restaurants in **Raigad, Gadchiroli and Nashik** district in **Maharashtra** and **Kangra** district in **Himachal Pradesh**.
- ▶ **Diclofenac** is **Non-steroidal Anti-Inflammatory drugs**, used in veterinary practice **that has been proven toxic to vultures** and other birds of prey.
- ▶ **Other Threats:** Loss of natural habitats due to human activities, Food scarcity, Electrocutation by power lines etc.
- ▶ **Vulture Conservation Initiatives**
 - ▶ **Ban** on Veterinary use of **Diclofenac (2006), Ketoprofen and Aceclofenac (2023).**
 - ▶ **Action Plan for Vulture Conservation in India 2020-25.**
 - ▶ **Vulture Conservation Breeding Centre** in **Pinjore, Haryana.**



Read From Essential Material

Chapter 2: Land, Soil, Water, Natural vegetation and wildlife resources (Geography Class VIII)

BRIEF BACKGROUND

About Vultures

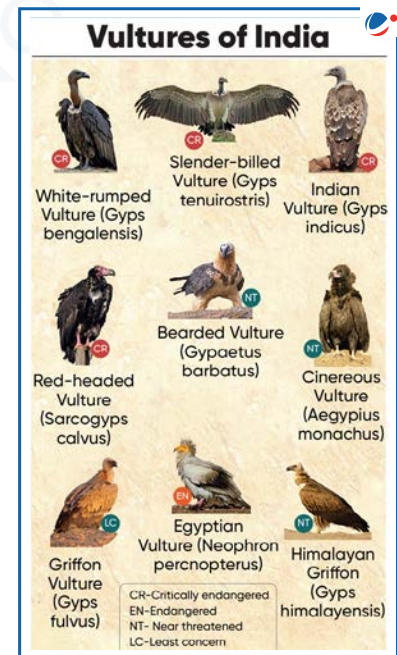
- ▶ Large carrion-eating birds found mainly in tropics and subtropics.

- ▶ **9 species of vultures** are found in India. Out of them, **3 species are migratory** (Cinereous vulture, Griffon vulture and Himalayan vulture).

- ▶ **Maintain clean environment** by acting as nature's garbage collectors and **control spread of wildlife diseases** from rotting corpse.

- ▶ **Conservation status:** Schedule I of Wildlife Protection Act 1972.

- ▶ **Threats:** **Loss of natural habitats, Food scarcity, Population decline due to exposure to drug diclofenac, Electrocutation** by power lines etc.



5.1.10. DEEP-SEA CORAL REEF



CONTEXT

- ▶ Scientists mapped largest deep-sea coral reef off the US Atlantic coast
- ▶ Underwater mapping technology enables to **construct 3D images of ocean floor**, facilitating the mapping of coral reef at depth 200 meters to 1,000 meters where sunlight doesn't penetrate.

ANALYSIS



About Deep-sea corals

- ▶ Colonies of small animals that build a common skeleton, which grows into many shapes and colors. They provide habitat for sharks, swordfish, shrimp, fish etc.
- ▶ More of ocean floor is covered by deep-sea reefs than by tropical reefs, which are found at 0-30 meters depth with light penetration.

Difference between Deep Sea Corals and Shallow Water Corals

Specifications	Deep Sea Coral	Shallow-water corals
Diversity of corals	Rely either by feeding on organic material falling from surface or by feeding on small plankton	Rely on photosynthetic algae (tiny single-celled plants, known as zooxanthellae) that live within corals and provide their hosts with nutrition
Appearance	White in coloration	Brown and green colors due to algae
Structure formed	Groves in form of tree, feather, column, or fan shapes, etc.	Rock-like reefs

BRIEF BACKGROUND

About Corals and Coral reefs

- ▶ Corals are invertebrate animals belonging to a large group of colourful animals called Cnidaria.
- ▶ Coral reefs are made up of colonies of hundreds to thousands of tiny individual corals, called polyps.
 - These marine animals have hard exoskeletons made of calcium carbonate.
- ▶ Great Barrier Reef in Australia is world's biggest tropical coral reef system.
- ▶ In India, Coral reefs are found in Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, Lakshadweep Islands and Malvan (Maharashtra).
- ▶ Importance of Corals: Protect coastlines from storms and erosion; Provide jobs for local communities; Offer opportunities for recreation etc.
- ▶ Threats to Corals: Disturbance from oil and gas drilling, Ocean acidification, Unsustainable fishing, Coral harvesting etc.



5.1.11. TERAI ARC LANDSCAPE (TAL)

CONTEXT

TAL has been recognized as the **United Nations World Restoration Flagship**.

ANALYSIS

- ▶ Along with TAL, 6 other initiatives have been recognised
 - Recognized initiatives will be eligible for technical and financial UN support.
 - In 2022, **Namami Gange initiative** has been also recognized under it.
- ▶ **About Terai Arc Landscape (TAL)**
 - A Trans-boundary biodiversity hotspot, launched in 2001.
 - ◊ TAL is **Critical habitats** for **tigers, rhinos, elephants, etc.**
 - Aims to conserve ecosystems of the **Terai and Churia hills**.
 - ◊ Covers several protected areas such as Corbett Tiger Reserve, Rajaji National Park etc.
 - Extend from the **Bagmati River (Nepal)** in the east to the **Yamuna River (India)** in the west.

BRIEF BACKGROUND

About World Restoration Flagship (commenced in 2022)

- ▶ Recognized under the **UN Decade on Ecosystem Restoration (2021-30)**.
- ▶ Led by **UN Environment Programme (UNEP)** and the **Food and Agriculture Organisation (FAO)** and other partner organisation.
- ▶ **Objective:** Prevent, halt, and reverse the degradation of ecosystems on every continent and in every ocean.
- ▶ Progress is monitored through the **Framework for Ecosystem Restoration Monitoring**.
- ▶ **Other recognized Six World Restoration Flagships initiatives:** Restoring Mediterranean Forests Initiative; Living Indus initiative; Accion Andina Initiative; Sri Lanka Mangrove Regeneration Initiative; Regreening Africa initiative; and Forest Garden Program.

5.1.12. SPECIES IN NEWS

Leopard

- ▶ **Context:** MoEFCC released the 'Status of Leopards in India, 2022' Report, carried out by **National Tiger Conservation Authority (NTCA)** and **Wildlife Institute of India (WII)**.
- ▶ Leopard population was estimated at 13,874 with a 1.08% per annum growth compared to 2018.



- ▶ **Protection status**
 - **IUCN status:** Vulnerable
 - **CITES:** Appendix I
 - **Wildlife Protection Act, 1972:** Schedule I
- ▶ **Characteristics:** Occupy a prominent position in **trophic pyramid alongside tigers, lions and dholes**.
- ▶ **Habitat:** India, Nepal, Bhutan, and Pakistan, excluding mangrove forests and deserts.
- ▶ **Regional distribution in India:** Madhya Pradesh has largest population followed by Maharashtra, Karnataka and Tamil Nadu.
 - **Tiger Reserves with highest leopard population:** Nagarajunasagar Srisaillam (Andhra Pradesh and Telangana) followed by Panna and Satpura (Madhya Pradesh) tiger reserves.
- ▶ **Importance of Leopard:** Maintaining ecological balance of mountain ecosystems; Regulate populations of their prey species; Major attraction for tourism etc.
- ▶ **Initiatives to Conserve Leopard:** **International Big Cat Alliance (IBCA); SECURE Himalaya project etc.**
- ▶ **Threats:** Habitat loss, poaching, human-wildlife conflict, and climate change.

Indian Gharial

Context: After 75 years, officials of the Forest Department confirmed the presence of Indian Gharial in Greater Kaziranga.





- ▶ **Protection status:**
 - ▶ **IUCN:** Critically Endangered
 - ▶ **Wildlife (Protection) Act, 1972:** Schedule I and IV
 - ▶ **CITES:** Appendix I
- ▶ **Characteristics:**
 - ▶ Mature males have **bulbous knob (Ghara)** present at the end of their snout.
 - ▶ **Exhibit sexual dimorphism.**
 - ▶ **Feed on warm-blooded species** and are not man-eaters.
 - ▶ Females lay their eggs in steep, sandy river banks.
- ▶ **Habitat:** Reside exclusively in river habitats with deep, clear, fast-flowing waters and steep, sandy banks.
 - ▶ Currently, occurs in 3 tributaries of the Ganga River- **Chambal and the Girwa Rivers in India and the Rapti-Naryani River in Nepal**
- ▶ **Conservation efforts:** Project crocodile, the gharial reserve in 3 states- **Uttar Pradesh, Madhya Pradesh and Rajasthan etc.**

White Rhinos

- ▶ **Context:** World's first white rhinoceros In-Vitro Fertilization (IVF) pregnancy could save subspecies.
- ▶ **Other biotechnologies to protect species:** Bio-banks; Biosynthesis and Gene drive.



- ▶ **Five species of rhino:** 2 African (White Rhino, Black Rhino) and 3 Asian [Greater One Horned Rhino (Indian rhino), Sumatran Rhino, and Javan Rhino].
- ▶ **Threat:** Habitat loss, poaching for horn, climate change etc.

Difference between White Rhino and Indian Rhino		
Features	White Rhino (African Rhino) 	Indian Rhino (Asian Rhino) 
Size	Second-largest land mammals after elephants	Largest of all Asian rhino species
Appearance	Barrel-shaped with a flat back 2 Horns Wallow in mud	Knobby skin that appears to be armor-plated One Horn Good swimmers
Habitat	Long and short grass savannah areas in grasslands	Tropical and Subtropical Grasslands, Savannas, and Shrub-lands
Distribution	Namibia, Uganda, Rwanda etc.	India (Assam, West Bengal and Utter Pradesh), Nepal etc.
Conservation status	IUCN: Near threatened (Southern white rhino subspecies is Near threatened)	IUCN: Vulnerable Wildlife Protection Act, 1972: Schedule I
Note: Northern White, black, Javan, and Sumatran rhinoes—are categorized as critically endangered under IUCN's red list.		

Himalayan Wolf

Context: First-ever IUCN assessment of the Himalayan Wolf published flagged a 'continuing decline in area, extent and/or quality of habitat' of Himalayan wolves.

Quarterly Revision



- ▶ **Protection Status**
 - ▶ IUCN: Vulnerable
 - ▶ **Wildlife Protection Act, 1972:** Schedule I
 - ▶ CITES: Appendix I
- ▶ **Characteristic:**
 - ▶ Larger than the Indian and European wolves.
 - ▶ Prefer wild over domestic prey.
 - ▶ Possess genetic **adaptations to cope with hypoxic conditions.**
- ▶ **Threats:** Depredation Conflict; Hybridization with Dogs; Illegal Hunting etc.
- ▶ **Habitation:** **High altitude** in the Himalayas (**Nepal and India**) and the **Tibetan Plateau.**

Tibetan Brown Bear (a.k.a. Tibetan blue bear)

Context: India has recorded its first-ever confirmed sighting of a rare Tibetan brown bear (*Ursus arctos pruinosus*) in Sikkim.



- ▶ **Protection Status:**
 - ▶ **Wildlife Protection Act, 1972:** Schedule 1 and 4
 - ▶ CITES: Appendix 1
- ▶ **Characteristics:**
 - ▶ Has a distinctive v shaped white chest mark.
 - ▶ It is an omnivore.
- ▶ **Habitat:** Mainly found in Nepal, Bhutan, and the Tibetan plateau.

Kumki Elephants

Context: The Odisha government requested the deployment of kumki elephants from Tamil Nadu to address escalating human-elephant conflicts.



- ▶ **Kumkis, trained captive elephants,** excel in trapping, rescuing, and tranquilizing wild elephants.
 - ▶ Their strategic deployment aims to **mitigate damage to crops, human settlements, and minimize the risk** to both human and elephant lives.
 - ▶ Additionally, kumki elephants prove valuable for **forest patrolling and rescue operations.**

Camelids

Context: United Nations has designated 2024 as the International Year Of Camelids



- ▶ Include **alpacas, Bactrian camels (two humped camel),** dromedaries, guanacos, llamas, vicuñas etc.
- ▶ **Mostly Herbivorous** and feed primarily but not **exclusively on grasses.**
- ▶ Plays key role in **food security** and livelihoods of communities in **Andean highlands** and in the **arid and semi-arid lands in Africa and Asia.**
- ▶ Can produce **fibre and nutritious food even at extreme conditions**

Namdapha Flying Squirrel (*Biswamoyopterus Biswasi*)

Context: Missing for 42 years, **flying squirrel resurfaces in Arunachal Pradesh.**

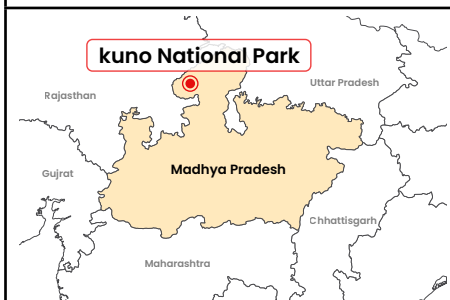


- ▶ **Protection status:**
 - ▶ IUCN: Critically endangered.
 - ▶ **Wildlife Protection Act, 1972:** Schedule II
- ▶ **A nocturnal, endemic to northeastern India** mammal.
- ▶ **Range:** Only known with certainty from a single specimen collected in Namdapha National Park, Arunachal Pradesh.
- ▶ **Habitat:** Occurs in dry deciduous montane forests occupying moist forest tracts along streams.
- ▶ **Threats:** poaching, habitat loss.

5.1.13. PROTECTED AREAS IN THE NEWS

Kuno National Park (KNP)

Recently, a **Namibian cheetah** translocated to KNP under **Project Cheetah**, gave birth to 4 cubs.



- **Location:** In **Madhya Pradesh** and is a part of **Central Indian Vindhyan Hills**.
- **Forest:** **Dry Deciduous**.
- **River:** **Kuno river**.
- **Flora:** Mainly dominated by **Kardhai, Salai, Khair trees**, along with **vast grasslands**.
- **Fauna:** Spotted deer, Chousingha, Nilgai, Black buck, Leopard, Wild dog or Dhole, etc.

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5.2. CLIMATE CHANGE

5.2.1. UNFCCC COP28

CONTEXT

- ▶ The 28th COP28 of the UNFCCC in Dubai, UAE, concluded with the adoption of the UAE Consensus
- ▶ It also marked 18th session of the Conference of the Parties to the Kyoto Protocol (CMP 18) and 5th session of the Conference of the Parties to the Paris Agreement (CMA 5).

ANALYSIS

Key outcomes of COP28

- ▶ **Pillar: Fixing climate finance**
 - Mobilization of \$83.9 billion to climate finance in Green Climate Fund, Adaptation Fund, Least Developed Countries Fund, and Special Climate Change Fund.
 - Operationalization of loss and damage fund.
 - Declaration on a Global Climate Finance Framework.
- ▶ **Pillar: Focusing on people, lives and livelihoods**
 - First implementation report of Sharm el-Sheikh Adaptation Agenda (SAA) was released.
 - COP28 UAE Declaration on Agriculture, Food, & Climate
 - COP28 UAE Declaration on Climate and Health
 - COP28 UAE Declaration on Climate Relief, Recovery & Peace
 - Adoption of Global Goal on Adaptation-UAE Framework for Global Climate Resilience adopted.
 - ◊ **Global Goal on Adaptation** is a collective commitment under Article 7.1 of the Paris Agreement aimed at “enhancing world’s adaptive capacity, strengthening resilience and reducing vulnerability to climate change.
- ▶ **Pillar: Underpinning everything with full inclusivity**
 - Launch of the COP 28 Gender-Responsive Just Transitions and Climate Action Partnership.
 - Appointment of the Youth Climate Champion.
- ▶ **Reports released at COP28**
 - **Report on climate finance:** By ‘Independent High-Level Expert Group on Climate Finance (IHLEG)’
 - **An eye on methane Report:** By International Methane Emissions Observatory (IMEO)

Issues persisting from COP 28

- ▶ Lack of consensus on global carbon market rules.
- ▶ High-Focus on phasing down coal, neglecting other fossil fuels.
- ▶ Limited climate finance, insufficient to meet adaptation gaps.
- ▶ Promotion of marine geo-engineering technologies like Carbon capture and storage, ignoring its environmental harm.
- ▶ Greenwashing concerns over oil-and-gas influence.

Way Forward

Read From Essential Material

Chapter 8: Environment and Natural Resource
(Contemporary world politics- XII)

BRIEF BACKGROUND

About Conference of Parties (COP)

- ▶ Annual conference to discuss on ways to address the climate crisis.
- They also review the Nationally Determined Contributions (NDCs) submitted by member countries under the Paris Agreement (2015).

About United Nations Framework Convention on Climate Change (UNFCCC)

- ▶ **Headquarters:** Bonn, Germany
- ▶ **Genesis:** Emerged from the Earth Summit in Rio de Janeiro in 1992, formally adopted in 1994 with near-universal membership.
- ▶ **Members:** 198 countries (India is a Member)
- ▶ **Objective:**
 - Stabilizing Atmosphere Greenhouse Gases
 - Preventing harmful human climate system interference.

- ▶ **Finance adaptation and transition costs** for developing and Small Island States.
 - Developed country need to **deliver USD 100 billion/year goal through to 2025**, towards climate mitigation.
- ▶ **Deliver on UAE Consensus outcomes** through national policies and investments.
- ▶ Adhere to **Precautionary principle** for geo-engineering technologies like CCS.
- ▶ **Provide capacity-building support** for Financial Mechanism entities like GEF to attain and update INDCs.

5.2.1.1. KEY INITIATIVES LAUNCHED

Global Green Credit Initiative (GGCI)

- ▶ **Launched by India** and also referred as **Global Platform for Nature’s Ecological Transformation**
- ▶ Serve as the **international platform for dialogue, collaboration, and the exchange of innovative environmental programs** and instruments.
- ▶ **Key Purposes:**
 - Sharing of global technical know-how and experiences.
 - Shaping green credit policy instruments.
 - **Supporting implementation (practice component)** by Creating one common value chain.
- ▶ **Features of GGCI**
 - Aligned with the principles of the **Green Credit program (GCP)**.
 - **‘Green Credit’ system**, envisages a fully digital and tradable instrument for environmental sustainability.
 - **Green Credit Portal,** a repository documenting plantations and environmental projects working to shape global demand for future policies.
 - ◊ **“Green credits” focus on voluntary environmental actions** involving the community, private industry and individuals.

BRIEF BACKGROUND

Green Credits Programme (GCP)

- ▶ Notified through **Green Credit Rules, 2023** by the **Ministry of Environment and Climate Change** under the **Environment Protection Act, 1986**.
- ▶ An innovative **market-based mechanism designed to incentivize voluntary environmental actions**.
- ▶ In initial phase, focuses on two key activities: **water conservation and afforestation**.
- ▶ **Governance Structure:** Steering Committee, Indian Council of Forestry Research and Education (ICFRE) (Administrator), and Technical

Global Renewables and Energy Efficiency Pledge

- ▶ Signed by **118 countries** on the sidelines of COP28 (**India not a signatory**)
- ▶ **Aim:**
 - **Triple the global installed renewable energy capacity** to at least 11,000 GW
 - **Double the global energy efficiency improvement rate** to > 4% by 2030.
 - Phase down unabated coal.

The Global Cooling Pledge

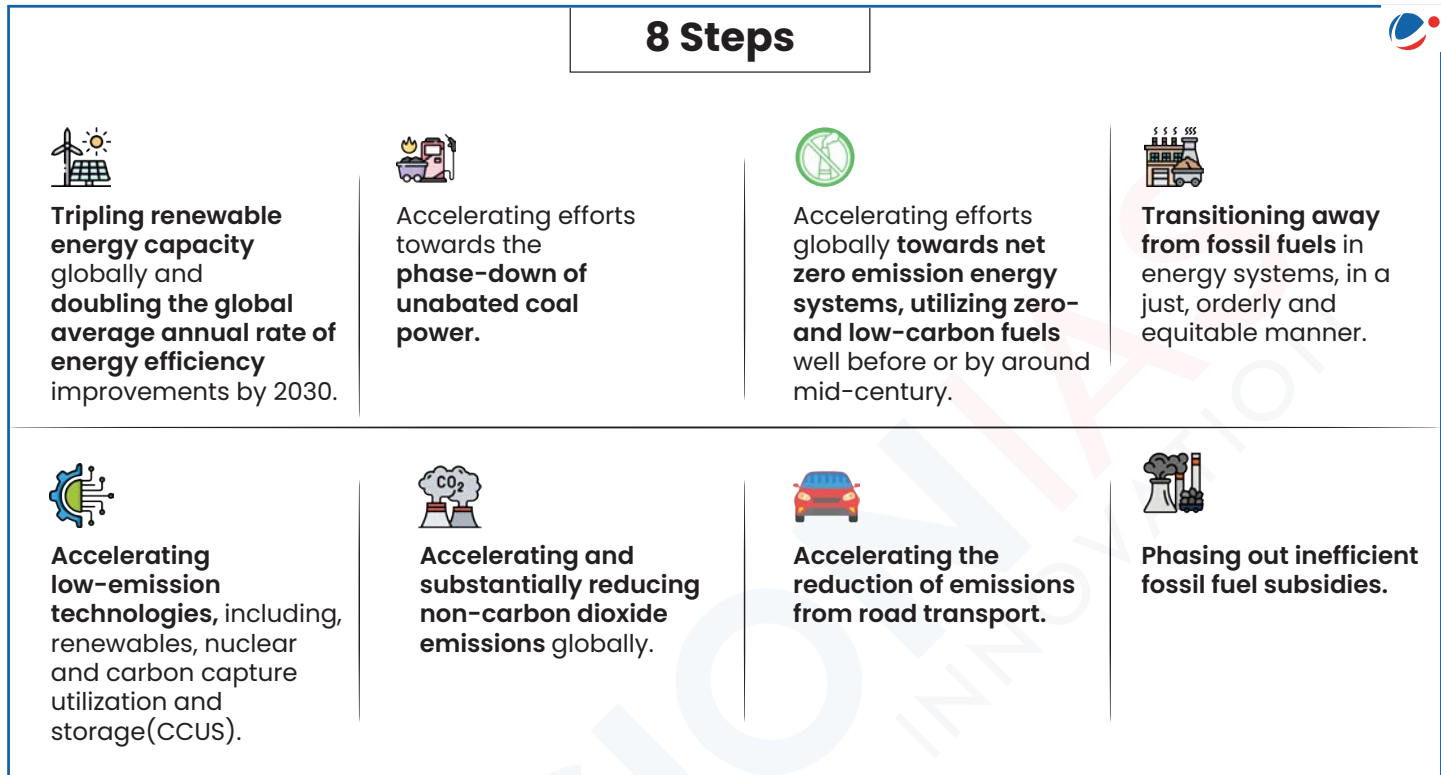
- ▶ Initiated by UAE (**India not a Signatory**)
- ▶ **Aim:**
 - **Reduce their cooling emissions by at least 68% by 2050.**
 - **Increase access to sustainable cooling by 2030.**
 - Increase the global average **efficiency of new air conditioners by 50%.**
 - Emission targets drawn from the **UNEP Cool Coalition report Global Cooling Watch 2023 Keeping it Chill**

G7 climate club

- ▶ Led by Germany and Chile.
- ▶ Includes **36 member countries (India not a member)**
- ▶ **Aim:** To support climate action and achieve global net-zero greenhouse gas emissions by or around mid-century, with focus on **decarbonising industry**.
 - **First proposed by Germany** during a G7 summit meeting (2022).
- ▶ **Interim Secretariat:** Economic Cooperation and Development (OECD) and International Energy Agency (IEA).

First Global Stocktake (GST)

- ▶ Global stocktake: A process for countries to see whether they are collectively making progress towards meeting the goals of the Paris Agreement.
- ▶ GST calls on Parties to the Paris Agreement, to follow 8 steps



Other Initiatives

- ▶ **Africa Green Industrialisation Initiative (AGII)**: Launched by African leaders to accelerate green growth of industries in Africa and attract finance and investment opportunities.
- ▶ **Allied Climate Partners (ACP) Platform**: Initially funded by include Arnold Ventures, Ballmer Group, Bezos Earth Fund, etc. to **increase the number of climate-related projects** and businesses in emerging economies.
- ▶ **Fossil Fuel, Oil and Gas Decarbonization Charter (OGDC)**: Signed by 50 companies, representing more than 40% of global oil production
 - ▶ Dedicated to **speeding up climate action and achieving high-scale impact across the oil and gas sectors**.
 - ▶ Key initiative under **Global Decarbonization Accelerator (GDA)**, launched at World Climate Action Summit.



5.2.1.2. LOSS AND DAMAGE FUND



CONTEXT

COP28 climate conference in Dubai, **officially operationalized the loss and damage fund** to help vulnerable countries cope with the impact of climate change.

ANALYSIS



Loss and damage (L&D) fund

- ▶ Refers to the **compensation that rich industrialized nations, with historic role in climate change, must pay to poor nations**, whose carbon footprint is low but are facing the brunt of climate change.
- ▶ **1st announced during COP27 in Sharm el-Sheikh (Egypt) in 2022.**
- ▶ To be **based at the World Bank** but managed by an independent secretariat.
- ▶ Several countries pledged money- **UAE, Germany, UK, Japan.**
- ▶ **India's stand on fund:**
 - **Strong supporter**, welcomed the decision to operationalize it.
 - Among countries pitching for opening up **L&D funds**

for **developing nations** and not limit it to small island and least developed nations.

Need of L&D fund

- ▶ **Slowdown Loss and Damage.**
- ▶ **Prevent humanitarian spillover of L&D** like food insecurity, risk of malnutrition, and loss of livelihoods.
- ▶ **Address climate induced socio-economic degradation** like increased human mortality and morbidity, rise in inequality and poverty rates, etc.
- ▶ **Address Existential threats** for most vulnerable like Small Island Developing States (SIDS).
- ▶ **Uphold climate Justice.**

Challenges in L&D fund

- ▶ **Lack of common definition.**
- ▶ **Poor data availability and processes** for systematically collecting, recording, and reporting information on L&D.
- ▶ **Low technical capacity** to scientifically model L&D.
- ▶ **Difficulty in quantifying non tangible L&D.**

Way Forward

- ▶ **Global consensus** to arrive at a mutually compatible definition of L&D.
- ▶ **Focus on building climate change resilience.**
- ▶ **Mitigation and adaptation actions**, to avert and minimize the extent of L&D.
- ▶ **Incorporate L&D in Climate Policy.**



BRIEF BACKGROUND

About Loss and Damage (L&D)

- ▶ **Impacts of climate change that cannot be adapted to, and where losses are permanent.**
- ▶ WIM for L&D was **established at COP19 in 2013 in Warsaw (Poland)** to address L&D associated with climate change in developing countries.
- ▶ **Functions of Warsaw International mechanism (WIM)**
 - **Enhance knowledge and understanding** of comprehensive risk management approaches
 - **Enhance action and support**, including finance, technology, and capacity building, to address L&D.

5.2.2. INDIA AT COP 28

CONTEXT



The Prime Minister at COP-28 emphasized the Global South's concerns and the need to make climate finance accessible to developing nations.

ANALYSIS



India's role at COP28

- ▶ **Co-launched the Leadership Group for Industry Transition (LeadIT 2.0)** : Focuses on Inclusive Industry Transition, Co-development and transfer of low-carbon technology and Financial support for emerging economies
 - Launched by India and Sweden at UN Climate Action Summit 2019.
- ▶ **Co-hosted (India and UAE) event on 'Green Credits Programme' at COP-28**: Focuses on voluntary Environmental Actions Involves community, private industry, individuals.
- ▶ **Participated at Mangrove Alliance for Climate (MAC) Ministerial Meeting at COP-28**: Seeks to scale up, accelerate conservation, restoration and plantation efforts of mangrove ecosystems.
 - Initiated by the UAE and Indonesia, during COP 27, India a member.
- ▶ **India's National Statement at COP-28 reiterated**
 - Reduced emission intensity by 33% from 2005-2019.
 - Achieved 40% of electric installed capacity through non-fossil fuel sources.
 - Added 100 GW of installed electric capacity between 2017-2023, 80% from non-fossil fuel-based resources.
- ▶ **India-led Global River Cities Alliance (GRCA) launched** through Memorandum of Common Purpose (MoCP) between National Mission for Clean Ganga (NMCG) and Mississippi River Cities and Towns Initiative (MRCTI).
 - Current RCA now expanded to 267 global river-cities including India, USA and Denmark.
 - Ministry of Jal Shakti (MoJS) and National Institute for Urban Affairs (NIUA) under Ministry of Housing and Urban Affairs (MoHUA) to act as the GRCA Secretariat.

Issues concerning India at COP28

- ▶ Refrained from signing COP28 Declaration on Climate and Health due to concerns over GHG reduction in health sector
- ▶ Emphasized "equity and justice" in U.N. climate negotiations
- ▶ Reiterated that cuts must be on all fossil fuel, not just Coal, which it needs for thermal power
 - Hence refused to sign Green energy pledge.

Way forward

- ▶ Uphold Global South's Voice to advocate for equity and climate justice and its interests.
- ▶ Leadership through climate Action to achieve Panchamitra targets.
- ▶ Sustainable consumption as highlighted by India's "LiFE" Campaign and transition to sustainable lifestyles.



5.2.3. GREENWASHING



CONTEXT

- ▶ Central Consumer Protection Authority (CCPA) has sought public comments on the proposed **Draft Guidelines on Prevention and Regulation of Greenwashing** issued under **Consumer Protection Act, 2019**.
- ▶ The draft guidelines defines and also **prohibit** greenwashing and **applies to all advertisements, service providers, advertisers, endorsers**, etc. whose service is availed for the advertisement.
 - It also mandates making of **futuristic environmental claims only when clear and actionable plans** have been **developed** for achievement of objectives **More on the News**

ANALYSIS



Need for regulating green washing

- ▶ Erosion of Public Trust through **deceptive marketing and false claims of sustainability**.
- ▶ Delay the **genuine solutions** to the climate change, while also making consumers to choose for the **unsustainable products**.
- ▶ May come at the cost of innovation for **substantial and lasting benefits**.

Initiatives taken to prevent Greenwashing

- ▶ **India**
 - **Bureau of Indian Standards (BIS)** standard for eco-labelling of products and services.
 - **Central Consumer Protection Authority (CCPA)** under Consumer Protection Act, 2019 to tackle false or misleading advertisements.
 - **Advertising Standards Council of India (ASCI)** guidelines.
 - **Green Rating Project (GRP)** of Centre for Science and Environment (CSE) rates industrial units.
 - **Indian Green Building Council (IGBC)** has developed a rating system for green buildings.
- ▶ **Global**
 - **UN's High-Level Expert Group on Net-Zero Emissions Commitments of Non-State Entities**
 - **Greenwashing TechSprint** organized by the **Global financial innovation network** to develop a tool to help regulators more effectively tackle greenwashing in financial services.
 - ◊ Reserve Bank of India was also one of the participants.

Way-Forward

- ▶ Annual publication of each **organization's greenhouse gas emissions alongside baseline data and Third-Party certification**.
- ▶ **Media Campaigns and Consumer Awareness**.
- ▶ **Harness new technologies** like AI, natural language processing, Machine Learning.
- ▶ **Cross-border cooperation and collaboration**.
- ▶ **Phase out fossil fuels and scale up renewable energy**.

BRIEF BACKGROUND

About Green washing

- ▶ Involves **making a product or policy seem more environmentally friendly or less damaging** than it is in reality

Types of Greenwashing

-  **Greenhushing:** Companies **underreport or hide sustainable credentials** to avoid scrutiny.
-  **Greenrinsing:** When a company **regularly changes its ESG** (Environmental, Social, Governance) targets **before achieving them**.
-  **Greenlabeling:** The **labeling** of an essentially **unsustainable product as green or sustainable**.
-  **Greenlighting:** The **highlighting of a particularly green feature** of a business's products or activities to draw attention away from its environmentally harmful actions.
-  **Greenshifting:** When companies reduce the climate crisis to consumer behavior and **shift responsibility to individuals**.
-  **Greencrowding:** When a company **hides within a group and is slow to adopt sustainability** policies (e.g. the 20 largest single-use plastic waste producers are members of the Alliance to End Plastic Waste global alliance).

5.2.4. INDIA SURPASSED MONTREAL PROTOCOL TARGETS

CONTEXT

India surpassed Montreal protocol targets, says report by MOEFCC and UNDP.

ANALYSIS

Analysis of the achievement

- ▶ **India Overcame 35% HCFC phase-out goal**, achieving 44% reduction from 2020 baseline.
- ▶ **Eliminated HCFC 141b**, used as blowing agent in rigid polyurethane foam production.
- ▶ **Aims to phase out HCFCs in new equipment manufacturing by December 2024**, in line with Montreal Protocol schedule.

Key initiatives envisioned by ADB



Upgrade and establish waste management facilities e.g. biomethanation plants



Build ULB's capacity on waste management and sanitation



Training and awareness campaigns to improve waste segregation and waste collection.



Help conduct annual reviews and progress updates of citywide solid waste action plans

Read From Essential Material

Chapter 16: Environmental issues (Biology- XII)

BRIEF BACKGROUND

About Montreal Protocol (1987)

- ▶ **Global Environmental Treaty on Ozone Depleting Substances (ODS)**, implemented under Vienna Convention (1985).
- ▶ **Kigali Amendment to Montreal Protocol (2016)** was adopted to phase down production and consumption of Hydrofluorocarbons (HFCs).
 - HFCs are a non-ODS alternative to CFCs and HCFCs, but are extremely potent in global warming.

About Ozone and ODS

- ▶ **Stratospheric ozone (good Ozone)** are found at 10-40 KM above Earth's surface, and protects Earth from UV radiation of Sun.
- ▶ **ODS: Human-made chemicals containing chlorine and bromine** like Chlorofluorocarbons (CFCs), HCFC, tetrachloride, etc. that after reaching stratosphere undergo catalytic reactions depleting stratospheric ozone.
 - **Ozone formed in Troposphere** are harmful and is called 'bad ozone'.

5.2.5. METHANE EMISSIONS

CONTEXT

- ▶ ISRO scientists released a comprehensive analysis paper on methane emissions over multiple Indian locations using satellite data to showcase the potential of **spaceborne monitoring system**.
- ▶ The study employed data from NASA's **Earth Surface Mineral Dust Source Investigation (EMIT)** and European Space Agency's **Sentinel-5P TROPOMI**.

ANALYSIS



Key findings of the paper

- ▶ **Regional Emission hotspot:** 17 unique plumes were identified.
- ▶ **Emission source point:** Solid waste landfill sites, sewage treatment plant, wetlands/marshy agriculture, city sewage outlet, oil and gas field, oil refinery and textile industry.
- ▶ **Increase in Methane Emission from municipal solid waste landfills.**
- ▶ **Aids carbon emission:** Out of the total carbon emissions in India, 14.43% is attributed to CH₄.

Limitation of spaceborne monitoring systems

- ▶ **Methane has spectral absorption bands overlapping with other atmospheric constituents, particularly water vapour.**
- ▶ **Instruments designed for global methane monitoring and do not have the spatial resolution necessary to detect small-scale methane sources.**
- ▶ **Ground-based validation** is required even if the methane is detected.
- ▶ **Instrumental limitations like detection limits, sensitivities, and specificities.**
- ▶ **Satellites might miss methane emissions from regions that are frequently cloudy.**
- ▶ **Methane has a relatively short atmospheric lifetime, varying rapidly in time and space.**
- ▶ **Detecting localised increases or 'plumes'** requires distinguishing these from the background methane levels.

Way ahead

Data integration from satellite, airborne, and ground-based measurements could provide a complete and more accurate picture of methane emissions from local to global levels.



Read From Essential Material

Chapter 18: Pollution of Air and Water (Class VIII Science)

BRIEF BACKGROUND

About Methane (CH₄)

- ▶ Hydrocarbon that is a **primary component of natural gas.**
- ▶ **Potent greenhouse gas (GHG) responsible for approximately a third of the warming.**
- ▶ **Lifetime of about a decade and a Global Warming Potential about 80 times greater than that of carbon dioxide (CO₂).**
- ▶ **Human-driven methane emissions come from three main sectors: Agriculture (40%), Fossil fuels (35%), Solid waste and wastewater (20%).**

Technologies for reducing methane emission from Paddy field

- ▶ **Technologies developed by ICAR under the National Innovations in Climate Resilient Agriculture (NICRA) project**
 - **System for Rice Intensification:** Very young rice seedlings are planted singly in a square grid pattern. The soil is kept moist but well-drained for the entire growing period.
 - **Direct Seeded Rice:** The system reduces methane emissions as it does not involve raising nurseries, puddling, and transplanting.

Global initiatives to reduce methane emission

- ▶ **International Methane Emissions Observatory (IMEO):** Launched by UNEP.
- ▶ **Global Methane Pledge:** Attempt by 150 countries, led by the EU and US to cut methane emissions (Not signed by India).
- ▶ **Oil & Gas Methane Partnership Initiative** of the UNEP and the Climate and Clean Air Coalition (CCA) in 2014.

Indian Initiatives to reduce methane emission

- ▶ **National Mission on Sustainable Agriculture (NMSA)**
- ▶ **Gobar (Galvanizing Organic Bio-Agro Resources) -Dhan' scheme**
- ▶ **New National Biogas and Organic Manure Program**

5.2.6. SHORT-LIVED CLIMATE POLLUTANTS

CONTEXT

- ▶ The Climate and Clean Air Coalition's (CCAC) annual meeting, the Climate and Clean Air Conference, recently took place in Nairobi, Kenya
- ▶ It was held on the margins of the **Sixth Session of the United Nations Environment Assembly (UNEA-6)**.

ANALYSIS

Key Outcomes of the CCAC Conference 2024

- ▶ **Launch of Clean Air Flagship:** To save lives and slow climate change.
- ▶ **'Used Heavy Duty Vehicles (HDVs) and the Environment'** Report launched by the UN Environment Program & the CCAC.
- ▶ **CCAC Technology and Economic Assessment Panel** to close the gap between technologies and finance.
- ▶ **Launched a major cost of inaction study** to act on short-lived climate pollutants (SLCPs).

What are Short-Lived Climate Pollutants (SLCPs)?

- ▶ Powerful climate forcers that remain in the atmosphere for a much shorter period than CO₂, yet have higher potential to warm the atmosphere.

Impact of SLCPs

- ▶ **Second largest contributor** to human-caused climate warming.
- ▶ **Ground-level ozone** can cause inflammation of the lungs, asthma and allergies.
- ▶ Tropospheric ozone influences **cloud formation**.
- ▶ **Black carbon reduces the albedo of ice** and leads to accelerated melting rates.
- ▶ **Negative impact on Agriculture** like damaging leaves, reducing photosynthesis, etc.

Solutions to reduce SLCPs

- ▶ **Promote farm-scale anaerobic digestion** to control methane emissions from livestock.
- ▶ **Carry out pre-mining de-gasification and Improve flaring efficiency.**
- ▶ **Separate and treat biodegradable municipal waste,** and turn it into compost or bioenergy to mitigate methane.
- ▶ Adopt ultra-low sulfur diesel and minimum Euro 6/VI emission standards to mitigate black carbon.







BRIEF BACKGROUND

About Climate and Clean Air Coalition

- ▶ **About:** Only global alliance dedicated exclusively to the reduction of SLCPs.
- ▶ **Genesis:** Founded in 2012.
- ▶ **Membership:** Voluntary partnership of over 160 government, intergovernmental organizations, and NGOs (India is a member).
- ▶ **Other information:** Provides Secretariat functions of the Global Methane Pledge (GMP).

Short-lived climate pollutants (SLCPs)

Substance	Anthropogenic Sources	Lifetime in atmosphere
 Black carbon (soot)	Fossil Fuels, Industrial Production, Agricultural and Waste Burning	4-12 days
 Methane (CH₄)	Agriculture, Fossil fuels, landfills, open dumps, and wastewater.	12 years
 Tropospheric (or ground-level) ozone (O₃)	Secondary pollutant formed by the interaction of sunlight with volatile organic compounds (VOCs) and nitrogen oxides (NO _x)	few hours to a few weeks
 Hydrofluorocarbons (HFCs)	Refrigeration, air-conditioning, insulating foams and aerosol propellants	15 years

5.2.7. HINDU KUSH HIMALAYAS (HKH)



CONTEXT

- ▶ Asian Development Bank (ADB) launches the Building Adaptation and Resilience in the Hindu Kush Himalayas Initiative.
- ▶ It aims to address the adversities of climate change in the HKH region; guide large scale infrastructure investment and supports Bhutan and Nepal in climate adaptation

ANALYSIS



Climatic risks faced by the region

- ▶ Increased intensity and frequency of Climate change hazards like- Glacial Lake outbursts, flash floods etc.
- ▶ Accelerated melting of glaciers resulting in drying rivers, impact on hydropower energy and degradation of water quality.
 - At Global warming of 3° C, ~ 75% of glaciers will melt in parts of the Himalayas by 2100.
- ▶ Impact on livelihoods: Economic losses in the region from disaster totalled \$45 billion from 1985 to 2014
- ▶ Loss of Biodiversity.

Other global initiatives for protecting Himalayan Ecosystem

- ▶ The International Centre for Integrated Mountain Development (ICIMOD): An intergovernmental knowledge and learning centre working for the people of the Hindu Kush Himalaya (HKH), located in Kathmandu (Nepal).
- ▶ Himalayan Adaptation Network by IUCN: Web-based network initiative in Sikkim to build climate resilient strategies for reducing community and ecosystem vulnerability in the Indian Himalayan region (IHR) through the landscape approach.
- ▶ Living Himalayas Initiative by the World Wide Fund for Nature (WWF) to protect the biodiversity in the Eastern Himalayas.

India's Initiatives for protection of the region

- ▶ National Mission for Sustaining Himalayan Ecosystem (MNSHE) launched under National Action Plan on Climate Change (NAPCC) to assess ecosystem health.
- ▶ Securing livelihoods, conservation, sustainable use, and restoration of Himalayan ecosystems (SECURE) by MoEFCC and UNDP Funded by Global Environment Facility.
- ▶ Factors affecting mountain sustainability in HKH: Increasing demand for natural resources; Weak Governance, insecure land tenure, local conflicts and migration; Rising Aerosol levels changing hydrological cycle; Decline in traditional ways of life; etc.

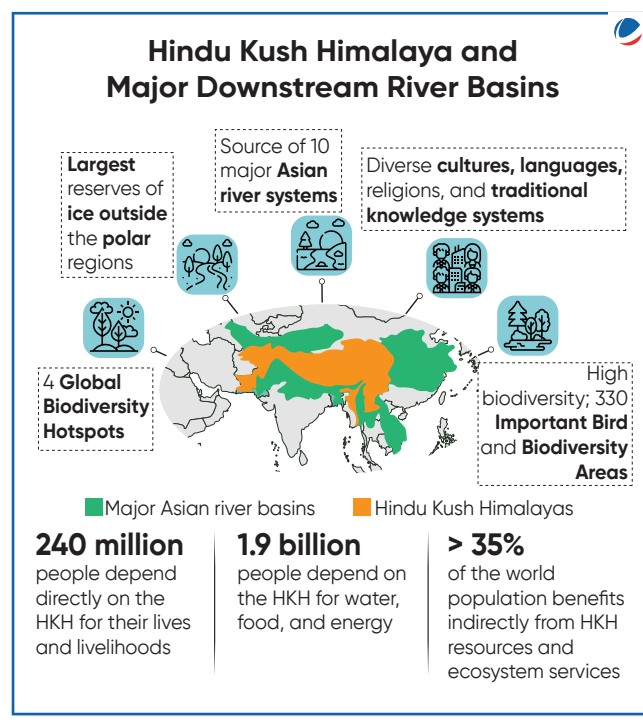
BRIEF BACKGROUND

About Asian Development Bank

- ▶ Head Quarters: Manila, Philippines
- ▶ Established: 1966 after resolution passed at 1st ministerial conference on Asian Economic Cooperation held by UN-Economic Commission for Asia and Far East.
- ▶ Objective: Fostering Economic Growth, Cooperation and eradicating extreme poverty in regions of Asia and Far East
- ▶ Members: 68 Members (India a member)

About Hindu Kush-Himalayan Region:

- ▶ Spans 4.3 million square km in Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.
- ▶ Home to world's highest peaks like Mount Everest and Kanchenjunga.
- ▶ Known as the Third Pole or Water Tower of Asia.
- ▶ Highly vulnerable to earthquakes and landslides due to young, rising mountains.



5.2.8. CLIMATE ENGINEERING (CE)

CONTEXT



UNESCO released its first report on the ethics of climate engineering.

ANALYSIS



Significance of climate engineering

- ▶ **Mimicking natural processes enhances suitability** for tackling climate changes.
- ▶ **Provides more time for transition**, reducing urgency.
- ▶ **Affordable techniques** enable regional implementation.
- ▶ **Fills climate policy gap**, facilitating necessary greenhouse gas reductions.

Potential risks associated with climate engineering

- ▶ **Environmental Risks:**
 - **Impair long-term ecosystem self-regulation.**
 - **Adverse effect on ozone layer**, rainfall, crop production, ocean acidification.
 - **Technology dependency** for climate change mitigation.
- ▶ **Economic Risks:** High development and deployment cost.
- ▶ **Ethical issues**
 - **Uncertainties and synergistic effects** of environmental risks and little transparency in risk tracking.
 - **Potential denial of distributive justice** to marginalized communities.
 - **Moral hazard** as provides an easier alternative to taking ecological responsibility seriously.
- ▶ **Conflicts due to Transnational nature.**

India's Initiative for climate engineering

- ▶ **Department of Science and Technology (DST)** is supporting an active climate modelling research program in geo-engineering at the Indian Institute of Science(IISc).
- ▶ **Major Research and Development Program (MRDP)** was launched by DST to understand the implications of geo-engineering.
- ▶ **Indian Institute of Tropical Meteorology** is developing Earth system model for performing solar geo-engineering simulations.

Way ahead

- ▶ **Consider intergenerational and transboundary impacts** in decision-making.
- ▶ **Legislation regulating climate action** to prevent harm and ban weaponization of climate engineering techniques.
- ▶ **Participation and inclusiveness of key stakeholders** marginalized groups, women, youth, indigenous people, and civil society.
- ▶ **Encouragement of international cooperation** for regional activities within local communities.

BRIEF BACKGROUND

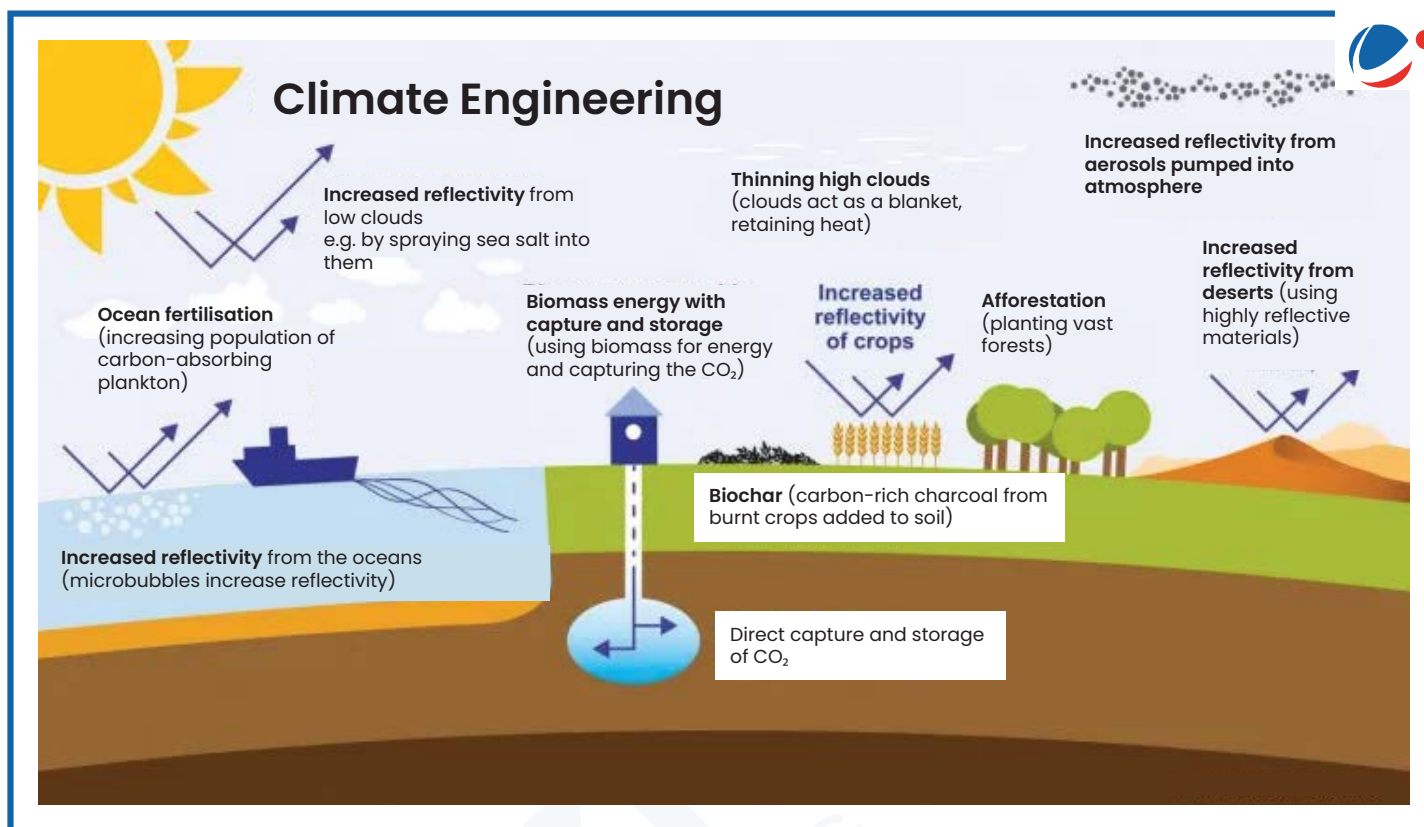
About Climate Engineering

- ▶ **Aims to address global warming** by directly intervening in the climate system.
- ▶ **Doesn't address root cause of climate change.**
- ▶ **Techniques: Carbon Dioxide Removal (CDR) and Solar Radiation Modification (SRM).**
 - SRM, also known as solar geo-engineering, allows more infrared radiation to escape into space.

About United Nations Educational, Scientific and Cultural Organization (UNESCO)

- ▶ **Headquarters:** Paris, France
- ▶ **Genesis:** Established in 1945 and is an specialised agency of United Nations.
- ▶ **Mission:** To contribute to the building of a culture of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information.
- ▶ **Members:** 194 Members (including India) and 12 Associate Members
- ▶ **Governance:** Governed by the **General Conference and the Executive Board.**
 - The **Secretariat**, headed by the Director-General, implements the decisions of these two bodies
- ▶ **Major Reports**
 - **Global Education Monitoring Report**
 - **Global Ocean Science Report**
 - **UN World Water Development Report**
 - **World Trends in Freedom of expression and Media Development**

- ▶ Promote open collaboration and constant monitoring of climate actions.
- ▶ Support from UNESCO for strengthening institutional, technological, and ethical capacities.
- ▶ Integration of ethical climate action issues in educational and training programs.



5.2.9. GREEN FUELS ALLIANCE INDIA (GFAI)

CONTEXT

Denmark announces Green Fuels Alliance India (GFAI) initiative.

ANALYSIS

Green Fuels Alliance India (GFAI)

- ▶ Part of Green Strategic Partnership (GSP) signed in 2020 between India and Denmark.
 - Primary objective is to promote sustainable energy growth in India by encouraging collaboration among businesses, government entities, research institutions, etc. from both countries.
 - Inspired by initiatives like India-Denmark Energy Partnership, and joint R&D efforts on Green Fuels, etc.

Other Similar Partnership Initiatives By India

	U.S.-India Strategic Clean Energy Partnership
	MoU on Green / Clean Hydrogen Between India and Saudi Arabia
	India-Australia Green Hydrogen Taskforce
	Global Biofuels Alliance forged by Brazil, India, and United States
	Quad's Climate Working Group for clean energy

5.3. POLLUTION

5.3.1. THE WATER (PREVENTION AND CONTROL OF POLLUTION) AMENDMENT ACT, 2024

CONTEXT



- ▶ The Parliament passed the **Water (Prevention and Control of Pollution) Amendment Act, 2024** to amend the Water (Prevention and Control of Pollution) Act 1974.
- ▶ It will apply to **Himachal Pradesh, Rajasthan** (both passed resolution to amend the Act) and the **Union territories**.

ANALYSIS



Regulation of Water

- ▶ Water is a state subject.
- ▶ **Article 252 of the Constitution** empowers Parliament to legislate on any matters for which it lacks legislative power.
- ▶ Any Such Act by the Parliament shall apply to States passing such resolution and to any other State by which it is adopted.
- ▶ Also, such Act could be amended or repealed only by the Parliament.



Read From Essential Material

Chapter 18: Pollution of Air and Water (Class VIII Science)

Key Amendments (Water Amendment Act, 2024)

 Key Aspects	 Water Act, 1974	 Water Amendment Act, 2024
Chairman of SPCB Consent exemptions for establishing industries	Nominated by the State government. <ul style="list-style-type: none"> ▶ State Government to "exempt certain categories of industrial plants" from the restrictions on new outlets and discharges. ▶ States empowered to issue guidelines on matters relating to grant, establishment of any industry, etc. 	Central government will prescribe terms and conditions of service of the chairman. <ul style="list-style-type: none"> ▶ Central government, in consultation with the CPCB, may exempt certain categories of industrial plants from obtaining such consent. ▶ Central government may issue guidelines for the grant, refusal, or cancellation of consent granted by the SPCB.
Offences by government departments	Imprisonment of up to Six years for discharge of polluting matter	Decriminalises several violations, and imposes penalties between ₹10,000 and ₹15 lakh
Offences by government departments	Head of a department will be deemed guilty for offences committed by government departments.	Head of a department required to pay penalty equal to one month of their basic salary if department violates any provision of the Act.

Other provisions of Amendment Act 2024:

- ▶ Tampering with Monitoring Devices will result in penalty.
- ▶ Central government to appoint adjudication officers to determine penalties.
- ▶ Penalties to be credited to the Environment Protection Fund established under the Environment (Protection) Act, 1986.
- ▶ Appeals against orders passed by the adjudicating officer may be made before the National Green Tribunal.

Significance

- ▶ Decriminalization and rationalization minor offenses for Trust-Based Governance.
- ▶ Reduced Regulatory Burden by reducing duplication of surveillance and unnecessary burden on regulatory agencies.
- ▶ Streamlining the appointment of chairpersons of state boards.
- ▶ Balancing Development and Environment Protection

Criticism of the amendments

- ▶ Ineffectiveness of Penalties for minor offences due to logistical and cultural reasons.
- ▶ The State of the Environment Report 2023 revealed that 46% of India's rivers are polluted.
- ▶ Ignoring the Climate and water Crisis.
 - NITI Aayog estimating 400,000 deaths annually due to contaminated water.
- ▶ Affecting Federalism as the Act seeks to take away most existing powers of the state.

Conclusion

There is need for Stakeholder Engagement through consultations with environmental experts, industry representatives, and civil society organizations to refine the amendments and address concerns.

BRIEF BACKGROUND

About Water (Prevention and Control of Pollution) Act 1974

- ▶ Applicable in 25 States and Amended twice in 1988 and 2003.
- ▶ Regulatory bodies: Creation of the Central Pollution Control Boards (CPCB) and State Pollution Control Boards (SPCB).
- ▶ Approval: Mandatory for industrial units to get permission from their respective State boards before setting up factories.

About CPCB

- ▶ Genesis: Statutory organization was constituted in 1974 under the Water Act, 1974.
- ▶ About: Entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.
- ▶ Ministry: Ministry of Environment, Forests and Climate Change.
- ▶ Principal Functions:
 - To promote the cleanliness of streams and wells in different areas of the States by prevention, control, and abatement of water pollution.
 - To improve the quality of air and to prevent, control or abate air pollution in the country.
- ▶ Major Initiatives:
 - National Air Quality Monitoring Programme.
 - PRANA portal for monitoring of the implementation of the National Clean Air Programme (NCAP).

5.3.2. GROUND WATER IN INDIA

CONTEXT

- ▶ Union Minister for 'Jal Shakti' released "Dynamic Ground Water Resource Assessment Report" for 2023.
- ▶ Assessment was carried out jointly by Central Ground Water Board (CGWB) and States/UTs.
- ▶ Exercise started from 1980 onwards, being carried out annually from 2022.

ANALYSIS

Key highlights of the report

- ▶ Total annual groundwater recharge increased from 437.6 bcm in 2022 to 449.08 bcm in 2023.
 - Major increase observed in West Bengal, Assam, Telangana, Chhatisgarh, Karnataka, Gujarat, and Bihar.
- ▶ Over-exploited units decreased from 1006 in 2022 to 736 units out of 6553 assessment units (11.23%).
- ▶ 'Critical' units (GW extraction between 90-100%) account for 3% of total recharge worthy areas (RWA).

- ▶ **'Semi-critical' units** (GW extraction between 70–90%) account for 12% of RWA.
- ▶ **'Safe' units** (GW extraction less than 70%) account for 66% of RWA.
- ▶ **Reason for improvement in Total annual GW recharge**
 - **Mainly due to 'Other Sources'** recharge which includes canals, surface water irrigation, ground water irrigation, tanks, ponds, and water conservation structures.
 - **Rainfall is the main source of replenishable groundwater**, contributing to 60% of GW recharge.

Reasons for Overall decline in GW in India

- ▶ **Over-Extraction:** Over the last 50 years, number of borewells has grown from 1 million to 20 million.
- ▶ **Long-term decline in monsoonal rainfall**, owing to climate change.
- ▶ **Policy related factors** like free/heavily subsidized power (including solar pumps) for pumping groundwater for irrigated agriculture.
- ▶ **Low Irrigation efficiencies in Traditional flood irrigation and huge water loss through evapotranspiration.**
- ▶ **Other factors:** Exceptionally high demand versus limited supply owing to rise in population, urbanisation and rise in industries etc.

Suggestions to improve GW management

- ▶ **Estimating future groundwater availability** through groundwater modelling.
- ▶ **Shifting from water-guzzling crops** like cotton and wheat to less water-consuming pomegranates and cumin.
- ▶ **Involving communities in the conservation effort**, combining scientific inputs with traditional wisdom.
- ▶ **Implementing policy-level measures** like separating agricultural and household electricity connections.
- ▶ **Implementing Mihir Shah Committee recommendations** like
 - **Impetus on Corrective measures** like establishing drilling depth and well distance
 - **Restructuring governance** to form a new National Water Commission.
 - **Implementing demand side interventions** like surface water harvesting and water-efficient irrigation systems.



Read From Essential Material

Chapter 16: Water: A Precious Resource
(Science- VII)

BRIEF BACKGROUND

About Central Ground Water board (CGWB)

- ▶ **Established: 1970** by renaming **Exploratory Tube Wells Organization** and merged with Ground water wing of Geological Survey of India
- ▶ **Ministry:** Ministry of Jal Shakti
- ▶ **Role:** National apex agency entrusted with responsibilities of providing scientific inputs for management and regulation of ground water resources in the country.

GW scenario in India

- ▶ **World's largest groundwater user.**
- ▶ **Over 60% of wells monitored by CGWB** show declining trends in the last decade
- ▶ **UN University's Interconnected Disaster Risks Report 2023:**
 - **Some Indo-Gangetic basin areas** have reached depletion point.
 - **NW-region** predicted to experience low groundwater availability by 2025.
 - **78% of wells in Punjab** are overexploited.

Impacts of decline of GW



Reduced Surface Water Supplies as groundwater and surface water are connected



Shrinking aquifers may lead to land subsidence



Impact on Food Security, livelihoods of farmers



Water Quality Concerns due to excessive pumping



Increased Costs as water will be pumped farther to reach the surface, using more energy

5.3.3. SEWAGE MANAGEMENT IN INDIA

CONTEXT

- ▶ The National Mission for Clean Ganga (NMCG) under the Ministry of Jal Shakti, amended the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016.
- ▶ After exploring direct reuse options, the amendment allows NMCG to discharge treated effluent into the Ganga with prescribed standards.

ANALYSIS

Sewage generation in India and Sewage Treatment Plants (STPs)

- ▶ **Status:** The estimated sewage generation from Class I and Class II towns in exceeds 33,000 MLD, with only 18.6% of STPs being able to treat it.

Institutional arrangement and initiatives for Sewage Treatment in India

- ▶ **Water a 'State Subject'** under the **Seventh Schedule (Article 246)**: States/UTs responsible to ensure the cleanliness and development of rivers.
 - ▶ **National Urban Sanitation Policy (2008)** made local governments responsible for behavioural change, total sanitation, and 100% safe waste disposal.
- ▶ **74th Constitutional Amendment (1993)**: Decentralized the water supply and sanitation services from the state government to the Urban Local Bodies (ULB)
- ▶ **Environment (Protection) Act, 1986 and the Water (Prevention & Control of Pollution), Act 1974**:
 - ▶ **Industrial units and local bodies are required to install STPs** and Effluent treatment plants (ETPs) to treat their sewage before discharging into the river.
 - ▶ However, there is **no specific act dedicated to the management of wastewater** in India.
- ▶ **Other related initiatives:** Atal Mission for Rejuvenation & Urban Transformation (AMRUT), Smart Cities Mission, Namami Gange program and National River Conservation Plan.

Challenges associated with STPs

- ▶ **Lack of Capacity in ULBs:** To plan and implement sewage treatment projects.
- ▶ **Lopsided implementation:** 5 states account for 60% of the total installed treatment capacity.
- ▶ **Inadequate framework at the Central and State level:** For treating polluted water.
- ▶ **Differences in discharge standards:** For instance, **Surface water body is regulated by 35 parameters** while **wastewater for land application is regulated by only 10 parameters.**
- ▶ **Low Compliance rate:** Only 23% of treatment capacity meets parameters.

Read From Essential Material

Chapter 18: Waste water story (Science Class VII)

BRIEF BACKGROUND

About STPs

- ▶ Facilities that treat wastewater from domestic, commercial, and industrial sources to remove pollutants and contaminants before releasing them into the environment.

Types of STPs



Membrane BioReactor (MBR): combines a membrane filtration unit with a bioreactor for water treatment



Activated Sludge Plant (ASP): involves aerating the sewage to promote the growth of bacteria that metabolize the waste.

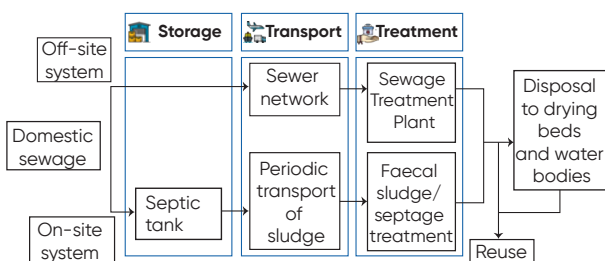


Sequencing Batch Reactor: is an activated sludge process used for waste-water treatment.



Moving Bed Biofilm Reactor: is a biofilm treatment process which requires less space

Mechanism of an off-site and on-site wastewater treatment system



- ▶ **Low economic viability:** STPs are highly capital-intensive.

Way forward

- ▶ **Establishing multiple monitoring points.**
- ▶ **Focus on alternative usage** like utilization for non-potable purposes like horticulture, irrigation, etc.
- ▶ **Defining better and uniform water quality standards.**
- ▶ **Setting up of underground STPs in land-scarce cities** to eliminate negative environmental impacts.
- ▶ **Implementing Nature-based Solutions (Nbs)** like Constructed wetlands, floating treatment wetlands, Green roofs, living walls, etc.

Nature-based Solutions



Constructed wetlands



Floating treatment wetlands



Green roofs



Living walls



Waste stabilization ponds



High-rate algal ponds



Vermifiltration

5.3.4. SWACHH SURVEKSHAN AWARDS 2023

CONTEXT

- ▶ Recently, the President of India conferred the Swachh Survekshan Awards for 2023
- ▶ Theme for the year is **waste to wealth**.
- ▶ The Swachh Survekshan 2023 dashboard was also launched at the event.



ANALYSIS



Key Highlights of the 2023 Awards

- ▶ **Indore** (Madhya Pradesh) and **Surat** (Gujarat) were declared as the Cleanest Cities in India (Rank 1) followed by Navi Mumbai (Maharashtra) (Rank 3).
- ▶ In cities with less than 1 Lakh population, **Sasvad (Maharashtra), Patan (Gujarat) and Lonavala (Maharashtra)** secured the top three spots.
- ▶ **Maharashtra** was named the cleanest state, followed by **Madhya Pradesh and Chhattisgarh**.
- ▶ **Mhow** (Madhya Pradesh) was selected as the cleanest cantonment board followed by **Deolali (Maharashtra) and Ahmedabad (Gujarat)**.
- ▶ **Varanasi** (Uttar Pradesh) was declared the cleanest Ganga town followed by **Prayagraj (Uttar Pradesh)**
- ▶ **Chandigarh** was declared as the Best Safaimitra Surakshit Sheher.

BRIEF BACKGROUND

About Swachh Survekshan Awards

- ▶ A survey of **cleanliness, hygiene and sanitation** in cities and towns across India.
- ▶ **Launch:** In 2016 under the ambit of the **Swachh Bharat Mission (Urban)**.
- ▶ Conducted annually by the **Ministry of Housing and Urban Affairs**.
- ▶ **Objective:** To encourage large-scale **citizen participation and create awareness** about the importance of making towns and cities a better place to live.
- ▶ **2023 assessment:** It was conducted in 4 phases for the first time in 4477 cities and the total marks increased to 9500 from 7500 (2022's survey).

Components of Swachh Survekshan 2023

Part 1 Service Level Progress (SLP)
Data provided by ULBs & Documents assessment
51%
Total Marks: 4,830

Part 2 Certification
Based on GFC Star rating, ODF+/ODF++/Water+
26%
Total Marks: 2,500

Part 3 Citizen Voice
5 components Feedback, engagement, experience, Swachhta app, Innovation
23%
Total Marks: 2,170

Final Score
Cities are ranked based on marks obtained from Part 1, Part 2 and Part 3
100%
Total Marks: 9,500

5.4. SUSTAINABLE DEVELOPMENT

5.4.1. ENVIRONMENTAL COST OF WAR

CONTEXT

Experts have raised concerns with respect to environmental impact and associated costs of Russia-Ukraine war and the Israel-Palestine conflict

ANALYSIS

Stages of war and associated cost

- ▶ **Preparation**
 - ▶ **Exploitation of resources** like metals, water, and energy.
 - ▶ **Increases GHG emission** as military energy primarily derived from fossil fuels.
 - ▶ **Compromise with conservation efforts** as biodiversity-critical areas are used for military
- ▶ **War**
 - ▶ **Pollution as Weapons** cause air and soil pollution.
 - ▶ **Deforestation** due to White phosphorous weapons and bombings destroying protected areas.
 - ▶ **Ecosystem destruction** and potential for invasive species.
- ▶ **After war**
 - ▶ **Nuclear Radiation** may have long lasting impacts like Post-WWII Hiroshima and Nagasaki.
 - ▶ **Increased hunting and poaching** due to easy access to small arms and ungoverned spaces.
 - ▶ **Restricted access to researchers** to protected areas and potential budget cuts for conservation.

Challenges associated with environmental cost of war

- ▶ **Limited knowledge** on environmental costs of war.
- ▶ **Difficulty in quantifying environmental damage** from war due to disruptions and unreported pollution.
- ▶ **Exclusion from Paris Climate Agreement**, exempting military from reporting.
- ▶ **Competing Post-conflict priorities** as housing, infrastructure, and services will be looked over environmental considerations.
- ▶ **Vicious cycle due to climate change.**
 - ▶ Climate change makes resources scarcer and increases vulnerabilities.
 - ▶ Resource depletion and heightened vulnerabilities contribute to conflicts.
 - ▶ Conflicts contribute to climate change.

Way ahead to mitigate war's impact on the environment

- ▶ **UN Framework on Climate Change:** Create binding global agreements based on "Polluter pays principle" to address military and conflict emissions.
- ▶ **Green Post-Conflict Recovery:** Prioritize green and sustainable recovery post-conflict.
- ▶ **Military Training:** Educate Armed Forces on emission reduction and environmental preservation and resilience-building in climate-vulnerable countries.
- ▶ **Decarbonizing Military:** through replacing fossil fueled vehicles and enforcing emission reductions in the supply chain.
 - ▶ **Switzerland** has set a goal to create a **carbon-neutral military** by 2050.

BRIEF BACKGROUND

Initiatives to minimize the environmental impact of war include

- ▶ **Geneva Convention:** Imposes restrictions on Warfare Methods aiming to cause widespread, long-term, and severe damage.
- ▶ **Brundtland Report (1987):** Highlights armed conflict and rivalry as barriers to sustainable development.
- ▶ **Stockholm Conference (1972):** Prohibits the use of all weapons of mass destruction.
- ▶ **UN Conference on Environment and Development (1992 Rio Conference)**
 - ▶ **Principle 24 and 25:** Argues armed conflict harms sustainable development and stresses interconnectedness of peace and development
- ▶ **Rome Statutes - Article 12:** Addresses the responsibility of states regarding environmental damage in armed conflicts.
- ▶ **International Day for Preventing the Exploitation of the Environment in War and Armed Conflict**
- ▶ **Others:**
 - ▶ **Draft Principles on Protection of the Environment in Relation to Armed Conflicts:** Adopted by the International Law Commission.
 - ▶ **UN Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)**

5.4.2. PM SURYA GHAR MUFT BIJLI YOJANA

CONTEXT

- Recently, Union Cabinet has approved - PM Surya Ghar Muft Bijli Yojana for installing Rooftop Solar in one crore households nationwide.

ANALYSIS

About PM Surya Ghar Muft Bijli Yojana

- Key Highlights of Scheme**
 - Ministry:** Ministry of New & Renewable Energy.
 - Aim:** To provide free electricity up to 300 units every month for one crore households.
 - Subsidy structure:** Central Financial Assistance for Residential Rooftop Solar (RTS) up to:

Suitable Rooftop Solar Plant Capacity	Subsidy Support
1 – 2 kW	Rs 30,000 to Rs 60,000/-
2 – 3 kW	Rs 60,000 to Rs 78,000/-
Above 3 kW	Rs 78,000/-

- Loan for installation of residential RTS: Households can access collateral-free low-interest loan products of around 7% for installation of RTS systems up to 3 kW.
- Other features of the scheme**
 - Model Solar Village will be developed in each district.
 - Incentives for Local bodies for promoting RTS.
 - National Portal for facilitating households to apply for subsidies.
 - Component for payment security for Renewable Energy Service Company (RESCO) based models as well as a fund for innovative projects in RTS.

Significance of PM Surya Ghar Muft Bijli Yojana:

- 1 crore families to save Rs 15000 crore annually through reduced electricity bills.
- Income Generation** by selling surplus power to electricity Distribution Companies.
- Addition of **30 GW of solar capacity** through RTS in residential sector.
- Reduction of nearly 720 million tonnes of CO₂** equivalent emissions.
- Job creation and Fostering India's goal of becoming self-reliant in energy sector.

Challenges for scaling up Solar Rooftop System

- Grid stability, and energy storage** due to variability and unpredictability of solar energy.

BRIEF BACKGROUND

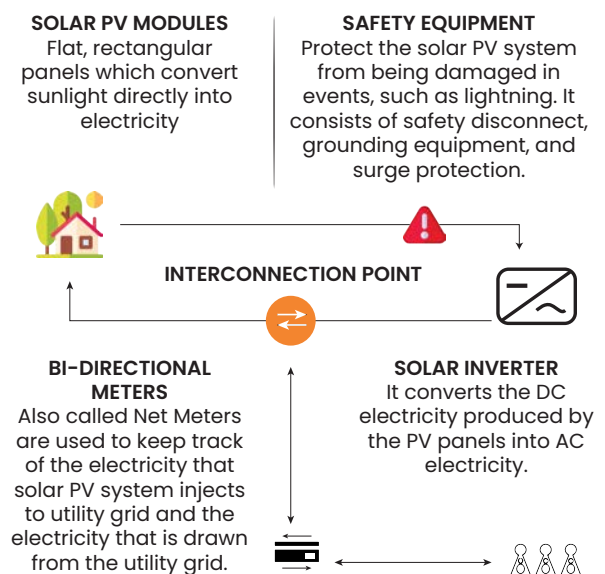
About Solar Rooftop System

- Rooftop solar panels are the **photovoltaic panels installed on the roof of a building** which is connected to the **main power supply unit**.
- India's Current Rooftop Solar Capacity**
 - Installed **11 GW of rooftop solar capacity**, of which **2.7 GW is in the residential sector**.
 - Gujarat is the leader in Rooftop Solar installations (82%)**, followed by Maharashtra and Rajasthan.

Initiatives to Promote Solar Energy in India

- Grid Connected Solar Rooftop Programme.
- Production-linked incentive scheme under the National Programme on High-efficiency Solar PV Modules.
- Solar Park Scheme.
- Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM.)
- Pradhanmantri Suryodaya Yojana.

Solar Rooftop Components



- ▶ **High cost** due to lack of Research & Development, modern development facilities, and manufacturing infrastructure.
- ▶ **Low DISCOMs participation.**
- ▶ **Poor implementation** of net metering policies.
- ▶ **Lack of awareness.**

Way forward for supporting RTS

- ▶ **Time-bound approval** and commissioning processes.
- ▶ **Third-party inspectors** to address grid integration challenges.
- ▶ **Improving Grid Infrastructure**
- ▶ **Modifying the net metering policies** and removal of capacity constraints.
- ▶ **Single-window facility** for the entire ecosystem of rooftop PV deployment.

5.4.3. COMPRESSED BIO-GAS BLENDING OBLIGATION

CONTEXT

Centre announced **mandatory blending of Compressed Bio-Gas (CBG)** in CNG (Transport) & PNG (Domestic) segments of City Gas Distribution (CGD) Sector.

ANALYSIS

About CBO

- ▶ An **obligation** where mixtures of **traditional and alternative fuels** (like CBG) are blended in **varying percentages** in order to **displace petroleum.**
- ▶ **Ministry of Petroleum & Natural Gas** introduced **phase-wise CBG Blending Obligation (CBO)** to promote production and consumption of CBG.
- ▶ **Expected Benefits:**
 - ▶ Encourages investment (Rs. 37500 crores)
 - ▶ Facilitates 750 CBG projects by 2028-29.

Key objectives of CBO

- ▶ **Stimulate demand** for CBG in CGD sector,
- ▶ **Import substitution** for Liquefied Natural Gas,
- ▶ **Saving in foreign exchange,**
- ▶ **Promoting circular economy** and,
- ▶ **Assisting in achieving net zero emissions.**

CBO Roadmap

- ▶ **Voluntary till FY 2024-2025 and mandatory blending obligation** would start from FY 2025-26.
- ▶ CBO shall be kept as **1%, 3% and 4% of total CNG/PNG consumption** for FY 2025-26, 2026- 27 and 2027-28 respectively. From **2028-29 onwards CBO will be 5%.**
- ▶ **Central Repository Body** shall monitor and implement blending mandate.

BRIEF BACKGROUND

About Compress Biogas (CBG)

- ▶ An **energy-rich gas** produced by **anaerobic decomposition** of biomass like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, among other.
- ▶ **Composition: Methane (90%), carbon dioxide** and low levels of **Hydrogen sulphide** and ammonia.

Initiatives Taken to Promote Biofuels



National Biofuels Coordination Committee **set up 1% and 2% Sustainable Aviation Fuel (SAF) initial indicative blending percentage** targets for International flights in 2027 and 2028 respectively.



SATAT (Sustainable Alternative Towards Affordable Transportation) scheme



Galvanizing Organic BioAgro Resources Dhan (GOBAR-DHAN) scheme.



5.4.4. CLIMATE RESILIENT FARMING



CONTEXT

Standing Committee on Agriculture, Animal husbandry and Food processing presented 'Promotion of Climate Resilient Farming' Report.

ANALYSIS



Key highlights of the report

- ▶ **Climate Change in India**
 - **Temperature** increased approx by 0.7 °C between 1901 and 2018.
 - **Average Sea Surface Temperature (SST) in Indian Ocean** increased by 1 °C (globally 0.7 °C) from 1951 to 2015.
 - **Rainfall** declined approx 6% between the years 1951 and 2015, particularly over the **Indo-Gangetic Plains and the Western Ghats**.
 - **Increase in Droughts:** In regions such as **Central India, South West coast, Southern Peninsula, and North-Eastern**.
- ▶ **Impact of Climate Change on India agriculture**
 - **Crops:** Projected decline in **rainfed rice, wheat, kharif maize** yields by 2050.
 - ◊ Other crops such as **chick pea, cotton and pigeon pea** are projected to have **beneficial effects** due to **reduced frost events**.
 - **Horticulture:** **Shift in crop zones of Apple** and other **temperate crops**.
 - ◊ **Flooding** significantly affects **tomato and onion cultivation**.
 - **Livestock:** Estimated 1.8–2 million tonnes annual milk loss due to heat stress in cattle and buffalo in India.
 - **Fisheries:** Reduction in **plankton concentrations** in coastal waters due to higher SST to negatively impact **fish larvae and adult fish**.

Way Forward

- ▶ **Creation of Single Nodal Agency at National Level** for issues related to Climate Change and its effects impacting agricultural needs.
- ▶ **Strategies and technologies for climate change adaptation:**
 - **Technology like** AI-driven analytics and decision support systems.
 - **Adoption of heat tolerant varieties:** for e.g., Adoption of **HDCSW-18, DBW-187** (wheat varieties) etc.
 - **Better Livestock Feed management**
 - **Water management:** E.g., groundwater recharge techniques.
- ▶ **Upscaling of proven Resilient Practices:** E.g., nation-

BRIEF BACKGROUND

About Climate Resilient Farming

- ▶ Incorporation of **adaptation, mitigation, and other agriculture practices** which increases the capacity of the system to respond to various climate-related disturbances by resisting damage and recovering quickly.
- ▶ Essentially involves **judicious and improved management** of natural resources.
- ▶ **Significance:** Reduces **hunger and poverty** and sustain agricultural production from the local to the global level.
- ▶ **Challenges in adopting Climate Resilient Farming**
 - **Multidimensional intervention requiring collaboration.**
 - Lack of knowledge and training due to weak extension services, skill gaps;
 - **Structural issues like** Over dependence on rainfall, inadequate supply of seeds, fragmentation of land holding and inadequate post-harvest infrastructure.
 - **Delayed benefits.**
 - Policies like Minimum Support Price (MSP) and subsidised fertilisers.

Steps taken for Climate resilient farming



National Innovations in Climate Resilient Agriculture (NICRA): It has been launched by Indian Council of Agricultural Research (ICAR).



The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT): Aims to improve agrifood systems and tackles environmental degradation.



Paramparagat Krishi Vikas Yojana and Soil Health Card scheme has been launched for Soil Health Management and promotion of organic farming



Per Drop More Crop: It has been launched under **Pradhan Mantri Krishi Sin-chayee Yojana** to enhance water use efficiency.



The National Mission for Sustainable Agriculture (NMSA): Under it **Rainfed Area Development (RAD)** scheme is being implemented.



Food & Agriculture for Sustainable Transformation (FAST) Partnership: launched at **COP27 (Sharm el-Sheikh, Egypt)** to transform agriculture and food systems for people, climate, and nature.

wide adoption of **Climate Resilient Villages (CRVs)**.

- ▶ **Implementation of measures related to GHG reduction from Agriculture.**
- ▶ Increase in **awareness at Panchayat level.**

5.4.5. AGROFORESTRY



CONTEXT

- ▶ NITI Aayog unveiled the **Greening and Restoration of Wasteland with Agroforestry (GROW)** report.
- ▶ Report emphasizes potential of **converting wastelands into productive agroforestry zones.**
- ▶ NITI Aayog also launched **"GROW-Suitability Mapping"** portal on Bhuvan (a geoportal of ISRO) for ensuring universal access to state and district-level data.

ANALYSIS



- ▶ **Significance of Agroforestry**
 - ▶ **Mitigating climate change** through microclimate moderation and carbon sequestration
 - ▶ **Enhancing productivity, soil fertility and conserving soil**
 - ▶ **Optimizing use of arable land.**

India's Initiatives for Agroforestry



National Agroforestry Policy in 2014



Sub-Mission on Agro-forestry under National Mission for Sustainable Agriculture



Agroforestry component under **Rashtriya Krishi Vikas Yojana**



India joined **Bonn Challenge** pledges to bring into restoration 13 million hectares (mha) of degraded and deforested land by the year 2020.

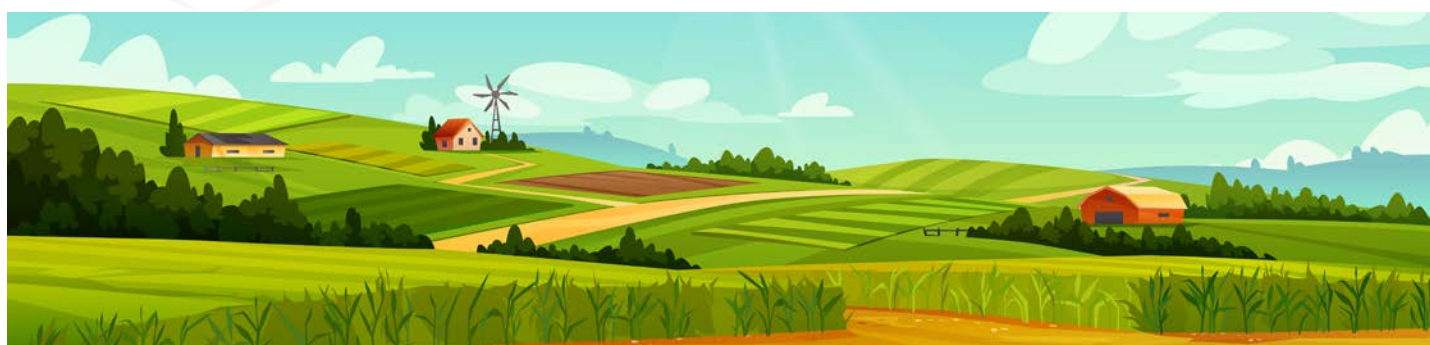
BRIEF BACKGROUND

About Wastelands

- ▶ Lands which are unproductive, unfit for cultivation, grazing and other economic uses.
- ▶ According to **Wasteland Atlas of India 2019**, wastelands constitute **16.96% of geographical area** of India in 2015-16.

About Agroforestry

- ▶ A collective name for land-use systems where **trees are managed together with crops and/or animal production systems** in agricultural settings.
 - ▶ Presently, agroforestry covers **8.65% of India's total geographical area.**
- ▶ **Three main types:**
 - ▶ **Agrisilvicultural systems:** Combination of crops and trees.
 - ▶ **Silvopastoral systems:** Combine forestry and grazing of domesticated animals on pastures or on-farm.
 - ▶ **Agrosylvopastoral systems:** Integration of trees, animals and crops.



5.4.6. NATIONAL CIRCULAR ECONOMY ROADMAP FOR REDUCTION OF PLASTIC WASTE IN INDIA

CONTEXT



- ▶ The flagship document was released as part of **India–Australia Comprehensive Strategic Partnership**.
- ▶ It aims to **foster research and industry partnerships and Co-develop roadmap for India’s transition to circular economy** in Plastics sector.

ANALYSIS



National Circular Economy Roadmap for reduction of Plastic waste in India includes the following elements

- ▶ **Production:** Design products for easy, efficient recycling.
- ▶ **Consumption:** Avoid single-use plastics and choose extended lifetime products.
- ▶ **Recycling:** Promote closed-loop recycling and chemical up cycling technologies.
- ▶ **Commercial viability:** Incentives for circular economy businesses and high-quality secondary material markets.
- ▶ **Awareness and readiness:** Use schools, universities for awareness raising.
- ▶ **Supportive infrastructure:** Invest in recycling and digital infrastructure.
- ▶ **Consistent compliance:** Set targets and monitor progress on plastics reduction, reuse, and recycling.

Nee for circular economy roadmap in India

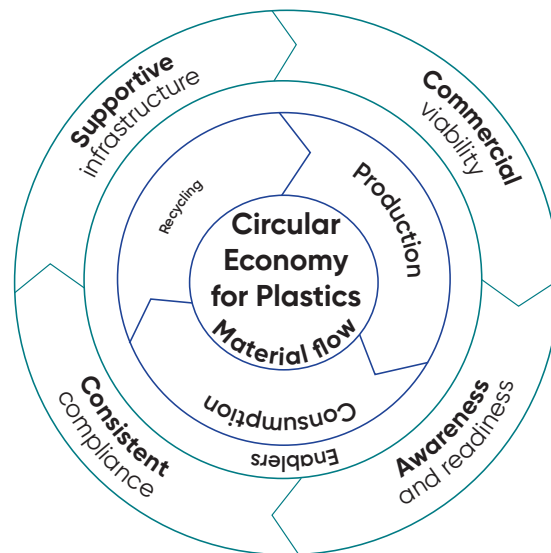
- ▶ **Largescale generation:** India generates nearly **26,000 tonnes of plastic waste each day** (CPCB, 2020).
- ▶ **Economic benefits:** **New secondary markets** for used plastics in construction and manufacturing, and new primary markets for alternative, eco-friendly products.
- ▶ **Ecological benefits:** Cleaner environment, less greenhouse emissions, improved air quality, and reduced microplastics in the food chain.
- ▶ **Enabling behavioural change:** Through **cultural shift, away from ‘use and throw’**.
- ▶ **Achieve Global commitments:** under Sustainable Development Goals (SDG, net zero target **Global Plastics Treaty**).
- ▶ **In line with LiFE – Lifestyles for Environment:** Supports sustainable consumption and production.

BRIEF BACKGROUND

About Circular Economy

- ▶ Model of production and consumption that promotes the reuse, repair, refurbishment, and recycling of existing materials and products, thereby extending their life cycle.
- ▶ End of life products **are kept within the economy** wherever recycling is possible.
 - Creates further value by reuse.
 - Departs from **take-make-consume-throw away** pattern.

Elements of the Framework



Current challenges in attaining circular economy for plastics

- ▶ Unregistered waste and rag pickers.
- ▶ Poorly implemented compliance mechanisms by pollution control boards.
- ▶ Policy gaps like targeting Small-scale plastic processors and manufacturers instead of polymer manufacturers; EPR regulations lacking aspects of designing for the environment and minimising production etc.
- ▶ Plastic is cheap compared to alternatives.
- ▶ Technologies enabling plastic recycling face regulatory barriers and need infrastructure and large investments.
- ▶ Lack of information and awareness among Households about waste segregation and outcomes.

Steps taken for Plastic waste management in India



- ▶ **Mandated Extended Producer Responsibility (EPR)** for plastic packaging waste in 2016.
- ▶ Prohibited single-use plastic items with low utility and high littering potential from July 1, 2022, under **Plastic Waste Management Amendment Rules, 2021**.
- ▶ Prohibited manufacture, import, sale, use of plastic carry bags with thickness less than 100 microns from December, 2022.

Overall strategy for attaining circular economy

- ▶ **Establish a single, practical policy framework** for circular economy.
- ▶ **Engage all stakeholders**, including petrochemical industry, ULBs, informal cooperatives, regulators.
- ▶ **Support state governments** in designing and implementing action-plans for decentralized governance.
- ▶ Integrate learning along the supply chain, encouraging state-level data collection and transparency in public reporting.
- ▶ **Phase out plastics**, set ban dates, and support manufacturers transitioning to alternative products.
- ▶ **Integrate informal sector into the formal economy.**
- ▶ **Public procurement policies and fiscal and tax incentives** for secondary plastic waste-based products and businesses.
- ▶ **Investments in digital waste management tools** such as GPS-enabled tracking for vehicles or image recognition tools

OPTIONAL SUBJECT CLASSES

Starts : **2 JULY, 5 PM**

-  Anthropology
-  Geography
-  Philosophy
-  Political Science & International Relations
-  Sociology



5.5. DISASTER MANAGEMENT

5.5.1. INDIAN LANDSLIDE SUSCEPTIBILITY MAP

CONTEXT

- ▶ IIT Delhi created the first hi-resolution **Indian Landslide Susceptibility Map (ILSM)**.
- ▶ A **landslide susceptibility map** divides the **terrain into zones** based on the likelihood of landslide occurrence.

ANALYSIS

Key Feature of ILSM

- ▶ Embraced big data and use of multiple machine learning models.
- ▶ **High Spatial Resolution Mapping** upto 100 metres with **over 95% accuracy**.
- ▶ Divides India into **Five Vulnerability Classes** (refer to map).

Key Findings of ILSM

- ▶ Classifies **13.17% of India's geographical area** as susceptible to **landslides**.
 - ▶ **4.75% of the area** is categorized as "very highly susceptible."
 - ▶ **Geological Survey of India** estimates a slightly lower figure at 12.6%.
- ▶ **Regional Variation in Susceptibility:**
 - ▶ **Sikkim** has the **highest percentage of land area (57.6%)** susceptible to landslides.
 - ▶ **Arunachal Pradesh** has the highest absolute area susceptible to landslides.
 - ▶ **Kerala**, among the **non-Himalayan** regions, exhibits the **highest area susceptible to landslides**.
- ▶ **Identification of New Landslide-Prone Zones** i.e. Eastern Ghats show

Significance of ILSM

- ▶ **Data-driven Policy Formulation and Implementation** related to **disaster risk reduction**.
- ▶ **Scientific Understanding of Landslide Dynamics** and refine prediction models.
- ▶ **Early Warning and Preparedness** by identifying areas with **high susceptibility to landslides**.

Initiatives Taken by India

- ▶ **National Landslide Risk Management Strategy released by National Disaster Management Authority (NDMA)** with provisions like Early Warning and Preparedness, Landslide Monitoring and Early Warning System, Awareness generation and capacity building, Mountain Zone Regulations and Policies etc.

Read From Essential Material

Chapter 7: Natural hazards and disasters
(Physical Geography class XI)

BRIEF BACKGROUND

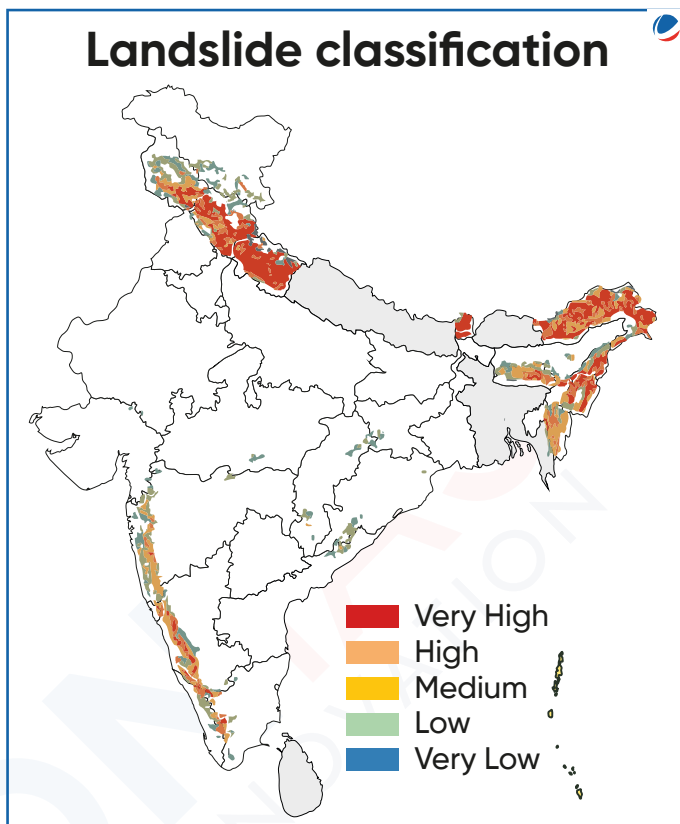
About Landslide

- ▶ Occur **when gravity forces pushing** on hill slope material **exceed the frictional forces holding the material** in place, causing **slope failure**.
 - ▶ **Landslide susceptibility** represents this potential for slope failure.
- ▶ Due to **steep slopes and heavy rainfall** most of the landslides occur in the **northwest Himalayas** followed by the **northeast Himalayas** and the **Western Ghats**.
 - ▶ Western Ghats require less rainfall to trigger landslides when compared to the Himalayas due to the **high soil depth in Western Ghats**
- ▶ **Causes:**
 - ▶ **Himalayas:** Sedimentary rocks prone to denudation and erosion; **Steep slopes and rapid rivers; rockfalls**.
 - ▶ **Western Ghats:** Development of a thick layer of regolith due to Heavy rainfall leading to mudslides
 - ▶ **Anthropogenic Contributions to Landslide Risk:** **Road development and construction** contribute to **slope instability**.
- ▶ **Consequence of Landslides:** Adverse effects on Developmental Activities, Channel blocking, river diversion, loss of life, etc.

- ▶ **National Landslide Susceptibility Mapping (NLSM)** Programme for mapping by Geological Survey of India.
- ▶ **Landslide Atlas of India** Prepared by **National Remote Sensing Centre (NRSC)** of ISRO.

Conclusion

Adopting **area-specific measures** is crucial for **landslide prevention**. Enforce restrictions on **construction, roads, and dams** in vulnerable areas. Complement with positive actions like **large-scale afforestation, bund construction** for water flow control, and **encourage terrace farming** in northeastern hill states where **Jhumming (Slash and Burn/Shifting Cultivation)** is practised.



5.5.2. GLOBAL DROUGHT SNAPSHOT 2023

CONTEXT



As per **United Nations Convention to Combat Desertification (UNCCD)** report **Global Drought Snapshot 2023**, at least 23 countries, including India, declared drought emergencies in 2022-23.

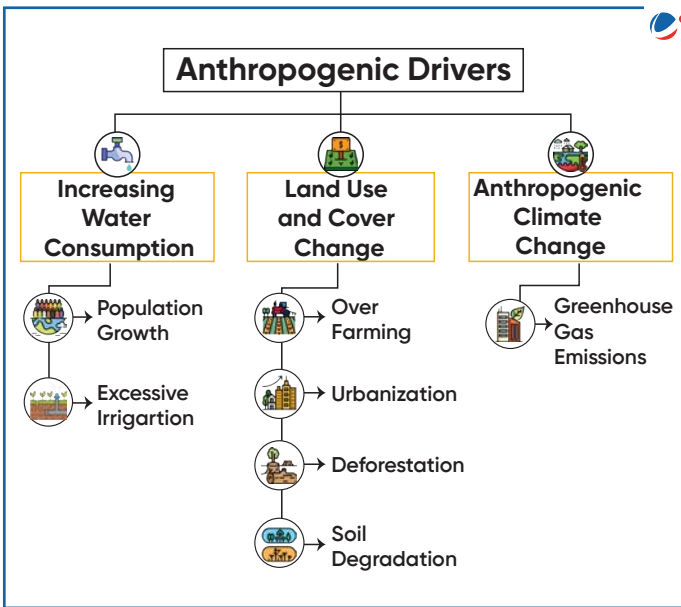
ANALYSIS



Current Impacts of droughts highlighted by report

- ▶ **Global Impact**, over 1.84 billion people are affected by drought, with 4.7% exposed to severe drought.
- ▶ **Women and children** are 14 times more likely to die from climate-driven disasters compared to men.
- ▶ **Ongoing drought** left around **23 million people** are severely food insecure in the Horn of Africa (Dec. 2022).
- ▶ **98% of the 32.6 million disaster displacements in 2022** result of weather-related hazards such as storms, floods and droughts.
- ▶ **Impacts primary energy production**, including hydropower installations.
- ▶ **Increases deforestation** by 7.6% during drought years.
- ▶ **Reduces global productivity** by 0.4% annually through land degradation.
- ▶ **Accelerating loss of Himalayan glaciers** over the past 40 years.





Initiatives undertaken

Global

- ▶ **"30x30" Target**, 195 nations agreed to protect and restore 30% of Earth's land and water by 2030.
- ▶ **Early warning for all by 2027**, as announced by UN Secretary-General on global early warning systems
- ▶ **International Drought Resilience Alliance** launched at UNFCCC COP27 Leaders' Summit in 2022.
- ▶ **UN Decade on Ecosystem Restoration** aims to restore 1 bn ha of land by 2030.

BRIEF BACKGROUND

About drought

- ▶ **India Meteorological Department (IMD)** defines a meteorological drought in any area when the **rainfall deficiency in that area is $\geq 25\%$ of its long term normal.**
- ▶ Further classified into **moderate and severe** drought depending upon the deficiency.
- ▶ **Findings of Climate Hazards and Vulnerability Atlas of India by IMD:**
 - ▶ **87% of the districts and 93% of the population are moderate to very highly vulnerable.**
 - ▶ **27% of the districts and 32% of population are highly vulnerable**

About United Nations Convention to Combat Desertification (UNCCD)

- ▶ **Headquarters: Bonn, Germany**
- ▶ **Established: 1994** through an UN General Assembly resolution passed in 1992
- ▶ **About:** It is the only legally binding framework setup to address desertification and its effects
- ▶ **Mandate:** To protect and restore our land and ensure safe and sustainable future
- ▶ **Membership:** 197 Members (India is a member)
- ▶ **Governing Body:** Conference of Parties (COP) is its supreme body, its first session held in Rome (1997)

Quarterly Revision

List of countries that declared Drought Emergencies



Countries declared drought emergency (sub-national or national)
 Wildfire

India's Steps

- ▶ **National Disaster Management Guidelines** for early warning system, capacity building, etc.
- ▶ **Manual for Drought Management 2016 (updated in 2020)**: for **monitoring/** determination of drought.
- ▶ **Centrally Sponsored Schemes (CSS) / Central Sector (CS) Schemes**, such as Pradhan Mantri Krishi Sinchai Yojana, Rainfed Area Development Programme.

Suggestions given in report

- ▶ **Sustainable development** reduces population exposure to drought by 70% compared to fossil-fuelled development.
- ▶ **Insurance coverage of drought-related losses.**
- ▶ **Rainwater harvesting** offers efficient storage and reuse of rainwater in drought.
- ▶ **Addressing poverty and inequality** can prevent regional societal collapse due to food insecurity and environmental degradation.
- ▶ **Nature-based solutions** can reduce carbon dioxide emissions by up to 25%.

5.5.3. CROWD DISASTER MANAGEMENT

CONTEXT

Recently a platform at Delhi's Kalkaji temple collapsed leading to injuries to many people including one death.


ANALYSIS

About Crowd disaster

- ▶ When crowd density is **critical**, people's movement is governed by **involuntary forces** which include pushing each other in a tightly packed situation.
 - Such **uncoordinated rush or push of people**, may result in **crowd disaster or stampede**.
- ▶ Majority of the crowd disasters in India have occurred at **religious places, venues of music concerts, night clubs and shopping malls**.

Factors that may prompt crowd disasters

- ▶ Collapse of structures. Example, **Morbi Bridge Collapse** across Machchhu River in Gujarat.
- ▶ **Fire/Electricity**. E.g., **Uphaar Cinema Fire in 1997** that happened due to fire code violations.
- ▶ **Underestimation of audience/staffing/services, closed/locked exit**, sudden opening of entry door, etc.
- ▶ **Change in Crowd Behaviour** like rush to exit/parking space, last minute change in platform for train arrival/ departure, etc. E.g., **stampede at the Mahakumbh Mela in 1954**.
- ▶ **Security agency firing/teargas/using force** leading to panic, weapon brandished in the crowd, Ineptitude of the police in effectively enforcing prohibitory orders, etc.



Read From Essential Material
Chapter 7: Natural hazards and disaster
(Class XI Geography)

BRIEF BACKGROUND

Disaster Management in India

- ▶ **Central Government** has **supportive role** for physical and financial resources and **complementary role** in for transport, early warning systems, etc.
- ▶ **Disaster Management Act 2005**, provides **three-tier institutions** for disaster management:
 - **National Disaster Management Authority (NDMA)**: Headed by the Prime Minister
 - **State Disaster Management Authorities (SDMAs)**: Headed by respective Chief Minister.
 - **District Disaster Management Authority (DDMAs)**: Headed by District Magistrate/ District Collector;
- ▶ Act also establishes **National Institute of Disaster Management (NIDM)** as a premier institute for **capacity development** in Disaster Management.

Quarterly Revision

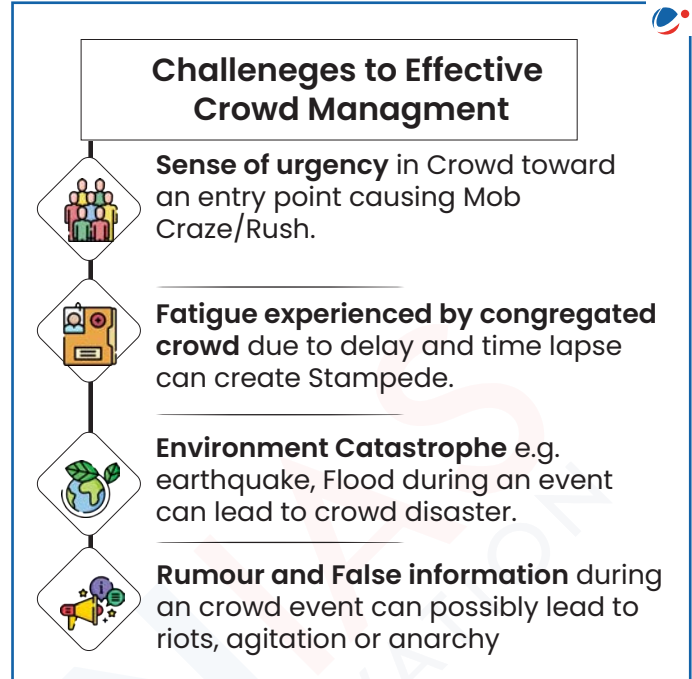
- **Example Seoul crowd tragedy (2022)** happened primarily due to lack of safety precautions and other police errors.
- ▶ **Lack of coordination among stakeholders.**

Crowd Management

- ▶ **Risk management planning**
 - **Prevent a serious situation from developing.**
 - Fruin, a renowned theorist, suggested FIST model to understand the crowd behavior and the causes of Stampede.
 - ◊ **F:** Crowd Force
 - ◊ **I:** Information upon which the crowd acts;
 - ◊ **S:** Physical Space involved, both in terms of individual density and larger scale architectural features;
 - ◊ **T:** Time the duration of the incident.
- ▶ **Governance:** Management is primarily the responsibility of the organizers and local/district administration.

NIDM's Crowd Management Strategies and arrangement

- ▶ Knowing **crowd type** of (age, gender, region, etc.), **Motives of visitors** (social, entertainment), arrangement to provide timely information to **the media personnel.**
- ▶ **Crowd management strategies and arrangement:**
- ▶ **Infrastructure development:** Multiple routes; Plan for physical or virtual locations etc.
- ▶ **Understanding Crowd Behaviour and Crowd Control.**
- ▶ **Risk Analysis and preparedness by Mock drills of the plan implementation.**
 - **Timely Information Management and Dissemination among stakeholders**
 - **Safety and security measures like CCTV monitoring.**
 - **Health, Hygiene and Medical Services.**



5.5.4. ENNORE OIL SPILL

CONTEXT



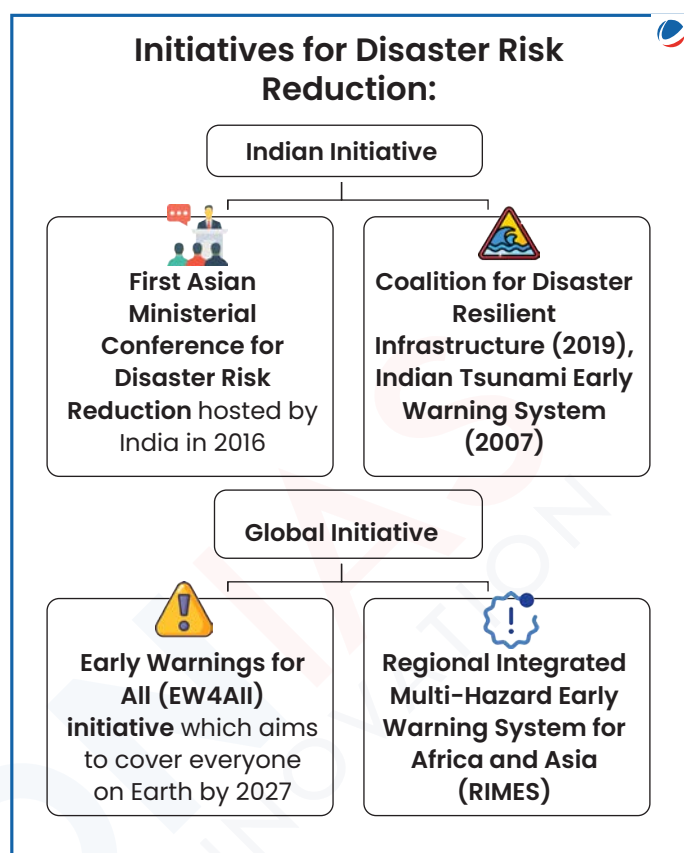
- ▶ Oil spill occurred in Ennore region of Chennai after Cyclone Michaung-induced floods.
- ▶ The spill **originated from Chennai Petroleum Corporation Ltd refinery** has spread across 20 square kilometers.

ANALYSIS



- ▶ **Causes of Oil Spills:** Equipment breaking down due to human errors; deliberate acts by illegal dumping natural disasters like hurricanes, etc.
- ▶ **Impacts of oil spill**
 - **Destroys insulating ability of fur on mammals and impacts water repelling qualities** of a bird's feathers.
 - **Impacts immune system and reproduction of dolphins and whales** by oil inhalation.
 - Health problems like **heart damage, immune system effects, headache** due to strong odour, skin irritation, etc.
 - **Obstruct passage of sunlight into sea**, thereby destroying photosynthesising phytoplankton.

- Impacts mangrove forests as they can no longer shield coastlines.
- Bio remediation technology developed in India for Oil spills
 - Oilzapper (developed by TERI), an eco-friendly technique of using the bacteria to get rid of oil sludges and oil- spill.
 - Oilivorous-S (jointly developed by TERI and Indian Oil Corporation Ltd) has an additional bacterial strain that makes it more effective against sludge and crude oil with high-sulphur content.



5.5.5. MULLAPERIYAR DAM

CONTEXT

- Supreme Court orders Survey of India to assess Kerala’s mega parking project Near Mullaperiyar Dam.
- Survey of India will determine whether the mega parking project encroaches on Periyar Lake Lease Agreement (1886) territory.

ANALYSIS

- About the dispute**
- Constructed and leased under Periyar Lake Lease Agreement (1886) for 999 years
 - Signed between Maharaja of Travancore and Secretary of State for India.
 - While Kerala Government argues dam unsafe, threatening downstream residents.
 - Tamil Nadu denies claims, uses dam fully after structural strengthening.

- Importance of Dams and Dams Safety**
- Dams play a vital role in the overall water security and energy needs of a country.
 - India’s third-largest number of dams in the world, and many of them are aging, and seismically vulnerable, thus safety becomes paramount.
 - Unsafe dams expose downstream areas to risks of catastrophic flooding, and displacement

BRIEF BACKGROUND

About Mullaperiyar dam

- Constructed during 1887-1895 and owned, operated, and maintained by Tamil Nadu Government.
- Located in upper reaches of river Periyar, which flows into Kerala after originating in Tamil Nadu.
 - Reservoir lies within Periyar Tiger Reserve.

About Survey of India

- National Survey and Mapping Organization, set up in 1767.
- Works under the Department of Science & Technology.

Quarterly Revision

5.6. GEOGRAPHY

5.6.1. INDIA METEOROLOGICAL DEPARTMENT (IMD)

CONTEXT



India Meteorological Department (IMD) celebrated the 150th Year of its establishment and service to India.

ANALYSIS



Recent Initiatives launched by IMD

- ▶ **National Framework of Climate Services (NFCS):** Based on the concept of the Global Framework for Climate Services (GFCS) to set up a platform that will provide **climate information and services helpful for agriculture, energy, disaster management, health and water sectors.**
- ▶ **Indigenously Developed Decision Support System:** A Web-GIS-based integrated **Decision Support System (DSS)** known as **Weather Analysis and Forecast Enabling System (WAFES).**
 - **Target Areas:** Sectors such as Urban, Power, Hydrology, Health, Energy, Agriculture, Transport and Tourism under the **"UPHHEATT" initiative (for the cause of welfare).**
- ▶ **Other initiatives Launched**
 - **Panchayat Mausam Sewa Portal:** To help farmers in planning their agricultural activities.
 - **IMD's Mobile App MAUSAM** for all weather-related services.

BRIEF BACKGROUND

About Indian Metrological Department

- ▶ **Genesis:** Established in **1875**, as one of the first scientific departments of India.
- ▶ **About:** Principal government agency in all matters relating to meteorology and allied subjects.
- ▶ **Ministry:** Ministry of Earth sciences.
- ▶ **Mandate:** Collecting and analyzing meteorological data, warning against severe weather events, providing essential statistics for agriculture and industries, and detecting and evaluating seismicity.

Achievements of IMD

- ▶ **In 2023, WMO recognised 3 IMD observatories, viz., Dwarka & Veraval (Gujarat) and Cuttack (Odisha) as long-term observing stations for more than 100 years of hydrological observations.**
- ▶ **39 Doppler Weather Radars (DWRs)** to monitor severe weather events **(till 2023).**
- ▶ **Aviation Weather monitoring and forecasting** for all 117 Airports to **support the Gati Shakti and Udaan Scheme**
- ▶ Improvement in forcasr of severe events by 40-40% during last 5 years
- ▶ **A 400-meter-resolution Air Quality Early Warning System (AQEWS)** developed achieving 88% accuracy in predicting extreme pollution events.
- ▶ Website released for alerts **on block-level weather forecasts for farmers**
- ▶ **New Multimodal ensemble technique** for the forecast of tropical cyclones.
- ▶ **Appreciations from the United Nations** for early warning services provided by IMD during **Super Cyclone Amphan in 2020 and Cyclone MOCHA in 2023.**

Challenges Faced by IMD in Accurate Weather Prediction

- ▶ **Limited capacity of Weather Models.**
- ▶ Sometimes, misinterpretation occurs **leading to forecast errors.**
- ▶ Predicting **cloudbursts, lightning, and other localized extreme weather** events is challenging.
- ▶ India's tropical climate makes it difficult to predict weather accurately.
- ▶ **Recruitment, training, and retention of qualified personnel** in meteorology

Way Ahead

- ▶ **Enhanced Data Collection** by advancing **technologies and infrastructure.**

- ▶ Foster international cooperation and collaboration in **sharing data, technologies, and expertise**.
- ▶ Leverage advanced **predictive analytics** and artificial intelligence tools.
- ▶ Develop and implement **robust early warning systems**.
- ▶ **Capacity Building** through **training programs**, knowledge sharing, and **skill development**.

5.6.2. INDIA'S MAIDEN WINTER ARCTIC



CONTEXT

- ▶ **Ministry of Earth Sciences Launched India's 1st Winter Scientific Expedition to Arctic.**

ANALYSIS



Significance of Winter Expedition (i.e. November to March)

- ▶ **Allows unique scientific observations** during polar nights.
- ▶ **Provides insight into Arctic climate change**, space weather, and ecosystem adaptations.
- ▶ **Puts India among select nations** with extended Arctic operations.

Challenges

- ▶ **Lack of a universal regulating framework:** belongs to various national jurisdictions and lacks framework like Antarctic (Antarctic Treaty)
- ▶ **Limited access, harsh climate**, several months of darkness etc.



BRIEF BACKGROUND

About India's Polar expedition

- ▶ Indian scientific expeditions to **Earth's poles (Arctic and the Antarctic)** are facilitated under Polar Science and Cryosphere Research (PACER) scheme through National Centre for **Polar and Ocean Research** (institute under Ministry of Earth Sciences).
 - **Since 2008**, India operates a research base in the Arctic named **Himadri** in **Svalbard, Norway**.
 - **Himadri** has been mostly hosting scientists during **summer (April to October)**.

India's Other Initiative With Respect To Arctic

- Arctic policy entitled '**India and the Arctic: Building a partnership for sustainable development**' in 2022.
- A multi-sensor moored observatory called **IndARC** in the **Kongsfjorden fjord** of the Arctic in 2014
- Since 2013, India enjoys '**Observer status**' in Arctic Council.
- India is a signatory to the **Svalbard Treaty of 1920**.



Quarterly Revision

5.6.3. PLACE IN NEWS

Aghanashini Estuary

- » Recently declared Ramsar site
- » Formed **at the confluence of Aghanashini River with Arabian sea.**
- » **Traditional fish farming** in the estuarine rice fields (locally known as **Gazni rice fields**)

Ankasamudra Bird Conservation Reserve

- » Recently declared Ramsar site
- » **Human made Village Irrigation Tank** built centuries back.
- » Home to **Painted Stork and Black-headed Ibis.**

Magadi Kere Conservation Reserve

- » Recently declared Ramsar site
- » **Human-made wetland** constructed **to store rainwater** for irrigation purposes.
- » One of the **largest wintering grounds** for the **Bar-headed goose** in Southern India.

Karaivetti Bird Sanctuary

- » Recently declared Ramsar site
- » Home to **Pin-tailed duck, Garganey, Northern Shoveler, Common Pochard, Eurasian Wigeon, Common teal** and Cotton teal.

Longwood Shola Reserve Forest

- » Recently declared Ramsar site
- » **Forested wetlands** serve as habitats for **Black-chinned Nilgiri Laughing thrush, Nilgiri Blue Robin, Nilgiri Wood-pigeon.**

Willingdon Island

- » Demand raised to revive Willingdon Island,
- » One of India's **largest man-made islands, located near Kochi.**
Created in **1933** and named after the then British Viceroy of India, **Lord Willingdon.**

Wadge Bank Ecosystem

- » **May be impacted by proposed exploration and development of oil and gas blocks.**
- » Lies **south of Cape Comorin** in **Kanyakumari** district, Tamil Nadu.
- » Part of **Indian continental shelf.**
- » One of the most **productive coastal areas** in the world.

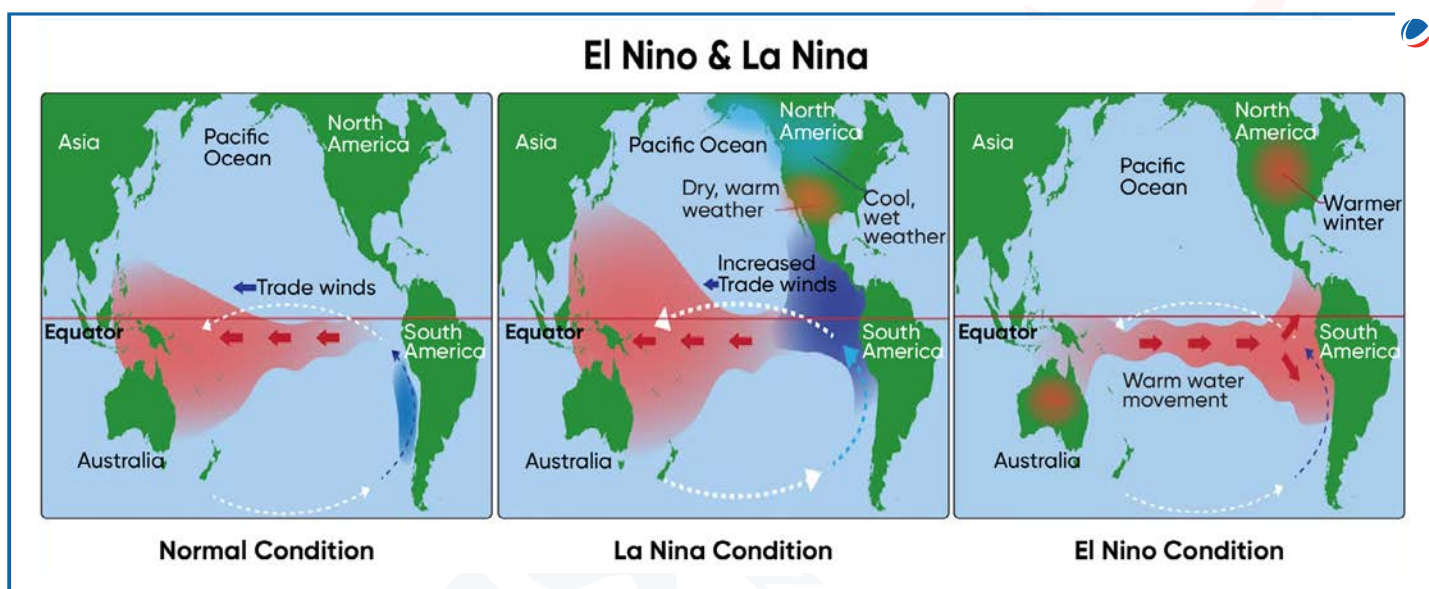
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5.7. CONCEPTS IN NEWS

5.7.1. TRIPLE DIP LA-NINA

- ▶ A recent study has revealed that the unprecedented **triple dip La-Niña** has resulted in poor air quality in peninsular India and improved air quality in north India.
- ▶ A triple-dip La Niña is a **rare event** that occurs when the **La Niña effect lasts three years in a row**.
- ▶ La Niña is a phase of the **El Niño Southern Oscillation (ENSO)**- a naturally occurring large-scale **climatic phenomenon** involving **fluctuating ocean temperatures** in the **central and eastern equatorial Pacific** (referred as **El Niño and La Niña**), coupled with **changes** in the overlying **atmosphere** (referred to as **Southern Oscillation**).



- ▶ **Uniqueness of the triple-dip La Niña of 2020–2023:** It did not follow a strong El Niño, causing researchers to reevaluate current understanding of development of extended La Niñas.
 - So far, it was believed that **strong El Niños** cause a **significant loss of heat** from the **equatorial Pacific Ocean** to the **atmosphere** and to **higher latitudes**.
 - ◊ This creates a **large ocean heat deficit** that can **take years to recover**.
- ▶ **Possible explanation for 2020–23 Triple dip La Niña**
 - **Inter-basin interaction of ENSO** involving the **Indian and Atlantic Oceans**.
 - **Influences from the North and South Pacific Ocean**.
 - **Bush fire in Australia**.
 - **Changing conditions** in the tropical Pacific Ocean and atmosphere, **possibly due to climate change**.

5.7.2. ATLANTIC MERIDIONAL OVERTURNING CIRCULATION (AMOC)

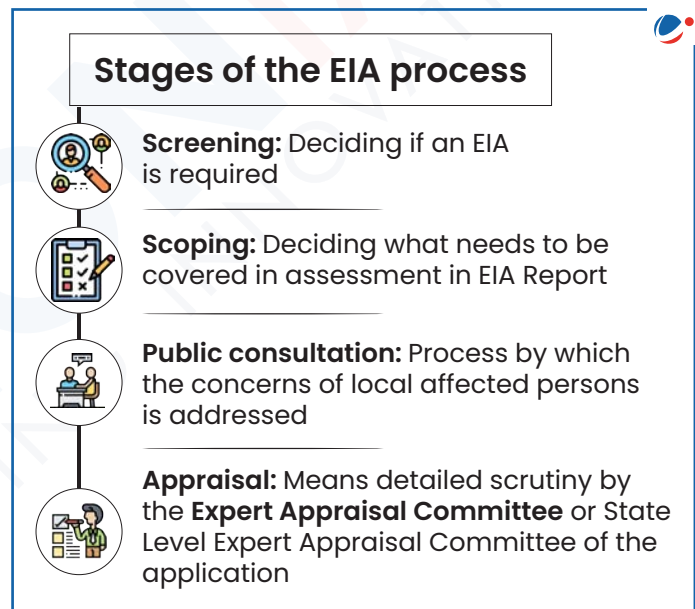
- ▶ Researchers developed an **early warning indicator for the breakdown of the AMOC**.
 - AMOC has been labeled as **one of the tipping elements** in the climate system.
- ▶ The **AMOC circulates water from north to south** and back in a long cycle within the Atlantic Ocean.
 - This circulation brings warmth to various parts of the globe and also carries nutrients necessary to sustain ocean life.
- ▶ It is driven by **differences in temperature and salt content**.
- ▶ It is **being eroded** by faster than expected melt-off of Greenland's glaciers and Arctic ice sheets.
- ▶ **Implications of AMOC collapse:** Rise in Atlantic Sea levels; Flipping of wet and dry seasons in the Amazon; More erratic fluctuations in temperatures; warmer southern hemisphere.

5.7.3. CONSERVATION RESERVE

- ▶ Telangana's State Board for Wildlife (SBWL) approved the corridor area between **Tadoba-Andhari Tiger Reserve** (Maharashtra) and **Kawal Tiger Reserve** (Telangana) as a **conservation reserve**.
 - **SBWL** is established under the **Wildlife (Protection) Amendment (WPA) Act, 2002**, headed by Chief Minister or Administrator in case of UT.
- ▶ Conservation reserve is a protected area under the '**Wildlife (Protection) Act (WPA), 1972**' (added through the WPA Act of 2002).
- ▶ Acts as **buffer zone** to or **connectors** and migration corridors between national parks, wildlife sanctuaries and protected areas.
- ▶ Declared by the **State Government**, after consulting with the central government and the local communities.
- ▶ It is administered with the help of the **Conservation Reserve Management Committee**.

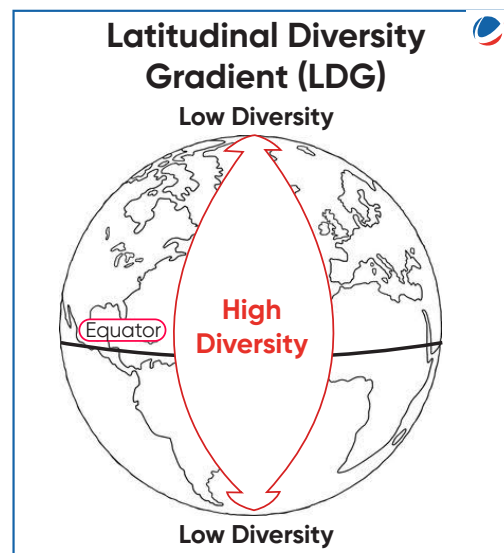
5.7.4. ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

- ▶ Supreme Court Stays Ministry of Environment, Forest and climate change office memorandum on ex-post facto environmental clearance.
- ▶ **EIA** is a tool **used to identify environmental, social and economic impacts** of a project prior to decision-making.
- ▶ Under **Environment (Protection) Act, 1986**, India notified its first EIA norms in **1994**, and subsequent amendments were made.
- ▶ EIA aimed at **imposing certain restrictions and prohibitions** projects based on their potential environmental impacts, **unless prior environmental clearance has been accorded**.



5.7.5. LATITUDINAL DIVERSITY GRADIENT (LDG)

- ▶ A recent study examined role of major classes of **Mycorrhizal Fungi** - **arbuscular mycorrhizal** and **ectomycorrhizal** in LDG.
- ▶ LDG refers to the pattern of having **lots of species at the equator** with **diversity reducing towards poles**.
- ▶ Study found that:
 - Mycorrhizal fungi form **mutually beneficial relationships** with majority of **plant roots** globally.
 - **Arbuscular** fungi, common near equator promote **diversity**.
 - **Ectomycorrhizal** fungi, common at higher latitudes support single tree species, reducing diversity.



5.7.6. DIEL VERTICAL MIGRATION (DVM)

- ▶ DVM is synchronised movement of **deep-sea marine animals** up and down in oceanic water column over a daily cycle.
- ▶ **Free-floating zooplanktons swim up to food-rich surface waters at night** to feed when light is scarce and they are "hidden" from predators.
 - They **return to the depths** before sun rises.
- ▶ DVM plays a pivotal role in **sequestering carbon**.
 - Animals remove **substantial amounts of carbon** from Upper Ocean as they feed on surface-dwelling plankton.
 - When these organisms return to deeper waters, they **carry carbon with them**.

5.7.7. TROPICALISATION

- ▶ A study indicates that **rising sea temperatures** due to climate change are causing **tropical marine species to move from equator towards poles and retraction of temperate species**.
 - This **mass movement of marine life** has been termed **tropicalisation**.
- ▶ **Mediterranean Sea** is now considered a **tropicalisation hotspot** due an increase in tropical species.
- ▶ Tropicalisation together with **Borealisation and Desertification** contribute to global redistribution of biota and rearrangement of ecological communities.
- ▶ **Borealisation** is **expansion of temperate species** (terrestrial and marine) **into Arctic polar- regions**.

5.7.8. RAT HOLE MINING

- ▶ Rat Hole Mining method used to **rescue workers in Uttarkashi Tunnel Collapse**
- ▶ It involves digging of **narrow pits dug into the ground, typically just large enough** for one person to descend and extract coal.
 - It is mostly **prevalent in Meghalaya because of thinness of coal found there**.
 - Once the pits are dug, miners descend **using ropes or bamboo ladders to reach the coal seams**.
- ▶ **Associated Issues:** Soil erosion, water pollution, Child labour, poor ventilation etc.
- ▶ **Banning Status**
 - **Banned in 2014 by NGT** as it is unscientific and unsafe for workers.
 - However **as per 2019 SC ruling, the ban will not be applicable** if done under **Mines and Minerals (Development and Regulation) Act and Mineral Concession Rules 1960**

5.7.9. ATMOSPHERIC RIVER

- ▶ California (the USA) has been hit by two back-to-back Atmospheric River storms.
- ▶ Atmospheric Rivers indicate **narrow, elongated corridors of concentrated moisture transport** associated with **extra-tropical cyclones**.
- ▶ Typically **located within low-level jet**, an area of strong winds in lower levels of atmosphere, ahead of **cold front in an extra-tropical cyclone**.
- ▶ These are **largest transport mechanisms of freshwater** on Earth.
- ▶ Strong landfall by interacting with topography, can deposit **significant amounts of precipitation in short periods** of time leading to **flooding and mudslides**.



5.8. REPORTS IN NEWS

Report	Details
Global Status of Multi-Hazard Early Warning Systems 2023	<ul style="list-style-type: none"> ▶ Released by: United Nations and the World Meteorological Organisation (WMO) ▶ Assesses the current global status of MHEWS against Target of the Sendai Framework (2015-2030) ▶ Key highlights: <ul style="list-style-type: none"> ➤ Out of the 101 countries reporting having MHEWS, 95 have reported the existence of a disaster risk reduction strategy. ➤ Common Alerting Protocol has helped the timely flow of information from authoritative sources to the public. ➤ Over 400 million people in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) have access to better predictions and warnings for floods, drought, etc.
State of Finance for Nature 2023 Report	<ul style="list-style-type: none"> ▶ Released by: United Nations Environment Programme (UNEP) <ul style="list-style-type: none"> ➤ Tracks public and private finance flows to Nature based Solutions (Nbs) to tackle global challenges related to biodiversity loss, land degradation and climate change ▶ Key Findings of Report <ul style="list-style-type: none"> ➤ Current finance flows to Nbs: Around US\$200 billion which is only one third of Nbs finance needed by 2030. ➤ Nature-negative finance flows: Estimated at almost US\$7 trillion per year. <ul style="list-style-type: none"> ◊ Nature-negative financial flows refer to finance flows for activities that could potentially have a negative effect on nature. Like fossil fuel subsidies. ➤ Future investment needs: To meet Rio Convention targets finance flows to NbS must almost triple from current levels to reach US\$542 billion per year by 2030
Global Climate 2011-2020 Report	<ul style="list-style-type: none"> ▶ Released by: World Meteorological Organization (WMO) ▶ Key Findings: <ul style="list-style-type: none"> ➤ 2011-2020 is the warmest decade on record for both land and ocean. ➤ Northwest India, Pakistan, China and the southern coast of the Arabian Peninsula experienced wet decade. ➤ Marine heat waves (MHW) experienced over 60% of the surface of oceans. ➤ Glaciers globally thinned by 1 meter per year. ➤ Sea level rose at an annual rate of 4.5mm/yr. ➤ 94% of all disaster displacements recorded over the last decade was due to weather related event.
Climate Change & Migratory species: a review of impacts, conservation actions, indicators and ecosystem services	<ul style="list-style-type: none"> ▶ Released by: Conservation of migratory species of wild animals (CMS) ▶ Key findings <ul style="list-style-type: none"> ➤ Ecosystem Services like reducing wildfire risk through grazing. ➤ Aid in pollination, seed dispersal, nutrient cycling, and pest/disease control ➤ Climate change threats include habitat loss and ecosystem functioning changes. ➤ Direct effects include pole ward range shifts, migration timing changes, and reduced breeding success.

<p>Global Cooling Watch Report-2023</p>	<ul style="list-style-type: none"> ▶ Released by: Cool Coalition- a global network of partners working to provide efficient, climate-friendly cooling for all. <ul style="list-style-type: none"> ➤ Launched by United Nations Environment Programme (UNEP) at the First Global Conference on Synergies between the 2030 Agenda for Sustainable Development Goals and the Paris Agreement. ➤ International Solar Alliance (India) is a partner of Cool Coalition network. ▶ Key Highlights of the report: <ul style="list-style-type: none"> ➤ Cooling equipment increases power demand and induces global warming (double burden on climate change) ➤ Global cooling equipment capacity is expected to triple by 2050. ➤ Emissions from cooling are predicted to account for over 10% of global emissions by 2050. ➤ Sustainable cooling could reduce emissions by at least 60% by 2050.
<p>Global Finance Architecture for Sustainable Growth</p>	<ul style="list-style-type: none"> ▶ Released by: NITI Aayog ▶ Key Highlights <ul style="list-style-type: none"> ➤ Global financial architecture is fragmented, current global system contributes to economic disparities. ➤ Global debt architecture is Inefficient, informal in low-income countries. ➤ Finance requirement: USD 3 trillion for green growth in next decade
<p>Trade Policy Tools for Climate Action</p>	<ul style="list-style-type: none"> ▶ Released by: World Trade Organization (WTO) ▶ It covers ten trade policy areas that governments could consider as part of their strategies to promote sustainability and support UNFCCC-COP28's climate mitigation efforts. ▶ Key finding: <ul style="list-style-type: none"> ➤ Impact of Trade on Climate: About 20-30 percent of total CO₂ emissions, which account for most GHG emissions, are estimated to be associated with international trade.
<p>Global Risk Report 2024</p>	<ul style="list-style-type: none"> ▶ Released Annually by: World Economic Forum (WEF) <ul style="list-style-type: none"> ➤ Based on Global Risks Perception Survey ▶ Key findings <ul style="list-style-type: none"> ➤ India's top five risks: Misinformation and Disinformation (MI); Infectious diseases; Illicit economic activity; Inequality (wealth and income); and Labour shortage.

Quarterly Revision



5.9. TEST YOUR LEARNING

MCQs

1. Consider the following statements regarding Project Tiger:

1. National Tiger Conservation Authority (NTCA) is the implementing agency of the Project Tiger.
2. The project is fully funded by the Central government.
3. Tiger reserves across India are established under the project.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) All of the above

2. Consider the following statements regarding Biodiversity–Heritage Site (BHS) in India:

1. State Government, in consultation with local bodies, may notify areas of biodiversity importance as BHS.
2. National Biodiversity Authority (NBA) advises the State Government in the selection and management of BHS.
3. At present, there is no BHS in the state of Haryana.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) All of the above

3. Consider the following pairs:

Ramsar Sites

Location in India

- | | |
|----------------------------------|------------|
| 1. Aghanashini Estuary | Karnataka |
| 2. Karaivetti Bird sanctuary | Tamil Nadu |
| 3. Longwood Shola Reserve Forest | Kerala |

How many of the above pairs are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) All three pairs
- d) None of the pairs

4. This critically Endangered reptile species is found in the Chambal and Girwa Rivers in India. It is protected under Schedule I of the Wildlife Protection Act. The females exhibit sexual dimorphism and lay their eggs on steep, sandy river banks.

Which of the following species is best described by the above passage?

- a) Indian python
- b) Leopard gecko
- c) Indian flapshell turtle
- d) Gharial

5. Consider the following statements:

Statement 1: There are presently four schedules under the Wildlife Protection Act.

Statement 2: The Wildlife Protection (Amendment) Act, 2022 reduced the number of Schedules from 6 to 4.

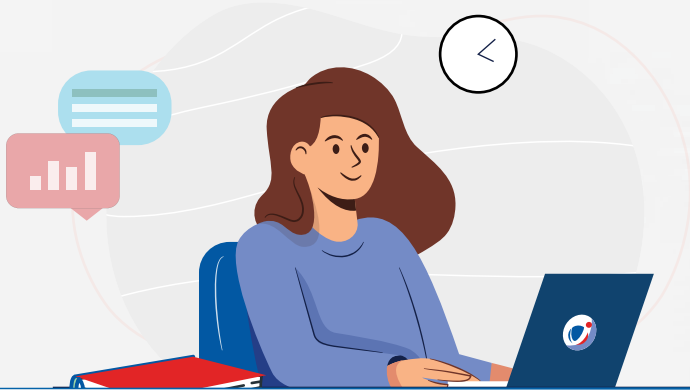
Which one of the following is correct in respect of the above statements?

- a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c) Statement-I is correct but Statement-II is incorrect.
- d) Statement-I is incorrect but Statement-II is correct.

Questions

1. Discuss about the vulnerability of India to landslides. Explain the major reasons behind landslides in the Himalayan region. (150 words)
2. Describe the major outcomes of the 28th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the major initiatives launched by India in this conference? (250 words)





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SOCIAL ISSUES



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6.1. WOMEN

6.1.1. SEXUAL HARASSMENT OF WOMEN AT WORKPLACE (PREVENTION, PROHIBITION AND REDRESSAL) (POSH) ACT, 2013



CONTEXT

Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 completed 10 years.

ANALYSIS



Achievements/Outcomes of POSH Act, 2013

- ▶ **Increased Reporting:** Registered cases have increased by 54% from 2014 to 2017.
- ▶ **Women Empowerment:** Created a safer and more conducive working environment for women.
- ▶ **Increase Accountability of Employers:** To create a safe work environment.
- ▶ **Increased Awareness among women employees:** Through initiatives like "A Handbook and Training Module" by MoWCD.

Challenges in the implementation of the Act

- ▶ **Non-constitution of ICC:** Many national sports federations have not constituted an ICC to date.
 - **Supreme Court noted serious lapses and uncertainty in enforcement** of the POSH Act by the internal committee.
- ▶ **Lack of Monitoring:** The government maintains no centralized data regarding cases of harassment of women at workplaces. (Government reply in Parliament in 2019)
- ▶ **Inaccessibility:** Law is largely inaccessible to women workers in the informal sector (80% of women workforce).
- ▶ **Underreporting:** Fear of professional repercussions, requirement of concrete evidence, etc.
- ▶ **Lack of clarity in the law:** On conduct inquiries, lack of awareness about reporting authority, etc.

Way Forward

- ▶ **Supreme Court directions to Union, States and UTs:**
 - **Time-bound** verification of the constitution of complaint committees.
 - Publish details of respective committees on the organization's websites.
 - **Orientation programmes, workshops, seminars, etc.,** to upskill members of committees.
- ▶ **Technological solutions:** For confidential reporting, case management, secure documentation of evidence, etc.

BRIEF BACKGROUND

About POSH Act

- ▶ Consistent with **Vishaka Judgment (1997)**, aspires to ensure **women's right to workplace equality, free from sexual harassment.**

Key Provisions of the Act

- ▶ **Definitions**
 - **Aggrieved Woman:** All women who work as regular, temporary, ad-hoc, or on daily wages basis; visiting a workplace, and student.
 - **Sexual Harassment at Workplace includes** unwelcome acts like **physical contact** and advances, making **sexually colored remarks**, etc.
- ▶ **Complaints Committees:** All Complaints Committees must have at least **50%** representation of women.
 - Employers are required to constitute an **Internal Complaints Committee (ICC)** at each workplace with to receive and address complaints of sexual harassment.
 - **Local Complaints Committee (LCC)** receives complaints from women working in an organization having **less than 10 workers.**
- ▶ **Procedure for Filing Complaints:** Any aggrieved women may make in writing a complaint of sexual harassment to ICC/LCC within **3 months** (extendable by 3 months) from date of incident.
 - **In case of physical or mental incapacity or death or otherwise,** her legal heir or such other person as may be prescribed may make a complaint.
- ▶ **Penalties:** If employer fails to constitute an ICC or does not abide by any other provision, they must pay a fine of **up to ₹50,000**, which increases for a repeat offence.

Global Norms

- ▶ **UN Convention on Elimination of all Forms of Discrimination against Women (CEDAW).** It has been **ratified by India.**
- ▶ **International Labour Organization (ILO)** recognized right of domestic workers, regarding protection against all forms of abuse, harassment and violence.

6.1.2. MENSTRUAL LEAVE POLICY



CONTEXT

Recently, there have been several discussions regarding providing **Paid Menstrual Leaves** in India.

ANALYSIS



Significance of providing menstrual leave policy in India

- ▶ **Aligns with fundamental rights** like Article 21 (Right to Life) and Article 14 (Right to Equality).
 - Additionally, Constitution empowers State to make **special provisions for women and children under Article 15(3)**.
- ▶ **Addresses unique health needs of women:** Menstruation is accompanied by moderate to severe symptoms like cramps, fatigue, etc.
 - Further, **lack of proper sanitation facilities** at workplace can impact women's hygiene and reproductive health.
- ▶ **Provide an opportunity** for society and employers to **reevaluate attitudes** surrounding absenteeism and work ethic.
- ▶ **Create positive work environment** and culture, enhancing overall productivity, and fostering healthier workplace dynamics.
- ▶ **De-stigmatizes discussion around menstruation** among all employees which may foster support for women's reproductive health and reproductive rights.

Issues/Challenges related to menstrual leave

- ▶ **Potential discrimination in workplace:** May inadvertently lead to biases or stereotypes against women, impacting hiring decisions, promotions, and overall career advancement.
- ▶ **Gender stereotypes:** Perpetuate gender stereotypes and notions of biological determinism, like assumptions that women are unfit for workplace justifying gender discrimination.
- ▶ **Resentment among employees:** Accommodating menstrual leaves may disrupt workflow and increase workload for other team members.
- ▶ **Financial strain:** Due to increased operational costs, affecting budgets and profitability, particularly for small businesses and startups.
- ▶ **Implementation in the informal sector:** Difficult to implement for informal workers, freelancers and gig workers who often lack traditional employee benefits.
- ▶ **Social stigma:** Female employees may feel hesitant to seek benefits due to societal stigma surrounding menstruation.

Way Forward

- ▶ **Implement menstrual leave policies** by incentivizing private firms and conveying to them benefits of enhanced female participation.
- ▶ **Alternatives which offer flexibility** to women, like working from home, customized work schedules, etc.

BRIEF BACKGROUND

Menstrual leave: It is a type of leave where women and trans women may have the option of taking a paid leave from their workplace during the period of menstruation.

Status of menstrual leave policy in India

- ▶ **At National level,** there is **no law** governing menstrual leave and **no centralised direction for 'paid menstruation leave'** in India.
 - **Draft Menstrual Hygiene Policy 2023** address issue of gender discrimination and create an enabling work environment which supports leaves and work-from-home options.
 - **Right of Women to Menstrual Leave and Free Access to Menstrual Health Products Bill, 2022** proposed paid menstrual leave of 3 days in establishments registered with government.
- ▶ **At state level:**
 - **Bihar government (1992)** granted female employees two days of paid leave every month.
 - **Kerala Government (2023)** granted menstrual leave for female students studying in all state universities coming under Department of Higher Education.
- ▶ Private firms like **Zomato, Swiggy,** etc. have been providing paid menstruation leave.

Global initiatives on menstrual leave policy

- ▶ **Japan (1947):** Introduced menstrual leave in labour law allowing menstrual leave **on request**.
- ▶ **South Korea (2001):** Labor law provides for monthly "physiologic leave," under which all female workers can get a day's leave every month.
- ▶ **Indonesia (2003):** Allows female workers experiencing menstrual pain to take leave on first two days of their cycle.
- ▶ **Other countries with provision for menstrual leave:** Zambia, Vietnam, Taiwan etc.

- ▶ **Inclusive workplace environment** by ensuring equal access to hygienic facilities, and stocking essential supplies like sanitary pads, tampons, heating pads, etc.
- ▶ **Education and awareness campaigns** to de-stigmatize menstruation.
- ▶ **Create sick, parental, and vacation leave policies that are responsive to worker needs**, including provision of additional paid leave.

6.1.3. SURROGACY (REGULATION) AMENDMENT RULES, 2024

CONTEXT



Union Ministry of Health and Family Welfare notified **Surrogacy (Regulation) Amendment Rules, 2024** amending Surrogacy (Regulation) Rules, 2022.

ANALYSIS



Surrogacy (Regulation) Rules, 2022

- ▶ **Background**
 - ▶ Amendment to Surrogacy (Regulation) Rules 2022 in March 2023 **prohibited the use of donor gametes** and required both male and female gamete must come from intending couple.
 - ▶ In **October 2023**, Supreme Court (SC) in **Arun Muthuvel vs. Union of India** case allowed a woman with Mayer-Rokitansky-Kuster-Hauser (MRKH) Syndrome (congenital disorder that cause infertility) to undergo surrogacy with donor egg.
 - ◊ Court said that the 2023 **Amendment is prima facie contrary** to the objectives of Surrogacy (Regulation) Act, 2021.
- ▶ **Surrogacy (Regulation) Amendment Rules, 2024 allows surrogacy using a donor gamete.**
 - ▶ Subject to certification by **District Medical Board that either of intending couples suffers from a medical condition** necessitating use of a donor gamete.

Issues associated with surrogacy regulation framework

- ▶ **Complete ban on commercial surrogacy:** This may relegate commercial surrogacy to an underground unlicensed business.
- ▶ **Limited Availability:** Finding altruistic surrogates willing to undergo process can be challenging.
- ▶ **Reinforces Patriarchal norms:** Altruistic surrogacy may lead to coercion of women (vulnerable ones) within families, to become surrogates. Thus, it reinforces patriarchal control over reproductive choices of woman.

Way forward

- ▶ **Awareness:** Educate surrogate mothers about their rights, risks, and rare complications to obtain informed consent.

BRIEF BACKGROUND

Highlights of Surrogacy (Regulation) Act, 2021

- ▶ **Defines surrogacy:** Practice whereby **one woman bears and gives birth to a child for an intending couple** with intention of handing over such child to intending couple after birth.
- ▶ **Regulation of surrogacy:**
 - ▶ **Prohibits commercial surrogacy** but allows altruistic surrogacy.
 - ▶ **Surrogacy is permissible when it is,**
 - ◊ for intending couple **having a medical indication** necessitating gestational surrogacy.
 - ◊ for **altruistic** surrogacy purposes.
 - ◊ **not for producing children for sale**, prostitution or any other form of exploitation.
 - ◊ for any **condition or disease specified** through regulations.
- ▶ **Eligibility criteria for surrogate mother**
 - ▶ A **willing & married** woman between **ages of 25 to 35 years** having a child of her own.
 - ▶ No woman shall be a surrogate mother more than **once in her lifetime**.
 - ▶ Should possess **certificate of medical and psychological fitness** for surrogacy from a registered medical practitioner.
- ▶ **Eligibility criteria for couples:** Intending couple should have certificate of essentiality and certificate of eligibility issued by appropriate authority.
- ▶ **Indian woman who is widow/divorcee** between **35 to 45 years** can **avail surrogacy**, subject to fulfilment of other conditions.
- ▶ **Rights of surrogate child:** Deemed to be **biological child of intending couple or intending woman** with entitlement to all rights and privileges available to a natural child.

- ▶ **Clarity:** Objectively define terms like close relatives, infertility, etc. Also, definition of infertility should be expanded to take into account the medical factors, and diseases of the intended parents.
- ▶ **Reduce the age limit:** For intending women who intend to avail surrogacy from a minimum of 35 years.
- ▶ **Make more inclusive:** The possibility to include unmarried women, same-sex couples, and unmarried and single men from availing of surrogacy should be explored.

- ▶ **Prohibition of abortion:** No person, clinical establishment shall force surrogate mother to abort surrogacy except in conditions as may be prescribed.
- ▶ Constituted **National and State Assisted Reproductive Technology and Surrogacy Board.**

6.1.4. ALLIANCE FOR GLOBAL GOOD- GENDER EQUITY AND EQUALITY

CONTEXT



Recently, India announced an 'Alliance for Global Good- Gender Equity, and Equality' at the World Economic Forum (WEF) Annual Meeting in Davos, Switzerland.

ANALYSIS



- ▶ **Alliance** is a collective of Governments, Industry and Development organisations.
 - ▶ It aligns with **SDG 3** (Good Health and Well- Being), **SDG 4** (Quality Education), **SDG 5** (Gender Equality and Empowerment), and **SDG 17** (Global Partnership for Development).
- ▶ **Idea of this alliance** emerged from **G20 Leaders' Declaration** and India's abiding commitment to the cause of women-led development.
- ▶ **Objective:** To bring together global best practices, knowledge sharing and investments in the identified areas of women's health, education, and enterprise.
- ▶ **Key partners of Alliance**
 - ▶ **Network Partner:** World Economic Forum
 - ▶ **Institutional Partner:** Invest India
 - ▶ **Supported by:** The Bill & Melinda Gates Foundation
 - ▶ **Anchored by:** Confederation of Indian Industry (CII) Centre for Women Leadership
 - ◊ CII Centre for Women Leadership was launched **Government of India in 2023** at the CII National Council Meeting in New Delhi. It was created in partnership with **Bill and Melinda Gates Foundation.**
- ▶ Alliance will follow up on activities of **Engagement Group and initiatives under the G20 framework-**
 - ▶ **Business 20 (B20):** Official G20 dialogue forum with global business community, established in 2010. 2023 B20 Summit was hosted by India.
 - ▶ **Women 20:** Official G20 engagement group focused on gender equity.
 - ▶ **G20 Alliance for the Empowerment and Progression of Women's Economic Representation (G20 EMPOWER):** An alliance of G20 business leaders and governments, launched in 2019, that aims to accelerate women's leadership and empowerment in the private sector.



6.1.5. SCHEME FOR PROVIDING DRONES TO WOMEN SHGS

CONTEXT



Union Cabinet approved Central Sector Scheme for providing Drones to Women Self Help Groups (SHGs).

ANALYSIS



- ▶ Scheme aims to **provide drones to 15,000 selected Women SHGs during 2023-24 to 2025-2026** for providing rental services to farmers for agriculture purpose.
 - SHGs are made up of **15 - 25 members of similar economic and social backgrounds** who come together to improve their living conditions.
- ▶ **Highlights of scheme**
 - Approves holistic interventions by converging resources and efforts of **Department of Agriculture & Farmers Welfare, Department of Rural Development and Department of Fertilizers, Women SHGs and Lead Fertilizer Companies (LFCs)**.
 - **One member of SHGs who is well qualified and 18 years (or, above)** will be elected by **State Rural Livelihood Mission and LFCs for 15-day training**.
 - LFCs will act as a **bridge between drone supplier companies and SHGs**; and promote use of **Nano Fertilizers** such as **Nano Urea and Nano DAP** by drones with SHGs.
- ▶ **Significance of scheme**
 - Enabling women SHGs to **earn additional income of at least Rs. 1 lakh per annum**;
 - **Infusing advance technology** in agriculture for improved efficiency;
 - **Enhance crop yield**;
 - **Reduced cost of operation** for benefit of farmers.



6.2. OTHER VULNERABLE SECTIONS

6.2.1. PRADHAN MANTRI ADI ADARSH GRAM YOJANA (PMAAGY)



The Parliamentary Panel on Social Justice and Empowerment has highlighted the slow pace of implementation of PMAAGY.

ANALYSIS



Challenges in the implementation of the Scheme

- ▶ **Delay in allocation of funds:** In 2 years of implementation funds have been released only for less than 40% of approved villages.
- ▶ **Lack of fixed time limit** for integrated development of each village.
- ▶ **Low rate of approval of Village Development Plans (VDPs):** Only 24% of villages identified under the Integrated Plan were approved by the Project Appraisal Committee in 2 years.
- ▶ **Absence of implementation guidelines/Standard Operating Procedure (SOP):** The Ministry of Tribal Affairs (MoTA) is yet to come up with clear implementation guidelines to streamline the process.
- ▶ **Lack of Specific data on the population of Particularly Vulnerable Tribal Groups (PVTGs)** in several States/UTs.

Way forward

- ▶ **Lay down guidelines/ SOPs:** Clear guidelines to standardize VDPs concerning the integrated development of tribal villages along with a specified time limit.
- ▶ **Review criteria for selection of villages:** To include villages with less than 50% ST population for a more holistic and inclusive implementation.
- ▶ **Monitoring:** Create support systems at the District/ Division level to help the Project Monitoring Unit in coordination with the District Level Committee.
- ▶ **Central database on PVTGs:** MoTA should create and maintain the central database on the status of PVTGs.



Read From Essential Material

Chapter 7 - Tribes, Nomads and Settled Communities of class VIII NCERT (Our Past II)

BRIEF BACKGROUND

About PMAAGY

- ▶ **Ministry:** Ministry of Tribal Affairs (MoTA)
- ▶ **Period:** 2021-22 to 2025-26
- ▶ **Nature:** Centrally Sponsored Scheme
- ▶ **Coverage:** All States and UTs having notified ST population.
- ▶ **Vision:** Achieve integrated development of 36,428 villages with more than 500 tribal populations and 50% or more ST persons in them.
- ▶ **Objectives:**
 - Preparation of Village Development Plans.
 - Maximizing benefit of schemes of Centre and States to Scheduled Population.
 - Improving infrastructure in vital sectors like health, education, connectivity, and livelihood.

6.2.2. SENIOR CARE REFORMS IN INDIA

CONTEXT



NITI Aayog released a position paper titled "Senior Care Reforms in India: Reimagining the Senior Care Paradigm".

ANALYSIS



Challenges and Issues

- ▶ **Health Domain:** Quality healthcare remains a challenge as multiple service providers (like physiotherapists) work in silos.
 - ▶ A health system, at present, is focused on **Reproductive, Maternal, Communicable diseases**, etc., with low priority for geriatric care.
- ▶ **Social Domain:**
 - ▶ **Gaps in implementation of social security schemes** due to poor execution, deficient knowledge, etc. e.g., Only 12% of elderly people are aware of the Maintenance and Welfare of Parents and Senior Citizens Act 2007 and Annapurna scheme.
 - ▶ **Rural-urban inequality** disfavoring rural residents.
 - ▶ **Gender-based disparity** as older female adults undergo experience of poor ageing in comparison to their male counterparts.
 - ▶ **Inadequate elder-friendly infrastructure** like accessible transportation, disabled-friendly toilets, etc., thereby limiting access of seniors to public places.
- ▶ **Economic Domain:** Nearly 70% of the elderly are dependent for everyday maintenance on family & relatives.
- ▶ **Digital Domain:** Approximately 85.8% of respondents were digitally and computer illiterate. (Age Well Foundation Survey)
- ▶ **Undervalued and underpaid care economy:** Care work is often viewed as a low-skilled job and is mostly performed by women.

Recommendations

- ▶ **Health Empowerment:**
 - ▶ **Promote health literacy among seniors and caregivers** to enhance understanding of geriatric health issues and related risks.
 - ▶ **Increase accessibility of services** - health camps, home-based care, and other accessible platforms.
 - ▶ **Incentivize preventive health** - health checks, annual health assessments, vaccinations, etc.
 - ▶ **Strengthen research & research institutions** to enhance knowledge repository of geriatric healthcare.
 - ▶ **Synergies between public and private sectors** through PPP to develop low-cost healthcare delivery models/practices in geriatric healthcare.
- ▶ **Social Empowerment:**
 - ▶ **Sensitize larger community** on challenges experienced by elderly, to facilitate their social inclusion.
 - ▶ **Build and strengthen provisions of Assisted Living Facilities** like adult day-care and residential care facilities.
 - ▶ **Elder for elderly model:** Peer support groups where seniors can exchange experiences and information on various issues.
 - ▶ **'One-stop' centralized portal** for senior care to provide easy access to services to seniors.
- ▶ **Economic Empowerment:**
 - ▶ **Reskilling of elderly population:** Foster age-friendly labour markets and employment opportunities.
 - ▶ **Pension support to the elderly population** from the unorganized sector and revised pension amounts to account for inflation.



Read From Essential Material

Chapter 7th Management of Support Services, Institutions and Programmes for Children, Youth and Elderly of class XII NCERT ('Human Ecology and Family Sciences Part II')

BRIEF BACKGROUND

Overview of Senior-care

- ▶ In India, senior citizens (people aged 60 years and above) currently **comprise around 10% of population**, i.e. **about 104 million**.
- ▶ 78% of elderly population survives without pension.
- ▶ **Only 18% of seniors** are covered by **Health insurance**.

Constitutional Provisions

- ▶ **Article 41:** State shall **make effective provision for securing right to work, education, and to public assistance** in cases of unemployment, **old age, sickness**, and disablement, etc.
- ▶ **7th Schedule:** Item **No. 9 of State List** and item 20, 23 & 24 of Concurrent List relates to **old age pension, social security and social insurance**, and **economic and social planning**.

Initiatives taken for welfare of elderly

- ▶ National Policy for Older Persons (NPOP).
- ▶ Senior Ageing Growth Engine (SAGE) initiative.
- ▶ NALSA (Legal Services to Senior Citizens) Scheme, 2016.
- ▶ Senior Able Citizens for Re-Employment in Dignity (SACRED) portal.

Best Practices across world

- ▶ **Japan: "Healthy Japan 21 Program"** to promote active ageing through **smart walk, smart diet, smart breath (non-smoking) & smart check-ups**.
- ▶ **UK:** Free public healthcare to all citizens through National Health Service.

- ▶ **Digital Empowerment:**
 - ▶ Improve access to digital devices for seniors by making them affordable through senior discounts.
 - ▶ Increase digital literacy among the elderly population.

6.2.3. DENOTIFIED, NOMADIC AND SEMI-NOMADIC TRIBES (DNTS)



CONTEXT

National Human Rights Commission stresses on the need for implementation of Idate Commission report.

ANALYSIS



- ▶ **Challenges faced by DNTs**
 - ▶ There is **no Central list** for these communities **neither are they recognised as a separate group** (like SC/STs) under the **Constitution**.
 - ▶ They are **mostly outside the purview** of government **welfare initiatives**.
 - ▶ They are mostly **uneducated and suffer from lack of basic infrastructure** facilities like drinking water, shelter, healthcare, etc.
- ▶ Idate Commission or the **National Commission for Denotified, Nomadic and Semi-Nomadic Tribes** was constituted in **2014** under **Bhiku Ramji Idate**.
 - ▶ The commission was mandated to **compile a state-wise list** of Denotified Nomadic and Semi-Nomadic Tribes (DNTs), **identify DNTs** not included in SCs/STs or OBC lists, recommend **measures for their welfare, etc.**

BRIEF BACKGROUND

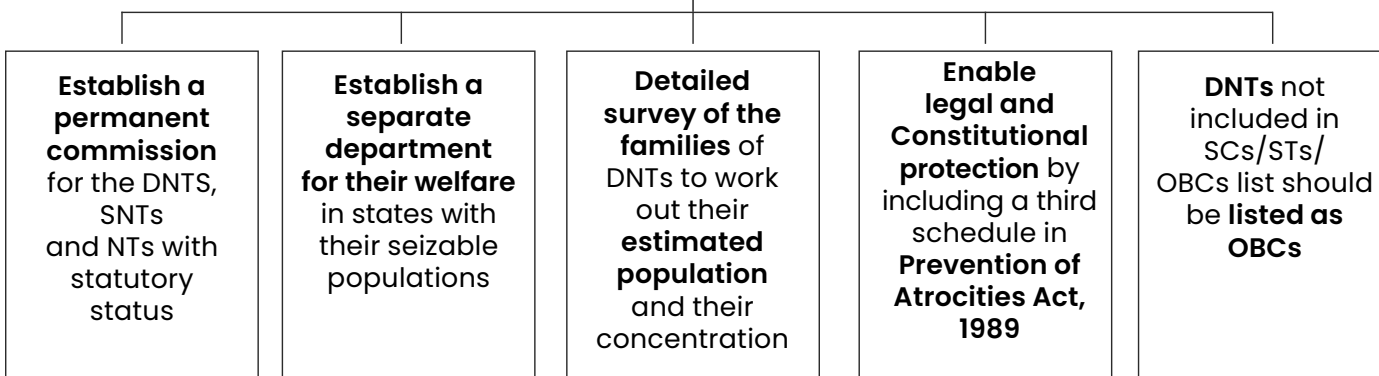
About DNTs

- ▶ These communities were **notified as criminals** under the **Criminal Tribes Act 1871** by British to prevent their future engagement with criminal activities.
 - ▶ They were **forcibly alienated from their traditional occupations and habitations** through other subsequent legislation.
 - ▶ The act was **repealed by the Indian Government in 1952** and they were declared DNTs.
- ▶ **Welfare initiatives:**
 - ▶ **Development and Welfare Board for DNTs** established in 2021 for a period of 3 years (extendable up to 5 years).
 - ▶ **Scheme for Economic Empowerment of DNTs (SEED)** for educational empowerment, health insurance, livelihoods and housing.

Quarterly Revision



Major Recommendations of Idate Commission



6.3. HEALTH

6.3.1. NATIONAL AYUSH MISSION

CONTEXT

Recently, a comprehensive report on the National AYUSH Mission (NAM) has been released by the Parliamentary Standing Committee on Health and Family Welfare.

ANALYSIS

Challenges highlighted in the Report

- ▶ **Underutilization of Fund:** As per Revised Estimates for 2022-23, only ~85% funds were utilized.
- ▶ **Quality of medicines:** Concerns have been raised over high metal contents in AYUSH drugs.
- ▶ **Infrastructural Delays:** 69% of integrated AYUSH hospitals approved under NAM are still either under construction or construction has not started yet and **only about 65% of sanctioned A-HWCs have been established.**
- ▶ **Administrative Delays:** Delays in allocation of funds, overlapping functions between entities, and delays in submission of Utilization Certificates, etc.
- ▶ **Inadequate administrative set-up of Ayush in States/ UTs:** Some states and UTs do not have a separate Department of Ayush.
- ▶ **Exclusion of SowaRigpa from National Ayush Mission.**

Other challenges in NAM implementation

- ▶ **Low acceptance and limited awareness** about efficacy of AYUSH treatments.
- ▶ **Poor Quality** of AYUSH Education and Practitioners.
- ▶ **Issues related to AYUSH medicines:** Slower healing compared to allopathic treatment; Lower quality and supply of raw materials; lack of price control; adulteration, etc.
- ▶ **Limited integration** with mainstream healthcare system and **limited quality research** on certain AYUSH practices.

Key Recommendations of the report

- ▶ **Quality Control and Standardization**
 - Invest in advanced analytical labs and robust testing protocols.
 - Develop user-friendly systems to report adverse events related to AYUSH medicines.
 - Regular post-marketing surveillance of AYUSH medicines to monitor real-world safety and efficacy.
 - Harmonizing AYUSH quality standards with international benchmarks like WHO.
- ▶ **Research and Evidence-Based Practice**
 - Increase funding for high-quality clinical research on efficacy and safety of AYUSH therapies, focusing on chronic diseases and preventive care.
 - Encourage collaboration between AYUSH and allopathic researchers.
 - Utilize patient data from local health centres to conduct large-scale epidemiological studies through measures like upgrading infrastructure, training AYUSH practitioners in research skills, etc.

Read From Essential Material

Chapter 7th Introducing Ayurveda: The Science of Health and Disease of class XI NCERT (Knowledge Traditions and Practices of India)


BRIEF BACKGROUND

About National AYUSH Mission

- ▶ **Centrally sponsored scheme**, launched by Ministry of AYUSH in 2014.
- ▶ **Tenure:** Till 2026.
- ▶ **Aim:** Focus on developing, educating, and propagating India's traditional medical systems- Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-Rigpa, and Homoeopathy (AYUSH).
- ▶ **Objective:**
 - Increasing accessibility to Ayush services.
 - Promoting cultivation of medicinal plants used in these systems.
 - Strengthening educational institutions for Ayush practices.

► **Bridge Integration Gap**

- Developing clear **referral pathways** and **collaborative protocols** between AYUSH and allopathic healthcare systems.
- Integrating **AYUSH practitioners into primary healthcare teams** and community health campaigns.
- **Overcoming delays** through creating training programs for existing staff, providing financial incentives to states for better implementation and streamlining processes through technology.
- **Building Consumer Confidence and Advocacy through** measures like-
 - Launching **nationwide awareness campaigns** highlighting the scientific basis and benefits of AYUSH.
 - **Promoting responsible advertising and patient education** on safe and effective use of AYUSH medicines.



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6.4. MISCELLANEOUS

6.4.1. SOCIALISM IN INDIA

CONTEXT

Eminent Socialist leader and former Chief Minister of Bihar Karpoori Thakur has been conferred with Bharat Ratna, posthumously.

ANALYSIS

Contributions of Socialist Politics in India

- ▶ **Pre-independence**
 - Socialist ideals like anti-colonialism, equality, social justice, etc., provided an ideological framework for freedom struggle.
- ▶ **Post-independence**
 - **Constitutional:** Ideals of equality and social justice enshrined in the Constitution are inspired by socialist principles.
 - **Strengthening democracy:** Socialist leaders, parties, and movements led to the emergence of regional political parties which strengthened the Indian democratic system.
 - **Economic policy:** Socialist policies emphasized on role of the state in the development of key sectors like steel, energy, etc.
 - ◊ This led to the development of the Mahalanobis Plan under the Second Five-Year Plan (1956 - 61) and the creation of Public Sector Enterprises (PSEs).
 - **Social welfare:** Different socialist movements like the Bhoodan movement by Acharya Vinobha Bhave directly benefitted the underprivileged and affected the country's policies and schemes like land reforms.

Contemporary Relevance of Socialism in India

- ▶ **Economic inequality:** Addressing stark economic equality needs emphasis on socialist principles like wealth redistribution, guaranteed access to basic necessities, etc.
 - E.g., Mandatory Corporate Social Responsibility
- ▶ **Issues with Capitalism:** Market-driven model of growth is associated with different sets of issues like exploitation of labour, environmental degradation, etc.
- ▶ **Social justice imperative:** Persistent social issues like caste discrimination, disparity in access to basic amenities like health and education, etc., call for inclusion of socialist principles in state policies.

Contemporary Challenges for Socialism

- ▶ **LPG reforms:** Economic liberalization under LPG (Liberalization, Privatization, and Globalization) reforms in the early 1990s resulted in a shift socialist policy of the past towards a more market-oriented approach.
 - **Integration of the Indian economy with the Global economy** resulted in greater emphasis on the need to participate in global trade and attract foreign investment.
- ▶ **Adverse economic precedents:** Stagnant growth rate (around 4%) during the pre-LPG reforms era.

BRIEF BACKGROUND

- ▶ Socialism deals with principles which envisage establishment of a society where all individuals enjoy equality in different walks of life – economic, political, social, etc.
- ▶ **Two types** of socialism: **Revolutionary** (Marxian) socialism and **Evolutionary** socialism.
 - **Revolutionary:** Socialism can be brought only by violent revolution by abolishing private property and establishing dictatorship of proletariat.
 - **Evolutionary:** Social forces bring socialism should help organs of state to form policies which are socialistic and should get them implemented.
- ▶ **Prominent Indian socialist leaders** include Acharya Narendra Dev, Jaya Prakash Narayan, and Ram Manohar Lohia, among others.

Contribution of Karpoori Thakur towards Socialism in India

- ▶ Implemented **Mungerilal Lal Commission's recommendations** to provide for **reservations for backward castes** in public employment and government educational institutions.
 - **Split backward castes in two blocs** (sub-categorization) to ensure social justice within backward communities ('Karpoori Formula').
- ▶ **Abolished English language** being compulsory for school students and made teaching of **Hindi mandatory for Christian missionary schools**.
- ▶ Credited with enforcing **total prohibition of alcohol in Bihar in 1970**.

- Economic and business activities during that era were characterized by **License-Quota-Permit Raj** which resulted in **rent-seeking activities, and inefficient performance of PSEs**, among others.
- ▶ **Political:** Fragmented political ecosystem with the emergence of stronger regional parties and deviation from ideologies for electoral gains.
- ▶ **Socio-cultural:** Growing middle-class aspirations for material prosperity make individual aspirations as incompatible with the collective well-being advocated by socialism.

Way Forward

- ▶ **Strike an effective balance** between state intervention and market mechanisms to achieve inclusive and sustainable development.
- ▶ **Strengthen public sector efficiency** by enhancing transparency, improving accountability, and reducing bureaucratic red tape to curb corruption and enhance the effectiveness of service delivery to citizens.
- ▶ **Encourage democratic socialism:** Through participatory decision-making and civic engagement in policymaking to reflect diverse needs and aspirations in policies of the State.
 - **Harness technology**, like digital platforms, for efficient governance, citizen engagement, and empowering marginalized communities.

6.4.2 EMERGING TECHNOLOGY AND CASTE IDENTITIES IN INDIA

CONTEXT



Lately, caste-based discrimination has risen in both tech usage and representation of marginalized caste groups in the workforce.

ANALYSIS



Emerging technologies exacerbating caste disparities

- ▶ **Upper caste dominance of social media (SM):** Less representation of Scheduled Castes and Scheduled Tribes on SM. (2019 survey by Lokniti and CSDS).
 - Increased reproduction of caste identities and caste norms violations. (report by ORF)
- ▶ **Digital divide:** Disadvantaged caste groups face disparities in both device ownership and digital skills.
 - It exacerbates inequalities in accessing education, healthcare, employment, and social mobility.
- ▶ **Algorithmic bias:** The use of historical data in technologies like AI amplifies caste-based biases.
 - E.g., an **AI-based predictive policing system** may perpetuate unjust criminalization and discrimination against marginalized communities.
- ▶ **Workforce representation:** Underrepresentation of marginalized caste groups in the technology workforce.
- ▶ **Social stigma and segregation:** Hate speech and online harassment based on caste identities can contribute to social stigma and reinforce existing prejudices.

Emerging technologies addressing caste disparities

- ▶ **Digital inclusion:** Affordable and accessible technology infrastructure can help mainstream of marginalized social groups.



Read From Essential Material

Chapter 7th **Social Institutions: Continuity and Change** of class XII NCERT (Indian Society)

BRIEF BACKGROUND

Social Identity and Role of Caste in India

- ▶ **Social Identity:** People's self-categorizations concerning their group memberships (the "we").
 - Often assigned or something one is born with, such as caste, gender, ethnicity, etc.
- ▶ **Caste system:** Division of society based on **socio-religious norms** and hierarchy passed down for generations.
- ▶ **Caste disparities:** Disadvantaged caste groups face discrimination in terms of **"inequality of opportunity"** and **"inequality of outcome"**.
 - Approx. 27% of modern Indian families practice **untouchability**. (Study by Jawaharlal Nehru University)

- ▶ **Political mobilization:** Use of social media platforms to enhance political participation and advocacy of marginalized groups.
- ▶ **Access to resources:** Enhance access to education, healthcare, and economic opportunities through affordable technology solutions.
- ▶ **Social awareness:** Social media platforms can be utilized to raise awareness against caste-based discrimination, promote inclusivity, and challenge stereotypes.
- ▶ **Community empowerment:** Empower communities by providing information, resources, and networking opportunities.
 - ▶ E.g., Use of AI-based platforms for the registration of cases of atrocities

Way Forward: Rooting the idea of non-discrimination in Technology.

- ▶ **Recognize Caste Bias:** To re-contextualize datasets with socio-cultural values to mitigate algorithmic caste bias.
- ▶ **Develop Fairness Metrics & Constraints:** To develop non-discriminatory systems and technologies through periodic evaluation.
- ▶ **Promote Diversity and Inclusivity:** Adequate representation of marginalized groups in the technology workforce.
- ▶ **Meaningfully Support Marginalized Communities:** Through sufficient and appropriate funding.
- ▶ **Eliminate Caste in AI:** Anti-caste ethical guidelines and their effective implementation.

6.4.3. MITAKSHARA LAW

CONTEXT

Supreme Court ruled that **children born from void or voidable marriages are legitimate for property inheritance** under the **Hindu Succession Act (HSA), 1956** which recognizes **Mitakshara Law**. The court held that such children be **treated as an extended family of a common ancestor** to decide a valid share in the property of the common ancestor.

ANALYSIS

- ▶ **Mitakshara Law**
 - ▶ It is one of the two major Hindu law schools (the other being Dayabhaga) that governs the succession of property in Hindu families.
 - ▶ Based on the commentary on the **Yajnavalkya Smriti**, written by **Vijnaneswara** in the **12th century**.
 - ▶ Recognizes the concept of **coparcenary**, which means that **ancestral property is jointly held by all male members of the family**, and they have equal rights in the property.
 - ▶ Coparcener has **no absolute right to transfer his share** because his **share is not definite or ascertainable** as their shares fluctuate with the births and deaths of the coparceners.
 - ▶ Under this, a **woman could never become a coparcener**.
 - ◊ However, the **Hindu Succession (Amendment) Act, of 2005** empowered women to become a coparcener like males in ancestral property.
 - ▶ **Prevalent throughout India, except in some eastern parts**, where Dayabhaga School is followed.
 - ▶ **4 sub-schools of Mitakshara Law:**
 - ◊ Dravidian/Madras school of thought,
 - ◊ Maharashtra school of thought,
 - ◊ Banaras school of thought,
 - ◊ Mithila school of thought.
- ▶ **Dayabhaga School of Thought**
 - ▶ It is based mainly on the **Yajnavalkya Smriti** commented by **Jimutuvahana**.
 - ▶ **Inheritance is based on the principle of spiritual benefit**. It arises by **pinda offering**, i.e., rice ball offering to deceased ancestors.
 - ▶ Followed in **Bengal and some parts of Assam** only.
 - ▶ It has **no sub-school**.

Quarterly Revision

Mitakshara vs. Dayabhaga schools in coparcenary rights

Mitakshara Schools	Dayabhaga School
Mitakshara is an orthodox School	Dayabhaga is Reformist School
Right of a son by birth in the ancestral property equals to the interest of his father.	Son is entitled to his ancestral property only on the death of his father.
Son becomes coparcener right after his birth.	Son becomes coparcener by death of his father.
Coparcenary right is applicable to the property of grandfather and great-grandfather.	Father is the absolute owner of his property in his lifetime.
One cannot transfer his share to the third party as their share is not definite or ascertainable.	One can transfer his share as they are defined.

6.4.4. SAPINDA MARRIAGES

CONTEXT



Delhi High Court upheld the constitutional validity of the prohibition of marriage between 'Sapindas' under the Hindu Marriage Act (HMA), 1955.

ANALYSIS



- ▶ The court also said that **if the choice of a partner in a marriage is left unregulated, an incestuous relationship may gain legitimacy.**
- ▶ **Section 5(v) of the HMA, 1955 prohibits** marriages between Sapindas, unless custom or usage governing each of them permits a marriage between the two.
- ▶ **Sapindas**
 - **Under the HMA, 1955, Sapinda relationship** with any person extends as far as
 - ◊ **3rd generation (inclusive) in the line of ascent through the mother,** and
 - ◊ **5th generation (inclusive) in the line of ascent through the father.**
 - ◊ **The line is traced upwards in each case from the person concerned,** who is to be counted as the first generation.
 - **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
 - ◊ **they have a common lineal ascendant who is within the limits of the sapinda relationship** with reference to each of them.



6.5. TEST YOUR LEARNING

MCQs

1. With respect to Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) (POSH) Act, 2013, consider the following statements:

1. It is consistent with the Vishaka Judgment (1997).
2. It is applicable only to workplaces with more than 100 employees.
3. Only aggrieved women can file a complaint under the act.
4. Constitution of Internal Complaints Committee is mandatory for all organizations.

How many of the above statements given is/are correct?

- a) Only one
- b) Only two
- c) Only three
- d) Only four

2. With respect to Surrogacy (Regulation) Act, 2021, consider the following statements:

1. A willing & married woman between aged 25 to 35 years having a child of her own can opt to be a surrogate mother.
2. A woman cannot be a surrogate more than once in her lifetime.

Which statements given is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

3. The term "Denotified Tribes" refers to:

- a) Tribes that have been officially recognized by the government but have not been provided with any special privileges or benefits.
- b) Tribes that were notified as criminal under the Criminal Tribes Act, 1871, and later denotified after India's independence.
- c) Tribes that voluntarily gave up their tribal status to assimilate into mainstream society.
- d) Tribes that were forcibly removed from their ancestral lands and relocated to remote areas by the government.

4. Which of the following statements is NOT correct regarding the Mitakshara Law?

- a) It is based mainly on the Yajnavalkya Smriti commented by Jimutuvahana.
- b) Hindu Succession Act, 1956 recognizes Mitakshara Law.
- c) Under this woman could never become a coparcener.
- d) It is prevalent throughout India, except in some eastern parts.

Q. 5 With respect to Pradhan Mantri Adi Adarsh Gram Yojna, consider the following statements:

1. It is a Centrally Sponsored Scheme under the Ministry of Tribal Affairs.
2. It aims to achieve integrated development of villages with more than 500 tribal populations.

Which statement(s) given is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Questions

1. Discuss the key provisions of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013. Evaluate the effectiveness of this Act in addressing the issue of sexual harassment in Indian workplaces and suggest measures to strengthen its implementation. (250 words, 15 marks)
2. Discuss the intersection of emerging technologies with caste identities in India. How do advancements in technology influence the dynamics of caste-based discrimination and social stratification? (250 words, 15 marks)

Master

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SCIENCE & TECHNOLOGY



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7.1. BIOTECHNOLOGY

7.1.1. CLUSTERED REGULARLY INTERSPACED SHORT PALINDROMIC REPEATS (CRISPR)

CONTEXT

U.S. approved CRISPR based Gene Therapies named **Casgevy** and **Lyfgenia** to treat patients with **Sickle Cell Disease (SCD)**.



ANALYSIS



About CRISPR-Cas9

- ▶ Modifies **gene function**, changes genetic code, and edits DNA.
- ▶ **Emmanuelle Charpentier** and **Jennifer A Doudna** were awarded 2020 Nobel Prize for Chemistry for this technology.

CRISPR-Cas9 Mechanism

- ▶ Functions as a **cut and paste mechanism** on DNA Strands.
- ▶ Identifies **genetic codes**, needing modification.
- ▶ Uses Cas9 protein as molecular scissors.
- ▶ Strand when broken has **self-repairing tendency**. This way a damaged DNA strands can be removed and help human body to restore to healthy state.

Applications of CRISPR

- ▶ Editing human embryo genes.
- ▶ Changing genetic codes of crops to improve crop resilience.
- ▶ Developing cancer treatment therapies, etc.

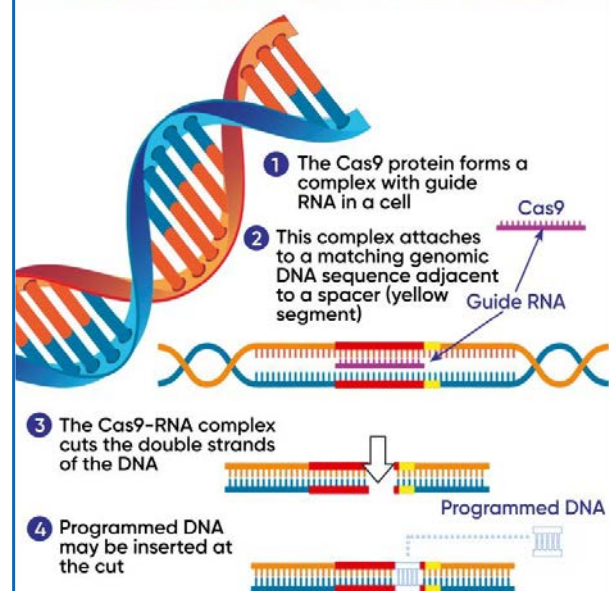


BRIEF BACKGROUND

About Casgevy and Lyfgenia

- ▶ First cell-based gene therapies.
- ▶ Approved for treating SCD in patients (12 years and older).
- ▶ Utilizes **CRISPR-Cas9 genome editing technology**.
- ▶ Earlier, UK approved for treating SCD and beta thalassemia.
 - SCD is inherited blood disorder that can be debilitating and lead to premature death.
 - **Thalassemia** is inherited blood disorder that reduces production of haemoglobin.

How CRISPR works



7.2. IT AND COMPUTER

7.2.1. NATIONAL QUANTUM MISSION (NQM)

CONTEXT



The 1st meeting of Mission Governing Board (MGB) of **National Quantum Mission (NQM)** discussed **implementation strategy and timelines of NQM** as well as the formation of Mission Coordination Cell (MCC).

ANALYSIS



About National Quantum Mission (NQM)

- ▶ **Time period:** 2023–2031.
- ▶ **Aim:** Seed, nurture, and scale up scientific and industrial R&D.
- ▶ **Mission objectives:**
 - Establish a secure, high-bandwidth **quantum communication network**.
 - **Develop quantum computers** with a processing capacity of 1,000 qubits.
 - **Advance magnetometers** for precision measurements and reliable atomic clocks.
 - **Design novel quantum materials** for cutting-edge device fabrication.
- ▶ Establish four thematic hubs for collaboration and expertise.

Challenges in NQM

- ▶ **Low R&D expenditure:** India's R&D spending is only 0.64 % of GDP, lower than developed countries' (spent over 2% of GDP).
- ▶ **Lack of Private Investment:** India's private sector contributes less than 40% to R&D, compared to over 70% in developed countries.
- ▶ **Infrastructure Availability:** Building and maintaining sophisticated labs requires significant resources and continuous upgradation.
- ▶ **Intellectual Property Rights:** Establishing clear ownership and licensing frameworks for quantum-related intellectual property is a work in progress.
- ▶ **Regulatory Landscape:** Adapting existing regulations and developing new frameworks for quantum technologies.
- ▶ **Other Challenges:** Lack of skilled workforce, cybersecurity threats etc.

Conclusion

NQM will bring transformational changes in creating a vibrant & innovative ecosystem in Quantum Technology (QT). Attracting private investment, developing specialized training programs etc. will facilitate implementation of the NQM.

BRIEF BACKGROUND

About Mission Coordination Cell (MCC)

- ▶ Coordinates NQM with DST Mission Secretariat.
- ▶ Will set up in DST-identified institution.
- ▶ Functions under **Mission Technology Research Council (MTRC)**.
 - MTRC provides guidance and oversight to NQM.

Quantum Technology

- ▶ Utilizes principles of **quantum mechanics** (the physics of sub-atomic particles).
- ▶ Includes quantum entanglement and superposition.
 - **Entanglement:** A physical phenomenon where two (or more) quantum systems share a **special correlation** such that measuring one system instantly determines the state of the other, even if they are separated by vast distances.
 - **Superposition:** A fundamental property of quantum systems where a particle exists in **multiple states** simultaneously instead of just one definite state.



7.2.2. FOURTH INDUSTRIAL REVOLUTION

CONTEXT

Telangana signed agreement with World Economic Forum (WEF) for setting up Centre for Industrial Revolution (C4IR) in Hyderabad.

ANALYSIS

Fourth Industrial revolution (4IR)

- ▶ Term was coined by Klaus Schwab, founder of WEF.
- ▶ Refers to **digital transformation** in manufacturing through AI, additive manufacturing, etc.
- ▶ Also used to refer to the concepts of “**smart factories**” - connected **cyber-physical systems** merging **physical and digital aspects**.

Benefits of 4IR for India

- ▶ Improves **digital infrastructure** and **productivity** through digital communication, energy, and health (remotely enabling connected health care from anywhere).
- ▶ Potential for India to become a **global manufacturing hub**.
- ▶ Creation of a **skilled workforce** through advanced technologies and processes.
- ▶ **Resilient and efficient supply chain**, easier product and service accessibility.
- ▶ **Spill-over effects** across all economic sectors.

Challenges for India in harnessing advantages of Fourth Industrial revolution

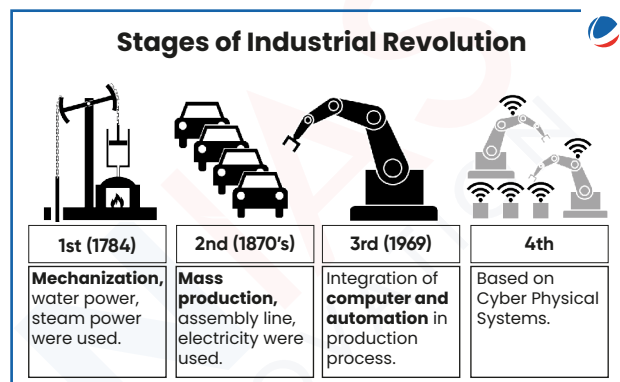
- ▶ **Economic:** Exacerbating inequality with low-skill and high-skill jobs leading to social tensions and mass unemployment fears.
- ▶ **Environmental:** Increased digital footprint causing environmental impacts.
- ▶ **Ethical:** Discontent fueled by digital technologies creating unrealistic expectations of success.
- ▶ **Privacy Concerns:** Loss of control over personal data and lack of skilled workforce.

Conclusion

The Fourth Industrial Revolution offers opportunities for inclusive, human-centered futures, but requires long-term decision-making to maximize societal benefit and minimize potential misuse or harm.



BRIEF BACKGROUND



Key Initiatives for 4IR in India

- ▶ **Centre for the Fourth Industrial Revolution (India):** Collaboration between WEF and Maharashtra, coordinated by the NITI Aayog.
- ▶ **Artificial Intelligence for Agriculture Innovation (AI4AI):** Supports India’s agricultural transformation.
- ▶ **India Hub for Urban Transformation:** Partnership with Smart City Mission for sustainable cities.
- ▶ **Education 4.0:** Launched with UNICEF.
- ▶ **FIRST Cancer Care in Meghalaya:** Developed on the lines of FIRST Healthcare (Fourth Industrial Revolution for Sustainable Transformation of Healthcare).
- ▶ **Smart Advanced Manufacturing and Rapid Transformation Hub (SAMARTH) - Udyog Bharat 4.0:** By Ministry of Heavy

7.2.3. ELECTRONIC INK (E-INK)

CONTEXT

A new crowdfunded phone called the **Minimal Phone** by the Minimal Company features power-friendly monochrome E-Ink display.



ANALYSIS



About E-Ink display (also known as electrophoretic ink)

- ▶ E-Ink is a type of E Paper display.
- ▶ Mimics the **appearance of real paper** using the same ink used in the printing industry.
- ▶ Originally available in monochrome, color E-Ink was introduced in 2010.
- ▶ Uses **microcapsules** filled with positively and negatively charged white and black particles (refer to the infographics).
- ▶ Positive or negative electrical charges create text and images on the display.
- ▶ Developed at MIT in the 1990s and now owned by E Ink Corporation.
- ▶ **Applications:** In cell phones, digital signs, and e-readers like the Amazon Kindle.

Advantages of E-Ink display

- ▶ **Provides eye comfort:** Reflects light like paper, enhancing eye comfort for extended reading sessions.
- ▶ **Enhances outdoor visibility:** Provides legibility under brighter lighting conditions, unlike LCD/LED displays.
- ▶ **Offers long battery life:** Requires minimal power due to no backlight, only requiring energy when the image changes.

Limitations of E Ink displays

- ▶ **Low refresh rates:** Ideal 60 Hz refresh rate, e-ink displays have 1 Hz or less.
- ▶ **Expensive:** As manufacturing will be difficult and patent/ licensing costs.
- ▶ **Niche-Specific:** Mostly associated with e-readers, smart watches, and electronic shelf labels (ESL).
- ▶ **Color Limitation:** Pigments in e-ink oriented in two directions, which limits color diversity, making it less suitable for animations and videos.

BRIEF BACKGROUND

About Working of Key display technologies

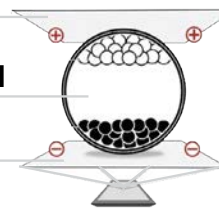
- ▶ **Liquid Crystal Display (LCD):** Consists of liquid crystals sandwiched between transparent electrodes. When an electric current is applied, the crystals align to control the amount of light passing through them, creating the image you see on the screen.
- ▶ **Light-emitting Diode (LED):** Semiconductor device that emits light when an electric current is passed.
- ▶ **Organic LED (OLED):** Flat light emitting technology, made by placing organic thin films between two conductors. An OLED display **follows the same principle as a LED display**, but operates in a slightly different manner.
 - ▶ OLED panels can produce their own light, unlike LED panels that require a dedicated backlighting setup.

Two Particle Ink System

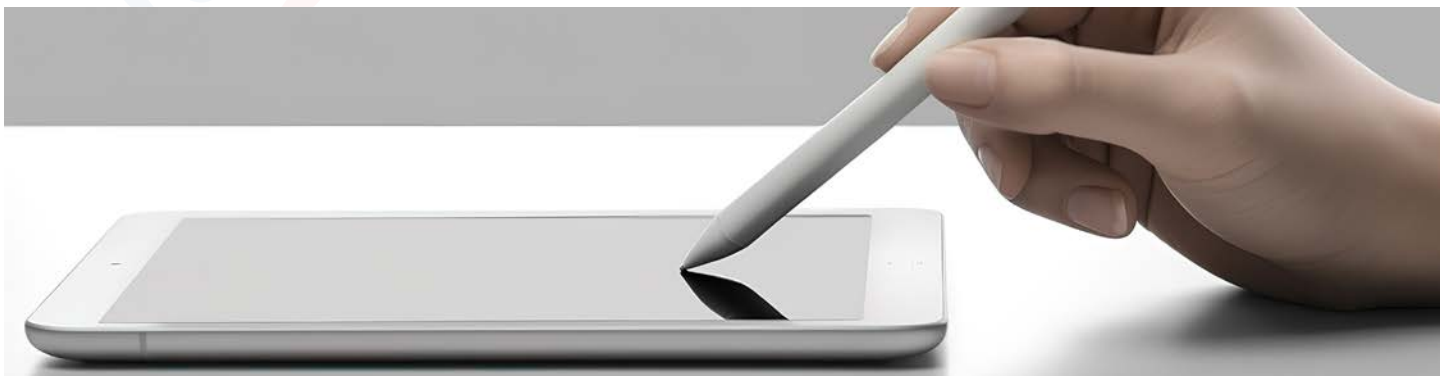
Transparent Top Electrode

Clear Fluid

Bottom Electrode



Electronic Ink is made up of millions of tiny microcapsules, about the diameter of a human hair



7.2.4. NEW DELHI DECLARATION

CONTEXT



Global Partnership on Artificial Intelligence (GPAI) summit adopted New Delhi Declaration.

ANALYSIS



About New Delhi Declaration

- ▶ Declaration aims to **mitigate risks** (unemployment, lack of transparency etc.) **arising from development and deployment of Artificial Intelligence (AI) systems.**
 - ▶ Earlier, **Bletchley Declaration** signed at UK AI Safety Summit **focused on AI related safety risks.**
- ▶ **Key highlights of New Delhi Declaration**
 - ▶ Supports **AI innovation** in agriculture sector, adding to previous GPAI themes including healthcare, climate action and building a resilient society.
 - ▶ Focuses on collaboration, inclusion, and **AI governance framework.**
 - ▶ Advocates for a **global AI framework** rooted in democratic values, human rights, and personal data protection.
 - ▶ Promotes **equitable access to critical resources for AI innovation** and inclusivity for countries outside GPAI's scope (especially those in global south).

BRIEF BACKGROUND

About GPAI

- ▶ Established in **June 2020**, GPAI is a **multi-stakeholder initiative** of global experts bridging AI theory and practice.
- ▶ Currently, it is an **alliance of 29 members.**
- ▶ India is the **lead chair of GPAI in 2024.**



7.3. SPACE TECHNOLOGY

7.3.1. X-RAY POLARIMETER SATELLITE (XPOSAT)

CONTEXT

ISRO successfully launched the **X-ray Polarimeter Satellite (XPoSat)** by Polar Satellite Launch Vehicle (PSLV) -C58.



ANALYSIS



What is Polarization and X-ray polarimetry?

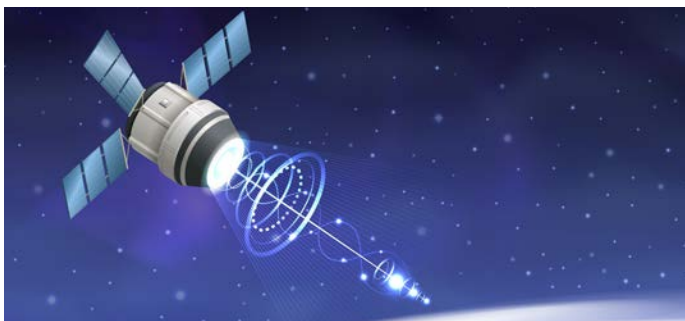
- ▶ **Normal light (unpolarized light)** consists of electric field and magnetic field vectors which vibrate perpendicularly to each other. (refer to figure)
- ▶ Light waves that travel in a single plane are known as **polarized light waves**.
- ▶ **Polarization** transforms unpolarized light into polarized light through scattering, reflection, refraction, or Polaroid/polarizing filter.
- ▶ **X-ray polarimetry** studies the polarization of X-rays, high-energy electromagnetic waves.
 - It involves studying the **angle of polarization and the degree of polarization** (portion of an electromagnetic wave from a light source).

About XPoSat (X-ray Polarimeter Satellite)

- ▶ **First dedicated satellite** from ISRO for X-ray emission research from celestial sources.
- ▶ Second satellite globally to study X-ray polarization, after NASA's **Imaging X-ray Polarimetry Explorer**.
- ▶ **Payloads: POLIX** (Polarimeter Instrument in X-rays) and **XSPECT** (X-ray Spectroscopy and Timing)
 - Spectroscopy is the study of the interaction between electromagnetic radiation and matter.

Significance of the Mission

- ▶ Understanding nature of **astronomical radiations**.
- ▶ **Advance Data collection** by first-ever X-ray polarimetry in medium energy band.
- ▶ **Discovering chemical composition** of celestial bodies like Pulsars and Magnetars.

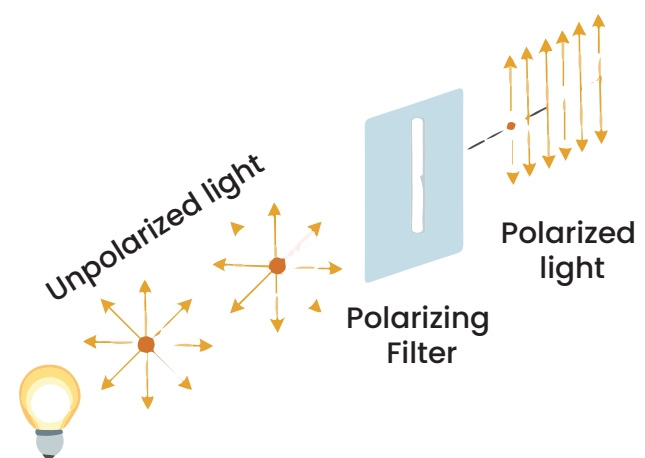


BRIEF BACKGROUND

About PSLV-C58

- ▶ 60th flight of ISRO's **Polar Satellite launch Vehicle**.
 - PSLV is a 4-stage launch vehicle, propelled by **Solid fuel** at first and third stages and **Liquid fuel** at second and fourth stages.
- ▶ After Placing XPoSAT, fourth stage moved to was brought to a lower altitude for conducting the **PSLV Orbital Experimental Module-3 (POEM-3)** experiment.
 - Experiment were executed to meet the objective of 10 identified payloads supplied by ISRO and IN-SPACe.
 - **PSLV Orbital Experimental Module** utilizes spent PS4 stage as a 3-axis stabilized microgravity environment for short-duration scientific experiments.
 - ◊ Aims to conduct in-orbit experiments for 4-6 months for small payloads.
 - ◊ **Advantages:** Standard interfaces and packages for power generation, telemetry, tele-command, stabilization, orbit keeping, and orbit maneuvering.

Polarized and Unpolarized light



7.3.2. INTERNATIONAL SPACE STATIONS



CONTEXT

Russia has extended its cross-flight programme with NASA transporting astronauts to the International Space Station (ISS) until 2025.

ANALYSIS



About the International Space Station (ISS)

- ▶ Habitable artificial satellite in **low Earth orbit** (at an altitude of between 370–460 km).
- ▶ **Key partners:** European countries (ESA), United States, Japan, Canada, and Russia.
- ▶ First component was launched in 1998, and new modules were added as recently as 2021.
- ▶ Will continue as a working laboratory until 2030.
- ▶ **ISS was taken into space piece-by-piece and gradually built in orbit, with its assembly requiring more than 40 missions.**

Significance of ISS

- ▶ Conducts research and development in a microgravity environment such as DNA sequencing.
- ▶ **Facilitates international cooperation** in space facilities, communications networks, and scientific research.
- ▶ Studies disease formation, tests drugs and diagnostic tools, and examining the inner workings of the human body.
- ▶ Used by **small businesses** and **entrepreneurs** for space technology testing.
- ▶ Serves as a testing ground for astronaut safety and health during long-duration missions.

Other Space stations

- ▶ **Russia:** Launched Salyut 1 (world's first space station) in 1971, followed by Salyut 2, Salyut 7, and Mir.
- ▶ **China:** Launched Tiangong in 2021, fully operational since 2022.
- ▶ **USA:** Launched Skylab in 1973, the first space station.
- ▶ **Future missions:**
 - ▶ NASA's Artemis Base Camp and Gateway in lunar orbit.
 - ▶ India's Bharatiya Antariksha Station.

BRIEF BACKGROUND

About Cross-flights

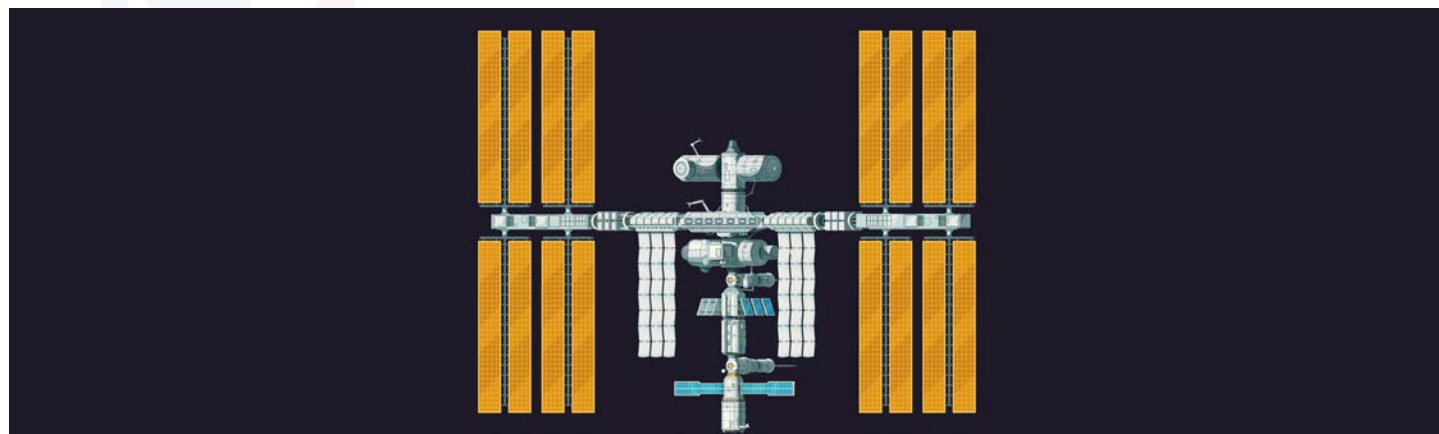
- ▶ Extended to maintain the reliability of ISS operation.
- ▶ Carry out on Russian and U.S. spacecraft.
- ▶ Involves sending one Russian cosmonaut as part of an American crew to the space station, and vice versa

Key Facts about ISS

- ▶ Travels at 5 miles/second, orbiting Earth every 90 minutes.
- ▶ Largest artificial body in orbit.
- ▶ Continuous inhabited for more than 20 years, since 2000.
- ▶ Orbital inclination is 51.6°, covering 90% of inhabited Earth.

About Bharatiya Antariksha Station: India's own Space Station

- ▶ India is aiming for setting up 'Bharatiya Antariksha Station' (Indian Space Station).
- ▶ ISRO will launch its first module by 2028.
- ▶ **Benefits:** Advancing scientific knowledge, enhancing the nation's prestige, promoting global co-operation & peace etc.



Quarterly Revision

7.3.3. SPACE HABITATION

CONTEXT



NASA's plans to create homes and habitable colonies on the moon by 2040 have opened up the debate about the habitation of the moon as well as other heavenly bodies.

ANALYSIS



About Space Habitation

- ▶ Refers to human settlements beyond Earth, such as on the Moon and Mars.
- ▶ **Methods of Space Habitation:** Habitation of celestial bodies like Mars in goldilocks zones, or building space habitats in capsule modules.
 - **Stanford Torus** and **O'Neill Cylinder** proposed as self-sustaining habitats for agriculture and microgravity activities.
- ▶ Private space entrepreneurs like Elon Musk aim to establish a permanent human settlement on Mars.

Benefits from Space Habitation

- ▶ **Scientific:** Potential to answer extra-terrestrial life existence question.
- ▶ **Economic:** Potential for extraction of valuable raw materials like gold, silver, platinum etc.
- ▶ **Addresses Global Challenges:** Enhances international preparedness for Earth's protection from catastrophic events such as some asteroid strikes.
- ▶ **Spinoff Benefits:** New materials for space habitation can aid other life-related fields. E.g. Nitinol, used for satellites, is being used by orthodontists now.

Issues associated with the space habitations

- ▶ Extensive costs due to **extended gestation period** of space technologies.
- ▶ Challenges in **managing oxygen**, food, and medical supplies.
- ▶ Health risks due to **cosmic radiation** and lack of breathable atmosphere.
- ▶ **Environmental modification risks** due to altering other planets' landscapes and contributing to space debris, with a possibility of triggering the Kessler syndrome.
- ▶ Legal and political issues regarding **resource ownership**, governance, and regulation of space activities.
- ▶ Potential damage to the **intrinsic value of alien planets** raises ethical concerns.

Way Ahead

- ▶ Reduce exploration costs by relying on **space resources** rather than **launching everything from Earth**.
- ▶ **Develop advanced technologies** for mining and processing space resources.
 - For example, robots designed to scoop icy soil on the Moon
- ▶ Collaborate globally to devise **legal framework** for addressing territorial claims and private property.
- ▶ Promote a collaborative approach for knowledge sharing and best practices.

BRIEF BACKGROUND

About Goldilocks Zone and Kessler Syndrome

- ▶ **Goldilocks zone:** Area around a star where it is not too hot and not too cold for liquid water to exist on the surface of surrounding planets.
- ▶ **Kessler syndrome:** It envisions a situation where a **single collision between two space objects generates debris**, and this debris, in turn, increases the likelihood of further collisions.

United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) International Treaties on Outer Space

- ▶ **Outer Space Treaty:** Principles governing states' exploration and use of outer space.
- ▶ **Rescue Agreement:** Agreement on astronaut rescue and return of objects launched into outer space.
- ▶ **Moon Agreement:** Agreement governing states' activities on the Moon and celestial bodies.
- ▶ **Liability Convention:** Deals with space object damage liability.
- ▶ **Registration Convention:** Deals with object registration in outer space.



7.3.4. SPACE TECH START-UPS IN INDIA



CONTEXT

Under Seed fund scheme, In-Space will provide support to start-ups for developing and scaling up solutions in urban development and disaster management sector using space technology.

ANALYSIS



Need for promoting Space-tech start-ups in India

- ▶ **Global Competitiveness:** Companies like SpaceX, etc. have transformed the global space industry.
- ▶ **Harnessing opportunities in space economy:** India's share is only 2%. There are only 189 space start-ups in India.
- ▶ **Reducing import dependency:** India's import costs in the space technology sector are twelve times higher than the earnings from exports.
- ▶ **Freeing up the ISRO from ancillary activities:** ISRO can focus in the core areas of research and development.
- ▶ **Spinoff socio-economic benefits:** It may play key role in agriculture, disaster management, etc.
- ▶ **Geopolitical leverage:** Collaboration between countries, such as the US, will empower India as a counterbalance to China.

Challenges in promotion of Space-tech start-ups in India

- ▶ **Risky Nature of Industry:** Absence of assured market and long incubation periods.
- ▶ **Funding Constraints:** There is inadequate funding, especially in later stages.
- ▶ **Unsustainable business models:** Start-ups overlooks hidden expenses and future impacts.
- ▶ **Limited Talent Pool:** Scarcity of skilled professionals.

Conclusion

Space Start-ups will boost space economy in India. In order to utilise their potential there is need to enhance financial viability through soft funds, facilitating secure market access, studying global best practices, and focusing on capacity building.

BRIEF BACKGROUND

About Seed fund scheme

- ▶ **Purpose:** To support space-start-ups to develop innovative space products and services.
 - Provides funding, Mentorship, Training, etc.
- ▶ **Eligibility for start-ups:**
 - Registered with DPIIT.
 - Shareholding by Indian should be 80%
 - Promoters and angel investors must match the granted request for investment at the time of application.
 - Should not have received more than 50 lakh support under any other central/state schemes.
- ▶ **Funding to the start-Ups:** Grant of up to 1 crore.
 - Should be utilised fully within a period of three years.
 - IPR generated shall be owned by start up

Major Space tech start-ups in India

- ▶ **Agnik Cosmos:** First company in the country to sign an agreement with ISRO under IN-SPACE.
- ▶ **Skyroot Aerospace:** Skyroot is the first Indian startup to launch a private rocket from India.
- ▶ **Bellatrix Aerospace:** Tested India's first privately developed Hall Effect Thruster, Arka.

India's Initiatives to promote space-tech start-ups

Key Organisations

- ▶ **Indian National Space Promotion and Authorization Centre (IN-SPACe)**
- ▶ **Antrix Corporation Limited (ACL)**
- ▶ **New Space India Limited (NSIL)**
 - Recently, NSIL signed agreement with SpaceX for launching GSAT -20 (Renamed as GSAT-N2) Satellite in 2024.
- ▶ **Indian Space Association (ISPA)**

Other Initiatives

- ▶ **Indian Space Policy 2023**
- ▶ FDI in space sector is allowed under **Government route for satellite establishment and operations.**
- ▶ **Tax benefits:** Satellite launches are exempted from GST.
- ▶ **Atal Innovation Mission (AIM)**
 - Atal Tinkering Lab (ATL) Space Challenge
 - Atal Incubation Centre (AIC) Scheme
 - ANIC-ARISE program

7.3.5. SQUARE KILOMETRE ARRAY OBSERVATORY (SKAO) PROJECT

CONTEXT

Union Cabinet approves Rs 1,250 cr for India's participation in Square Kilometre Array Observatory (SKAO) Project.

ANALYSIS

About SKAO

- ▶ Intergovernmental organization dedicated to radio astronomy.
 - Headquartered in the UK.
 - Comprises one global observatory with two telescopes.
 - ◊ Two SKA telescopes will be at radio-quiet sites in South Africa and Australia.
 - ◊ They will operate as one large unit.
 - Expected operational by 2029.
- ▶ **Objectives of SKAO:**
 - Understand about the **birth of Universe**.
 - Detect **Gravitational Waves**.
 - ◊ A gravitational wave is an invisible ripple in space.
 - Understand the evolution of **Galaxies, Dark matter and Cosmic Magnetism**.
- ▶ **India joined SKAO in 2012 as an Associate Member** and has actively participated in the pre-construction phase of the SKA telescopes.
 - In 2022, the **National Centre for Radio Astronomy, Pune** and SKAO signed cooperation agreement.
 - **Giant Metre wave Radio Telescope (GMRT)** is playing key role in SKAO.
- ▶ **Significance for India:** Will allow Indian astronomers direct access to the best radio astronomy facility in the world in the future.
 - Also, it will drive growth of technologies several key areas, ranging from antennas and electronics to data and software, including areas like artificial intelligence.



7.3.6. INSAT-3DS WEATHER FORECASTING SATELLITE



CONTEXT

ISRO successfully launched the Ministry of Earth Sciences (MoES) funded INSAT-3DS weather forecasting satellite.

ANALYSIS



About INSAT-3DS Satellite

- ▶ Follow-on mission of Third Generation Meteorological Satellite.
- ▶ Aids current INSAT-3D and INSAT-3DR, which are dedicated meteorological geostationary satellites.
- ▶ **Payloads:** Imager, Sounder, Data Relay Transponder, SA&SR transponder.

Objectives of INSAT-3ds satellite

- ▶ **Monitor Earth's surface**, carry out oceanic observation and its environment.
- ▶ Provide vertical profile of **atmospheric meteorological parameters**.
- ▶ Offer **data collection and dissemination capabilities**.
- ▶ Provide **Satellite Aided Search and Rescue services (SA&SR)**.

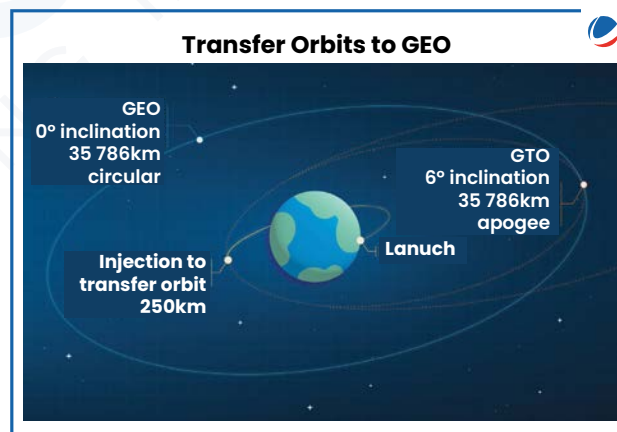
About GSLV-F14:

- ▶ 16th flight of India's **Geosynchronous Satellite Launch Vehicle (GSLV)**.
- ▶ **GSLV is a three-stage launch vehicle** with 420 tonnes liftoff mass.
 - **First stage:** Solid propellant motor
 - **Second stage:** Earth-storable liquid propellants
 - **Third stage:** Cryogenic stage
- ▶ **GSLV can launch spacecraft** for communications, navigation, earth resource surveys, and other proprietary missions.

BRIEF BACKGROUND

About Geosynchronous Transfer Orbit (GTO) and Geostationary orbit (GEO)

- ▶ **GTO:** A special kind of orbit used to get from one orbit to another.
 - To attain geosynchronous (and also geostationary) Earth orbits, a spacecraft is launched into an **elliptical orbit with an apoapsis altitude** (point at which an orbiting object is farthest away from the body it is orbiting) of **around 37,000 km**. This is called a GTO.
- ▶ **GEO:** Satellites in GEO circle Earth above the equator from west to east.
 - Travel at the same rate as Earth, making satellites appear stationary' over a fixed position.



7.4. HEALTH

7.4.1. BRAIN-COMPUTER INTERFACE (BCI)

CONTEXT



Neuralink, an Elon Musk company has successfully installed a wireless brain-computer interface (BCI) implant in a human patient.

ANALYSIS



About Brain-Computer Interface (BCI)

- ▶ A system that determines **functional intent** (the desire to change, move, control, or interact with something in our environment) directly from brain activity.
 - Skips need for voluntary muscle control for device interaction.
 - Replaces physical movement execution.
- ▶ **It has three main parts:**
 - Device for detecting and recording brain signals.
 - Computer for processing and analyzing recorded brain activity.
 - Controllable via application/device.
- ▶ **Another important part of a BCI is feedback:** The system must somehow let the user know what decision or intended action the computer was able to interpret.
- ▶ **Types of BCIs:**
 - **Non-Invasive:** Sensors are placed on the scalp to measure the electrical potentials produced by the brain. E.g. Electroencephalography (EEG), etc.
 - **Semi-invasive:** Electrodes are placed on the exposed surface of the brain. E.g. Electrocorticography (ECoG) which is the process of recording electrical activity in the brain.
 - **Invasive:** Chips/Sensors are placed directly into the cortex, measuring the activity of a single neuron. E.g. Neuralink's Implant.

Applications of BCI

- ▶ Helps individuals with **physical disabilities** and ageing by enabling precise control of prosthetic limbs.
- ▶ Aids in **disease treatment**, including Parkinson's disease, epilepsy, and spinal cord injuries.
- ▶ **Facilitates brain research** by detecting emotions in vegetative or minimally conscious states.
- ▶ **Enhances human performance** through neurofeedback training and human-computer interactions.

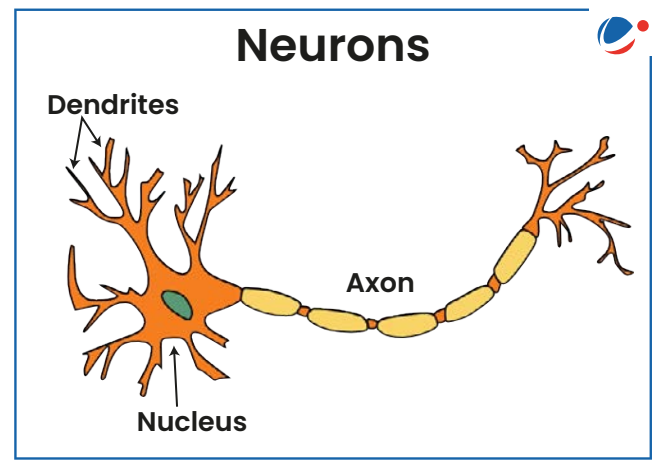
BRIEF BACKGROUND

About Telepathy

- ▶ Neuralink announced that their first product will be named Telepathy.
- ▶ Ultra-fine threads in it will help in **transmitting signals** from the brain.
 - Allows users to control computers or phones by thinking.
- ▶ Aims to **restore functions lost** when brain-body communication pathways fail.

About Neurons

- ▶ **Brain is made of up millions of cells called neurons**, also known as nerve cells.
 - Neurons work together in **large networks to coordinate and control processes in body.**
- ▶ **Neurons are information messengers.**
 - Use **electrical and chemical signals to send information** between different areas of the brain, as well as between the brain, the spinal cord, and the entire body.
 - **Axons allow neurons to transmit electrical and chemical signals** to other cells.
 - Neurons **can also receive these signals via** rootlike extensions known as **dendrites**.



Concerns related to BCI

- ▶ **Technical and user challenges:** Each person generates unique brain signals, which are difficult to measure clearly. Also, Translation of brain signals to speech by a BCI could cause harm if it is not accurate.
- ▶ **Data Privacy and Security:** Vulnerable to cyberattacks as hackers could use malware to intercept brain-wave data generated by the device.
- ▶ **Social impact:** High costs of wearable BCIs may lead to unequal access.
- ▶ **Ethical issues:** Raises questions about what constitutes consent and about potential unfair advantages conferred by certain human enhancements.
- ▶ **Medical issues:** Unintentional influence on other brain functions or unwanted side effects such as seizures, headaches, mood changes, or cognitive impairment.

Conclusion

Over the next few decades, BCI research and development is likely to continue to grow and we may see greater widespread use of BCIs in people's daily lives. Also, there is a need to improve the accuracy, reliability and efficiency of BCIs so as to realise its full potential.

7.4.2. E-CIGARETTES

CONTEXT



As per **World Health Organization (WHO)**, urgent action is needed to protect children and prevent the uptake of **e-cigarettes**. WHO is a specialized agency of the United Nation.

ANALYSIS



Issues with e-cigarettes

- ▶ **Health Risks:** Emissions typically contain nicotine and other toxic substances that are harmful to both users and non-users (exposed to the aerosols second-hand).
 - Use can increase the **risk of heart disease and lung disorders**.
 - Nicotine exposure in pregnant women can limit the brain development of the fetus.
- ▶ **Enforcement issues:** Despite a ban, they **are easily available**.
- ▶ **Promote addiction among youth: Attractive flavoring and sleek designs** hook the younger generation to addiction.
- ▶ **Less Regulated:** Around 74 countries have no regulations in place for these harmful products.
- ▶ **Aggressively marketed:** Targets children through social media and influencers.
- ▶ **Use as cessation aid:** Presented as devices to help quit smoking, however, the evidence on their use as a cessation aid is inconclusive.

Suggested Measures

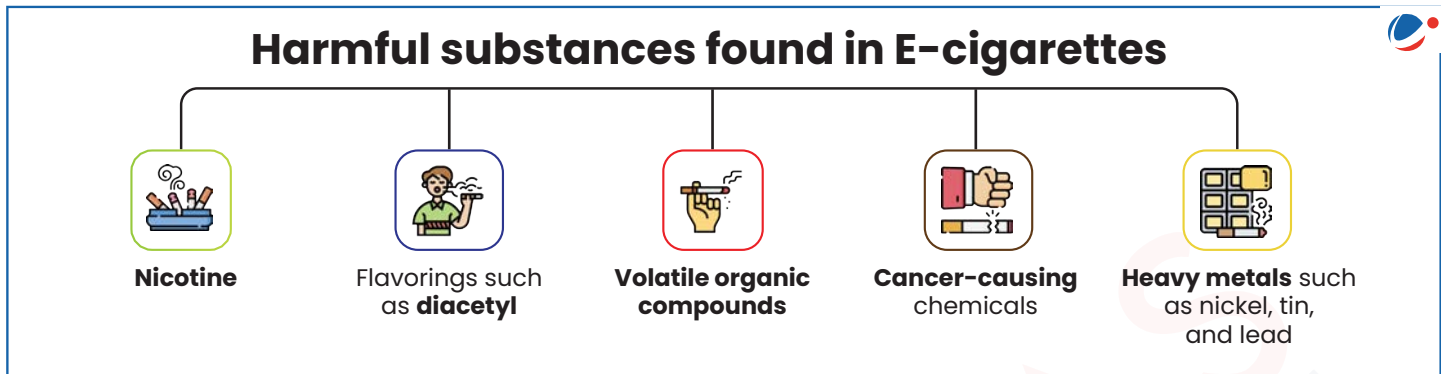
- ▶ **By WHO:**
 - **Not to be sold as consumer Products**
 - **Control Access,** any government pursuing a smoking cessation strategy using e-cigarettes must control the condition of e-cigarette access.
- ▶ **Other Measures**
 - **Strict implementation of the ban by authorities**

BRIEF BACKGROUND

About e-cigarettes

- ▶ **Prohibition of Electronic Cigarettes (Production, Manufacture, Import, Export, Transport, Sale, Distribution, Storage and Advertisement) Act, (PECA) 2019** banned e-cigarette in India.
- ▶ As per the Act, **an electronic device** that heats a substance, which **may or may not contain nicotine** and flavors, to create an aerosol for inhalation.
 - Includes all forms of Electronic Nicotine Delivery Systems, Heat Not Burn Products, e-Hookah, etc.
 - However, it **does not include any product licensed under the Drugs and Cosmetics Act, 1940.**
- ▶ Also called "mods," "vape pens," "vapes," "tank systems," and "electronic nicotine delivery systems (ENDS)."
- ▶ **Working:** Produce an aerosol that is inhaled by the user, by heating a liquid that usually contains nicotine, flavorings, and other chemicals.

- ▶ **Raising Awareness**, e.g., India's recent public notice focuses on raising awareness about the banned product, as well as explaining the details of PECA 2019 provisions, etc.



7.4.3. ORGAN AND TISSUE TRANSPLANTATION

CONTEXT

The National Organ and Tissue Transplantation Organisation (NOTTO) ordered an inquiry into 'cash-for-kidney racket' allegations against Indraprastha Medical Corporation Ltd. NOTTO works under the Ministry of Health and Family Welfare.

ANALYSIS

About Organ and Tissue Transplantation

- ▶ In **transplantation**, an organ/s, tissue or group of cells are **removed** from the donor and transplanted into the recipient, or moved from one site to another in the same person.
- ▶ **Organ Transplantation**: Includes kidney, liver, heart, lung, pancreas, and intestine etc.
- ▶ **Tissue Transplantation**: Involves corneas (eye), skin, bone, heart valves, and blood vessels etc.
- ▶ **Compatibility**: Determined by the degree of **immunological similarity**, e.g., Human Leukocyte Antigens (HLAs), blood group match etc.

Challenges in Organ Transplantation in India

- ▶ **Low Donation**: Deceased organ donation rate is 0.52 donors per million population.
- ▶ **Slow Progress**: Donor numbers (including deceased) only increased from 6,916 in 2014 to 16,041 in 2022.
- ▶ **Supply-demand Mismatch**: Only 8,000 out of 1.5-2 lakh people receives kidney, 1,800 out of 80,000 liver, and 200 out of 10,000 heart transplants.
- ▶ **Lack of Male Donor Participation**: 70%-75% of donors are female.
- ▶ **Brain Stem Death Declaration**: Brain death definition is defined only in connection with organ donation in the Transplantation of Human Organs Act, 1994 and not in Indian Penal Code, Registration of Births and Deaths Act, 1969.
- ▶ **Other Issues**: Organ trafficking, hesitation in pledging for organ donation etc.

Read From Essential Material

Chapter 5: Life Processes, Science class X

BRIEF BACKGROUND

Governance Framework

- ▶ **Legal Framework**: **Transplantation of Human Organs Act 1994**, which has allowed organ donation by live & Brain-stem Dead donors.
 - ▶ **Transplantation of Human Organs & Tissues Act (THOTA) 2011** also brought in donation of **human tissues** by amending earlier Act.
- ▶ **National Organ Transplant Programme (2021-22 to 2025-26)**: Organize a system of organ and Tissue procurement & distribution.
 - ▶ Establishes and maintains a national registry of organ and tissue donation and transplantation.

Key Facts about Organ Donation

- ▶ Any person not less than the age of 18 can be donor.
 - ▶ **Living organs** can donate one kidney, a portion of pancreas, a part of the liver, a segment of a lung, and part of the small bowel.
 - ▶ If deceased donor is under 18 years age, consent from parent or relative authorized by parents is required.

Way Forward

- ▶ **Adopting opt-out model:** Similar to England, Austria, Singapore, this model presumes that deceased patient gave consent for organ removal.
- ▶ **Sensitizing police and forensic experts:** Implementation on a war footing for smooth medico-legal cases.
- ▶ **Emulating Kerala model:** Formulating clinical protocols for brain death certification in Kerala, first state to do so.
- ▶ **Transparency in organ allocation:** Creation of digital registry for organ transplantation.
- ▶ **Streamlining transportation process:** For e.g., in air mode, consistent use of flight notes to indicate organs on board, so that receive priority take-off and landing.

7.4.4. ANTIMICROBIAL RESISTANCE

CONTEXT

The First **Multicentric Point Prevalence Survey of Antibiotic Use** was released recently by the **National Centre for Disease Control (NCDC)** under the Ministry of Health and Family Welfare.

ANALYSIS

About Antimicrobial resistance (AMR)

- ▶ AMR occurs when germs like bacteria and fungi **develop the ability to defeat drugs** designed to kill them.
 - Some microorganisms naturally resist certain antimicrobials, but can acquire resistance genes through mutation or genetic exchange.
- ▶ Microorganisms that develop antimicrobial resistance are sometimes referred to as **superbugs**.
- ▶ AMR is among the top 10 public health threat (WHO).
- ▶ **Reasons behind increasing incidence of AMR**
 - **Overuse and misuse** of antimicrobials in humans and in poultry and farm animals.
 - **Poor infection prevention** and control practices in healthcare.
 - **Effluent discharge** from hospitals, industries, and urban settlements.
 - ◊ Over 75% of administered antibiotics unmetabolized in urine and faeces and enter into sewage systems and water bodies.

Implications of the Spread of AMR

- ▶ **Healthcare Impact:** Increased mortality and morbidity, and prolonged illness.
- ▶ **Increased Healthcare Costs:** Longer hospital stays, additional diagnostic tests, and more expensive second-line or third-line antibiotics.
- ▶ **Economic impact:** Working hours lost due to prolonged illness and increase in out-of-pocket expenditure.
- ▶ **Increased risk of outbreaks:** As current medicines become ineffective, infections persist in the body, increasing the risk of spreading to others.

BRIEF BACKGROUND

About Multicentric Point Prevalence survey

- ▶ Survey has mapped the patients treated across 15 States and two Union Territories between 2021 and 2022.
- ▶ **Key Findings:**
 - **Empirical prescriptions:** 94% of patients received antibiotics before diagnosis.
 - **Classification of prescriptions based on AWaRe groups:** 57% from watch groups, 38% from access group and 2% from reserve group.
 - ◊ ü 3% of the prescription from not recommended group.

About WHO's Access, Watch, Reserve (AWaRe) Antibiotics

- ▶ **Access:** Work against a wide range of commonly encountered susceptible pathogens.
 - Comparatively lower resistance potential. E.g., Amikacin, Doxycycline
- ▶ **Watch:** Highest priority agents among Critically Important Antimicrobials.
 - Relatively high risk of selection of bacterial resistance. E.g., Cefbuperazone, Levofloxacin
- ▶ **Reserve:** To be treated as "last resort" options.
 - Reserved for treatment of confirmed/suspected infections due to multi-drug-resistant organisms. E.g., Telavancin, Colistin IV

Measures taken to address AMR



National

- ▶ **National Program on AMR containment**, launched during 12th Five Year Plan
- ▶ **National Action Plan on AMR (NAP – AMR), 2017**, based on One Health approach
- ▶ **National AMR surveillance network of state medical college labs (NARS-Net)**
- ▶ **Drugs and Cosmetics Rules, 1945**, Antibiotics included in Schedule H1 of the rules are required to be sold by retail only under the prescription of a Registered Medical Practitioner.
- ▶ **Other:** Ban on inappropriate fixed dose combinations (FDCs), Red Line awareness campaign, **Operation AMRITH** (AMR Intervention For Total Health) launched by Kerala etc.



Global

- ▶ **Global Antimicrobial Resistance and Use Surveillance System (GLASS)**, launched in 2015.
- ▶ **World Antimicrobial Awareness Week (WAAW)**

Way Forward

- ▶ **Promote the judicious use of drugs:** For instance, Union Health Ministry has called on doctors in medical colleges and medical associations to make it mandatory to mention the indication and reason for prescribing antibiotics.
- ▶ **Strict implementations of Drugs and Cosmetics Rules, 1945:** Recently, the Director General of Health Services (DGHS) has urged all pharmacist associations to adhere to the rules and sell antibiotics only with valid prescriptions.
- ▶ **Defined Antibiotic Use Policy in medical institutes:** Encourage access to group antibiotics and limit use of reserve group antibiotics.
- ▶ **Promote use of alternatives to Antibiotics:** In the animal feed industry.
- ▶ **Other:** Curbing the Production and Sale of Poor Quality and Sub-standard Antimicrobials, Robust Immunisation Programmes, Surveillance and Monitoring of Pathogens etc.

7.4.5. FIXED-DOSE COMBINATIONS (FDCS) DRUGS

CONTEXT

Central Drugs Standard Control Organization (CDSCO) has allowed companies to manufacture and market five fixed dose combinations (FDCs) that were banned earlier.

ANALYSIS

About Fixed Dose Combinations (FDCs) Drugs

- ▶ As per Rule 122-E of Drugs & Cosmetics Rule 1945, FDCs refer to **products containing two or more active ingredients** used for a particular indication(s).
- ▶ An FDC is a new drug when it meets **two conditions**
 - It **combines two or more drugs already approved** for individual use in a fixed ratio.
 - It **alters the ratio of drugs in an already approved FDC**, along with making changes to its claims
- ▶ Mostly used in combinations of cough, cold, fever preparations, antimicrobials, vitamins, and minerals, etc.
- ▶ In 2015, out of 376 entities, 24 entities were FDCs in **National List of Essential Medicine**.

Rationale for Usage of FDCs

- ▶ **Enhanced efficacy:** FDCs can achieve better therapeutic outcomes than specific drugs.

BRIEF BACKGROUND

About CDSCO

- ▶ **National Regulatory Authority (NRA)** headed by **Drug Controller General of India (DCGI)**.
 - DCGI approves licences for specified categories of drugs like blood and blood products, Vaccine etc.
- ▶ Functions under **Directorate General of Health Services, Ministry of Family and Health Welfare**.
- ▶ **Aim:** Ensure safety, efficacy and quality of the medical product manufactured, imported and distributed in the country.
- ▶ Get powers from **Drugs & Cosmetics Act, 1940 and Drugs & Cosmetics Rules 1945**
- ▶ **CDSCO along with state regulators, is jointly responsible for grant of licenses** of certain specialized categories of critical Drugs.

- ▶ **Cost-effectiveness:** FDCs can be affordable, especially in developing countries.
- ▶ **Reduced pill burden:** Improves convenience and patient compliance.

Issues associated with FDCs

- ▶ **Lack of individual dose flexibility:** FDCs may not suit patients who require different dosages due to age, weight, etc.
- ▶ **Unapproved and banned FDCs:** Access to untested and unlicensed FDCs in countries like India poses public health risks.
- ▶ **Increased risk of Anti-microbial Resistance (AMR):** Combining medications in FDCs increases risk of adverse events and AMR.
- ▶ **Reduced transparency and affordability concerns:** FDCs may be priced higher than individual components.
- ▶ **Ethical concern:** India banned certain FDCs, no ban on same drugs exported to African or SAARC countries.

Way forward

- ▶ **Regulatory Stringency:** CDSCO should enforce stringent guidelines for FDC approval to protect public health.
- ▶ **Evidence-Driven Authorization:** Require robust scientific evidence of FDC efficacy and safety to prevent unjustifiable combinations.
- ▶ **Therapeutic Justification:** Grant approval for FDCs only when individual components offer clear therapeutic benefits, avoiding unnecessary amalgamations.
- ▶ **Export Control Stringency:** Harmonize export policies with domestic regulations to prohibit the overseas export of domestically banned or restricted FDCs.

7.4.6. HAVISURE: HEPATITIS A VACCINE

CONTEXT

Havisure-India's first indigenously developed Hepatitis A vaccine launched.

ANALYSIS

About Hepatitis

- ▶ In it, liver inflammation is caused by infectious and non-infectious viruses.
 - ▶ Five main strains: A, B, C, D, E.

BRIEF BACKGROUND

About Havisure

- ▶ Developed by Indian Immunologicals Ltd, a wholly-owned subsidiary of the **National Dairy Development Board (NDDB)**.
- ▶ **Two-dose vaccine**, administered at 12 months and 6 months post-first dose.
- ▶ **Recommended** for individuals at risk of exposure or travel to high hepatitis A prevalence regions.

Hepatitis	How it spreads?	Treatment
A	Ingestion of contaminated food or water.	Vaccine
B	<ul style="list-style-type: none"> ▶ Contact with infected body fluids like blood, saliva, semen etc. ▶ Mother to child during birth and delivery. ▶ Unsafe injections or exposures to sharp instruments. 	Vaccine
C	<ul style="list-style-type: none"> ▶ Contact with infected blood through sharing needles or syringes, or from unsafe medical procedures like blood transfusions with unscreened blood products. 	No Vaccine available. Current treatment is only through antiviral medicines
D	<ul style="list-style-type: none"> ▶ People already infected with hepatitis B (HBV). 	Vaccine
E	<ul style="list-style-type: none"> ▶ Fecal-oral route, principally via contaminated water. 	Vaccine

Initiatives taken to prevent Hepatitis

- ▶ **National Viral Hepatitis Control Program 2019** to eliminate Hepatitis C in India by 2030.
- ▶ **Mission Indradhanush 2014** provides vaccination against Hepatitis B along with 7 other infections.
- ▶ **World Hepatitis Day** (28 July every year).

7.4.7. STREAMLINING FOOD REGULATIONS IN INDIA

CONTEXT

The Food Safety and Standards Authority of India (FSSAI) endorsed **multiple amendments** geared towards simplifying food safety regulations.

ANALYSIS

Amendments approved by FSSAI

- ▶ **Elimination of multiple certifications:** Food businesses would not have to go to different authorities for mandatory certification.
 - **Only FSSAI certification** will be mandatorily required for food products.
 - **Bureau of Indian Standards (BIS) or AGMARK certification will not be required** for food products.
 - ◊ **Presently, Food Safety and Standards (Prohibition and Restriction on Sale) Regulations 2011** have prescribed mandatory certification under BIS Act and AGMARK Scheme.
 - ◊ **BIS certification is mandatory for some food products** e.g infant formula, packaged drinking water, milk powder etc.
 - ◊ **AGMARK is mandatory for blended edible vegetable oils and fat spreads.**
- ▶ **First comprehensive manual of methods of analysis** for ensuring regulatory compliance of food products.
- ▶ **Expansion of Standards:** Like standards of Mead (Honey wine) and Alcoholic Ready-to-drink (RTD) beverages, revision of standards of milk fat products, standards for Haleem etc.

About Food safety regulations in India

- ▶ **Food Safety and Standards Act, 2006:** Establishes FSSAI as the primary food safety authority.
- ▶ **Food Safety and Standards Regulations, 2011:** Provides for labelling, food additives, microbiological requirements, etc.
- ▶ **Various FSSAI Food Safety Standards:** Developed by Scientific Committee and Scientific Panels, the principal arms of FSSAI in standard development process.

BRIEF BACKGROUND

About AGMARK

- ▶ **Certification mark** for agricultural produce.
- ▶ Conforms to grade standard notified by **Directorate of Marketing & Inspection (DMI)** under **Agricultural Produce (Grading Marking) Act, 1937.**
- ▶ **Nature: Voluntary,** except few items mandated by FSSAI.
- ▶ **Ministry:** Ministry of Agriculture and Farmers' welfare

About FSSAI and BIS

- ▶ **FSSAI:**
 - **Statutory body under Food Safety and Standards Act, 2006.**
 - Establishes science-based food standards. Regulates food manufacture, storage, distribution, sale, and import.
 - Works under **Ministry of Health and Family Welfare.**
- ▶ **BIS:**
 - **National Standard Body,** established under the BIS Act 1986. Later BIS Act 2016 was enacted which re-inforced the activities of BIS.
 - Works under the **Ministry of Consumer Affairs and Food and Public distribution.**



7.4.8. GLOBAL INITIATIVE ON DIGITAL HEALTH (GIDH)

CONTEXT

WHO has launched the Global Initiative on Digital Health (GIDH). The GIDH was earlier announced at the G20 Health Ministers meeting in India.

ANALYSIS

About GIDH

- ▶ **WHO Managed Network of stakeholders** to address challenges such as duplication of efforts and “products-focused” digital health transformation.
 - ▶ **Secretariat** will be hosted in **WHO Headquarters (Geneva)**.
- ▶ **Objective:**
 - ▶ **Align efforts** to support of the **Global Strategy on Digital Health 2020–2025**
 - ▶ **Support quality** technical assistance to develop and strengthen standards
 - ▶ **Facilitate** the use of **digital transformation tools**
- ▶ **Foundational Pillars of GIDH**
 - ▶ **Country Needs Tracker** to facilitate digital health investments.
 - ▶ **Country Resource Portal** to identify traditional as well as innovative resource opportunities.
 - ▶ **Transformation Toolbox** for quality-assured tools to strengthen country capacity to manage the national digital health transformation.
 - ▶ **Convening and Knowledge Exchange** to promote strengthened collaboration and knowledge exchange.
- ▶ **Digital Health initiatives of India**
 - ▶ **Ayushman Bharat Digital Mission, launched in 2021**
 - ◊ It aims to establish a **National Digital Health Ecosystem by creating an online platform enabling interoperability of health data** within the health ecosystem
 - ◊ Through components like **Ayushman Bharat Health Account (ABHA) Number, Health Facility Registry, Healthcare Professionals Registry** etc.



7.4.9. REVISED PHARMA MANUFACTURING RULES

CONTEXT

Ministry of Health and Family Welfare (MoHFW) notified revised pharma manufacturing rules.

ANALYSIS

About Rules

- ▶ Rules will ensure good manufacturing practices (GMP) and requirements of premises, plant, and equipment for pharmaceutical products.
- ▶ Revised rules are notified under Schedule M of the Drugs and Cosmetics Rules, 1945 and will be called Drugs (Amendment) Rules, 2023.
- ▶ Schedule M prescribes GMP for pharmaceutical products and includes requirements of facilities and their maintenance, personnel, manufacture, control and safety testing, storage and transport of material, written procedures and records, traceability, etc.

Key highlights of the revised rules

- ▶ **Include new categories of drugs:** Pharmaceutical products containing hazardous substances such as sex hormones, steroids, cytotoxic substances; biological products; radiopharmaceuticals; phytopharmaceuticals; and investigational pharmaceutical products for clinical trials for humans.
- ▶ **Implementation:** 6 and 12 months for large manufacturers (over Rs 250 crore turnover) and MSMEs (less than Rs 250 crore turnover) respectively.
- ▶ **Provision for informing** the licensing authority about drug recall (presently no such mechanism for informing).
- ▶ **Other changes introduced:** A pharmaceutical quality system, quality risk management, a computerised storage system for all drug products etc.

BRIEF BACKGROUND

About GMP

- ▶ Ensures that products are consistently produced and controlled according to set quality standards.
- ▶ WHO has established detailed guidelines for GMP.
- ▶ In India, GMP system was first incorporated in 1988 in Schedule M of Drugs and Cosmetics Rules, 1945, and was revised in 2018, bringing them on par with WHO standards.



7.5. ALTERNATIVE ENERGY

7.5.1. JT-60SA

CONTEXT

World's biggest experimental nuclear fusion reactor JT-60SA inaugurated in Japan.

ANALYSIS

About Nuclear Fusion

- ▶ Process in which **two or more light atomic nuclei fuse to produce a heavier nucleus** and release a **tremendous amount of energy**.
 - In **nuclear fission**, atoms are split apart into lighter elements releasing energy.
 - ◊ **All nuclear power plants use nuclear fission.**
- ▶ **Advantages of fusion:**
 - Release of **abundant energy** and **fuel** is nearly **inexhaustible**.
 - Neither produces CO₂ and other greenhouse gases nor radioactive waste.

About ITER

- ▶ Aims to demonstrate nuclear fusion as a **clean source of energy**.
- ▶ Located in **France**, a collaboration of China, EU, India, Japan, Korea, Russia, and US.
- ▶ World's largest **tokamak** (a magnetic fusion device) will be build under it.
 - Operates on principles powering the **Sun and stars**.
 - Uses a robust **magnetic field** to fuse hot plasma, reaching temperatures over 150 million degrees Celsius (ten times hotter than Sun's core).

BRIEF BACKGROUND

About JT-60SA

- ▶ Joint initiative between **European Union and Japan**.
- ▶ Forerunner for under-construction **International Thermonuclear Experimental Reactor (ITER)**.



7.6. MISCELLANEOUS

7.6.1. CRITICAL TECH SECTORS

CONTEXT



The Ministry of Electronics and Information Technology (MeitY) recently unveiled **draft roadmaps for Critical Tech Sectors**.

ANALYSIS



What are Critical Technology Sectors?

- ▶ Includes **Government-identified technologies** crucial for economic growth, national security, and technological advancement.
- ▶ Involves **cutting-edge research**, innovation, and strategic importance.
- ▶ Receive with heightened government oversight and improved technology investment environment.
- ▶ Crucial for **state's critical infrastructure**, offering safe, cost-effective, reliable service and can act as a predictive tool for forecasting potential failures.
- ▶ **Examples:** AI, Quantum computing, Internet of Things, and Blockchain.

Significance of Critical Tech Sectors

- ▶ **Global Partnership:** Promote India's technological leadership; cooperation with partners to advance and share technological advantages.
- ▶ **Indigenisation:** Critical technologies help deter foreign hostile forces from **economic espionage**, **strengthen the protection of key technologies**.
- ▶ **Economic growth:** Drives **innovation and competitiveness** across key industries and creates job opportunities.
- ▶ **Strengthening Mobile security and Privacy:** Crucial for businesses to **safeguard their intellectual property, customer data**, and operational continuity.
- ▶ **Other:** Will promote cryptographic techniques for **protecting sensitive data, etc.**, ensuring the resilience of IoT ecosystems etc.

Challenges in developing critical tech sectors

- ▶ **Education and Skills Gap:** Despite high STEM graduates, skills gap persists.
- ▶ **Brain Drain:** India faces AI algorithm and hardware accelerator brain drain as many opt post graduate training in USA and Europe.
- ▶ **Research and Development Funding:** Need for increased R&D investment to foster innovation.
- ▶ **Other: Global Competition** (from other countries like China, USA, etc.) Environmental Concerns (creation of electronic waste etc.) etc.

BRIEF BACKGROUND






About Draft Roadmap

- ▶ Prepared by **Centre for Development of Advanced Computing (C-DAC)**.
 - C-DAC is premier research and development organization under MeitY.
- ▶ Emphasizes indigenisation of software and hardware in critical sectors.
- ▶ Aims to solve issues by 2047, centenary of Indian independence.
- ▶ Aims to align stakeholder efforts with **NITI Aayog's strategy for Research and Development**.

Initiatives

- ▶ **Critical technology collaborations with other countries**
 - U.S.-India initiative on Critical and Emerging Technology (iCET)
 - India and Australia signed the **Framework Arrangement on Cyber and Cyber – Enabled Critical Technology Cooperation (2020)**.
 - India and EU have also signed intent of cooperation in the area of **High-Performance Computing (2022)**.
 - India and Japan have entered into a **Memorandum of Cooperation (MoC)** on semiconductor supply chain partnership (2023).
- ▶ **Initiative in India:**
 - INDIAai-National AI Portal of India
 - National Quantum Mission
 - Digital India FutureLABS

Way Forward: Key Highlights of the Roadmaps

Critical tech sector	Roadmaps
 Quantum Technologies	<ul style="list-style-type: none"> ▶ Focus on developing superconducting materials ▶ Public key infrastructure
 Cryptography	<ul style="list-style-type: none"> ▶ Create centre of excellences for cryptography ▶ Focus on quantum-resistant cryptography, novel non-linearity schemes, etc.
 Mobile Security	<ul style="list-style-type: none"> ▶ Indigenous ecosystem for Secure OS and Mobile hardware ▶ Deploy "self-defending security" and "quantum-backed security" for mobile systems
 Internet of Things (IoT) security	<ul style="list-style-type: none"> ▶ Develop an IoT sandbox, IoT network security orchestration, and automation ▶ Work on Zero trust architecture, New chip design and standards.
 Cyber Forensics	<ul style="list-style-type: none"> ▶ Develop 'Social Media Analytics' ▶ Create 'Dark Web Forensics' and forensics tools for sectors like deepfakes, UPI apps, and tools for reconstructing events from CCTV footage.

7.6.2. LITHIUM

CONTEXT

Recently, India and Argentina signed agreement for Lithium **exploration & mining Project** in Argentina.

ANALYSIS

About Lithium

- ▶ **Properties:**
 - Soft, silvery-white alkali metal with lowest density of all metals. Often called **white gold**.
 - Vigorously reacts with water.
 - Improves strength and lightness in alloys with aluminium and magnesium.
- ▶ **Distribution:**
 - Major reserves are in **Chile, Bolivia, Argentina (Lithium Triangle), Australia and the China.**
 - **In India**
 - ◊ Identified as **critical and strategic minerals under Mines and Mineral (Development and Regulation) (Amendment) Act 2023.**
 - » **Critical Minerals** are elements that are **building blocks of essential modern-day technologies, and are at risk of supply chain disruptions.**
 - ◊ Currently, India meets the lithium demand through **100% import mostly from (China and Hong Kong).**
- ▶ **Harnessing Lithium**
 - Does not occur as free metal in nature, found in small amounts in igneous rocks and mineral spring waters.
 - ◊ Important minerals contains lithium includes podumene, petalite, lepidolite, and amblygonite.
 - Produced via electrolysis of molten lithium and potassium chloride.

BRIEF BACKGROUND

About India and Argentina's Agreement

- ▶ Signed between **Khanij Bidesh India Ltd (KABIL) and CAMYEN**, a state-owned mining and energy company in the Argentina.
- ▶ Deal will be bringing in **technical and operational experience** for **brine** (or concentrated solution of saltwater) type lithium exploration for India.

Important initiatives for supply of Lithium in India

- ▶ **KABIL**, established in 2019, is **Joint Venture Company** of the National Aluminium Company Ltd. (NALCO), Hindustan Copper Ltd. (HCL) and Mineral Exploration and Consultancy Ltd.
- ▶ **Australia - India Critical Minerals Investment Partnership** identified **five target** projects (two lithium and three cobalt).
- ▶ **Geological Survey of India (GSI)** is exploring Lithium reserves.

Usage of Lithium

- ▶ **Rechargeable batteries** for mobile phones, laptops, digital cameras and electric vehicles.
- ▶ **Non-rechargeable batteries** for things like heart pacemakers, toys and clocks.
- ▶ **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** (hygroscopic materials) is used in air conditioning and industrial drying system.
- ▶ **Lithium stearate** is used as an all-purpose and high-temperature lubricant.

Challenges in harnessing Lithium reserves

- ▶ **Long gestation period:** 6-8 years for full commercial production of Lithium Mines.
- ▶ **Extraction Challenge:** Requires specialized mining techniques.
- ▶ **Environmental Pollution:** Open-pit mining, refining, and waste disposal can pollute water and soil.
- ▶ **Human Rights Issues:** Displacement of indigenous communities due to mining projects.

Conclusion

Lithium is one of the most strategic elements of the present time. It will play key role deriving future. In order to strengthen domestic production and supply chain there is need to diversify International collaboration with the US, Japan, etc., promoting Public-Private partnership to speed up process of **commercial production**, etc.

Lithium in India

Note: During field season programme 2022-23, GSI has taken up 18 projects on Lithium and associated elements in these states.

Quarterly Revision

7.6.3. STEEL SLAG ROAD TECHNOLOGY (SSRT)

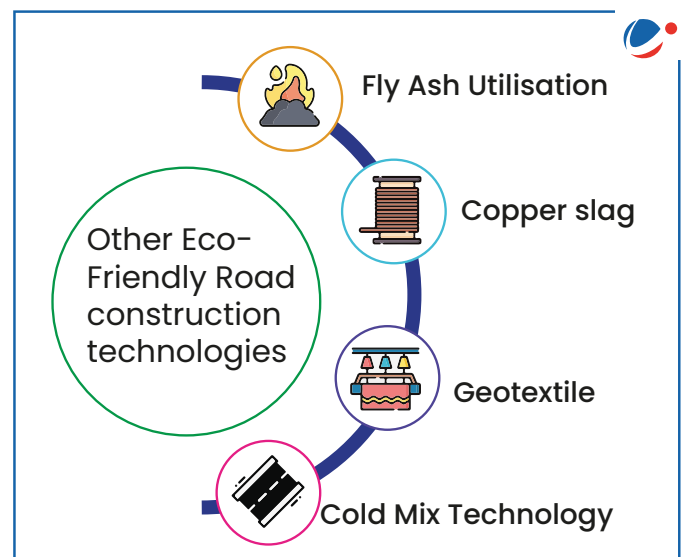
CONTEXT

JSW Steel has constructed 1 km long four lane steel slag road section on NH-66 (Mumbai-Goa). The project falls under the initiative of the **Waste to Wealth** and **Clean India Campaign**.

ANALYSIS

About Steel Slag Road Technology

- ▶ A non-metallic and glassy material, is generated from a **steel furnace burning** in the form of molten flux material as an impurity.
- ▶ Consists of calcium, magnesium, manganese, and aluminium silicates and oxides.
- ▶ **Processed during road construction** to remove impurities and metal content.
- ▶ Processed **steel slag aggregates** have **superior mechanical** properties.
- ▶ Roads include bituminous and cement concrete steel slag sections on both the right-hand and left-hand carriageways.



Benefits

- ▶ **Cost Efficiency:** Offers 30% cost savings compared to traditional road construction.
- ▶ **Durability:** Ensures roads built with it surpass the lifespan of conventional roads.
- ▶ **Abundant Availability:** India's abundant steel production (second-largest steel producer) facilitates widespread use in infrastructure projects.
- ▶ **Environmental Friendly:** Innovative process reduces greenhouse gas emissions, promoting greener road construction.
- ▶ **SDG 9 Contribution:** Promotes resilient infrastructure and sustainable industrialization.
- ▶ **Temperature Resilience:** Steel slag is suitable for diverse climates.

7.6.4. INDUCTION CHARGING

CONTEXT

In a bid to boost e-mobility, India plans to transform the Golden Quadrilateral into a network of electric vehicles (EV) ready highways using induction charging technology.

ANALYSIS

Processes Involved/Working in Induction/Wireless charging

- ▶ Transmission of electricity generally takes place by either of the two methods:
 - **By electric fields** using capacitive coupling between metal electrodes (capacitive charging) or
 - **By magnetic fields** using inductive coupling between coils of wire (inductive charging).
- ▶ Utilizes **wireless technology**.
- ▶ Operating principle is similar to that of a **transformer** and is based on the **laws of magnetic induction**.
- ▶ One coil is in the **charging station** and the other is in the EV and the energy is transferred from transmitting coils to the receiving coils.
- ▶ To start charging, drivers only need to park EV above the charging pad.

Benefits of Induction charging

- ▶ **Reduces time and effort:** Allows EV owners to charge vehicles by parking them over a charging pad.
- ▶ **Reduces maintenance:** No physical connectors, reducing wear and tear on charging equipment.
- ▶ **All-Weather Charging:** Suitable for all weather conditions.
- ▶ **Other:** Environment Friendly (reduction in CO₂ emission reduction), supports the development of autonomous driving technology etc.

Challenges in adoption of the technology

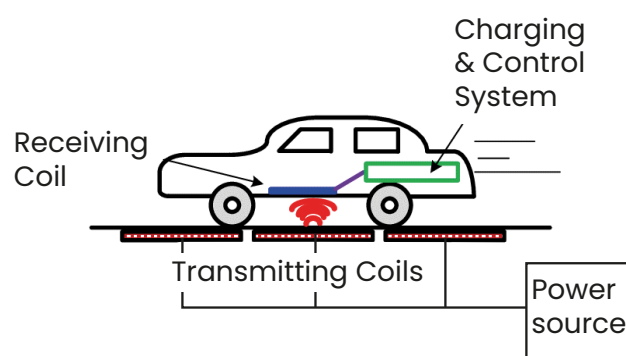
- ▶ **High costs:** IC is currently more expensive than conventional charging stations.

BRIEF BACKGROUND

What is Induction/Wireless charging and its types?

- ▶ Utilizes electromagnetic fields for energy transfer between coils without the need of a physical connection.
- ▶ **Types of Inductive charging**
 - **Static or stationary charging (used at homes, office):** EVs don't move during charging.
 - **Quasi-dynamic or opportunistic charging (used at intersections, traffic signals, etc.):** EVs can charge at low speeds and during momentary pauses.
 - **Dynamic EV Charging (Roads and Highways):** EVs can charge continuously on roads and highways, allowing long-distance driving without power interruption.

Wireless Charging System



- ▶ **Efficiency:** Energy losses during induction could lead to longer charging times and higher energy consumption.
- ▶ **Interoperability issues:** Additional efforts are needed to bring in fully scale interoperable operation among various kinds of transmitter and receiver pad designs with the roads
- ▶ **Other:** Durability (operates in extreme conditions), safety concerns (heat produces in metallic objects next to the system), Technologies concerns (Requires development of the sensor system) etc.

Way Forward

- ▶ **Proper research is required to assess impacts on health** caused due to long-term exposure to weak electric and magnetic fields.
- ▶ **Mechanisms to detect living and foreign objects** in the proximity of induction charging systems needs to be built.
- ▶ **Collaboration between government agencies, automakers, and tech companies** will be crucial to drive innovation, reduce costs, and improve efficiency.

7.6.5. ADVANCED DRIVER ASSISTANCE SYSTEMS

CONTEXT

As per various reports there has been a surge in demand of **Advanced Driver Assistance Systems (ADAS)** from India and India is becoming a growing market for the same.

ANALYSIS

What is ADAS?

- ▶ **Electronic systems integrated** into vehicles for driver safety, performance improvement, and convenience.
- ▶ **Utilizes sensors, cameras, radar** for etc. to monitor the vehicle's surroundings and detect potential hazards.
- ▶ Different levels of ADAS are available based on customer demand.

Types of ADAS

- ▶ **Active ADAS:** Involves active **intervention and assistance** in critical driving situations. Can perform automatic corrective actions. E.g. Collision Avoidance Systems, lane keep assist systems, and automatic emergency braking.
- ▶ **Passive ADAS:** Provides information and **alerts to the driver without direct intervention**. E.g. blind spot monitoring systems, lane departure warning etc.

Benefits of ADAS

- ▶ **Enhances road safety** by reducing fatalities through emergency braking and fog-avoidance.
- ▶ Improves **traffic management** by optimizing flow and minimizing congestion.
- ▶ Increases **comfort and convenience** with features like adaptive cruise control and automated parking.
- ▶ Reduces **environmental impact** by optimizing driving patterns.

Challenges in adoption of ADAS

- ▶ **Non-Standardised Road Infrastructure:** Variations in road conditions, from good highways to poorly constructed rural roads.
- ▶ **Affordable Issues:** ADAS is common in premium and luxury cars due to high cost.

BRIEF BACKGROUND

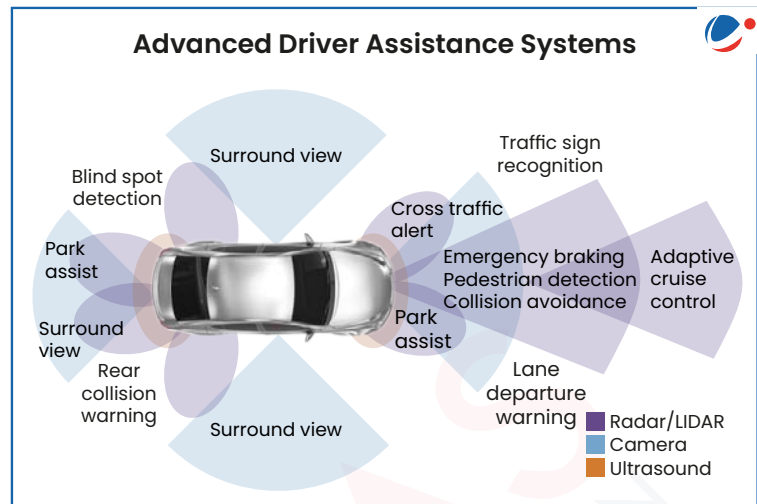
Major Equipment used in ADAS

- ▶ **Radar:** Uses radio waves to detect and measure objects' distance, speed, and direction.
- ▶ **Lidar:** Creates 3D vehicle maps using laser light.
- ▶ **Ultrasonic:** Uses high-frequency sound waves for object detection and measure their distance.
- ▶ **Infrared:** Uses heat-sensitive sensors for low-light object detection.
- ▶ **Other equipment:** Camera, GPS, etc.

Different levels of Autonomous Driving

- ▶ **Level 0 (No Automation):** Driver has full control of the driving tasks.
- ▶ **Level 1 (Driver Assistance):** Vehicle features a single automated system.
- ▶ **Level 2 (Partial Automation):** Vehicle can perform steering and acceleration.
- ▶ **Level 3 (Conditional Automation):** Vehicle can control most driving tasks.
- ▶ **Level 4 (High Automation):** Vehicle performs all driving tasks under certain conditions.
- ▶ **Level 5 (Full Automation):** Vehicle performs all driving tasks under all conditions.

- ▶ **Connectivity and Data:** Requires real-time data updates and reliable connectivity, which may be challenging in remote or poorly networked areas.
- ▶ **Cyber Threats:** Hardware and software flaws can lead to hacking, malware, and unauthorized system access.
- ▶ **Errors and Malfunctions:** Hardware or software faults, sensor failures, calibration mistakes, improper data processing, or external influences can cause errors.
- ▶ **Human Factors:** Attention, overreliance, complacency, and incorrect interpretation of ADAS can pose safety issues.
- ▶ **Supply Chain Security Issues:** Non-proper safeguarding of components and processes can create vulnerabilities.



Way Forward

- ▶ Establishing clear **government regulations** for ADAS implementation.
- ▶ **Incentivizing** manufacturers to produce vehicles with ADAS features.
- ▶ **Building consumer trust** through research and development investment.
 - ▶ Transparent and consistent communication from manufacturers and authorities about the technology's potential and constraints.
- ▶ Defending against **ADAS attacks** with software updates, secure coding, data encryption, and network segmentation.

7.6.6. SATYENDRA NATH BOSE

CONTEXT

The eminent physicist **S.N. Bose** was **remembered** on his 50th death anniversary.

ANALYSIS

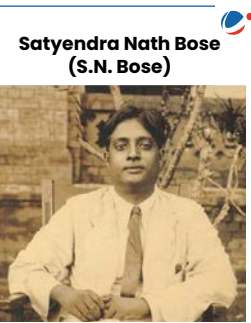
Scientific Contributions of S.N Bose

- ▶ **Bose-Einstein Condensates (BEC):** A quantum phenomenon predicted by Bose and Einstein (1925). It is a state of matter created when particles are cooled to near absolute zero (-273.15 degrees Celsius/0 Kelvin).
 - ▶ All the atoms become a single entity at this point, and possess **quantum properties**, wherein each particle together functions as a wave of matter.
 - ▶ Referred to as the **'fifth state of matter'**, it was proved experimentally by Weimann, Cornell and Ketterle for which they received Nobel prize in 2001.
 - ▶ **Properties of BEC:**
 - ◇ **Super fluidity:** Zero viscosity allows flow without resistance.
 - ◇ **Super conductivity:** Zero resistance leads to optimal conductivity.
 - ◇ **Coherence:** All particles in BEC are in the same quantum state, behaving as a single entity.
 - ◇ **Macroscopic Occupation:** Shows a macroscopic

BRIEF BACKGROUND

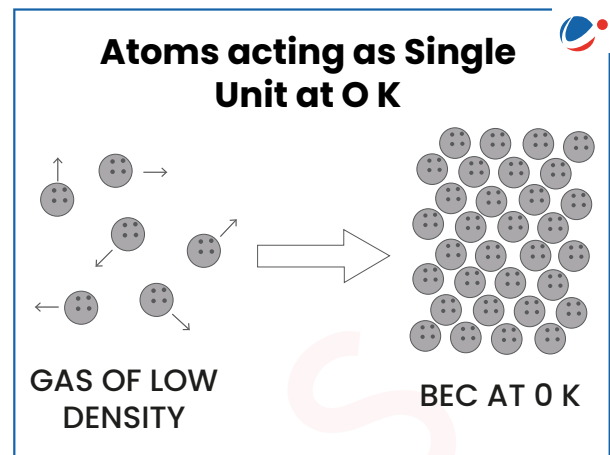
About S.N. Bose (1894-1974)

- ▶ His teachers included **Prafulla Chandra Ray** and **Jagadish Chandra Bose**.
- ▶ Worked in the **Physics department of University of Calcutta and Dacca University**.
- ▶ Referred as **"Father of the God Particle"**
 - ▶ **Fundamental particle 'Bosons'** were named after him.
- ▶ **Rabindranath Tagore** dedicated his only book on science - **'Vishwa Parichay'** to SN Bose.



wave function.

- ▶ **Applications:** Quantum Computing, Atomic Clocks, Interferometry and Atom Lasers.
- ▶ **Bose-Einstein Statistics:** Earlier proposed as a statistical procedure for counting possible states of a quantum system composed of identical particles with integer spin for light quanta in 1924 by Bose.
 - ▶ The statistics was extended to gas molecules by Einstein.
 - ▶ Particles which obey Bose-Einstein Statistics principle are referred as "Bosons".
 - ◊ Bosons are particles with integer spin and include photons (light), gluons (particles that act as force carriers in the nucleus), the Higgs boson, and the W and Z bosons.
- ▶ **X-ray diffraction cameras:** Designed and constructed by him for rotation and powder photography.



7.6.7. GRAPHENE

CONTEXT

MeitY Secretary launched India's first graphene centre - India Innovation Centre for Graphene (IICG) in Kerala. The Centre of Excellence (CoE) in Intelligent Internet of Things (IIoT) Sensors has been also launched.

ANALYSIS

About Graphene

- ▶ Derived from graphite, found in pencil lead.
 - ▶ 1mm graphite contains 3 million graphene layers.
- ▶ One-atom-thick layer of carbon arranged in a hexagonal lattice like a honeycomb.
- ▶ **Two-dimensional** carbon allotrope.
- ▶ Referred to as **Wonder Material** of the 21st century.
- ▶ Prepared by heating Intercalated Graphite, Coal tar, or Shellac or a mixture of these three in inert atmosphere.
- ▶ **Properties:**
 - ▶ **Strongest material**, 200 times stronger than steel, yet six times lighter.
 - ▶ **High Thermal Conductivity** up to 5000 W/m/K at room temperature.
 - ▶ **High Electrical conductivity**, surpassing even copper.
 - ▶ **High Surface Area** due to two-dimensional structure.
 - ▶ **Impermeable to gases**, even light ones such as hydrogen or helium.
 - ▶ Almost **perfectly transparent**, absorbs only 2% of light.
 - ▶ Other properties include **flexibility**, **chemical stability**, biocompatibility etc.

Applications

Read From Essential Material

Chapter 4: Carbon and its Compound, Science class X.

BRIEF BACKGROUND

About India Innovation Centre for Graphene (IICG)

- ▶ Joint venture of the Digital University of Kerala, Centre for Materials for Electronics Technology (C-MET) and Tata Steel Limited funded by MeitY.
- ▶ Aims to foster Research and development, product innovation and capacity building in the area of Graphene and two-dimensional materials (2DM).

About Centre of Excellence in IIoT Sensors

- ▶ Aims at creating incubation facilities, build capacity in intelligent IoT sensors, promote research and innovation.
 - ▶ IoT is the interconnection of computing devices in everyday lives with the internet.

- ▶ **Electronics:** Utilizes graphene-based transistors, circuits, and conductive elements for efficient electronic devices.
- ▶ **Energy Storage:** Utilizes graphene-based batteries and supercapacitors for high energy density and rapid charging.
- ▶ **Conductive Films:** Transparent conductive films for touchscreens, flexible displays, and solar cells.
- ▶ **Materials Reinforcement:** Enhances mechanical strength and reduces weight in aerospace and automotive industries.
- ▶ **Thermal Management:** Uses heat sinks and thermal interface materials for efficient heat dissipation in electronic devices.
- ▶ **Sensors:** High-sensitivity sensors for detecting gases, chemicals, and biological molecules.
- ▶ **Biomedical Devices:** Drug delivery systems, biosensors, and imaging devices.
- ▶ **Coatings and Films:** Anti-corrosion coatings, anti-fogging films, and protective layers.
- ▶ **Water Filtration:** Graphene-based membranes for water filtration, desalination, and purification.

7.6.8. PROTON IMPROVEMENT PLAN (PIP-II) PROJECT

CONTEXT

India's Department of Atomic Energy (DAE) begins construction phase for contributions to Proton Improvement Plan (PIP-II) project.



ANALYSIS



About Particle Accelerators

- ▶ **Propel charged particles** (Protons, Atomic Nuclei, Electrons etc.) at high speeds, close to light's speed.
 - ▶ **Principle Components:** Source for particles, Composite device to speed them up, Metallic tubes in vacuum to allow free movement and Electromagnets for beam particle steering.

Significance of Particle Accelerators

- ▶ **Fundamental research:** Colliding sub-nuclear particles near speed of light, allowing search for new particles and forces and understanding origins of universe.
- ▶ **Health:** Sterilizing medical equipment and synthesizing radiopharmaceuticals for cancer diagnosis and therapy.
- ▶ **Environment:** Detect trace chemical elements in air, water or soil.
- ▶ **Industry:** Improving durability of materials.

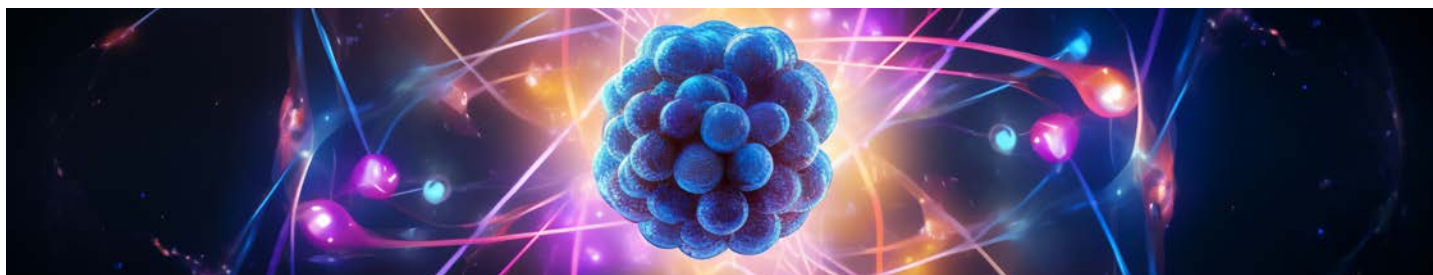
Some Large Particle Accelerators

- ▶ **Large Hadron Collider (LHC):** CERN's most powerful accelerator, located in Geneva. Discovered Higgs Boson, previously unknown hadrons etc.
- ▶ **Stanford Linear Accelerator Centre (SLAC):** World's longest linear particle accelerator, discovered quark and tau leptons.
- ▶ **European Synchrotron Radiation Facility (ESRF):** Most intense hard x-ray source. Located in France.

BRIEF BACKGROUND

About PIP-II

- ▶ **First particle accelerator on U.S. soil (at Fermilab),** to be built with significant contributions from international partners.
 - ▶ Institutions from **India, France, Italy, Poland and UK** are part of collaboration. India will contribute **\$140 million worth components.**
 - ▶ It will power the **world's most high-energy neutrino beam** to the under construction **Deep Underground Neutrino Experiment (DUNE)** at Long-Baseline Neutrino Facility (LBNF).



7.6.9. POSITRONIUM



CONTEXT

In a first, Scientists at CERN's **AEGIS** collaboration carried out LASER cooling of Positronium.

ANALYSIS



About Positronium

- ▶ Discovered in 1951, the lightest known atom.
- ▶ Composed of an electron and positron.
- ▶ Short lifetime, annihilating into gamma rays in 142 billionths of a second.
- ▶ Ideal for AEGIS experiments due to its two point-like particles, the electron and its antimatter, provided it can be cooled enough to measure it with high precision.

Matter – Antimatter

- Matter comprises various forms including solids, liquids, gases, and plasmas (consisting of subatomic particles that give them mass and volume).

◇ **Subatomic particles** include protons, neutrons, electrons, and neutrinos, and other particle.

- All subatomic particles either have **anti-twins** (antiquarks, antiprotons, antineutrons, and antileptons such as antielectrons) or straddle between matter and antimatter.

◇ **Anti-particles** can combine to form anti-atoms or anti-matter regions.

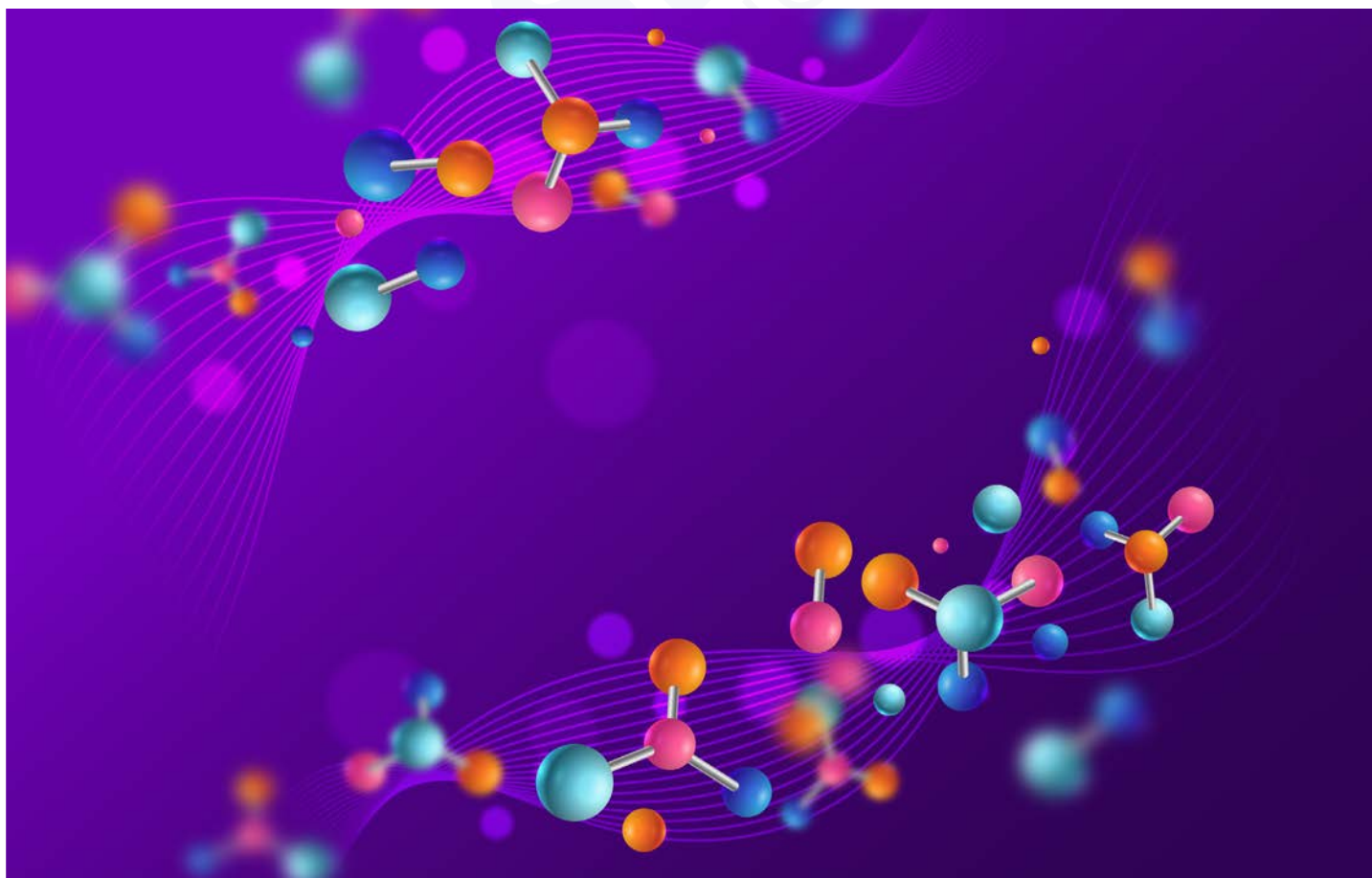
BRIEF BACKGROUND

About Anti-hydrogen Experiment: Gravity, Interferometry, Spectroscopy (AEGIS)

- ▶ Measures Earth's gravitational acceleration on antihydrogen.
- ▶ A part of CERN's Antimatter Factory experiments.
- ▶ **Collaboration of physicists** from a number of countries in **Europe** and from **India**.

About CERN (European Council for Nuclear Research)

- ▶ **Founded in 1954**
- ▶ **Mission:** To uncover what the universe is made of and how it works
- ▶ **Location:** Franco-Swiss border near Geneva



7.7. TEST YOUR LEARNING

MCQs

1. The word 'CRISPR-Cas9' is sometimes mentioned in media with reference to

- a) Space Technology
- b) Nanotechnology
- c) Genome Editing
- d) Artificial Intelligence

2. Consider the following statements with reference to X-ray Polarimeter Satellite (XPoSAT) Mission

1. It is first dedicated satellite from NASA for X-ray emission research from celestial sources.
 2. It consist of instruments like POLIX (Polarimeter Instrument in X-rays) and XSPECT (X-ray Spectroscopy and Timing)
- 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

3. Which one of the following is the context in which the term "qubit" is mentioned?

- a) Cloud Services
- b) Wireless Communication Technologies
- c) Communication Technologies
- d) Quantum Computing Visible Light

4. India is an important member of the 'International Thermonuclear Experimental Reactor'. If this experiment succeeds, what is the immediate advantage of India?

- a) It can build fusion reactors for power generation.
- b) It can attain a global role in satellite navigation.
- c) It can drastically improve the efficiency of its fission reactors in power generation.
- d) It can use thorium in place of uranium for power generation.

5. Consider the following statements:

1. The genetic predisposition of some people
2. Taking incorrect doses of antibiotics to cure diseases
3. Using antibiotics in livestock farming
4. Multiple chronic diseases in some people

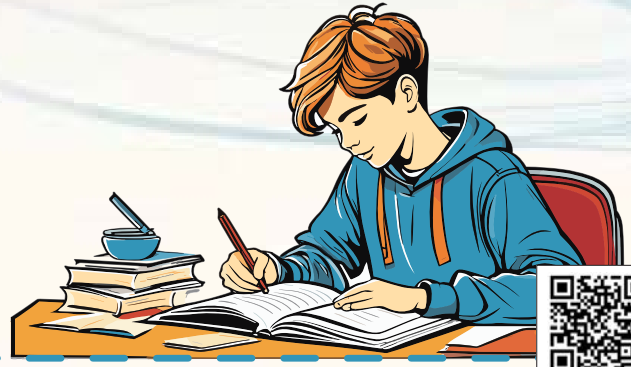
How many of the above-mentioned are the reasons for the occurrence of multi-drug resistance in microbial pathogens in India?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Questions

1. What do you understand by Fixed Dose Drug Combinations (FDCs)? Discuss their merits and demerits. (150 words)
2. Neuralink Company has successfully installed a wireless brain-computer interface (BCI) implant in a human patient. What are its key potential? Also, discuss concerns associated with it. (250 words)

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CULTURE



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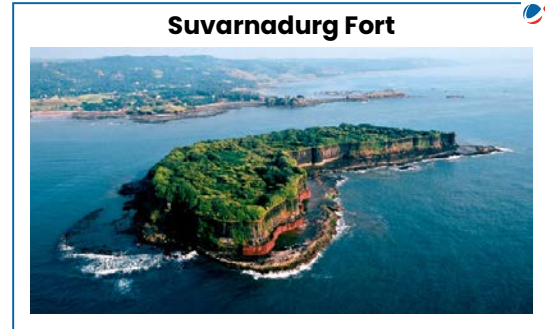
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8.1. SCULPTURE AND ARCHITECTURE

8.1.1. MARATHA MILITARY LANDSCAPES

CONTEXT

Maratha Military Landscapes will be India's nomination for recognition as UNESCO World Heritage List for the year 2024-25.



Suvarnadurg Fort

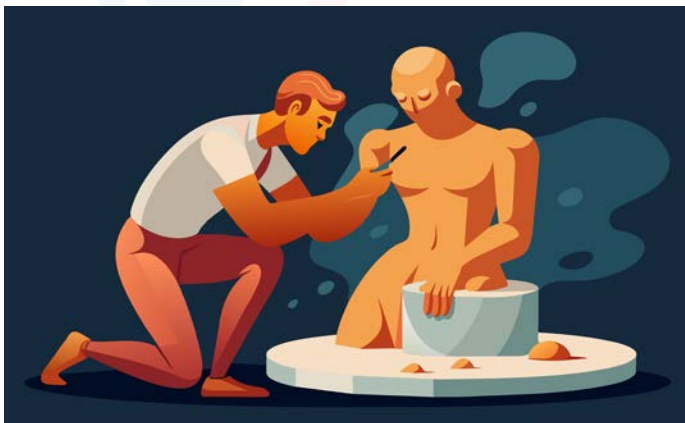
KEY INFORMATION

About Maratha Military Landscapes

- ▶ It was included in Tentative List of World Heritage sites in 2021.
- ▶ They represent an extraordinary fortification and military system envisioned by the Maratha rulers.
- ▶ It is nominated in the category of **cultural criteria**.
- ▶ The inception of the Maratha Military ideology dates back to 17th Century during the reign of **Chhatrapati Shivaji Maharaj**.
 - It continued through subsequent rules until Peshwa rule till 1818 CE.
- ▶ It is a result of **integrating** the landscape, terrain and physiographic characteristics distinctive to the
 - **Sahyadri** mountain ranges,
 - the **Konkan Coast**,
 - **Deccan Plateau** and
 - the **Eastern Ghats** in the Indian Peninsula.

Other World Heritage Sites in Maharashtra

- ▶ **Cultural**- Ajanta Caves, Ellora Caves, Elephanta Caves, Chhatrapati Shivaji Maharaj Terminus (formerly Victoria Terminus), and Victorian Gothic and Art Deco Ensembles of Mumbai.
- ▶ **Natural**- Western Ghats of Maharashtra, Kerala, Tamil Nadu, Karnataka, Goa, and Gujarat. is serial property in natural category (2012).



Read From Essential Material

Chapter 10: Eighteenth-century political formation of Our Past-II

BRIEF BACKGROUND

Maratha Empire at a Glance

Foundation	▶ Began with the rise of Chhatrapati Shivaji in 1674.
Capitals	▶ Raigad Fort, Gingee, Satara, and Pune.
Reigned	▶ At its peak, the Maratha Empire extended from Peshawar in the north to Thanjavur in the south.
Administration	<ul style="list-style-type: none"> ▶ An administrative system known as 'Ashtapradhan' was formed by Shivaji. ▶ It consisted of a council of eight ministers. ▶ The eight ministers were Peshwa (Prime Minister), Amatya (Finance Minister), 'Sachiv' (Secretary), Mantri(Interior Minister), 'Senapati' (Commander-in-Chief), Sumant(Foreign Minister), Nyayadhyaksh (Chief Justice), and Panditrao (High Priest).

Forts in Maratha Military Landscapes

Hill forts	Salher, Shivneri fort, Lohgad, Raigad, Rajgad and Ginjee Fort (Tamil Nadu)
Island forts	Sindhudurg, Suvarnadurg, Khanderi fort
Hill forest fort	Pratapgad
Hill-plateau fort	Panhala Fort
Coastal fort	Vijay durg

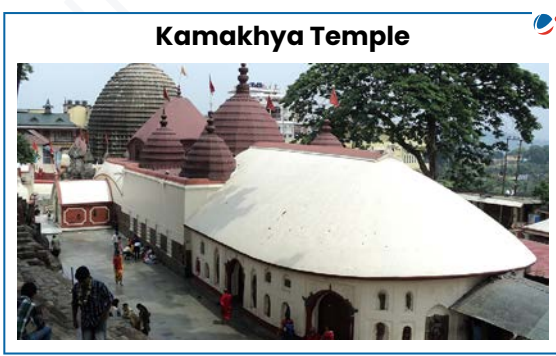
Revenue Policy	<ul style="list-style-type: none"> ▶ Sardeshmukhi (exaction of 10 % imposed upon the revenues of the entire Maratha kingdom) and Chauth (i.e. 1/4th of the total revenue) were important taxes. ▶ Chauth was claimed from the neighbouring chieftains whose territories did not form part of their Maratha Empire.
Peshwa's Domination and Decline	<ul style="list-style-type: none"> ▶ With the defeat of third Battle of Panipat (with Ahmad Shāh Abdali, 1761) the decline of Peshwa started. ▶ Finally, Maratha Empire was taken over the British.

8.1.2. MAA KAMAKHYA ACCESS CORRIDOR

CONTEXT

The Prime Minister laid the foundation stone for the **Maa Kamakhya Access Corridor** to boost tourism, similar to Kashi (U.P.) and Mahakal (M.P) corridors.

The project was sanctioned under the **Prime Minister's Development Initiative for North Eastern Region (PM-DevINE)** scheme.



KEY INFORMATION

About Maa Kamakhya Temple

- ▶ **One of the Maha Shakti Peeths in India.**
- ▶ Dedicated to **Maa Kamakhya /Kameswari**
- ▶ **Geographical location:** Nilachal Hills, Guwahati (Assam)
- ▶ **History**
 - ▶ After **Kala Pahar** destroyed the temple, Naranarayan (King of Koch dynasty) reconstructed in 1562.
 - ▶ Finds mention in Allahabad pillar inscription of **Samudragupta**.
 - ▶ Dedicated to **different forms of Mother Shakti**.
- ▶ **Architecture**
 - ▶ **Nilachal Style of architecture.**
 - ▶ Combination of **nagara style** (North Indian) and **Saracenic style** (Mughal).



Kamakhya Temple



Read From Essential Material

Chapter 6: Temple Architecture and Sculpture of Class 11 Fine Arts.

BRIEF BACKGROUND

About Shakti Peeths

- ▶ Shakti Peeths are places of **worship dedicated to Sati or Shakti**.
- ▶ There are total of **51 Shakti Peeths** of which **18 are referred as Maha Shakti Peeths**
- ▶ **Some other Shakti peeths outside India are**
 - ▶ **Guhyeshwari Shakti Peeth (Nepal)**

- ▶ The temple complex consists of three major chambers.
- ▶ **Festivals**
 - ▶ A week-long fertility festival called **Ambubachi Mela** is held every June in the temple complex.
- ▶ **Centre of Tantrism:** It is referred as a prime centre for **tantric Shaktism** in the country.
- ▶ Tantrism is **divided into three major streams:** Agama, Nigama, and Yamala.

- ▶ **Kottari Devi Shakti Peeth (Pakistan)**
- ▶ **Indrakshi Shakti Peeth (Sri Lanka)**
- ▶ **Dakshayani Devi Shakti Peeth (Tibet, China)**
- ▶ **Maa Bhabani Shakti Peeth (Bangladesh)**
- ▶ **About Tantrism**
 - ▶ Tantrism is the **umbrella term that refers to the search for spiritual power and enlightenment** by means of the **Mantras** (repetition of sacred syllables), **Mandals** (symbolic drawings), and **Looms** (secret rites elaborated in Tantra texts)
 - ▶ The tantric lineages exist in **both Hinduism and Buddhism.**
 - ◊ While Hindu tantrism is further **divided into Shaivism and Shaktism** in which Lord **Bairava and Kali or Yoginis** are worshipped respectively.
 - ◊ In Buddhism, **Vajrayana Buddhism** is known for its tantric tilt, in which **Tara, Mahakala, Yamantaka etc.** are worshipped.

8.1.3. SRI VEERABHADRA TEMPLE (OR LEPAKSHI TEMPLE)

CONTEXT



The Prime Minister offered prayers at Veerabhadra temple in Andhra Pradesh.

KEY INFORMATION



- ▶ Located in **Anantapur district of Andhra Pradesh** and **built in 16th century** during the **Vijayanagar empire.**
- ▶ Built in **trikutastyle** with **three shrines - Veerabhadra (Lord Shiva Presiding deity), Papanaseswara and Raghunatha.**
- ▶ Noted for **largest monolithic Nandi (bull) statue** and **Naga-siva-linga** with seven-hooded snake.
- ▶ **Fresco paintings** (painting in lime on plaster) on walls and ceilings of mandapas and pradakshinapada **depict illustrations from Ramayana and Mahabharata, gods and legendary stories like Parvathi's marriage, etc.**
- ▶ Placed in **UNESCO's tentative World Heritage Sites list.**

BRIEF BACKGROUND

About Vijayanagar Empire

- ▶ **Founded by:** Harihara and his brother Bukka Raya in 1336.
- ▶ **Capital:** Hampi
- ▶ **Dynasties of empire:** Sangama dynasty, Saluva dynasty, Tuluva dynasty, Aravidu dynasty.
- ▶ **Famous rulers:** Deva Raya, Krishnadeva Raya, Rama,
- ▶ **Declined due to:** defeat at the hands of an alliance of the sultanates around 1660.

8.1.4. SRI RANGANATHASWAMY TEMPLE

CONTEXT



The Prime Minister offered prayers at Ranganathaswamy Temple

KEY INFORMATION



- ▶ Also known as **Thiruvaramba Tirupati**, is dedicated to **Ranganatha** (reclining form of Lord Vishnu).
- ▶ It is constructed in **Dravidian style** and temple Complex has **21 sculpted Gopurams**, **50 sub-shrines**, and **9 sacred pools (tanks)**.
- ▶ It is not just a temple but a temple-town, unique in its **Sapta-Prakaram formation** and **one of 108 Divya Desams** dedicated to Lord Vishnu.
- ▶ Situated on **island of Srirangam** bounded by **Cauvery and Kollidam (tributary of Cauvery) Rivers**.

BRIEF BACKGROUND

About the Dravidian style of architecture

- ▶ It is prevalent in South India and was pioneered by the Pallavas.
- ▶ **Main features**
 - Temple is enclosed within a compound wall.
 - The entrance gateway is known as a **Gopuram**.
 - The word 'shikhara' is used for the **crowning element at the top of the temple**.
 - Common to find a **large water reservoir enclosed within the complex**.

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ENGLISH 2025 : 5 MAY

हिन्दी 2025: 5 मई



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8.2. ART FORMS

8.2.1. GARBA

CONTEXT

UNESCO has added Garba of Gujarat to its **Representative List of Intangible Cultural Heritage (ICH) of Humanity**. This is India's 15th ICH element.



Garba of Gujarat

KEY INFORMATION



About Garba

- ▶ **Ritualistic and devotional folk dance.**
- ▶ Performed on the occasion of **Navaratri**, which is dedicated to the worship of **feminine energy or 'Shakti'**.
- ▶ Word "**garba**" comes from the Sanskrit word **garbha**, meaning "**womb.**"
- ▶ **Key Features of the Dance**
 - Takes place around a **perforated earthenware pot** lit with an oil lamp called a **garbha deep**.
 - Dancers move around the pot in an **anti-clockwise circle**.
 - Accompanied by **traditional dhol/drum**.
 - it is also a **symbol of respect towards the women**.

BRIEF BACKGROUND

About UNESCO's Convention for the Safeguarding of the ICH, 2003

- ▶ The UNESCO meeting in **Paris** adopted this convention in **2003** for the Safeguarding of the ICH.
- ▶ Inter-government Committee (IGC) of intangible heritage was established within UNESCO, to **examine requests submitted by States Parties** for the inscription of intangible heritage on the Lists.
 - IGC consists of **24 members** and is elected in the General Assembly of the Convention.
 - **India** was elected to the IGC in 2022 for a **tenure of 4 years**.
- ▶ **About intangible cultural heritage**
 - **Article 2** of this Convention defines "intangible cultural heritage"
 - They are manifested in the following domains:
 - ◇ oral traditions and expressions;
 - ◇ performing arts;
 - ◇ social practices, rituals and festive events;
 - ◇ knowledge and practices concerning nature and the universe;
 - ◇ traditional craftsmanship.

Features of Intangible cultural heritage



Traditional, contemporary and living at the same time



Inclusive



Representative



Community-based



List of Intangible Cultural Heritage of India	
Kutiyattam, Sanskrit theatre	Buddhist chanting of Ladakh
Tradition of Vedic chanting	Sankirtana, ritual singing, drumming and dancing of Manipur
Ramlila: The traditional performance of the Ramayana	Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab
Ramman: Religious festival and ritual theatre of the Garhwal Himalayas	Nawrouz
Chhau dance	Yoga
Kalbelia folk songs and dances of Rajasthan	Kumbh Mela
Mudiyettu, ritual theatre and dance drama of Kerala	Durga Puja in Kolkata

Related News: Paruveta Utsavam

Efforts are being made to get UNESCO to declare the ongoing annual 'Paruveta utsavam' (mock hunting festival), as an ICH. Festival starts annually on Makarasankranti at Sri Narasimha Swamy temple, Ahobilam in Andhra Pradesh.

8.2.2. BALI YATRA

CONTEXT

On the occasion of Kartika Purnima, Asia's largest open-air annual trade fair, Bali yatra, was inaugurated on the banks of Mahanadi River in Cuttack, Odisha.

KEY INFORMATION




About Bali Yatra fair

- ▶ It commemorates Odisha's historical ties with Bali (Indonesia), and its rich maritime legacy of transoceanic voyages to Southeast Asian nations.
- ▶ It is also associated with legend 'Taapo' which reminds the traditional memories of a young maiden waiting for the return of her sailor brothers.
- ▶ There is a belief that Vaishnavite Saint Sri Chaitanya landed in Cuttack after crossing Bali on his way to Puri on this auspicious day.
- ▶ 'Bhalukuni Osha' or 'Khudurukuni Osha' and 'Bada Osha' are the key rituals associated with this fair.

BRIEF BACKGROUND

- ▶ Odisha as a maritime heritage.
 - Odisha, known as Kalinga in ancient times, held a prominent maritime position in India's history.
 - Its intrepid sailors establishing maritime links with the Roman Empire, Africa, Persian coast, Arabian countries, China, Japan, Siam, Champa, Burma, Ceylon, and more.
 - Notably, Kalidas in Raghuvamsa hailed the king of Kalinga as the "Lord of Sea."

Kalinga's Famous ports

Ports	Description
 Palur	▶ Noted by the Greek author Ptolemy in the mid-2nd century A.D.
 Tamralipti	▶ Referred to as Tamalitis by Ptolemy. ▶ Also mentioned by Fa-Hien in the 5th century A.D., and Hiuen-Tsang during his 7th-century visit.
 Pithunda	▶ Mentioned in the Jaina text Uttaradhyana Sutra. ▶ Also mentioned in Kharavela's Hatigumpha inscription as the metropolis of Kalinga.

8.2.3. GRANTHAM INSCRIPTIONS



CONTEXT

Stones bearing 11th-century Grantham inscriptions and 16th-century Tamil inscriptions were discovered near Kangayam in Tamil Nadu.

KEY INFORMATION



- ▶ **Grantha** is the script used in Tamil Nadu for writing the **Prakrit and Sanskrit language**.
- ▶ Grantha script traces its roots to **Pallava period** with **Mahendravarman's Tiruchirappalli rock cut cave** and other cave temple inscriptions.
- ▶ **Other Grantha inscriptions** include Narsimhan's Mamallapuram, Kanchi Kailasnatha temple inscriptions, Pandyan Nedunjadaiyan's Anaimalai inscription and inscriptions of Cholas of Thanjavur.

BRIEF BACKGROUND

About Prakrit and Sanskrit

- ▶ The **Prakrits** were Middle Indo-Aryan languages spoken between about 500 B.C. and 500 A.D.
- ▶ The name Prakrit (PRĀKRṬA) means **derived**.
- ▶ The name Sanskrit (SAMSKRṬA) means '**complete, perfected**'.
- ▶ Prakrit languages were **considered historically secondary to Sanskrit**.



8.3. PERSONALITIES

8.3.1. RANI CHENNAMMA

CONTEXT

Recently, 200th anniversary of the **Kittur or Kitturu Revolt**, led by Rani Chennamma, was commemorated.

KEY INFORMATION

About Rani Chennamma

- ▶ Born in 1778 at Kakati village in present day Karnataka.
- ▶ Married **Raja Mallasarja** of Kittur, who ruled the province until 1816.

Clash with the British East India Company (EIC)

- ▶ British East India Company (EIC) did not accept her adopted son as legal heir as per the **Doctrine of Lapse**.
 - It was the first instance of imposition **Doctrine of Lapse** in 1824, even before officially articulated by Lord Dalhousie.

About Kittur Revolt (1824)

- ▶ It is regarded as the **first Indian armed rebellion** against British EIC. Also, one of the earliest **woman-led anti-colonial** struggles.
- ▶ In the first battle in October 1824, British forces suffered heavy losses. She released **British hostages after receiving a promise to end the war**.
- ▶ The British army attacked the Kittur Fort and captured it. She and her family were imprisoned and jailed at the fort in **Bailhongal**, where she died in 1829.
- ▶ Her lieutenant, **Sangolli Rayanna** played key role.



Rani Chennamma



Read From Essential Material

Chapter 2: From Trade to Territory of social science of class 8.

BRIEF BACKGROUND

Doctrine of Lapse

- ▶ It was **one of the major annexation policies** of EIC.
 - Others were **Ring Fence Policy** and **Subsidiary Alliance**.
- ▶ Under this, **any princely state or territory under the paramountcy of British EIC** would **automatically be annexed** if the ruler was either **"manifestly incompetent or died without a male heir"**.
- ▶ This Doctrine rejected the **long-established right** of an **Indian ruler** without an heir to choose a successor.
- ▶ Province of Satara (1848), Jaipur (1849), Sambhalpur (1849), Bahat (1850), Udaipur (1852), Jhansi (1853), and Nagpur (1854) were annexed under it.
- ▶ The doctrine was revoked after the revolt of the 1857.

8.3.2. MAHARSHI DAYANAND SARASWATI

Maharshi Dayanand Saraswati



CONTEXT

Recently, 200th birth anniversary of renowned social and religious reformer Maharshi Dayanand Saraswati was commemorated.

ANALYSIS

About Maharshi Dayanand Saraswati (1824-1883)

- ▶ He was born in Tankara in the state of Gujarat.
- ▶ He attained enlightenment on the occasion of fasting on the day of Shivratri.
- ▶ By the age of 14, he had gained knowledge of the Yajurveda and hymns from the other Vedas.

Read From Essential Material

Chapter 8: Women, Caste, and reform from class 8 social science.

BRIEF BACKGROUND

About Arya Samaj

- ▶ It was Established in 1875 by Dayanand Saraswati as a reformist organization.
- ▶ The first Arya Samaj unit was formally set up at Mumbai (then Bombay) and later headquarter was established at **Lahore**.
- ▶ It condemned ritualistic practices like **polytheism, idol worship, pilgrimage and bathing** in holy rivers, **animal sacrifice**, offering in temples, sponsoring priesthood etc.
- ▶ It opposed **child marriages** and supported **widow remarriage**.
- ▶ It is based on 10 principles propounded by him, which were based on the Vedas.
- ▶ It also stood for the upliftment of depressed classes.

Key Contribution

Socio-religious

- ▶ He considered **Vedas** as rock-bed of Hinduism and **infallible**, being the inspired one of God.
- ▶ He advocated for **Suddhi movement** to reconvert the other sects to Hindu order.

Education

- ▶ Established Gurukulas and Girl's Gurukulas and **DAV (Dayanand Anglo Vedic)** schools.

Political Consciousness

- ▶ Worked to **promote national awakening**.
- ▶ He was the first to give the call for Swaraj as "India for Indian" in 1876.

Literary Work

- ▶ Satyarth Prakash; Sanskarvidhi, Yajurved Bhashyam, Veda Bhashya Bhumika etc and Edited journal named **Arya Patrika**.

8.4. AWARDS

8.4.1. BHARAT RATNA



CONTEXT

P.V. Narasimha Rao, Chaudhary Charan Singh, MS Swaminathan, L K Advani, Karpoori Thakur received India's highest civilian award Bharat Ratna.

KEY INFORMATION



About PV Narasimha Rao:

- ▶ He was born on June 28, 1921, in Telangana, India.
- ▶ **Reforms Taken Up by Him:**
 - He spearheaded economic liberalization in India, dismantling the restrictive policies of the license raj.
 - His tenure witnessed the 73rd and 74th Constitutional Amendments Act.
 - He established diplomatic ties with Israel and initiated the Look East Policy.
 - Improvement of Indo-US Relations

About Chaudhary Charan Singh:

- ▶ Born on December 23, 1902, in Nurpur, Meerut district, Uttar Pradesh.
- ▶ **Reforms taken up by him:**
 - Introduced the Debt Redemption Bill (1939)
 - Drafted the Land Utilization Bill (April 1939)
 - Role in Eradication of the Zamindari System in Uttar Pradesh
 - Uttar Pradesh Consolidation of Holding Act, 1953
 - Uttar Pradesh Soil Conservation Act, 1954



BRIEF BACKGROUND

About Bharat Ratna

- ▶ India's highest civilian award, granted by President to individuals for outstanding service across any field, irrespective of race, occupation, position, or gender.
- ▶ **Recommendations:** Made by the Prime Minister of India to the President
- ▶ **Recognition:** Sanad (certificate) signed by the President along with a medallion.
- ▶ **Establishment:** by former President Dr. Rajendra Prasad on January 2, 1954.
- ▶ **Regulations:** Article 18(1) of the Indian Constitution prohibits awardees from using 'Bharat Ratna' as a title, prefix or suffix to their name.
- ▶ Notably, the award is also open to non-Indians.

Bharat Ratna



8.4.2. PADMA AWARDS

CONTEXT

President approved the conferment of **132 Padma awards** for 2024.

KEY INFORMATION

- ▶ **Padma Awards**, which were instituted in the year 1954, is announced **annually** on the occasion of Republic Day **except for brief interruption(s)** during the years 1978 and 1979 and 1993 to 1997.
- ▶ The award is given in **three categories**, namely,
 - ▶ **Padma Vibhushan** for **exceptional and distinguished service**
 - ▶ **Padma Bhushan** for **distinguished service of a high order**
 - ▶ **Padma Shri** for **distinguished service**
- ▶ The award seeks to recognize works of distinction and is given for distinguished and exceptional achievements/ service in all fields of activities/disciplines.

BRIEF BACKGROUND

Padma Awards Committee

- ▶ It is headed by the **Cabinet Secretary** and includes **Home Secretary, Secretary to the President** and **four to six eminent persons** as members.
- ▶ **Recommendations** are then submitted to the **Prime Minister and the President of India** for approval.

8.4.3. INDIRA GANDHI PEACE PRIZE, 2023

CONTEXT

Indira Gandhi Prize for Peace, Disarmament and Development for 2023 has been jointly awarded to **Daniel Barenboim and Ali Abu Award**.

KEY INFORMATION

- ▶ They have brought together **the youth and peoples of Israel and the Arab World** for a **non-violent resolution of the Israel-Palestine conflict**.
- ▶ **About Indira Gandhi Peace Prize**
 - ▶ It has been **conferred every year since 1986** by **Indira Gandhi Memorial Trust**.
 - ▶ It consists of a **monetary award of 25 lakh** along with a **citation**.

BRIEF BACKGROUND

About Israel-Palestine Conflict

- ▶ Dates to early 20th century with **Jews Claiming Palestinian land as ancestral property** while Arabs being the majority.
- ▶ **Balfour Declaration by Britain** in 1917 aimed to establish a national home for the Jewish people in Palestine.
- ▶ In 1947, UN voted to **split Palestine into a separate Jewish and Arab state**.
- ▶ Rejected by Arab states, it led to declaration of state of Israel in 1948 and first Arab-Israeli war.



8.4.4. OTHER AWARDS IN NEWS

8.4.4.1. NATIONAL SPORTS AWARDS (NSA) 2023

- ▶ The President of India conferred NSA 2023.
- ▶ Administered by: **Ministry of Youth Affairs & Sports.**
- ▶ It includes following six core awards:
 - Major Dhyan Chand Khel Ratna (Highest sporting honour).
 - Arjuna Award (For consistent performance over 4 years).
 - Dronacharya Award (Highest sports honour for coaches).
 - Major Dhyan Chand Award (For lifetime achievement).
 - Maulana Abul Kalam Azad Trophy (Top performance in inter-university tournaments).
 - Rashtriya Khel Protsahan Puruskar (sports promotion by organisations or corporates).

8.4.4.2. PRADHAN MANTRI RASHTRIYA BAL PURASKAR (PMRBP)

- ▶ The President conferred PMRBP to 19 children.
- ▶ The PMRBP awarded annually by the **Ministry of Women and Child Development.**
 - It honors children aged 5–18 for excellence in **Bravery, Art & Culture, Environment, Innovation, Science & Technology, Social Service, and Sports** that deserve national recognition.
 - Awards include a **medal, certificate, and citation booklet**, presented the week before Republic Day.
 - Awardees **must receive the accolades personally**, with **posthumous exceptions for bravery** in Bal Shakti Puraskar.
 - **Eligibility:** Limited to Indian citizens residing in India

8.4.4.3. SAHITYA AKADEMI AWARDS 2023

- ▶ **Sahitya Akademi** announced its annual Sahitya Akademi Awards in **24 languages.**
 - **Besides 22 languages enumerated in the 8th Schedule of the Constitution.**
 - Akademi has recognised **English and Rajasthani** as well.
- ▶ **About Sahitya Akademi**
 - It is an autonomous **body under Ministry of Culture.**
 - **It was founded in 1954.**
 - **Registered as a society** under the Societies Registration Act, 1860.
 - Other awards given by Akademi are **Bal Sahitya Puraskar, Yuva Puraskar.**

8.4.4.4. JNANPITH AWARD

- ▶ The 58th Jnanpith Award for the year 2023 has been awarded to **Jagadguru Swami Rambhadracharya ji** for **Sanskrit** and **Shri Gulzar** for **Urdu.**
- ▶ **Jnanpith Award**
 - Instituted in 1961, the Award has been given by **Bharatiya Jnanpith** annually since 1965 for outstanding contributions to **Indian literature.**
 - ◊ **Bharatiya Jnanpith**, formally established in 1944, is one of the **premier literary organizations and publication houses** in India.
 - Recognized as the **highest literary award.**
 - Conferred for **literature in Indian languages and English.**
 - Presented by **Presidents, Prime Ministers, and international celebrities.**

8.5. TRIBES IN NEWS

CONTEXT



Various tribes like Kutia Kondh, Warli, Bru and Chakaliya have been in the news.

KEY INFORMATION



Kutia Kondh Tribe

- ▶ Two persons from **Kutia Kondh Tribe** attended **Republic Day parade** in New Delhi as special guests.
- ▶ **About Kutia Kondh (Kutia Kandha)**
 - They are **Particularly Vulnerable Tribal Groups (PVTGs)** from Odisha.
 - ◊ Currently, **75 tribes** are given status of PVTGs in India, of which Odisha houses the most number of them (13).
 - **Society and culture:**
 - ◊ Families are mostly **nuclear** and **patriarchal in character**.
 - ◊ **Kondhs worship nature**.
 - ◊ Known for their buffalo sacrifice ritual, called "**Kedu**" to worship their "**Earth Goddess**".
 - **Agriculture:**
 - ◊ **Shifting cultivation**, or slash-and-burn agriculture.
 - ◊ Kondhs call it **dongar chaas** or **podu chaas**.

Warli Tribe

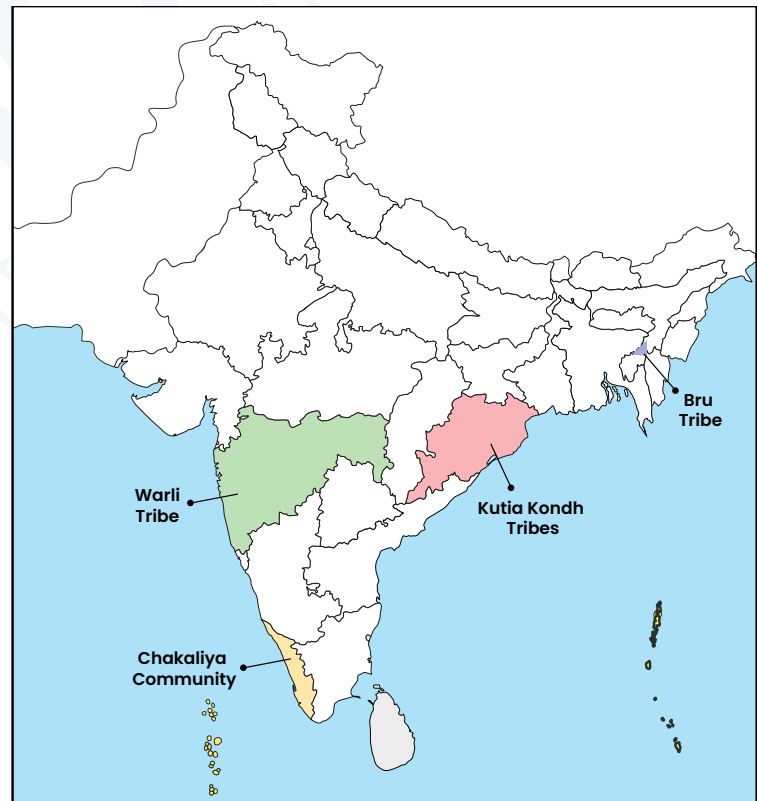
- ▶ Warli Tribe has set up an example of peaceful coexistence with leopards near **Sanjay Gandhi National Park** in Maharashtra.
- They worship the leopard (or **Waghoba**) as a deity.
- ▶ **About Warli Tribes**
 - The **largest tribes** of Maharashtra region.
 - They are renowned for **Warli wall paintings**.
 - ◊ This art form can be traced back to **10th century AD**.

Bru Tribe

- ▶ **Last batch** of Mizoram Bru refugees permanently settled in Tripura as per an agreement signed between Ministry of Home Affairs, Tripura, and Mizoram in 2020.
- ▶ **About Bru Tribe (also known as Reang)**
 - Indigenous to Northeast India, living mostly in Tripura (recognized as **Particularly Vulnerable Tribal Group**), Mizoram, and Assam.
 - Belongs to **Tibeto-Burman family** and speak **Kaubru language**.
 - Practice **Jhum cultivation** and engage in food-gathering activities.
 - Perform **Hozagiri dance**.

Chakaliya community

- ▶ Madhika language has **only 2 speakers** and is on the brink of extinction.
- ▶ It is Spoken by the **Chakaliya Community** and has no script.



8.6. MISCELLANEOUS

8.6.1. GEOGRAPHICAL INDICATIONS (GI) TAG



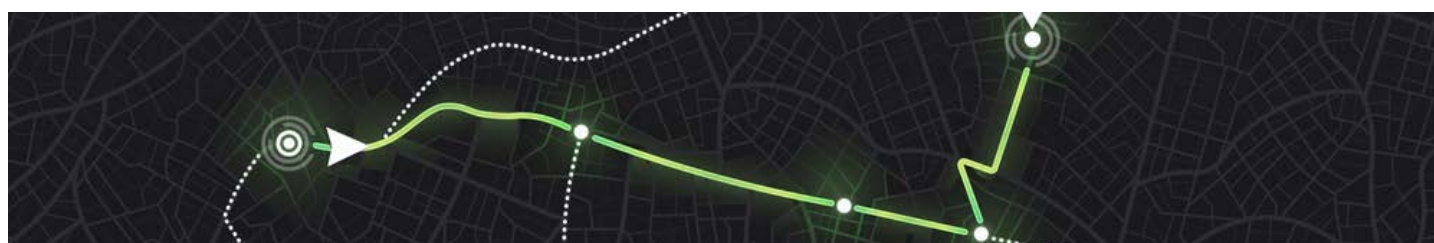
CONTEXT

Different products from different states bagged the Geographical Indications (GI) tag



KEY INFORMATION

States/UTs	Products and Description
Odisha	Lanjia Saura paintings, Dongaria Kondh shawl, Khajuri Guda, Dhenkanal Magji, Similipal Kai Chutney, Nayagarh Kanteimundi Brinjal, Koraput Kalajeera Rice
Arunachal Pradesh	Handmade Carpets, Wancho Wooden Craft, Adi Kekir (Ginger)
West Bengal	Tangail Saree, Garad Saree, Korial Saree, Kalonunia Rice, Sundarban Honey
Jammu and Kashmir	Ramban Anardana
Gujarat	Kachchhi Kharek
Meghalaya	Lakadong turmeric, Garo dakmanda, Larnai pottery, Garo chubitchi
Odisha	<ul style="list-style-type: none"> ▶ Cuttack Rupa Tarakasi (Silver Filigree) <ul style="list-style-type: none"> ➤ It was incorporated into jewellery around 3500 BCE in Mesopotamia where it is practiced even today as Telkari work. ➤ It reached Cuttack from Persia through Indonesia.
Bengal	▶ Banglar muslin which is a traditional handloom craft made of cotton.
Andhra Pradesh	▶ Narasapur crochet lace products were brought by missionaries to Narsapur.
Madhya Pradesh	▶ Ratlam Riyawan Lahsun (Garlic)
Assam	▶ Majuli Mask and Majuli Manuscript Painting.
Tripura	▶ Risa Textile.
Telangana	▶ Hyderabad Lac Bangles.
Gujarat	<ul style="list-style-type: none"> ▶ Kutch rogan craft a.k.a. Nirona ▶ Ambaji White Marble <ul style="list-style-type: none"> ➤ formed when limestone is re-crystallised under the earth's crust.



BRIEF BACKGROUND

Geographical Indication (GI)

About GI



Good originating in territory of a member, or a regional locality in that territory, where a given characteristic of good is essentially attributable to its geographical origin.



Defined in the TRIPS Agreement.



Registered for a period of 10 years and can be renewed again for a period of 10 years at a time.



The first product to get a **GI tag in India was the Darjeeling tea in 2004.**



Some of the states with maximum number of GIs **are Karnataka, Tamil Nadu, Uttar Pradesh, and Kerala.**



All States have a GI Tag now.

Importance



Enables right holders to use the indication to prevent its use by a third party.



Does not enable the holder to prevent someone from making a product using some techniques.

Legislation in India



Geographical Indications of Goods (Registration & Protection) Act, 1999



Geographical Indications of Goods (Registration and Protection) Rules, 2002.

Mechanism



Registrar of Geographical indications: Controller-General of Patents, Design and Trademarks under Department for Promotion of Industry and Internal Trade (DPIIT).



Supervises functioning of **Geographical Indications Registry (GIR).**



GIR has **All-India Jurisdiction.**

8.6.2. PUNGANUR COWS



CONTEXT










Punganur Cows are a rare breed of cattle native to **Punganur village** in Chittoor district of Andhra Pradesh.

KEY INFORMATION

- ▶ Due to their declining numbers, in 2020, Andhra Pradesh government launched '**Mission Punganur**'.
 - Indian Council of Agricultural Research (ICAR, National Bureau of Animal Genetic Resources has cryo-preserved their semen doses in the gene bank.
- ▶ **Key characteristics**
 - **One of the world's smallest humped cattle breeds:** Mere 70-90 cm tall and weigh around 115-200 kg.
 - **Known for high-quality milk which is rich in fat**
 - **Adaptable and Drought-resistant:** Can survive on dry fodder such as grass, straw, etc.
 - **Cultural significance:** Many temples of Andhra Pradesh, including the Tirupati Thirumala Temple, use its milk for Ksheeraabhishekam (milk offering to the deity).

BRIEF BACKGROUND

Other Indigenous Cattle Breeds of India

Breed	Location
 Sahiwal	Punjab and Rajasthan
 Red Sindhi	Orissa, Tamil Nadu, Karnataka
 Gir	Gujarat
 Deoni	Maharashtra and Karnataka
 Tharparkar, Sanchoi, Rathi, Nagori	Rajasthan
 Ongole	Andhra Pradesh
 Kankrej	Gujarat and Rajasthan
 Malvi, Nimari	Madhya Pradesh
 Hallikar, MalnadGidda, Amrit Mahal	Karnataka

Quarterly Revision

8.6.3. KHELO INDIA PARA GAMES 2023

CONTEXT



1st edition of Khelo India Para Games (KIPG) 2023 was organized in December 2023 in Delhi. It was held across **7 sports Disciplines**.

KEY INFORMATION



- ▶ Its mascot was Ujjwala (a sparrow).
- ▶ **Haryana topped** the KIPG 2023 medal table, followed by Uttar Pradesh.
- ▶ KIPG is the latest addition to the government of India's **Khelo India initiative**, which also includes the Khelo India Youth Games, Khelo India University Games and Khelo India Winter Games.

BRIEF BACKGROUND

About Khelo India Games

- ▶ Organized under a **Central Sector Scheme** named as **Khelo India Scheme**.
- ▶ Khelo India, which translates to '**Let's play India**', was proposed by the government of India in **2017** to revive India's sporting culture by engaging with children at the grassroots level.
- ▶ Since **2018**, a total of 11 Khelo India Games have been successfully held.
 - This includes **5 Khelo India Youth Games, 3 Khelo India University Games and 3 Khelo India Winter Games**.

KHELO INDIA 12 Verticals of Khelo India Programme



Promotion of Rural Tribal games



Annual Sports Competition



Talent Search and Development



Support to National/Regional/State Sports Academies.



State Level Khelo India Centres (SLKIC)



Physical Fitness of School going Children



Play field development



Community Coaching Development



Utilisation and, Creation/ Upgradation of Sports Infrastructure



Sports for Women



Promotion of Sports among Persons, with Disabilities



Sports for Peace and Development

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8.6.4. OTHER MISCELLANEOUS NEWS

8.6.4.1. VADNAGAR

- ▶ A joint study by **Indian Institute of Technology (Kharagpur)** discovered **evidence of human settlement** in Vadnagar (**Gujarat**) dating back to **800 BCE**.
 - This aligns with **late-Vedic/pre-Buddhist Mahajanapadas** or **oligarchic republics era**, shedding light on the town's ancient origins.
- ▶ **About Vadnagar**
 - Included in the **tentative list of UNESCO World Heritage Sites**.
 - It was a **multicultural and multi religious** (Buddhist, Hindu, Jain and Islamic) settlement.
 - It is in proximity to **Modhera, which is famous for Sun Temple**.
- ▶ **Historical sites**
 - ◊ Hatkeshwar Temple
 - ◊ Sharmishtha Lake

8.6.4.2. WEST BENGAL NOTIFIED STATE DAY & STATE SONG

- ▶ West Bengal government notified **Poila Boisakh** as State Day and **Banglar Mati Banglar Jal** as State Song.
- ▶ **Poila Boisakh** is the **first day of the month of Boisakh** of the **Bengali calendar year** and is named as **Bangala Divas**.
 - **Poila Boisakh** is an important festival celebrated by **Bengali communities** across **West Bengal, Tripura, Jharkhand, and Assam**.
 - In 2023 it was celebrated on **April 15th**.
- ▶ **Banglar Mati Banglar Jal** song is written by **Rabindranath Tagore**.



8.7. TEST YOUR LEARNING

MCQs

1. With reference to Shakti Peeth, consider the following statement

1. They are places of worship dedicated to sati or shakti
2. There are a total 52 Shakti peeths.

Which of the following statement given above is/are correct?

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

2. How many of the following matches are correctly matched?

Tribes	State
1. Warli	: Rajasthan
2. Kutia kondh	: Orissa
3. Chakaliya	: Karnataka

Select the option based on the above match.

- a) Only one
- b) Only two
- c) All Three
- d) None

3. Which of the following statement is correct about the Bharat Ratna Awards?

- a) India's highest civilian award, granted by the Prime Minister.
- b) Indian Constitution prohibits awardees from using 'Bharat Ratna' as a title to their name.
- c) Establishment by former Prime minister Jawahar Lal nehru.
- d) The award is not open to non-Indians.

4. With regards to the Geographical Indication (GI) tag, Consider the following statement

1. They are not defined in the TRIPS agreement
2. The first product to get a GI tag was Darjeeling tea.

Which of the following statement given above is/are correct?

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

5. Which of the following is not recognized as Intangible Cultural Heritage (ICH) by UNESCO?

- a) Chhau Dance
- b) Kutiyattam, Sanskrit theatre
- c) Tradition of Vedic chanting
- d) Paruveta Utsavam

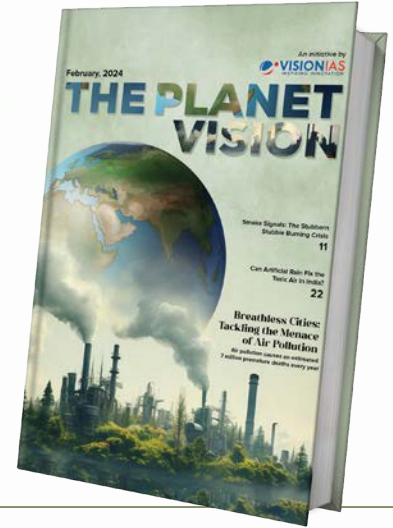
Questions

1. Discuss briefly about Maratha Military Landscapes and how it provided advantages to Marathas.
2. Discuss the major contribution of Maharshi Dayanand Saraswati with special emphasis on Arya samaj.

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Inspire Action and Promote Sustainable Lifestyle: Inspiring stories and case studies to motivate readers to make environmentally conscious choices.



Bridge Environmental Science and Public Understanding: Presenting complex scientific concepts in a simple and interactive manner.



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Key elements of the 'The Planet Vision'



Cover Stories: Thought-provoking articles about a critical ongoing environmental issue, along with the mitigation strategies adopted at the national and international levels.



Briefing and Developments: Stay informed about the latest environmental news, trends, and solutions.



Protect and Preserve: Inspirational stories of local conservation efforts.



Environment and You: Illustrating ways to make environmentally conscious choices in everyday life.



Green Tech: New and emerging technologies in the field of environment.



Interactive elements:

✔ **Snapshot:** Telling a story through capturing images.

✔ **Quizzes and crosswords:** To test your understanding and knowledge as a reader.

“

Look deep into nature, and then you will understand everything better. ”

—Albert Einstein



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9.1. USE OF UNFAIR MEANS (CHEATING) IN PUBLIC EXAMINATION



CONTEXT

Parliament passed the **Public Examinations (Prevention of Unfair Means) Act (PEA), 2024**. The Act deals with unfair means adopted or offences committed by various entities involved in conducting public examinations by the **Central Government and its agencies**.

ANALYSIS



Ethical reasoning against cheating in examinations

- ▶ **Violates deontological ethics:** Students have adopted unfair means (cheating) for favourable ends (results).
- ▶ **Against Utilitarianism:** Cheating does not serve the Society and does not satisfy its interests as ineligible and underserved candidates get selected.
- ▶ **Violates Categorical Imperative:** As per Immanuel Kant's categorical imperative one should only act in accordance with rules that could hold for everyone.
- ▶ **Justice as Fairness Principle:** Cheating violates **human liberties** and **equality** of opportunities and supports unjust differences.
- ▶ **Virtue Ethics:** Virtues of truth, trust, and excellence of character do not support deception or dishonesty.

Reasons for rising instances of cheating in examinations

- ▶ **Ambiguous attitudes:** Parents and teachers sometimes support a culture that is accepting of cheating, such as allowing students to plagiarize.
- ▶ **Competitive and societal pressures:** In today's increasingly competitive atmosphere, doing well in exams is becoming more and more important for survival.
- ▶ **Institutional apathy:** Lack of proper monitoring systems to curb the use of unfair means and absence of appropriate punishments.
- ▶ **Ambition and Pursuit of self-interest:** Students may intentionally cheat to gain an unjust advantage over others.
- ▶ **Other: High-end technology** (spy mics, Bluetooth devices, etc.), **Rising instances of Altruistic cheating** (cheating for the benefit of someone else) etc.

Stakeholders and their Interest	
Stakeholder	Interest
Students	<ul style="list-style-type: none"> ▶ Secure employment prospects. ▶ Develop confidence and skills like time management through healthy competition. ▶ Assess their learning.
Government and public authorities	<ul style="list-style-type: none"> ▶ Select qualified officials. ▶ Provide employment to youth. ▶ Transparency, fairness, and credibility in the hiring process.
Society	<ul style="list-style-type: none"> ▶ Develop qualified human resources to serve society. ▶ Promote virtues like honesty, hard work etc.
Examination centres, service providers	<ul style="list-style-type: none"> ▶ Monetary gains from conducting exams. ▶ Responsibility to conduct exams fairly.

Quarterly Revision


How does PEA 2024 seek to prevent the use of unfair means in public examinations?

- ▶ **Wide definition of unfair means:** The Act lists 15 actions that amount to using unfair means in public examinations "for monetary or wrongful gain," like leakage of question paper/ answer key, etc.
- ▶ **Strict punitive action:** All offenses under the Act will be **cognizable, non-bailable, and non-compoundable**.
- ▶ **Transparency and accountability:** In the event of a **violation, service providers (providing devices like computers)** must report to the police and the concerned examination authority.
- ▶ **Officers empowered to investigate:** An officer not below the rank of Deputy Superintendent of Police or Assistant Commissioner of Police.


Way forward

- ▶ **Parental Involvement:** Parents should support their children’s learning without resorting to unethical practices. E.g., discouraging copying, prioritizing originality and efforts over results etc.
- ▶ **Social stigma towards cheating:** Value-based education and making use of role models should be used to build negative attitudes towards cheating in society.
- ▶ **Technology-based solutions:** New strategies need to be considered and employed to better counter the use of technology for illegitimate purposes.
 - ▶ For instance, the government decided to set up a **High-level National Technical Committee on Public Examinations** to develop protocols for insulating digital platforms from cheating.


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9.2. LABOUR ETHICS AND LONG WORK HOURS

CONTEXT



Recently, an ILO report highlighted that among various work-related risks, long working hours are the leading cause of death among employees. This has raised a debate surrounding labour ethics.

ANALYSIS



Essence of Labour Ethics

- ▶ It entails that **employers are ethically required to provide their employees with a safe and healthy workplace.**
- ▶ Also, it is enshrined in the **Universal Declaration of Human Rights** of the United Nations.

Ethical concerns against overtime and long work hours

- ▶ **Violation of the Ethical principle of non-maleficence (not to harm):** Long working hours cause exhaustion leading to **medical negligence and disasters in extreme cases. E.g. Chernobyl accident etc.**
- ▶ **Wealth over health:** Compromises **physical and mental health** of the employee. E.g. job burnout in investment banking.
- ▶ **Profit over principles:** This contradicts sustainable work culture.
- ▶ **Erosion of family and societal values:** Long work hours can limit personal relationships and community ties.

Ethical arguments for long work hours

- ▶ **Market demand:** Often a result of a shortage of staff and a paucity of skilled workers. (Situational Ethics)
- ▶ **Critical need:** For maintenance of essential services, during emergencies like **pandemics, wartime** etc. (Situational Ethics).
- ▶ **Overall Growth:** To **improve work productivity, efficiency and competitiveness** of industries and countries. (Utilitarian Ethics).

Way forward

- ▶ **Governments: Enforcement of labour laws** regulating work hours, e.g. Factories Act, Motor Transport Workers Act, 1961.
- ▶ **Businesses: Invest in the health and well-being of employees** to promote job satisfaction. E.g. Healthcare insurance, etc.
- ▶ **Employees: Better time management** to foster a balance between professional and personal goals.
- ▶ **Upskilling:** To address the shortage of skilled workforce and promote better division of labour.
- ▶ **Collaboration between multiple stakeholders:** Government, business, labour unions etc. to create an **ethical framework for a Sustainable work culture.**

Stakeholders and their Interests

Stakeholders	Interest
Employee	▶ Gainful employment, good working conditions and work-life balance.
Employers/Industrialists	▶ Promote Organizational efficiency, profits and sustained human resource development.
Management	▶ Views long working hours as a matter of professional responsibility, especially in fields such as health care and law enforcement.
Investors	▶ Undertake investments in ethically and socially responsible businesses. ▶ Maximize returns on their investments in shortest possible period of time.
Labour Unions	▶ Negotiate for better workers' rights.
Labour regulatory bodies	▶ Enforcement of labour laws, rules, regulations and standards and promote welfare of workers.
Government	▶ Promote economic growth along with all round development of Human Capital.

KEY INFORMATION

Guiding principles - ILO's Global Strategy on Occupational Safety and Health 2023

- ▶ International labour standards
- ▶ Social dialogue and participation
- ▶ Human-centred, inclusive and gender-transformative approach
- ▶ Focus on prevention of OSH risks throughout the life cycle.

9.3. ETHICS OF ONLINE GAMING

CONTEXT



Recently, the online gaming industry signed a **voluntary 'Code of Ethics for Online Gaming Intermediaries'** at the Indian Gaming Convention (IGC), organized by the Internet and Mobile Association of India (IAMAI).

ANALYSIS



About the Code of Ethics for Online Gaming Intermediaries (OGI)

- ▶ Code is signed by the **Federation of Indian Fantasy Sports (FIFS), the E-Gaming Federation (EGF), and the All-India Gaming Federation (AIGF)**.
 - Adherence to this Code is **voluntary** and will not replace existing laws applicable to Signatories.
- ▶ **Objectives:** To protect the interests of consumers, **create a healthy environment** and ingrain a culture of responsible gaming.

Key Principles Outlined in the Code

- ▶ **Responsible Gaming:** OGI will allow users an option to set time or spend limits for themselves.
- ▶ **Safeguards for Minors (Age Gating):** All necessary safeguards to protect minors such as **displaying the '18/18+ only'** signage.
- ▶ **Fair Gaming:** Publishing terms and conditions, privacy policy, etc.
- ▶ **Financial Safeguards:** Prevent the use of platforms for money laundering and other illegal activities.
- ▶ **Safe, Secure and Reliable Gaming:** Adhere to existing regulations for cyber security.
- ▶ **Responsible Advertising:** Employ responsible advertising and marketing campaigns.

Way Forward for an Ethical Online Gaming Sector

- ▶ **Consumer protection:** Applying standard consumer protection measures to evaluate fairness.
 - It can be done through the **test of acceptable quality** (i.e., meeting the reasonable expectation of utility and value).
- ▶ **Inclusiveness:** Narratives and characters should resonate with a wide range of players, regardless of their gender, ethnicity, or background.
- ▶ **Fostering Responsible Advertising and Marketing:** Prohibition of predatory marketing practices and ensuring transparency in in-app purchases.
- ▶ **Balance Growth & Innovation:** Regulatory frameworks should be flexible enough to adapt to the evolving nature of gaming technology and emerging game genres.
- ▶ **Supportive ecosystem:** Introducing systems which incentivize players to praise one another for teamwork, positivity, and strategy.

Stakeholders, their Interests and Ethical Concerns

Stakeholders	Interests	Ethical Concerns
Game developers	▶ Profitability , increasing user base, building brand reputation etc.	▶ Exploitative monetization practices , unfair terms of service, age-inappropriate content etc.
Gamers	▶ Entertainment , fair play, data privacy and security etc.	▶ Gaming addiction , differentiated treatment for players, privacy issues etc.
Regulatory bodies	▶ Consumer protection , promoting ethical gaming environment etc.	▶ Gambling related issues , illegal activities, and their funding.
Advertisers/ Sponsors	▶ Maximising revenue , promoting fair advertising standards etc.	▶ Misleading advertisements , surrogate advertising, and unfair trade practices.
Content creators/ Streamers	▶ Monetization , sponsorships etc.	▶ Intellectual property concerns , transparency concerns, toxicity, bullying and harassment.

9.4. GOOD SAMARITANS

CONTEXT



In a case related to Good Samaritan, the Delhi High Court observed that a person who chooses to help a person in distress should not be harassed for showing kindness. Further, HC said that helping an injured on a public road/highway is the prime duty of everyone.

ANALYSIS



Good Samaritans and Legal Provision in India

- ▶ **Good Samaritan** is a person who **provides immediate assistance** or **emergency care** to an injured person without expectation of payment or reward, without any duty of care or special relationship.
- ▶ **Guidelines for Protecting Good Samaritan:** Issued by the **Ministry of Road Transport and Highways:-**
 - Good Samaritan may take an injured person to the nearest hospital and should be **allowed to leave immediately**.
 - He/she shall not be liable for any **civil and criminal liability**.
 - In 2016, Supreme Court made these guidelines **legally binding for all states and Union Territories**.
- ▶ Additionally, **Section 134A** was inserted in Motor Vehicles Act, 1988 through **Motor Vehicles (Amendment) Act, 2019** providing protection to Good Samaritans.

Issues which hinder acts of Good Samaritan

- ▶ **Selfishness/ being unsympathetic:** In modern times, self-centric tendencies have increased. E.g. In a recent accident, people were taking selfies and making videos instead of helping.
- ▶ **Bystander apathy:** Leads to diffusion of responsibility that occurs when multiple people are present believing that someone else will take the action.
- ▶ **Unfavorable public judgment:** Fear of unfavorable public judgement wherein people feel they would be considered the culprit.
- ▶ **Legal Issues:** Fear of being trapped in legal matters creates resistance among people to come forward and help others.

How can we promote the culture of Good Samaritan in India?

- ▶ **Rewards/Recognition for Good Samaritans:** Operant conditioning, also referred to as **instrumental conditioning** or Skinnerian conditioning can be used in this regard. It is a method of learning that uses rewards and punishment to modify behaviour. For instance, recognition can be provided for acts of good samaritan.
- ▶ **Adoption of Best Practices:** Canadian states have provisions of no liability for emergency aid by Samaritans unless gross negligence is observed.

Stakeholders and their Interest	
Stakeholder	Interest
Good Samaritan	<ul style="list-style-type: none"> ▶ Responsibility and duty to help living beings in distress. ▶ Expect that in lieu of helping others they will not be harassed by authorities or bear prolonged legal formalities.
Person in need	<ul style="list-style-type: none"> ▶ Expect that every person shall show the qualities of Good Samaritan.
Government	<ul style="list-style-type: none"> ▶ Government benefits from the act of Good Samaritans as it leads to saving of life of citizens. ▶ It will help government in reducing the road accidents by 50% by 2030.
Police/Other authorities	<ul style="list-style-type: none"> ▶ Collects all the relevant information from the Good Samaritan. ▶ Also, makes effort that Good Samaritans are not harassed by involving them in investigation, seeing them as a suspect, forcing them to become eyewitness etc.

9.5. BEYOND BITES: ETHICAL CONSIDERATIONS IN STRAY DOGS CONTROL



CONTEXT

India has a nearly 1.5 crore stray dog population (2019 livestock census) and carries the dubious distinction of being the world's dog-bite-and-rabies-capital. In this context, there is a growing concern regarding stray dog management.

ANALYSIS



Ethical aspects surrounding control of stray dogs

- ▶ **Abandonment:** Abandonment of pets is a moral challenge, which is often considered as **moral bankruptcy and irresponsibility**.
- ▶ **Responsibility:** Dogs have a unique relationship with man's evolutionary history. This poses a moral dilemma of being **responsible for their welfare** but also confronting the vagaries of their evolution from wolves and their **territorial instincts**.
- ▶ **Public Health:** The concern is raised for both human health and the health of dogs.
- ▶ **Animal control methods:** The use of capture, mass killing, and euthanasia methods raises ethical concerns, as it involves taking the lives of animals.
 - Ethical alternatives, such as trap-neuter-return (TNR) programs, should be considered.

Present Policy Framework

- ▶ **Prevention of Cruelty to Animals Act (PCA), 1960:** Killing of stray dogs is punishable under the PCA, 1960.
- ▶ **Animal Welfare Board of India (AWBI), 1962:** A statutory advisory body (under PCA 1960), that promotes animal welfare.
- ▶ **Animal Birth Control (ABC) Program:** Aims to control the population of stray dogs through sterilization and vaccination. The program is regulated as per the **Animal Birth Control Rules, 2023 under PCA 1960**.
- ▶ **Judicial View:** Supreme Court in AWBI vs Nagaraja case (2014) declared that **every species has a right to life and security**, subject to the law of the land, which includes depriving its life out of human necessity.

Way Forward

- ▶ **Animal control measures:** Government and Civil Society should formulate policies for vaccination, sterilization, and waste management.
 - Enact laws to prevent pet abandonment and ensure their welfare.
- ▶ **Infrastructural support:** Creating feeding spots, providing veterinary healthcare facilities, and supporting civil society organizations.
- ▶ **Training and Education:** Potential/present pet owners shall be educated and trained regarding pet behaviour, health, hygiene etc.
- ▶ **Developing new outlook towards pets:** Many studies demonstrate that the company of dogs can lead to reduced stress, anxiety, and symptoms of depression.

Stakeholders and their Interest

Stakeholder	Interest/Role
Animal welfare organizations/activists	<ul style="list-style-type: none"> ▶ Providing shelter, healthcare facilities and food to stray dogs. ▶ Rescue, rehabilitation and rehoming efforts. ▶ Advocating for humane treatment and promoting responsible pet ownership.
Pet owners	<ul style="list-style-type: none"> ▶ Taking responsibility for their pets and not contributing to stray dog population. ▶ Timely immunization of their pets. ▶ Supporting community initiatives and intervening in case of inappropriate pet behavior.
Local authorities	<ul style="list-style-type: none"> ▶ Control the stray dog population (sterilization) and ensure their well-being (immunization). ▶ Providing adequate healthcare facilities to treat dog bite and rabies cases.
Government	<ul style="list-style-type: none"> ▶ Frame appropriate policies and legislations for animal control. ▶ Formulations of standard operating procedures for addressing cases of dog bites and tackle rabid dogs.

9.6. ETHICS OF NUDGE

CONTEXT



The Haryana government launched the **Pran Vayu Devta Pension Scheme**, offering **pensions to trees aged 75 years or older** located on the property of the state's residents. The scheme aims at **nudging** the residents towards conserving and protecting ageing trees and the environment

ANALYSIS



Key ethical concerns with nudge

- ▶ **Goals of the nudger:** The potential impact depends upon the nudgers' motives and who benefits from the nudge.
- ▶ **Autonomy of the nudged:** It includes
 - **Behavioural exploitation:** It may **exploit people's irrationality**. For instance, auto-enrolment in savings schemes takes advantage of an individual's inaction.
 - **Lack of transparency:** Concerns of **manipulation** as it operates on a subconscious level.
- ▶ **Effects of nudges:** It is assessed through
 - **Effectiveness:** A nudge does not stimulate reflection and so is **less unlikely to change people's beliefs, attitudes and behaviour in the long term**.
 - **Unintended effects:** It may produce **reactance** (negative reaction due to perception of choice restriction) or **boomerang effect** (reversal from follow-up of intended outcome).

What should be the nature of ethical nudging?

- ▶ **Transparent:** Being transparent about the intention to influence individual choice.
- ▶ **Autonomous:** Individual autonomy and the nudger should be given preferences.
 - For example, economically underprivileged groups may benefit from nudges that help them avoid unnecessary bank fees or high-interest loans more than those designed to increase savings.
- ▶ **Beneficence-oriented:** The goal should be to have a positive impact on individuals and society and promote better decision-making.
- ▶ **Sensitive and consent-driven:** Nudges should be culturally sensitive and uphold the diversity of values, norms, and beliefs.
 - Individuals should have the **option to opt out of nudges**.

KEY INFORMATION

What is a Nudge?

- ▶ **Nudges** are interventions that gently guide individuals towards desired actions.
- ▶ **Rooted in behavioral sciences**, nudges acknowledge that individuals may not always make rational decisions.
- ▶ **Key nudges** include constructive comparison, reminder, default option, warning, and visual cues.
- ▶ **Significance of nudges:** Promote law and order, cost-effective compared to traditional approaches among others.

Motivation for Nudges

Motive	Who Benefits	Examples
Selfish	Nudger	Boosting product sales or political power
Paternalistic	Nudged	Increasing retirement savings or health
Pro-social	Collective (Society as a whole, including the nudged)	Reducing spread of diseases or CO2 emissions

9.7. INDIVIDUAL SOCIAL RESPONSIBILITY (ISR)



CONTEXT

According to the EdelGive Hurun India Philanthropy List 2023, 119 Indian business tycoons donated Rs 5 crore or more in FY23, together contributing Rs 8,445 crore for philanthropic activities. This highlights the role Social Responsibility can play in society.

ANALYSIS



Need for ISR in India

- ▶ **Predominance of Public Sector:** It accounts for 95% of social sector spending.
- ▶ **Funding gap in Sustainable Development:** India remains short of funding required to achieve United Nations SDGs by 2030.
- ▶ **Resource redistribution:** Multi-dimensional inequalities persist; ISR will help in resource redistribution.
- ▶ **Environmental sustainability:** Contribute to environmental sustainability and mitigate the impact of climate change.
- ▶ **Technology development:** It will enhance the role of technology, bridging the digital divide and promoting financial inclusion.

Ethical Considerations when engaging in ISR

- ▶ **Freedom of Choice:** Upholding the choice autonomy of beneficiaries.
- ▶ **Cultural Sensitivity:** Prioritize the cultural context and collaborate with local communities.
- ▶ **Social interest vs. personal interest:** Individuals should understand the group composition and interests for whom the activity is designed.
- ▶ **Outcome-oriented:** Periodically assess the impact of their contributions, adapting and refining their approaches to maximize positive outcomes.
- ▶ **Empowerment:** Foster sustainable solutions rather than perpetuating a cycle of dependency.






KEY INFORMATION

What is Individual Social Responsibility (ISR)?

- ▶ **ISR is an ethical obligation of individuals towards their community and society as a whole.**
 - ▶ Involves an individual being aware of how personal actions influence the community. E.g. Philanthropy, blood donation, etc.
- ▶ It encompasses **“people, planet, and profit”**. Advocates that profit does not require harm to the planet or the exploitation of people.

Difference between ISR and Corporate Social Responsibility (CSR)

Nature of Difference	Individual Social Responsibility (ISR)	Corporate Social Responsibility (CSR)
Scale and Scope 	Individual decisions and voluntary contributions. E.g., Philanthropic contributions.	Corporate entities, Businesses and Large firms. E.g., Bottles for change campaign of Bisleri.
Nature of Contributions 	Often small and more personal such as volunteering, charitable giving, etc.	Larger in scale and include philanthropy, environmental sustainability programs, etc.
Drivers 	Voluntary and driven by personal values and a sense of moral obligation.	Often due to legal requirements , but also driven by ethical considerations and public relations.

9.8. AI AND CREATIVITY

CONTEXT



Recently, a music composer utilized Artificial Intelligence (AI) software to recreate the voices of deceased singers. As AI becomes integrated into various artistic processes, **questions arise regarding the ethical and legal boundaries governing its use.**


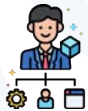


ANALYSIS



Positives of AI in Creative Endeavours

- ▶ **Enhanced Productivity:** AI tools streamline **creative workflows, automate repetitive tasks, and assist artists in generating ideas.**
- ▶ **Innovative Exploration:** It enables artists to explore **new creative avenues, and experiment with different styles and techniques.**
- ▶ **Collaborative Potential:** It facilitates collaboration **between human creators and intelligent systems, fostering interdisciplinary partnerships** and inspiring new forms of creative expression.
- ▶ **Quality Improvement:** It improves the **quality and consistency of artistic output**, enhancing aspects such as sound quality, visual effects, etc.
- ▶ **Accessibility:** It makes creative processes more accessible **to individuals with varying skill levels, backgrounds, and abilities, democratizing participation in the arts** and expanding opportunities for expression.

Ethical Issues

 <p>Artistic Integrity: Raises concerns about preserving the authenticity and integrity of artistic expression</p>	 <p>Consent and Ownership: Questions arise regarding the rights of creators involved in AI-driven projects, including issues related to intellectual property, and consent for using personal data or creative contributions.</p>	 <p>Preservation vs. Exploitation: While AI can revive historical voices or artistic styles, ethical considerations arise whether such efforts aim to preserve cultural heritage or exploit the identities and legacies.</p>	 <p>Regulatory Oversight: The lack of regulatory measures presents challenges in safeguarding privacy, preventing discrimination, necessitating compliance, and adaptation to evolving technologies.</p>
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Way Forward

- ▶ **Ensure transparency and disclosure in AI-driven creative processes**, including clear attribution of AI-generated content and obtaining informed consent from all involved parties.
- ▶ **Uphold the authenticity and integrity of artistic expression**, acknowledging the contributions of human creators and respecting their rights to control and be properly credited for their work.
- ▶ **Develop ethical guidelines and best practices** for the ethical use of AI in creative endeavours, addressing issues such as consent, ownership, fairness, and accountability.
- ▶ **Advocate for regulatory oversight and governance mechanisms** to ensure compliance with ethical standards and protect the rights and interests of individuals involved in AI-driven creative projects.
- ▶ **Empower education and awareness** to enhance understanding of AI ethics among all stakeholders, enabling informed decision-making and advocacy for ethical practices in the creative industries.

9.9. BUDDHA'S TEACHINGS



CONTEXT

Recently, the Vice President of India stressed the importance of Buddha's teachings while addressing the **12th General Assembly of the Asian Buddhist Conference for Peace (ABCP)**.

ANALYSIS



Contemporary Relevance of Buddha's Teachings

- ▶ **Addresses Consumerism and Materialistic Greed:** Buddha acknowledged the relationship between attachment and sorrow and was inspired to follow the pursuit of **inner contentment**.
 - This can address mindless consumerism and promote sustainable consumption as envisioned in India's **Mission LiFE (Lifestyle for Environment)**.
- ▶ **Promoting Scientific Temper:** Encouraging mindfulness, concentration, and right understanding, this will promote **spirit of inquiry**.
- ▶ **Citizen-centric governance: Right Speech, conduct, and livelihood** can help make administration more responsive and service-driven.
 - Incorporation of '**Right conduct**' among public servants will reduce corruption.
- ▶ **Sustainable development: 'Middle Path'** offers a path of sustainability, simplicity and moderation and it may be a solution to climate change, over-exploitation of resources, etc.
- ▶ **Pursuance of a just and egalitarian society:** Buddha preached non-discrimination by opening the **institution of Sangha** to all persons (including **courtesans like Amrapali**) above fifteen years of age.
 - His teachings can help eliminate discrimination against vulnerable sections like sex workers, women, transgender, etc.
- ▶ **Inter-faith harmony:** Buddha **neither accepted nor rejected the existence of God**. He was more concerned about the **individual and his actions**.
- ▶ **Peaceful resolution of conflict:** Buddha **rejected violence and taught dialogue** as the best way to resolve conflicts.

Conclusion

Buddha's teachings have a **non-anthropocentric approach** which focuses not only on human liberation by practising moral disciplines but also on the **well-being of all creatures and the natural world**.

KEY INFORMATION

Important Teachings of Buddha

- ▶ Buddha preached that life brings sorrow. To find freedom, one must **overcome desire**.
- ▶ His teachings encompass '**Four Noble Truths**' and '**Eight-Fold Path**' or **Ashtangika Marg**.
- ▶ **Four Noble Truths:**
 - There is **suffering** and the entire world is inflicted by it
 - There is a **cause for suffering**, ignorance being the root cause.
 - There is end of suffering if the root cause is dispelled.
 - There is a **path that leads to the end of suffering**, known as the eight-fold path.
- ▶ '**Eight-Fold Path**' (Path to the end of suffering): Right- Views, Aspiration, Speech, Action, Livelihood, Effort, Mindfulness and Concentration.
- ▶ He advocated a '**Middle Path**', a **simple, virtuous life** between extreme austerity and luxury.
- ▶ Further, Buddhist ethics, the expansion of the fourth noble truths, prescribes **three gems (Triratna)**-**Knowledge, conduct and meditation** as the means of liberation.
- ▶ Five conducts for a Buddhist monk: **Non-violence, Non-stealing, Celibacy, Truthfulness and not taking any intoxicating things like liquor**.



9.10. TEST YOUR LEARNING

Questions

1. Nudging plays a key role in promoting and guiding individuals towards desired actions. However, it has its limitations. Explain (150 words)
2. Discuss the values and teachings of Buddhism and elaborate upon their relevance in the context of contemporary socio-economic and environmental issues (150 words)

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Answer: B	Answer: B	Answer: D	Answer: A	Answer: C

Economy

1	2	3	4	5
Answer: C	Answer: B	Answer: B	Answer: D	Answer: A

Security

1	2	3	4	5
Answer: C	Answer: D	Answer: C	Answer: B	Answer: C

Environment

1	2	3	4	5
Answer: C	Answer: D	Answer: B	Answer: D	Answer: A

Social Issue

1	2	3	4	5
Answer: A	Answer: C	Answer: B	Answer: A	Answer: C

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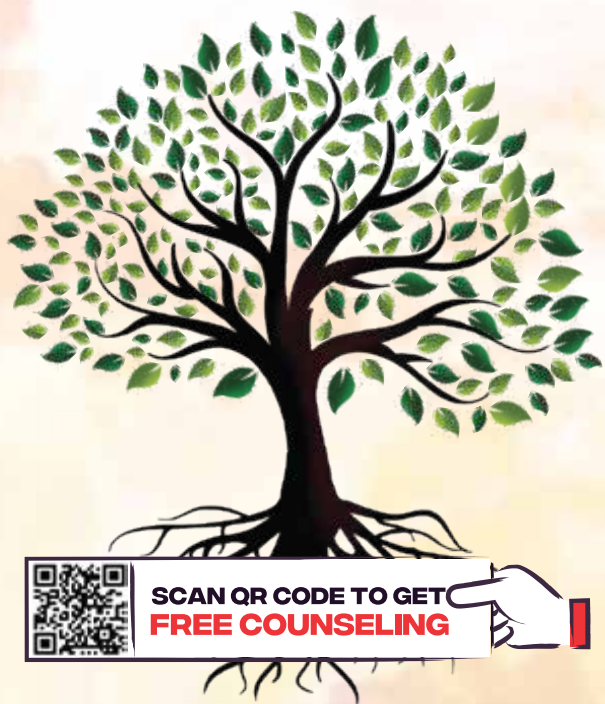
1	2	3	4	5
Answer: C	Answer: B	Answer: D	Answer: A	Answer: B

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1	2	3	4	5
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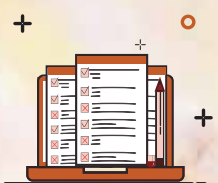
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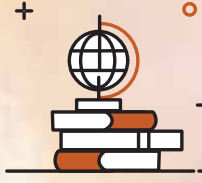
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