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Quarterly

REVISION

**SEPTEMBER 2023 TO
NOVEMBER 2023**



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Note to students

Dear Students,

In our endeavour to streamline your preparation and revision, we are pleased to announce our new initiative named the **"Quarterly Revision"** document.

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.

Who is it for?

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.

Features of the Quarterly Revision Document:



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.



Brief Background: Each article has a brief background that sets the stage for understanding and analysis.



Analysis and Key Information: These sections provide you with critical perspectives and multifaceted viewpoints and facts.



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.

We sincerely hope that the Quarterly Document will act as a catalyst for your continuous learning. Complimenting it with PT 365 and Mains 365, will significantly boost your confidence in the preparation journey.

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

**All the Best,
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POLITY



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1.1. PARLIAMENT AND STATE LEGISLATURES: STRUCTURE AND FUNCTIONING

1.1.1 PARLIAMENTARY PRIVILEGES OF LAWMAKERS

CONTEXT



The S.C. set up a seven-judge bench headed by the Chief Justice of India for reconsideration of its 1998 judgement in the P V Narasimha Rao case.

- ▶ In P V Narasimha Rao Case judgement, SC held that Legal immunity granted to legislators under Articles 105(2) and 194(2) of the Constitution protects them against criminal prosecution on bribery charges for any speech or vote in Parliament.

ANALYSIS



The rationale behind parliamentary privileges

- ▶ Ensure freedom of expression of the legislators without the fear of legal consequences.
- ▶ Maintain the authority and dignity of the legislature.
- ▶ Carry out functions, independently and effectively, of both houses without any interference.
- ▶ Ensure attendance of parliamentary sessions

Need for reform in Parliamentary Privileges

- ▶ **Applicability:** Lack of clarity in scope and limitations of parliamentary privilege.
- ▶ **Misuse of privileges:** by the members of the Parliament and Legislative Assembly resulting in violation of fundamental rights of citizens.
- ▶ **Lack of oversight:** to prevent members of the house from using privileges for personal or official gains/interest.
- ▶ **Lack of procedure:** to deal with instances of breach of privilege which is solely guided by exigencies.
- ▶ **Against Natural justice:** Breach of privilege laws allow politicians to judge their own cases violating the principles of separation of Power (Article 50) and fair trial.
- ▶ **Violates constitutionalism:** Absence of codified privileges gives unlimited power to the house to decide when and how a breach of privilege occurs.

Way Forward

Uphold constitutionalism by codifying privileges, establishing standard operating procedures in case of breach of privilege and enacting specific legislation to monitor the misuse of parliamentary privileges.



Read From Essential Material

Chapter 5th, 'Legislatures' of class XI NCERT (Indian Constitution at work)

BRIEF BACKGROUND

Parliamentary Privileges:

- ▶ Refers to Legal immunity to members of legislatures, granting protection against civil or criminal liability for actions and statements made in the course of their legislative duties.
- ▶ So far, neither Parliament nor any State legislature has enacted any legislation that defines the powers, privileges and immunities of the Houses, or that of its members and committees.

Breach of privilege

- ▶ Refers to undermining of parliamentary privilege of a member or the House by an individual or authority.

Contempt of the House

- ▶ Any act or omission which
 - Obstructs performance of its functions of either House of Parliament.
 - Impedes any member or officer of House from discharging his duty.

Provisions related to Parliamentary Privileges

- ▶ **Article 105 and 194** deals with the powers and privileges of both Houses of Parliament and State legislature respectively, along with their members and committees.
- ▶ **Right to Prohibit Publication of Proceedings (Article 105(2) and Article 194(2)).**
- ▶ **Freedom of Speech in Parliament (Article 105(2)).**
- ▶ **Freedom for members from Arrest: in any civil case, 40 days before and after the house adjournment and during the session.** An MP doesn't enjoy any immunity against action in a criminal case, during the session or otherwise.
- ▶ **Rules of Procedure and precedents:** Parliament reserves the right to receive immediate information of the arrest, detention, conviction, imprisonment, and release of its members.
- ▶ **Right to Exclude Strangers**
- ▶ **Article 122** restricts courts from inquiring into proceedings of Parliament.

1.1.2 SECRETARIAT OF THE PARLIAMENT

CONTEXT

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

ANALYSIS



Limitations of the Secretariats of the Parliament

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

Conclusion

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

BRIEF BACKGROUND

Constitutional provisions

- ▶ **Article 98:** Each House of Parliament shall have a **separate secretarial staff.**
 - ▶ **Parliament may by law** regulate the recruitment, and the conditions of service of persons appointed, to the secretarial staff of either House of Parliament.
 - ▶ It also allows creation of **posts common to both** the Houses of Parliament.
- ▶ **Article 187** makes similar provisions for Secretariat of State Legislatures.

Structure of the Secretariats

- ▶ **Lok Sabha Secretariat**
 - ▶ **Speaker (Lok Sabha):** Vested with ultimate guidance and control over the secretariat.
 - ▶ **Administrative Head:** Secretary General (rank equivalent to Cabinet Secretary)
 - ▶ **Recruitment and Conditions of Service:** Governed by the **Lok Sabha Secretariat (Recruitment and Conditions of Service) Rules, 1955** promulgated by the President in consultation with Speaker.
- ▶ **Rajya Sabha Secretariat**
 - ▶ **Chairman (Rajya Sabha):** Vested with administrative control over the secretariat.
 - ▶ **Administrative Head:** Secretary General (rank equivalent to Cabinet Secretary)
 - ▶ **Recruitment and Conditions of Service:** Governed by the **Rajya Sabha Secretariat (Recruitment and Conditions of Service) Rules, 1957** promulgated by the President in consultation with Chairman (similar to Lok Sabha).
- ▶ **Other Key Information:**
 - ▶ **Speaker and Chairman can create new posts** in respective secretariat. However, for posts in Class I or Class II, **prior consultation with the Union Ministry of Finance** is mandatory.

1.1.3 DISQUALIFICATION OF LAWMAKERS

CONTEXT



Karnataka High Court recently declared the **election of a member of Lok Sabha** from Hassan constituency as void. The decision of disqualification is made on grounds of being **guilty of corrupt practices** including wrong disclosure of the value of properties, evading taxes, etc.

ANALYSIS



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



1.2. CENTRE-STATE RELATIONS

1.2.1 ROLE OF GOVERNOR

CONTEXT



Recently, Kerala, Tamil Nadu and Punjab moved the Supreme Court against their respective Governors over the pending bills.

ANALYSIS



Various issues concerning the Governor's role

- ▶ **Pending decisions:** Delays in assent to legislations and crucial appointments.
- ▶ **Political Interference:** Political bias, especially in cases of government formation and use of discretionary powers.
- ▶ **Administrative inefficiency:** Friction between Governor and state government, leads to deadlock in administrative decisions.
- ▶ **The burden on the judiciary:** Disputes arising from the Governor's exercise of discretionary powers or their actions regularly lead to legal challenges and interpretations.

Recent judgements regarding role of the Governor

- ▶ **State of Punjab Case (2023):** If a Governor decides to withhold assent to a Bill, then he/she has to return the bill to the legislature for reconsideration. Such bill cannot be kept with the Governor indefinitely.
- ▶ **Vice Chancellor Case (2023):** SC underlined that Governors acting in their statutory capacity as University Chancellor are not bound by the aid and advice of the council of ministers.
- ▶ **Tamil Nadu Governor case (2023):** SC stated that the Governor cannot refer the bills to the President after the Assembly has re-enacted the Bills following the Governor's declaration of withholding the assent.

Way Forward - Recommendations of different commissions

- ▶ **Sarkaria Commission:** It is only under rare circumstances that the Governor may exercise their discretion, where they feel that the provisions of the Bill will contravene the provisions of the Constitution.
- ▶ **Punchhi Commission:** The Governor should decide on a Bill presented for his/her assent within six months.
- ▶ **Venkatachaliah Commission:** The Governor should make use of the advice of the Council of Ministers in the day-to-day administration of the state.



Read From Essential Material

Chapter 7th, 'Federalism' of class XI NCERT (Indian Constitution at work)

BRIEF BACKGROUND

Constitutional Provisions for Governor

- ▶ **Provisions regarding bills:** Under Article 200, the assent of the Governor is necessary for a bill to become a law. In this regard, the Governor has been given some options
 - ▶ Give assent to the bill
 - ▶ Withhold the assent
 - ▶ Return the bill for reconsideration of the legislature
 - ▶ Reserve the bill for the consideration of the President
- ▶ **Reserving bill for President:** In one case such reservation is **obligatory**, that is, where the bill passed by the state legislature endangers the position of the state high court.
 - ▶ In addition, the governor can **also reserve the bill if it is Against the provisions** of the Constitution, Directive Principles of State Policy, the larger interest of the country, dealing with compulsory acquisition of property etc.,
- ▶ **Discretionary powers:** Article 163 states that except when required to exercise his/her functions in his/her discretion, the Governor is bound by the aid and advice of the Council of Ministers.
 - ▶ However, the Supreme Court in the **Nabam Rebia case (2016)** held that if a governor exercised his discretion beyond his jurisdiction or power, it would **fall under the subject matter of judicial review.**

1.2.2 INTER-STATE WATER DISPUTE

CONTEXT

Recently, the Union Cabinet approved the terms of reference to Krishna Water Disputes Tribunal-II (KWDT-II) under the Inter-State River Water Disputes (ISRWD) Act, 1956.

- ▶ KWDT-I (1969) and KWDT-II (2004) were set up under the ISRWD Act, 1956. In 2014 after the creation of Telangana, Andhra Pradesh asked to include Telangana as a separate party at KWDT.
- ▶ However, Maharashtra and Karnataka argue that the allocation of water should be from Andhra Pradesh's share.

ANALYSIS

Factors Responsible for Inter-State Water Dispute

- ▶ **Asymmetrical access to interstate river water:** In interstate river flows, the upstream state is usually at an advantage over downstream states.
- ▶ **Rising Water Demand:** Water demand in India is projected to increase by 22% and 32% in 2025 and 2050 respectively. This has stressed limited water reserves, aggravating the Inter-State water dispute.
- ▶ **Lack of clarity on Water usage Rights:** Power to use water for storage, electricity, irrigation etc. is mentioned under the State list and 'interstate water' under the Union list.
- ▶ **Lack of an integrated approach:** Water governance architecture in India ignores social, ecological, and cultural processes associated with water.
- ▶ **Other issues:**
 - MSPs on rice and wheat led to high water demand, resulting in interstate water conflicts (e.g. Krishna, Cauvery, SYL disputes).
 - Changing Boundaries of states due to cultural and political factors.

Challenges associated with resolving Inter-State Water Dispute

- ▶ **Delayed Resolution:** of river water disputes. E.g. it took 11 years for the Godavari water dispute tribunal to give its decision.
- ▶ **Ambiguity:** Article 262 deters the Supreme Court from adjudicating ISWDs. However, Article 136 empowers SC to hear appeals against the ISWD tribunal's orders.
- ▶ **Politicisation of disputes:** Some political parties are using ISWDs as avenues for pursuing political goals.
- ▶ **Lack of Multidisciplinary approach:** ISWD tribunal's members are mainly from the judiciary, thus lack inputs from specialist such as ecologists.

Way forward

- ▶ **Enabling Cooperative Cooperation:** There is a need for deeper integration of states in deliberative processes in ISWDs.
- ▶ **Basin Approach:** Focus on ecological restoration, conservation of river ecosystem and balancing of water supply and demand for human use.
- ▶ **Multi-Disciplinary Approach:** Water Management Board should include experts from multiple disciplines such as environmentalists, geographers etc.
- ▶ **Water Policy:** For equity and reasonableness, certain parameters (e.g. Dependent population, drainage area, Climate etc.) must be made part of the water policy.



Read From Essential Material

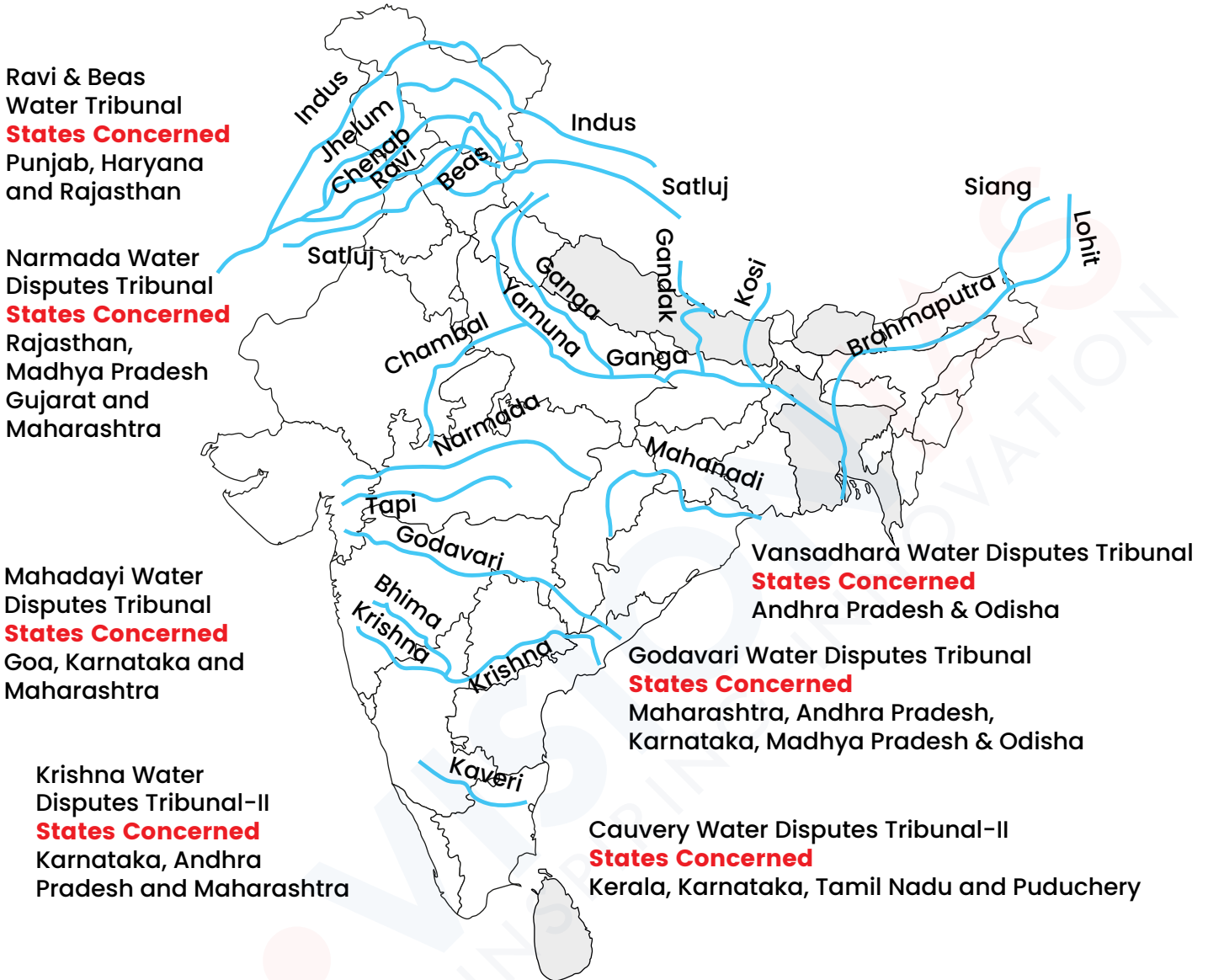
Chapter 7th, 'Federalism' of class XI NCERT (Indian Constitution at work)

BRIEF BACKGROUND

Mechanism to deal with Inter-State Water Dispute (ISWD)

- ▶ **Under Seventh Schedule of Constitution,**
 - **Entry 17 of State List:** Provides for water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to entry 56 of union List.
 - **Entry 56 of Union List:** Provides for Regulation and development of inter-State rivers and river valleys.
- ▶ **Article 262:** Parliament by law may provide for adjudication of disputes relating to waters of inter-State rivers or river valleys.
- ▶ **Parliament has enacted two laws:**
 - **Inter-State Water Disputes (ISWD) Act, 1956:** State Governments may request the Central Government to refer the dispute to a tribunal for adjudication.
 - **River Boards Act, 1956:** Setting up of River Boards by the central government for regulation and development of inter-state rivers and river valleys.
- ▶ **National Water Policy 2012:** To address issues of water scarcity, inequities and the lack of a unified planning, management and use of water resources.

Tribunals setup under ISRWD Act, 1956

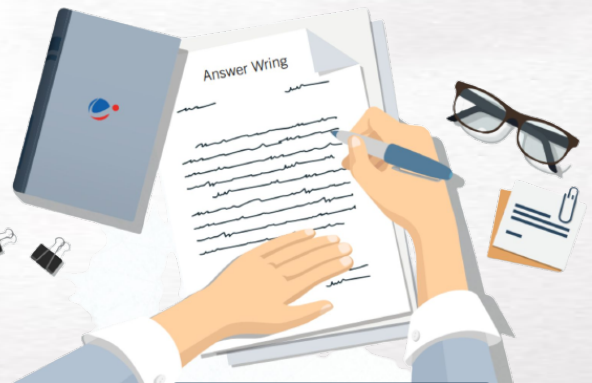


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1.3. ELECTIONS IN INDIA

1.3.1 SIMULTANEOUS ELECTIONS

CONTEXT



The Union government has formed an 8-member committee led by former President Ram Nath Kovind to examine and recommend simultaneous elections.

ANALYSIS



Arguments for Simultaneous Elections

- ▶ **Impact on Governance:** Frequent application of Model Code of Conduct halts development programs in election-bound states.
- ▶ **Massive expenditure in the conduct of elections:** For instance, as per data, formal expenditure by the ECI in the 2019 Lok Sabha general elections was about ₹ 10,000 crores.
- ▶ **Security personnel:** About 2-5 State Assemblies go to polls every 6-month period which leads to a deployment of security personnel for prolonged periods.
- ▶ **Other issues:** Frequent elections perpetuate caste, religion and communal issues, and populism across the country.

Challenges in Implementing Simultaneous Elections

- ▶ **Operational challenges:** Need of amendment to multiple constitutional provisions (Articles 83, 85, 172, 174 and 356) related to conduct of elections and bye-elections.
- ▶ **Logistical and warehousing issues** requiring twice as many EVMs and Voter Verifiable Paper Audit Trail machines.

- ▶ **Impact to voter behavior:** Apprehension that national issues may dominate over regional issues.
- ▶ **Lack of familiarity with the idea:** Last simultaneous election was held in 1960s. Hence, an entire generation is not familiar with the idea of simultaneous elections.
- ▶ **Lack of Accountability:** As elected representatives and parties will have to face elections only once in 5 years.

Recommendations on implementation of Simultaneous elections

- ▶ **Law Commission (170th report, 1999)**
 - Hold elections simultaneously but withhold the result of elections till after the expiry of the term of the assembly concerned.
- ▶ **Parliament Standing Committee on Personnel, Public Grievance and Law & Justice (79th report)**
 - **2-phase synchronized election-** Holding of elections of some Legislative Assemblies at mid-term of Lok Sabha and remaining with the end of tenure of Lok Sabha.
- ▶ **NITI Aayog (Discussion Paper, 2017)**
 - In the event of 'no-confidence motion', simultaneously move a 'confidence motion' for formation of an alternative government.

Conclusion

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



Read From Essential Material

Chapter 3rd, 'Election and Representation' of class XI NCERT (Indian Constitution at work)

BRIEF BACKGROUND

- ▶ **Simultaneous election** is an idea aimed to synchronize the Lok Sabha, State Assemblies elections, Municipalities and Panchayats such that voters in a particular constituency vote on the same day.
- ▶ **Timeline of Simultaneous Elections in India**
 - **1952-1967:** General elections to Lok Sabha and State assemblies were conducted simultaneously.
 - **1968-1969:** Premature dissolution of some Legislative Assemblies.
 - **1970:** Premature dissolution of Lok Sabha leading to fresh election in 1971.
 - **1983:** The Election Commission of India (ECI) suggested working on simultaneous elections.

1.3.2 CRIMINALIZATION OF POLITICS

CONTEXT



- ▶ A report titled 'Analysis of Sitting MPs from Lok Sabha and Rajya Sabha of India 2023' was released by the Association for Democratic Reforms (ADR) and National Election Watch.
- ▶ **Key Findings**
 - **Sitting MPs with criminal cases: 40%** of all Sitting MPs.
 - **Sitting MPs with serious criminal cases: 25%** of all Sitting MPs.

ANALYSIS



Factors behind criminalisation of politics

- ▶ **Nexus:** Nexus between the criminal gangs, police, bureaucracy, and politicians.
- ▶ **Muscle Power:** Criminals are used by political parties and independent candidates to spend enormous sums of money on vote buying and other illegal activities.
- ▶ **Winnability:** As per ADR report chance of winning of candidates with criminal cases is twice compared to other candidates.
- ▶ **Denial of Justice and Rule of Law:** Due to inordinate delays lasting over years and high costs in the judicial process
- ▶ **Vote Bank:** Political parties courting criminals and offering them cabinet positions in exchange for votes.
- ▶ **Money Power:** Due to the low Statutory limit for election expenses, for more expenses candidates often take criminal help.

Impact of Criminalization of Politics

- ▶ **Institutionalizes corruption and erodes public trust:** E.g. India ranked **85/180** countries, in the 2022 **Corruption Perceptions Index**.
- ▶ **Criminalization of Political Parties:** Due to criminal elements gaining control of political parties and thwarting inner-party democracy.
- ▶ **Affects working of investigation and prosecution agencies:** Criminal-politician nexus negatively influences the working of agencies, like, CBI, ED etc.
- ▶ **The decline in conviction rate:** As per **SC amicus curiae report (2022)** - 5,097 cases are pending against lawmakers across the country.
- ▶ **Affect conducting of free and fair elections:** Use of money and muscle power compromises with spirit of free and fair elections.

Way forward

- ▶ **Amending the RPA, 1950:** To debar persons against whom heinous nature crimes are pending from contesting in elections.
- ▶ **Hybrid electoral System:** As suggested by the **170th Law Commission Report**, hybrid system involves 75% of votes through first past the post (FPTP) and 25% through proportional system.
 - FPTP encourages candidates to spend heavily in every election.
- ▶ **Punishment for filing of false affidavits:** The Law Commission **244th Report**, suggested minimum 2 years imprisonment for false affidavits and making the offence a ground for disqualification.
- ▶ **Internal democracy for political parties:** The National Commission to Review the Working of the Constitution (NCRWC) Report suggested a dedicated legislation for inner-party democracy.



Read From Essential Material

Chapter 6th "Political Parties" of class X NCERT (Democratic Politics-II)

BRIEF BACKGROUND

Criminalization of Politics

2nd Second Administrative Reforms Commission in its 4th Report Ethics in Governance stated it as 'participation of criminals in the electoral process'.

Measures taken to check Criminalization of Politics

- ▶ **Legislative Measures: Section 8(3) of the RPA, 1951** says any lawmaker sentenced to at least two years in jail remains disqualified for six years upon their release.
- ▶ **Judicial Pronouncements**
 - **Union of India v ADR (2002):** SC upheld elector's 'right to be informed' of the antecedents of the candidates.
 - **Peoples Union for Civil Liberties (PUCL), Union of India (2004):** SC declared **Section 33B of RPA 1951**, (which required candidates to furnish information only under the Act) as **unconstitutional**.
 - **Lily Thomas v Union of India (2013):** SC ruled that **Section 8(4) of the RPA, 1951** as unconstitutional. The section, earlier allowed convicted legislatures to continue their post after appealing against their sentence within 3 months of conviction.
 - **Public Interest Foundation v. Union of India (2018):** SC ordered **political parties** to publish the criminal records of their candidates on their websites, social media handles, and newspapers.

1.3.3 ELECTORAL FUNDING

CONTEXT

Recently, the Supreme Court directed the Election Commission of India (ECI) to submit data on the electoral bonds received by political parties by September 30, 2023.



ANALYSIS



Concerns associated with Electoral Funding

- ▶ **Huge expenditure:** Lok Sabha 2019 elections have been termed as the 'most expensive election ever, anywhere'.
 - ▶ As per the Centre for Media Studies report, nearly Rs 55,000-60,000 crore was spent during the 2019 elections.
- ▶ **Disrupts Level playing field:** The increased use of money power in the election disrupts the level playing field.
- ▶ **Increased Cash Transactions:** Electoral funding in the form of cash transactions is widespread in India making it difficult to trace the sources of funds.
 - ▶ As per rules currently, political parties do not have to disclose all donations below Rs 20,000.
- ▶ **Corporate and political parties' nexus:** Corporate donations of political parties have been growing significantly.

Way forward

- ▶ **State funding of elections:** The Indrajit Gupta Committee (1998) recommended state funding of elections to ensure a level playing field for parties with limited financial resources.
- ▶ **Transparency:** Details of all donors should be made available for public scrutiny under RTI as practiced in countries like Nepal, Germany, France, USA.
- ▶ **Proactive Disclosure:** Scrutiny of financial documents submitted by the political parties should be conducted annually by a body approved by CAG and ECI.
- ▶ **Tax exemption:** ECI has recommended that tax exemption be awarded only to those political parties which contest and win seats in Lok Sabha/ Assembly elections.
- ▶ **Bringing Political Party under the ambit of RTI:** National and regional political parties must provide all information under the RTI Act to strengthen political parties, elections, and democracy.

BRIEF BACKGROUND

Electoral Bonds (EBs)

- ▶ EBs are interest-free bearer bonds or money instruments that can be purchased by companies and individuals in India from authorised branches of State Bank of India (SBI).
- ▶ Announced in Union Budget 2017-2018.
- ▶ Sold in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore.
- ▶ Purchased through a KYC-compliant account to make donations to a political party.
- ▶ No cap on number of EBs that a person or company can purchase.
- ▶ Available for purchase for a period of 10 days each in January, April, July and October.

Benefits of EBs

- ▶ Promote transparency by ensuring that political parties receive donations through formal banking channels.
- ▶ Identity of donors remains confidential, reducing the risk of retaliation or intimidation for their political affiliations.
- ▶ All transactions of EBs are carried out via cheques or digitally.

Concerns associated with EBs

- ▶ Lack of transparency regarding the source of funds.
- ▶ Violates citizen's fundamental right to information under Article 19 (1) (a) about political parties.
- ▶ Anonymous donation may compromise with principle of free and fair election.
- ▶ Shell companies can be used to fund political parties

According to data collected by ADR, 69% of the total income of political parties during the 11-year period between FY 2004-05 and 2014-15 was from 'unknown sources'.



1.3.4 ELECTORAL LITERACY

CONTEXT

Recently, ECI signed an MoU with the Ministry of Education to bring Electoral Literacy to Classrooms across the country



ANALYSIS



Salient Features of MoU on Electoral Literacy

- ▶ Systematically integrating voter education and electoral literacy into the curriculum, starting from classes 6 to 12 in all schools.

Electoral Literacy includes	
	Information on government
	Principal economic, social and political issues that the nation is facing
	The value of democracy
	Equal rights of women and men among others.

- ▶ Fosters a sense of responsibility within State Education Departments for establishing Electoral Literacy Clubs (ELCs) in schools and colleges.
- ▶ NCERT will introduce and update textbooks to include content on electoral literacy and will advise State Education Boards and other Boards to follow suit.

Importance of Electoral Literacy

- ▶ Educate children about election process since childhood and importance of voting.
- ▶ Help in smooth conduction of election in a diverse country like India.
- ▶ Address urban and youth apathy, leading to better electoral participation in general elections.
- ▶ Preparing future voters for ethical electoral participation and in effect strengthening democracy.

Way forward

- ▶ **Teacher's training:** Organising seminars to train teachers for effectively imparting electoral literacy to students.
- ▶ **Campaigns:** Regular campaigns can be organised by the state election commission to enhance electoral literacy among the masses.
- ▶ **Increasing funding and coordinating with NGOs and Gram Sabhas** to augment Electoral Literacy programs in the rural areas.

BRIEF BACKGROUND

Initiatives taken to promote Electoral Literacy

- ▶ **Systematic Voter Education and Electoral Participation (SVEEP) program:** Flagship program of ECI for voter education, spreading voter awareness and promoting voter literacy in India.
- ▶ **Electoral Literacy Clubs (ELCs):** ELCs were set up in institute campuses across country by ECI under SVEEP campaign.
 - ▶ ELC is a platform to engage school students through interesting activities and sensitise them on their electoral rights and familiarise them with electoral process of registration and voting.

ECI's Strategic Plan on Electoral Literacy 2016-2025

- ▶ Enhance voter awareness and promoting Ethical Electoral Participation.
- ▶ Continuous Education in Electoral Democracy by Developing tools and content.
- ▶ Building Partnerships for wider Engagement.

1.3.5 ARTIFICIAL INTELLIGENCE AND ELECTIONS

CONTEXT



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

ANALYSIS



Role of AI in elections

- ▶ **Predictive Modelling:** Factors such as demographics and voting patterns can be considered to build a predictive model that helps identify the voter's preferences.
- ▶ **Social Media Analysis:** Parties can use AI to evaluate real-time data on social media trends, sentiment, and influencers.
- ▶ **Personalization:** AI can aid in tailoring communications for specific voters based on their interests, preferences, and traits. This can **assist candidates in connecting with the audience** more deeply.
- ▶ **Increased Efficiency:** AI can track and measure the performance of various campaign activities such as advertising, canvassing, and events thereby making data-driven decisions to optimize their activities.
- ▶ **Enhance participation:** AI also generates chances for participative democracy, like enhanced voter education and mobilization.

Concerns Associated with AI in Elections

- ▶ **Manipulation:** AI can be used to create deepfake videos, misinformation, and social media manipulation, influencing voters and distorting the truth.
- ▶ **Erode trust in Elections:** AI tools can be used to conduct an influence campaign.
- ▶ **Lack of regulation:** There is a lack of comprehensive regulation specifically addressing the use of AI in elections.
- ▶ **Accuracy and Data Quality:** The effectiveness of AI systems in political campaigns is hampered by the accuracy of algorithms and the quality of available data.
- ▶ **Cyber security vulnerabilities:** Utilizing AI for collecting and analyzing personal voter data raises privacy concerns due to inadequate cybersecurity, storage devices, and heightened cyber threats.

Way forward

- ▶ **Regulatory Frameworks:** Governments should establish clear regulatory frameworks for the use of AI in elections, including data protection, and campaign advertising.
- ▶ **Strengthen the Election Commission of India (ECI):** To reduce the risk of AI misuse by political campaigns, ECI should **strengthen disclosure requirements** covering online communications.
- ▶ **Innovation and Detection:** The government should ramp up efforts to **promote innovation in the detection of deep-fake, voting disinformation campaigns and strengthen infrastructure** to protect elections from cyberattacks fueled by language models and chatbots.
- ▶ **Adaptive Response:** Continuously monitor and adapt to emerging threats and challenges related to AI in elections.



1.4. GOVERNANCE

1.4.1 RIGHT TO INFORMATION (RTI)

CONTEXT



Recently, the Supreme Court directed the Centre and State governments to **fill the vacancies in the Central Information Commission (CIC) and State Information Commission (SIC).**

- ▶ Despite the **2019 judgment of the Supreme Court in Anjali Bhardwaj and Ors v. Union of India**, the vacancies in the Central Information Commission and State Information Commissions had not been filled.

ANALYSIS



Significance

- ▶ **Empower citizens** by equipping them with the power to seek information from public authorities.
- ▶ **Promote transparency and accountability** in the working of Government.
- ▶ **Reduce corruption** and make democracy work for people in the real sense.
- ▶ **Strengthen government- public relations** through improved communication.
- ▶ **Improve government records database management.**
- ▶ **Increase awareness among citizens** regarding the government's functioning and strengthen parliamentary democracy.

Concerns associated with the implementation of RTI

- ▶ **Poor record-keeping:** RTI applicants have been denied information due to factors like **lack of records; records are not in a proper format or have gone missing.**
- ▶ **Lack of infrastructure and staff:** As per the Commonwealth Human Rights study, the **total number of RTI pleas rose by 83%** between 2012-13 and 2018-19 due to shortage of staff.
- ▶ **Huge pendency and delays:** As per Satark Nagrik Sangathan study, **approx. 3.14 lakh appeals and complaints were pending** as of June 2022.
- ▶ **Threat and Violence:** In the last 15 years, more than 80 people who had filed RTI applications have been killed while 175 others have been attacked.
- ▶ **Lack of awareness:** **Underutilization of the law** especially in rural India due to lack of awareness among masses.

Way forward

- ▶ **Filling up the vacancy:** Vacant posts of **CICs and ICs must be filled within 3 months** as mandated by the Supreme Court in 2019.
- ▶ **Awareness:** Conduct extensive awareness campaigns and make it a part of the **school/college curriculum** to educate citizens about their rights.
- ▶ **Protection:** Strengthen legal provisions to **protect whistleblowers from disclosing information** in the

BRIEF BACKGROUND

About the Right to Information (RTI)

- ▶ RTI means that **any Indian citizen can request any information** (which is supposed to be public knowledge) **from offices and departments** of state or central governments.
- ▶ Nodal agency for the implementation: **Department of Personnel and Training (DoPT)** under the **Ministry of Personnel, Public Grievances and Pensions.**
- ▶ CIC, a **statutory body**, has been constituted with **effect from 2005 under RTI Act, 2005.** Jurisdiction of Commission extends over all Central Public Authorities.
 - ▶ **The Right to Information Rules, 2019** notified that the CIC and ICs will **hold office for a term of 3 years.**
 - ▶ Amendment was done to ensure that **ICs can use their powers even with senior-most officers of the administration** without any fear of their jobs.
- ▶ **Key Provisions of RTI Act, 2005:**
 - ▶ **Section 2(h): Public authority** means any authority or body or institution of self-government established or constituted-
 - ◊ by or under the **Constitution;**
 - ◊ by any other **law made by Parliament/State Legislature.**
 - ◊ by **notification issued or order made by the appropriate Government, and includes any**
 - » body owned, controlled or substantially financed;
 - » non-Government organisation substantially financed, directly or indirectly by funds provided by the appropriate Government.
 - ▶ **Section 4(1)(b):** Lays down **information which should be disclosed by Public Authorities on a suo motu or proactive basis.**
 - ▶ **Section 6 (1):** A person, who desires to **obtain any information**, shall make a request in writing or through electronic means to the Central Public Information Officer (PIO) or State PIO.
 - ▶ **Section 7:** Fixes the **time limit** for providing information(s) by PIOs.
 - ▶ **Section 8:** **Exemption** from disclosure of information.

public interest.

- ▶ **Training:** Provide training programs for government officials to familiarize them with the provisions of the RTI Act, conduct **capacity-building programs** for PIOs etc., to keep them updated on the RTI Act and its implementation.
- ▶ **Proactive disclosure:** Public authorities should proactively disclose information without formal RTI requests.

Exemptions under RTI Act 2005

- ▶ Recently, Central government notification under section 24 (2) of RTI Act, 2005 to exempt Indian Computer Emergency Response Team (CERT-In) from purview of RTI Act and added CERT-In in Second Schedule of RTI Act.
 - ▶ Section 24 of RTI Act says that this law does not apply to the intelligence and security organizations specified in Second Schedule.
 - ▶ However, information about allegations of corruption and human rights violations shall not be excluded.

1.4.2 ROLE OF TECHNOLOGY IN PUBLIC SERVICES DELIVERY

CONTEXT

The Comptroller & Auditor General (CAG) of India emphasised on the need for increased use of IT systems and technology in public service delivery

ANALYSIS

Significance of Technology in Service Delivery

- ▶ Saves time and money for the Citizens as they need not travel to different government offices and stand in queues to get their work done.
 - ▶ e-Hastakshar service facilitates instant e-signing of documents.
- ▶ Increases the efficiency of Government departments as the digital records can be shared easily and maintained for later reference.
 - ▶ Vehicle data from different State Registers are collected and processed in the VAHAN platform of the Ministry of Road Transport and Highways
- ▶ Eliminates the Ghost beneficiaries and leakages to a larger extent as the digital records can be updated dynamically and the leakages can be traced back easily. E.g. Aadhar MGNREGA linkage.
- ▶ Increases accountability and reduces corruption, as the initiator of a particular transaction can be traced back to the system from where it began.
 - ▶ Enables citizens to raise complaints against erring officers
- ▶ Combined data harnessed from various sources, can be mined to design better public policies.
 - ▶ Aadhar PAN linkage helps to collect data on income for reducing black money and increasing the tax collection.



Way forward

- ▶ Enhancing the digital literacy among the population.
- ▶ Creating a digitally skilled workforce through skilling programs.
- ▶ Legal framework to enhance the data protection within the country
- ▶ Enhancing the Cyber security infrastructure.
- ▶ Improving the digital infrastructure and enhancing the interoperability of the services.

1.4.3 CONSUMER PROTECTION IN INDIA

CONTEXT



A recent finding suggests that the **pendency** in consumer commissions has shown a declining trend (from 5.55 lakhs to 5.45 lakhs between 2022 to 2023).

ANALYSIS



Need for Consumer Protection

- ▶ **Informed Choice:** Trend of increasing the supply of duplicate/defective products in the market. CPA rules encourage information dissemination about the products.
- ▶ **Checking Malpractices:** Prevent and combat unfair trade practices such as black marketing, hoarding and market manipulation.
 - E.g. high premiums on essential medicines, and misuse of patent rights by pharma companies.
- ▶ **Misleading advertising:** Purposeful deception of consumers by presenting false advertisements.
- ▶ **To provide Grievance Redressal mechanisms:** To address consumer complaints. E.g. sale of adulterated products etc.
- ▶ **Economic growth and competitiveness:** Consumer protection drives demand up and contributes to dynamic and effective markets for businesses to grow.

Challenges associated with Consumer Protection in India

- ▶ **Pendency of cases:** This results in long waiting periods and delays in dispute resolution.
- ▶ **Vacancies in institutions: Lack of infrastructure and manpower in consumer forums** (e.g., Pune, Delhi etc.), leading to inefficient complaints redressal.
- ▶ **Lack of clarity:** Central Consumer Protection Authority (CCPA) roles related to investigations, inquiries, search and seizure functions are unclear.
- ▶ **Rights vs. Duties:** Development of conscious consumerism is the essence of consumer protection. However, the CPA does not lay down consumer duties exclusively.

Way Forward

- ▶ **Advertisements:** Governments should collaborate with stakeholders to develop advertising codes and standards.
- ▶ **Safety and Quality:** Regular review of National standards and regulations for product safety and quality as per international standards.
- ▶ **Awareness:** Education, mobilization and representation of consumers.
 - E.g. periodicals on complaint redressal measures, Jago Grahak Jago campaign.
- ▶ **Roles and Responsibilities and Consumer duties:** CCPA's roles should be clearly outlined in matters such as product recalls, appeals, etc. along with consumer duties to guide a responsible consumption ecosystem.

BRIEF BACKGROUND

Who is a Consumer?

- ▶ Consumer Protection Act (CPA) 2019, defines consumer as a person who buys any goods or avails services for a consideration, paid or promised.
- ▶ However, it excludes person who obtains goods or avails services for resale or commercial purposes.

Measures Taken for Consumer Protection in India

- ▶ **Consumer Protection Act (CPA) 2019:** Provides for Central Consumer Protection Authority (CCPA) to regulate on violation of the rights of consumers, unfair trade practices etc.
 - Rights of a consumer given by CPA
 - ◊ The right to be informed.
 - ◊ The right to be heard.
 - ◊ The right to consumer education
 - ◊ The right to safety
 - ◊ The right to choose.
 - ◊ The right to redress.
- ▶ **ConfoNet Project:** Aims to improve operational efficiency, coordination, accessibility, and speed in judicial administration at Consumer Redressal commissions.
- ▶ **Integrated Grievance Address Mechanism (INGRAM) portal:** To create awareness and advice, register, redress consumer grievances.
- ▶ **E-Daakhil Portal:** Provides hassle-free, speedy and inexpensive facility for consumers to approach the relevant consumer forum.
- ▶ **Certification markers:** To protect and sensitize consumers regarding quality standards.

1.5. IMPORTANT LEGISLATURE/BILLS

1.5.1 NARI SHAKTI VANDAN [CONSTITUTION (106TH AMENDMENT)] ACT, 2023

CONTEXT

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

ANALYSIS

Need for women's reservation in legislature

- ▶ **Under-representation:** Only about 14% of the members in Parliament are women, which is lower than neighboring countries like Sri Lanka, Pakistan, Bangladesh.
- ▶ **Patriarchal nature of political parties:** Affirmative action for women is crucial due to inherent patriarchy in political parties.
- ▶ **Gender-sensitization of public policy:** Women in decision-making is vital to address issues like low female labor force participation and rising crime rates against women.
- ▶ **Evidence from the reservation at local level:** As per Oxfam, local-level women's reservation led to increased crime reporting and improved access to basic amenities like drinking water, schools etc.
- ▶ **Nudging Women-led development:** Enhancing women's participation as **public representatives** in national and state-level policymaking.

Concerns with the Act

- ▶ **Against inequality:** Reservation contradicts the constitutional principle of equality, as it may not ensure merit-based competition for women.
- ▶ **Impact on voter's choices:** Reservation will restrict voter's choices and runs counter the idea of self-determination.
- ▶ **Less impact on political empowerment of women:** Still issues like political criminalization and party internal democracy can hinder women's political empowerment.
- ▶ **Disparity across states:** The act provides for reservation of 1/3rd seats across all Lok Sabha seats as against provision of reserving 1/3rd seat in each State/UT as mentioned in 2008 bill.
- ▶ **Reservation in Rajya Sabha and Legislative Councils:** Act ignored **Geeta Mukherjee Committee** recommendation for providing reservation for women in Rajya Sabha and Legislative Councils as well.

Way forward

- ▶ **Timely implementation:** Time bound conduct and publication of the census data and delimitation exercise.
- ▶ **Capacity building:** Involve civil society and other institutions for training and mentorship of women leaders.

Read From Essential Material

Chapter 3rd, "ELECTION AND REPRESENTATION" of class XI NCERT (Indian Constitution at work)

BRIEF BACKGROUND

Key provisions of the Act

- ▶ **Articles amended**
 - ▶ **Article 239AA:** Reservation of women in the Legislative Assembly of the of Delhi.
- ▶ **Articles inserted**
 - ▶ **Article 330A** for reservation of women in the **Lok Sabha** and **Article 332A** for reservation of women in the **legislative Assembly of every State**.
 - ◊ It also reserves 1/3rd of seats for women within the overall quota allocated for SCs/STs under Article 330.
 - ▶ **Article 334A:** Provisions of this act shall come into effect after delimitation exercise based on the first Census conducted after the passage of the Bill.
 - ▶ **Sunset clause:** Provisions of reservation shall cease to have effect after the expiration of 15 years.
 - ▶ The reservation **can be extended by the Parliament by law.**
 - ▶ **Periodic rotation of seats** reserved for women after each subsequent delimitation.
- ▶ **Other Efforts:**
 - ▶ Recently, Parliament has passed two acts to extend women's reservation to the Union Territories of Jammu & Kashmir and Puducherry.
 - ◊ The Government of Union Territories (Amendment) Act, 2023 for the UT of Puducherry.
 - ◊ The Jammu And Kashmir Reorganization (Second Amendment) Act, 2023 for the UT of Jammu & Kashmir.

Earlier attempt at Political empowerment of women

- ▶ **1992:** Reservation for women in **Panchayats and Municipalities through 73rd and 74th Amendments**, respectively.
- ▶ **1996:** 81st amendment bill was introduced to **reserve 1/3rd seat for women in Lok Sabha and State assemblies.**
- ▶ **1998 & 1999:** Similar attempts were made.
- ▶ **2008:** Last such attempt was made in 2008, when a Bill for reservation of women was introduced and passed in the **Rajya Sabha. Later, this bill lapsed.**

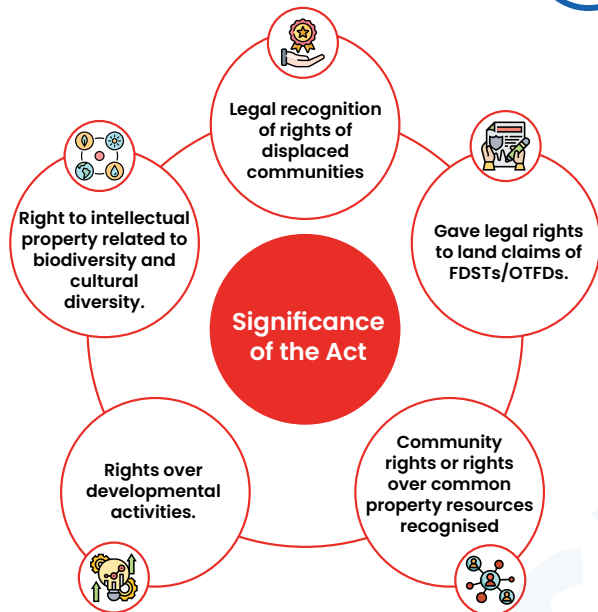
1.5.2 SCHEDULED TRIBES AND OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHTS) ACT, 2006

CONTEXT



Recently it has been reported that the states have rejected nearly 40% of the land claims under Forest Right Act.

ANALYSIS



Concerns related to the Act

- ▶ **Land Claims Related**
 - ▶ **Document of Proof:** Many IFR claims were rejected because applicants lacked adequate documentary evidence of this use of the land.
 - ▶ **Inconsistency in acreage claimed and acreage allocated:** E.g As per World Bank, in Narmada District (Gujarat) around 70 % claimants reported that the IFR claim was approved for lesser acreage.
 - ▶ **Low awareness:** among locals and Gram Sabha on filing and verification of FDSTs /OTFDs claims.
- ▶ **Other Concerns with the Act**
 - ▶ **Forest land encroachment:** Misuse of Gram sabha for approval for ineligible claimants and regularizing encroachments.
 - ▶ **Violation of FRA Provisions:** E.g, CFR titles were issued to 10 villages in Gondia district of Maharashtra showed that the DLC had issued titles in the name of the **panchayat instead of the gram sabha**.
 - ▶ **Lack of Coordination:** among SLC, DLC and the State Level Monitoring Committee, established under the Act.
 - ▶ **Destruction of forests and wildlife:** FRA Act due to its land rights and minor forest produce use, might affect the biodiversity of the forest.

Way forward

- ▶ **Issuing Directives from centre to states:** to ensure a review exercise in line with the FRA Act in case of high rejection rate of claims.
- ▶ **Learning from State Government:** Odisha government's **Mo Jungle Jami Yojana (MJJY)** provides ownership of land and access to forest resources to the beneficiaries.
- ▶ **Awareness Generation:** among gram sabhas, forest rights committees (FRCs), and IFR/CFR claimants about FRA.
- ▶ **Capacity building of Gram Sabha:** through training and effective use of local bureaucracy.

BRIEF BACKGROUND

About Forest Right Act (FRA), 2006

- ▶ **Section 3(1)(a)** of the FRA recognises the right of the forest dwelling tribal communities (FDSTs) and other traditional forest dwellers (OTFDs).
- ▶ **Types of Rights under Section 3 of FRA Act**
 - ▶ **Individual Forest Rights (IFR):** Right to hold and live in the forest land under the individual or common occupation for habitation or for self-cultivation.
 - ▶ **Community Forest Rights (CFR):** within traditional or customary boundaries of the village, irrespective of the ownership, classification, and size of forests.
 - ▶ **Community forest resource management rights:** Right of ownership, access to collect, use, and dispose **minor forest produce**, traditionally collected within or outside village boundaries.
- ▶ **Nodal Agency:** As per Act, the responsibility for implementation of the Act lies with **State Governments/UT Administrations**.
- ▶ **Role of Gram Sabha:** Authority to initiate the process for determining the nature and extent of IFR or CFR or both.
- ▶ **Land titles:** Act recognises the rights of an individual or family or community on the not exceeding more than **four hectares**.
 - ▶ Land Rights conferred by the Act heritable under **Section 4 of FRA**, but **not transferable or alienable**.
- ▶ **Protected Areas:** FRA is applicable in **National Parks, Wildlife Sanctuaries, and Tiger Reserves**.

1.6. LOCAL GOVERNANCE

1.6.1 CAPACITY BUILDING OF URBAN LOCAL BODIES (ULBS)

CONTEXT



National Workshop on Capacity Building of ULBs was organised by the Capacity Building Commission (CBC) and MoHUA.

ANALYSIS



Need for capacity building of ULBs

- ▶ To deal with regional aspirations i.e. economic and social development through bottom-up planning.
- ▶ India's urban centres are considered 'Engines of growth', as they account for nearly two-thirds of country's economic growth.
- ▶ India's urban population is expected to almost double from 460 million in 2018 to 876 million by 2050.
- ▶ For successful and effective implementation of schemes like Smart City Mission, AMRUT Mission etc.
- ▶ Streamlining planning process and delineation of institutional roles, relationships for ULBs to meaningfully shape local and regional plans.

Challenges associated with Capacity Building of Urban Local Bodies

- ▶ **Lack of skills of personnel:** in areas like socio-economic planning, sustainable urban planning, financial management, and e-governance.
- ▶ **Training Curricula:** are programme-centric or event-based, with limited utility in the development of specific skills.
 - Training institutes have capacity-building deficits, and they focus more on general and rural administration rather than on urban governance.
- ▶ **Lack of awareness and citizen participation in ULBs:** cuts the feedback channel from the citizens, which could act as a key motivator for capacity building.
- ▶ **Partial Devolution:** In practice, there is a lack of devolution of financial authority to ULBs resulting in local authorities having greater responsibilities without financial means to fulfil it.

Way forward

- ▶ **Quality training material:** Designed to offer a mix of classroom and on-field training.
- ▶ **Address the shortage of capacity-building institutions:** by engaging academic and non-governmental training organisations.
- ▶ **Professionalism:** Developing a cadre system for ULBs with specific training to create a strong and efficient workforce.
- ▶ **Awareness generation:** to enhance citizen participation in ULBs.



Read From Essential Material

Chapter 8th, 'Local Governments' of class XI NCERT

BRIEF BACKGROUND

About Urban Local Bodies

- ▶ ULBs are small local bodies that administer or govern a city or a town of a specified population.
 - Urban governance (Local Government) is part of the state list (Entry number 5) under the Constitution. Thus, the administrative framework and regulation of ULBs varies across states.
- ▶ **Constitution (74th Amendment) Act, 1992,** formally recognised urban local governments as the third tier of government.
 - The Act provided for the establishment of three types of ULBs:
 - ◊ Nagar panchayats for a 'transitional area'
 - ◊ Municipal councils for a 'smaller urban area' and
 - ◊ Municipal corporations for a 'larger urban area'.
 - It empowered state governments to devolve certain functions, authority, and power to collect revenue from these bodies and made periodic elections for them compulsory.
 - **Functions of ULBs include** urban planning including town planning, regulation of land use and construction of buildings, roads and bridges, urban poverty alleviation etc.

Capacity Building Commission (CBC)

- ▶ **About:** Autonomous body and a key component of National Programme for Civil Services Capacity Building (NPCSCB) - Mission Karmayogi.

- ▶ **Fiscal Decentralisation:** Autonomy in matters of expenditures and resource mobilisation to **empower ULBs to allocate funds for training.**
- ▶ **Convergence:** Institutionalising structures of local bodies to **enhance coordination among local governance bodies and bring synergy.**

- ▶ **Purpose:** To build credibility and shape a uniform approach to capacity building.

Measures for capacity building of ULBs

- ▶ **Capacity Building Scheme for ULBs (CBULB):** To ensure better governance and financial management of ULBs.
- ▶ **World Bank-assisted Capacity Building for Urban Development (CBUD) Project:** To build capacity of select ULBs, which are centres of economic growth.
- ▶ **National Urban Digital Mission:** Anchored by National Institute of Urban Affairs (NIUA), it focuses on citizen-centric digital revolution in ULBs.
- ▶ **Jawaharlal Nehru National Urban Renewal Mission (JNNURM):** For efficient urban infrastructure, service delivery, community participation, and accountability of ULBs.
- ▶ **Municipal Bonds:** Issued by ULBs to raise funds.

1.6.2 AAINA DASHBOARD FOR CITIES

CONTEXT



Ministry of Housing & Urban Affairs launched 'AAINA Dashboard for Cities' portal.

ANALYSIS



- ▶ Pioneering portal will provide information on status and progress of cities on five broad thematic areas.

Five Broad Pillars of AAINA Dashboard for Cities



- ▶ **Urban Local Bodies (ULBs)** across the country can **voluntarily submit their key data** including audited accounts, self-reported performance metrics on a regular basis.
 - ▶ Ministry through **Digital India Corporation (DIC)** will provide **handholding to ULBs / States in the data submission process.**
 - ▶ DIC provides **strategic support** to Ministries/Departments for carrying forward **Digital India Mission.**
- ▶ **Key objectives of portal:**
 - ▶ **Healthy Competition:** ULBs can now see how their ULB is faring vis-a-vis other ULBs.
 - ▶ **Inspiration:** Motivation for ULBs to identify the possibilities available for improvement.
 - ▶ **Learning:** Opportunity for ULBs to learn and implement best practices from peers.
- ▶ **Need for the portal:** Critical data on single platforms would be helpful for **planning new schemes and making policy decisions.**

1.7. MISCELLANEOUS

1.7.1 PERSONALITY RIGHTS

CONTEXT



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

ANALYSIS



Personality Rights in India

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

Posthumous Personality Rights

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

Judicial interpretations

- ▶ **Deepa Jayakumar v. AL Vijay case (2019):** Madras High Court held that personality rights cease to exist after the death of the personality and cannot be inherited by legal heirs.
- ▶ **Sakshi Malik v. Venkateshwara Creations Pvt. Ltd. & Ors case (2021):** Bombay High Court held that using another's private image, without consent is illegal.

Challenges in enforcing Personality rights in India

- ▶ **Conflict with the Constitution:** Conflict between right to publicity, media's right to publish and inform public about matters of public interest and citizen's right to know under Article 19.
- ▶ **Absence of legislative framework:** To govern various facets of personality rights such as transferability of publicity rights.
- ▶ **Dark Patterns:** Deceptive internet techniques and Generative AI are difficult to regulate.

Conclusion

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

BRIEF BACKGROUND

About Personality Rights

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

Personality rights under international convention

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

1.7.2 PRISON REFORM

CONTEXT

Parliamentary Committee on Home Affairs submitted report on 'Prison conditions, Infrastructure and Reforms'.

ANALYSIS

Key highlights

- **Overcrowding:** The National Average Occupancy Rate in prisons across India is **130.2%**, with **77.1%** of all the prisoners in the country being **undertrials**.
- **Understaffed:** Prisons are understaffed by **approximately 30%**.
- **Women prisoners:** Of the total of **22,918** women inmates, **1,650** women inmates are with **1,867 children**.
- **Prison budget:** Only **0.6%** of prison budget is spent on **vocational/ educational training** of prisoners and **1%** on their **welfare activities**.

Recommendations

- **Undertake a comprehensive study** covering the population of the region, crime rate etc. to develop a suitable plan to enhance the capacity of the prisons or another alternative.
- Implement the "**Support to Poor Prisoners programme**" announced in the Union Budget 2023.
- Utilise technology like **trackable bracelets** to keep **track of prisoners on bail**.
- **Renovate colonial-era prisons** to preserve their heritage and earn revenue by **encouraging tourism**.
- **State Governments may create a Prison Development Fund** for the welfare activities of the prisoners.

Steps taken by the Centre for Prison Reforms

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

1.7.3 ONLINE REGISTRATION OF FIRST INFORMATION REPORTS (FIR)

CONTEXT

- **282nd report** titled '**Amendment in Section 154 of the Code of Criminal Procedure, 1973 for Enabling Online Registration of FIR**' submitted by 22nd Law Commission to the Ministry of Law & Justice.
- **Section 154 of the Code of Criminal Procedure, 1973** governs how the first **information** about the commission of a **cognizable offence** is recorded.

ANALYSIS

Recommendations

- **e-FIR be enabled in a phased manner.**
 - ◇ Registration of e-FIR is to be permitted for all **cognizable offences** where the accused is **not known** or attracting **punishment up to 3 years where the accused is known**.
- States have the power to **expand the list of offences**.
- **Privacy of the parties** to be ensured.
- **Verification of Informant/Complainant** and Punishment for False Information
- **e-Complaint** to be allowed for all Non-Cognizable Offences.
 - ◇ Complaint means any allegation made orally or in writing to a Magistrate, with a view to his taking action under this Code.
- **Capacity Building** to be given importance.

Significance

- **Citizens can report crimes conveniently and efficiently.**
- Complainants can also **check the timely status of their complaints online.**
- It helped in **reducing the footfall at the Police Station.**

TEST YOUR LEARNING

MCQs

1. With reference to disqualification of lawmakers in India, consider the following statements:

1. The tenth Schedule of the Constitution provides for the disqualification of the members on grounds of defection.
2. In cases of disqualification of members of parliament, the Supreme Court has original jurisdiction.
3. Articles 102 (1) and 191 (1) provide for the disqualification of a Member of Parliament and a Member of the Legislative Assembly respectively.

Which of the statements given above is/are correct?

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

2. Consider the following statements:

1. Article 200 provides that the assent of the Governor is necessary for a bill passed by the state legislature to become law.
2. The governor may reserve the bill passed by the state legislature for the president's consideration, if it, in his opinion, endangers the position of the state high court.
3. When a Bill is presented to the Governor, the Constitution prescribes time limits within which he/she must declare his/her assent.

How many of the above statements are correct?

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

3. Consider the following landmark cases.

1. Lily Thomas v Union of India
2. Prakash Singh v. Union of India
3. A. K. Gopalan v. State of Madras

Which among the above judicial pronouncements dealt with electoral reforms to address the criminalisation of politics?

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

4. Consider the following statements:

Statement I: The Consumer Protection Act (CPA) 2019 incorporates a person who obtains goods or avails services for resale or commercial purposes, as a consumer.

Statement II: Consumer Protection Act (CPA) 2019, defines a consumer as a person who buys any goods or avails services for a consideration, paid or promised.

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.

5. In the context of Nari Shakti Vandan Constitution Amendment Act, 2023, consider the following statements.

1. It is the 106th Amendment Act which aims to provide for one-third reservation to women in the Lok Sabha, Rajya Sabha and State Assemblies.
2. It provides that the reservation of seats to women shall cease to have effect after the expiration of 5 years.

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

Questions

1. Despite statutory measures, states have failed to resolve interstate river water disputes (ISRWDs). In the context of this statement explain challenges in addressing ISRWDs and suggest measures to overcome them. (250 words)
2. Examine the feasibility of conducting simultaneous elections in India. (150 words)

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INTERNATIONAL RELATIONS



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2.1. BILATERAL RELATIONS

2.1.1. INDIA-MALDIVES

CONTEXT



Maldives' new President-Elect has pitched to end the presence of Indian troops in the islands in accordance with his pre-poll promise made under "India Out" campaign.

ANALYSIS



Areas of cooperation between India and Maldives

- ▶ **Trade:** Bilateral trade reached \$ 323.9 million (2021).
- ▶ **Defence:** Both have a 'Comprehensive Action Plan for Defence' and India meets about 70% of Maldives' defense training needs.
 - ▶ India is building a new coast guard base at Uthuru Thilafalhu (UTF) atoll.
 - ▶ Engagement in Military exercise (Ekuverin), a joint HADR exercises, etc.
- ▶ **Development Cooperation:** India has established Indira Gandhi Memorial Hospital, Institute for Technical Education, etc.
- ▶ **Infrastructure Projects:** Greater Male Connectivity Project being developed by India is Maldives' largest infrastructure project.
- ▶ **Tourism:** In 2023, India is the leading source market for Maldives.
- ▶ **HADR:** India has been a first responder during various crises:
 - ▶ 1988: Military intervention (named **Operation Cactus**).
 - ▶ 2014: Aid during the water shortage,
 - ▶ 2020: Help during the COVID-19 pandemic.

Importance of Maldives for India

- ▶ Integral to India's Neighbourhood first policy; Also, member of SAARC.
- ▶ It's a strategic link between major Indian Ocean chokepoints like Gulf of Aden, etc.
- ▶ First line of defense against various maritime threats.
- ▶ Reducing influence of China in the IOR.

Challenges in relations

- ▶ Instability in the country as it faces religious extremism, drug abuse, which might affect India's goodwill efforts.
- ▶ Anti-India sentiments and a Pro-China government.
- ▶ Maldives has emerged as an important "pearl" in China's "String of Pearls" strategy.
- ▶ Delay in project completion.

Way ahead for India

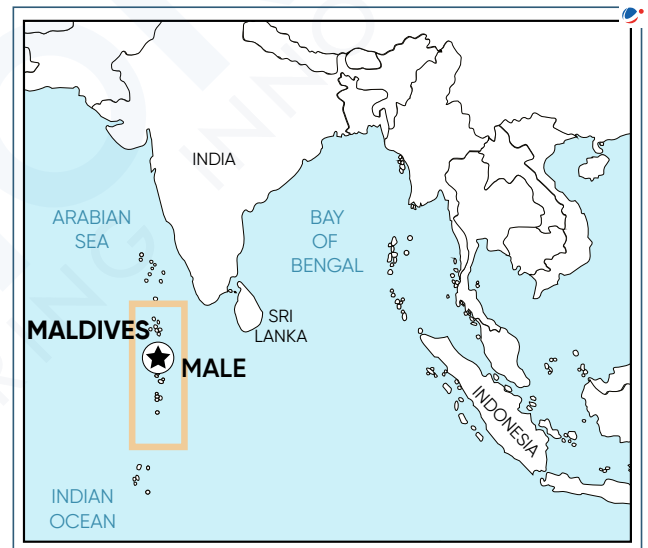
- ▶ Work on perception management in Maldives.
- ▶ Future projects targeting youth employability.
- ▶ Ensure efficient project management and oversight.
- ▶ Continue projects initiated under the previous government.
- ▶ Provide substantial alternatives to China's investments.

BRIEF BACKGROUND

About the country

Political Features:

- ▶ Maldives' position in the northern Indian Ocean keeps it in the vicinity of waters patrolled by Indian Navy warships.
- ▶ It is just 70 nautical miles away from India's Minicoy Island and 300 nautical miles away from India's Western Coast.



Physical Features:

- ▶ The Maldives Islands are a series of coral atolls built up from the crowns of a submerged ancient volcanic mountain range.
- ▶ All the islands are low-lying, none rising to more than 6 feet (1.8 metres) above sea level.

2.1.2. INDIA-SAUDI ARABIA

CONTEXT

Recently, the Indian Prime Minister and Saudi Crown Prince co-chaired the first summit-level meeting of the **India-Saudi Arabia Strategic Partnership Council (SPC)**.

ANALYSIS

Areas of Cooperation between India and Saudi Arabia

- ▶ **Diplomatic relations:** Elevated to a 'Strategic Partnership' in 2010.
 - ▶ The India-Saudi Arabia Strategic Partnership Council (set up in 2019).
 - ▶ Saudi Arabia is a part of 'India-Middle East- Europe Economic Corridor' (IMEC).
 - ▶ India's "Link and Act West" policy.
- ▶ **Economic and trade relations:**
 - ▶ India is 2nd largest trade partner and Saudi Arabia is India's 4th largest trade partner.
 - ▶ More than 18% of India's crude oil imports.
 - ▶ Saudi Arabia can play a key role in expediting the stalled **India-Gulf Cooperation Council (GCC) Free Trade Agreement (FTA)** negotiations.
- ▶ **Strategic convergence:** Strategic location in West Asia makes it crucial to India's foreign policy priorities.
 - ▶ Supports India's call for comprehensive reforms of the United Nations Security Council.
 - ▶ **Saudi Arabia** was formally welcomed as **11th Dialogue Partner of IORA**.
- ▶ **Defence and Security cooperation:**
 - ▶ **Security cooperation** in combating terrorism, ensuring maritime security, etc.
 - ▶ **Arab Peace Initiative (2002):** Drawn up by Saudi Arabia.
- ▶ **Indian diaspora:** Over 2.4 million Indian expatriates gainfully employed.
 - ▶ **Cultural linkage:** Saudi is home to the holy cities of Mecca and Medina known for the annual Haj and Umrah pilgrimage.

Challenges in Relations

- ▶ **Regional conflicts in the Middle East:** caused by the complex and multidimensional politics.
 - ▶ Suspension of talks on potentially normalising ties with Israel.
- ▶ **Diaspora issues:** like exploitation of Indian workers, Saudi's policy to provide more jobs to its citizens, and increased taxes on migrants.
- ▶ **Influence of Pakistan:** Saudi Arabia's historically close ties with Pakistan.
- ▶ **Energy dependency:** India is highly dependent for crude oil and natural gas imports.
 - ▶ **Issue of charging Asian premiums** (extra charges).
- ▶ **India's trade deficit** with Saudi reached an all-time high in the fiscal year 2022-23.

Way Forward

- ▶ **Balanced approach:** To strike a balance in dealing with each other's adversaries.
- ▶ **Bilateral engagements beyond trade and commerce:** Both need to improve political and cultural exchanges to realize the vision of a 'strategic partnership'.
- ▶ **Labour Welfare** of the large Indian expatriate community.
- ▶ **Strengthen cooperation** in counterterrorism efforts and intelligence sharing.

BRIEF BACKGROUND

About the country



Political Features:

- ▶ It is bordered by Jordan, Iraq, and Kuwait to the north;
- ▶ By the Persian Gulf, Qatar, the United Arab Emirates, and Oman to the east;
- ▶ By a portion of Oman to the southeast;
- ▶ By Yemen to the south and southwest;
- ▶ By the Red Sea and the Gulf of Aqaba to the west.

Physical Features:

- ▶ The Arabian Peninsula is **dominated by a plateau that rises abruptly from the Red Sea** and dips gently toward the Persian Gulf.
- ▶ The interior of the Arabian Peninsula contains **extensive sand surfaces**. Among them is the **world's largest sand area**, the Rub'al-Khali ("Empty Quarter").

2.1.3. INDIA-SOUTH KOREA



CONTEXT

2023 marks **50th anniversary** of diplomatic relations between India and South Korea (Republic of Korea or RoK).

ANALYSIS



Areas of cooperation between India and South Korea

- ▶ **Civilisational linkage:**
 - ▶ According to a “SamgukYusa”, a 13th - century text: Princess Suriratna from Ayodhya married King Kim-Suro.
 - ▶ Buddhist Monk Hyecho (Hong Jiao) visited India from 723 to 729 AD.
 - ▶ Rabindranath Tagore composed a poem in 1929 called ‘Lamp of the East’ on Korea’s history.
- ▶ **Diplomatic Relations:** Established in 1973; upgraded to ‘Special Strategic Partnership’ in 2015.
 - ▶ India’s ‘Act East’ policy and South Korea ‘New Southern Policy (NSP) align in terms of their regional priorities. Both support a rules-based Indo-Pacific.
- ▶ **Trade:** Signed **Comprehensive Economic Partnership Agreement (CEPA)** in 2009. Bilateral trade between both was **US\$ 27.8 billion in 2022**.
- ▶ **Defence:** Joint research, production (like K9 Vajra artillery gun), and collaboration in cyber, space, and intelligence-sharing. India has a **2+2 Dialogue** since 2019.
- ▶ **Culture:** Sarang, festival of India in Korea is organised every year. Many Indian scholars and professionals have migrated to Korea.

Challenges in Relations

- ▶ **Geographical distance** has led to restricted interactions.
- ▶ The rivalry of the **Cold War** limited their interactions in foreign policies.
- ▶ **Suboptimal cooperation due to lack of strong political intent** on both sides.
- ▶ **CEPA is said to be limited in scope.**
 - ▶ India is also facing trade deficit (around \$8 billion in 2021-22).

Way Forward

- ▶ Forge a more strategic relationship with a focus on the Indo-Pacific Strategy.
- ▶ Deepening Economic and Technological Cooperation
- ▶ Engage in joint HADR exercises, counter-piracy operations etc.
- ▶ Developing Regional Synergies with IOR states.
- ▶ Multilateral cooperation in forums like IORA, ASEAN, and IPEF.

BRIEF BACKGROUND

About the country



Political Features:

- ▶ It occupies the southern portion of the Korean peninsula.
- ▶ The country is bordered by North Korea to the north; Sea of Japan to the east, the East China Sea to the south, and the Yellow Sea to the west; to the southeast it is separated from the Japanese island of Tsushima by the Korea Strait.

Physical Features:

- ▶ The country is largely mountainous, with small valleys and narrow coastal plains.
- ▶ **Highest Point:** Hallasan
- ▶ **Longest river:** The Nakdong River



2.1.4. INDIA-CANADA

CONTEXT



Diplomatic tensions flared between Canada and India following the Canadian PM's accusation that Indian agents were involved in the murder of Sikh separatist leader in Canada.

- ▶ The allegation, based on shared intelligence within the **Five Eyes Alliance**, led to reciprocal expulsions of diplomats and suspension of visa services by India.
- ▶ Canada criticized India's demand for withdrawal of 41 Canadian diplomats from India, as a breach of the **Vienna Convention**, while India defended it as seeking equal diplomatic representation per **Article 11.1 of the Convention**.

ANALYSIS



About Five Eyes Intelligence Alliance (FVEY)

- ▶ An **intelligence alliance** comprising the **US, UK, Australia, Canada, and New Zealand**.
- ▶ It originated from the **1946 UK-USA Agreement for sharing signals intelligence (SIGINT)**.
- ▶ **Five Eyes Intelligence Oversight and Review Council** includes the **non-political intelligence oversight, review, and security entities of member**.

About Vienna Convention on Diplomatic Relations

- ▶ It was signed in 1961 and entered into force in 1964.
- ▶ **193 members** are parties to the convention (including India)
- ▶ **Mandate:** The Convention sets out **privileges of a diplomatic mission** and provides the **legal basis for diplomatic immunity**.
- ▶ It also enables mission **withdrawal for various reasons**.
 - **Article 11.1** allows receiving states to set reasonable mission size limits.

Areas of Cooperation between India and Canada

- ▶ **Diplomatic relations between India and Canada** were established in 1947.
- ▶ Bilateral trade in goods and services in 2022 was **\$ 9.9 billion** and **6.5 billion** in respectively.
- ▶ **S&T cooperation** mainly promotes **industrial R&D; part of Global Biofuel Alliance**.
 - **The Civil nuclear agreement of 2010.**
- ▶ **Canada's Indo-Pacific Policy**, acknowledges **China** as a **"disruptive global power"** and underscores **India** as a **"critical partner"** for collaboration in shared interests.
- ▶ Largest Indian diaspora in the world, i.e. **3% of the total Canadian population**.

Challenges in India-Canada relations

- ▶ The **current coalition government is in alliance with Pro-Khalistan parties**.
- ▶ **Citizen finds a safe haven to engage in activities against other nations**.
- ▶ **Canada endorsed a plebiscite in Kashmir**, which ran counter to India's interests.
- ▶ **Comprehensive Economic Partnership Agreement (CEPA)** is **pending since 2010**.
- ▶ **Meddling in India's domestic affairs:** For example: **farmers' protests**.

Way ahead

- ▶ Canada should **carefully balance the empowerment of immigrant communities**.
- ▶ **People endorsing violence, separatism, or terrorism** should be held accountable.
- ▶ Both countries should collaborate under the **Framework for Cooperation on Countering Terrorism and Violent Extremism**, established in 2018

BRIEF BACKGROUND

About the country



Political Features:

- ▶ Canada is the **second largest country in the world in area** (after Russia).
- ▶ It is bounded by the **Arctic Ocean** to the north; **Greenland** to the northeast; the **Atlantic Ocean** to the east, the **United States** to the south, and the **Pacific Ocean** and the **U.S. state of Alaska** to the west.

Physical Features:

- ▶ Largest of Canada's physiographic regions is the **Canadian Shield**.
- ▶ **Highest Peak:** Mount Logan.

2.1.5. INDIA-UNITED KINGDOM (UK)

CONTEXT

Recently, inaugural India-UK 2+2 Foreign and Defence Dialogue was held in New Delhi to discuss and review all aspects of India-UK Comprehensive Strategic Partnership.

ANALYSIS

Areas of cooperation between India and UK

- ▶ **Strategic convergence:** Comprehensive Strategic Partnership concluded in 2021, outlining India-U.K 2030 Roadmap.
- ▶ **Trade:** Bilateral trade stood at £36.3 billion during FY 2022-23 with the trade balance in favour of India.
 - ▶ Under Enhanced Trade Partnership (ETP) both aim to double bilateral trade by 2030 and have also launched negotiation for an FTA.
 - ▶ India-UK Infrastructure Finance Bridge was announced
- ▶ **Defence:** Defence and International Security Partnership (DISP), Joint exercises include Ajeya Warrior (Army), Konkan exercises (navy), Cobra Warrior (multi-national air exercise) etc.
- ▶ **Climate and Environment:** India-UK Green Growth Equity Fund, cooperation at International Solar Alliance (ISA), Coalition for Disaster Resilient Infrastructure (CDRI).
- ▶ **Education, Research and Innovation:** MoU on Mutual Recognition of Academic Qualifications in 2022.
- ▶ **People to people exchange:** Indian diaspora forms 3.1% of the total population of UK. Migration and Mobility Partnership (MMP) agreement was signed.

Potential Benefits of India-UK FTA

- ▶ **Reduced costs to Indian Professionals by totalisation agreement.**
- ▶ **Increase exports** in the categories like textile, furniture, etc.
- ▶ **Boost labour-intensive sectors.**
- ▶ **De-coupling from China.**
- ▶ **Attracting investments** by relaxed customs procedures.

Major Concerns in conclusion of FTA

- ▶ **Rules of Origin issue** where liberal ROO rules may result in EU goods falsely labelled as UK goods and exported to India at preferential duties.
- ▶ India's new model for Bilateral Investment Treaty (BIT) faces resistances.
- ▶ **UK seeks commitments beyond the WTO' TRIPS agreement**, which is India is resisting.
- ▶ **UK is seeking a significant cut in import duties** in goods like Scotch whiskey, automobiles, etc.

Challenges in Relations

- ▶ UK's share of India's defence market is around 2%.
- ▶ UK's lenient stance on terrorism sponsored by Pakistan.
- ▶ UK making efforts to make China the anchor of post-Brexit economic policy.
 - ▶ Britain committed to help realise potential of China's Belt and Road Initiative (BRI).
- ▶ **Complex visa and immigration policies.**
- ▶ Both are not operating under any specific deadline for concluding negotiations on FTA.

Way Ahead

- ▶ **Early FTA finalization**
- ▶ **Collaboration in Shared Interests** like climate change, clean energy, etc.
- ▶ Finalize a reciprocal logistics agreement.
- ▶ **Collaboration in the Indo-Pacific region.**
- ▶ Efforts for **government-to-government procurement** to facilitate the export of UK military technology.
- ▶ Promote programs like the **Generation UK-India initiative, India-UK Young Professionals Scheme.**

BRIEF BACKGROUND

About the country



Political Features:

- ▶ The United Kingdom comprises four geographic and historical parts—England, Scotland, Wales, and Northern Ireland.
- ▶ Apart from the land border with the Irish republic; between the United Kingdom and France is the English Channel; the North Sea lies to the east.

Physical Features:

- ▶ Great Britain is traditionally divided into a highland and a lowland zone.
- ▶ The longest river: The Severn River.
- ▶ The highest mountain: Ben Nevis.

2.2 INDIA AT THE REGIONAL AND MULTILATERAL FORUMS

2.2.1 INDIA AND G20

CONTEXT

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

ANALYSIS

Significance of G20: Supporting global financial stability; addressing global development challenges, etc.

Significance of G20 Presidency for India

- ▶ **Showcase Leadership** in steering discussions, building consensus, etc.
- ▶ **Voice of the Global South:** E.g., India’s initiative led to the African Union being accepted as a permanent member of the G20.
- ▶ **Create economic opportunities** and expand India’s footprint.
- ▶ **Building consensus** and lessen the East-West polarization and the North-South divide.
- ▶ **Steering global agenda** and reshaping world order.

Challenges faced by the organisation

- ▶ **Divergent interests and priorities among member countries.**
- ▶ **Lack of effective power** as it not a legally binding institution.
- ▶ **Geopolitical tensions** make it difficult to achieve consensus.
- ▶ **Inadequate response to global challenges** such as climate change and inequality.
- ▶ **Limited accountability and transparency** and lack a formal charter.
- ▶ **Rising protectionism** among countries.

Way forward to strengthen G20

- ▶ **Inclusivity:** By reaching out to non-member states and non-state actors.
- ▶ **Avoiding internal conflicts through** collective action and problem-solving.
- ▶ **Effective implementation** through swift action on promises.
- ▶ **Maintaining continuity** on issues taken up across presidencies.

BRIEF BACKGROUND

About G20

- ▶ It was founded in 1999, following the Asian financial crisis, as a forum for finance ministers and Central Bank Governors to discuss global economic and financial issues.
- ▶ **Purpose:** Plays an important role in shaping and strengthening global architecture and governance on all major international economic issues.
- ▶ **Represents-** 85% of global GDP, 75% of global trade and 2/3rd of world population.
- ▶ **Members:** Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Türkiye, the United Kingdom, the United States, the African Union and the European Union.
- ▶ India has been a founding member of G20.

Working

- ▶ G20 Summit held **annually**, under the leadership of a **rotating Presidency**.
- ▶ Presidency is supported by the **Troika** – previous, current and incoming Presidency.
 - ▶ In 2023, the troika consists of **Indonesia, Brazil, and India**.
- ▶ **Consists of two parallel tracks:** The **Finance Track** and the **Sherpa Track**.
- ▶ Does **not have any permanent secretariat** or staff.

Achievements of G20

- ▶ **Addressed financial crises** such as – the Global Financial Crisis 2008-09, the Eurozone Crisis in 2010, etc.
- ▶ A **USD 10 trillion rescue package** for the **COVID-19 pandemic**.
- ▶ **US-China trade truce** in 2018
- ▶ **Bringing tax reform** for the benefit of low-income countries.

2.2.1.1 NEW DELHI DECLARATION

CONTEXT



G20 New Delhi Leaders' Joint Declaration was unanimously adopted at the G20 Summit.

Key highlights of the New Delhi Declaration



Theme	Details
Accelerating progress on SDGs	<ul style="list-style-type: none"> ▶ Endorsed the G20 Principles on Harnessing Data for Development (D4D). ▶ Welcome to the decision to launch the Data for Development Capacity Building Initiative. ▶ Strengthen Agricultural Market Information System (AMIS) and the Group on Earth Observations Global Agricultural Monitoring (GEOGLAM). ▶ Emphasis on adopting a one-health approach.
Strong, Sustainable, Balanced, and Inclusive Growth	<ul style="list-style-type: none"> ▶ G20 2023 Financial Inclusion Action Plan (FIAP). ▶ Adoption of G20 Generic Framework for Mapping Global Value Chains (GVC). ▶ Establishment of the Start-up 20 Engagement Group.
Women empowerment	<ul style="list-style-type: none"> ▶ Creation of a full-fledged working group on women's empowerment to prioritize gender equality, women empowerment, and leadership.
Multilateral Institutions for the 21st Century	<ul style="list-style-type: none"> ▶ Agreement on UNGA 75/1 (UNSC reforms) for the first time. ▶ Roadmap for implementing the recommendations of the G20 independent review of the Multilateral Development Banks Capital Adequacy Framework.
Technological transformation and Digital Public Infrastructure (DPI)	<ul style="list-style-type: none"> ▶ Proposal of the One Future Alliance (OFA), a voluntary initiative for supporting implementing DPI in low and low-middle-income countries. ▶ India plans to build and maintain a Global Digital Public Infrastructure Repository (GDPIR). ▶ To support a comprehensive policy and regulatory framework for crypto-assets.
International taxation	<ul style="list-style-type: none"> ▶ Reaffirms commitment to twin pillars of international package. (Profit allocation and nexus and Global Minimum Taxation)
Green Development Pact for a Sustainable Future	<ul style="list-style-type: none"> ▶ Encourage efforts to triple renewable energy capacity by 2030. ▶ Call to set a New Collective Quantifiable Goal of climate finance in 2024. ▶ Launch of initiatives like the Resource Efficiency Circular Economy Industry Coalition (RECEIC), Travel for LiFE etc.
For Planet, People, Peace and Prosperity	<ul style="list-style-type: none"> ▶ Build consensus on Ukraine issue: In line with the UN Charter, States agreed to uphold the principles of territorial integrity and sovereignty. ▶ Support a comprehensive, just, and durable peace in Ukraine.
Promotion of thematic Roadmaps and Principles	<ul style="list-style-type: none"> ▶ Jaipur Call for Action for enhancing MSMEs' access to information. ▶ Chennai High-Level Principles for a Sustainable and Resilient Blue/Ocean-based Economy. ▶ Gandhinagar Implementation Roadmap (GIR) and Gandhinagar Information Platform (GIP) for strengthening the G20 Global Land Initiative. <ul style="list-style-type: none"> ▶ G20 Global Land Initiative aims to prevent, halt and reverse land degradation with an ambition to reduce degraded land by 50 percent by 2040. ▶ Deccan High-Level Principles on Food Security and Nutrition 2023. ▶ Goa Roadmap for Tourism as a Vehicle to achieve Sustainable Tourism. <ul style="list-style-type: none"> ▶ It has 5 priorities- Green Tourism, Digitalization, Skills, Tourism MSMEs, and Destination Management.

2.2.1.2 INDIA-MIDDLE EAST- EUROPE ECONOMIC CORRIDOR (IMEC)

CONTEXT

The Memorandum of Understanding (MoU) to establish the 'India-Middle East- Europe Economic Corridor' (IMEC) was signed between India, US, Saudi Arabia, European Union, UAE, France, Germany, and Italy.

ANALYSIS

Significance of IMEC

- ▶ It is a crucial milestone in promoting a more balanced and interconnected Eurasia.
- ▶ It will reduce trade costs, promote market access, and encourage investment opportunities between the participating countries.
- ▶ It will enhance regional connectivity.
- ▶ It will act as an effective medium of economic integration between India, West Asia and Europe.
- ▶ It will incentivize cooperation on security, counterterrorism, and regional stability.
- ▶ It will make the global supply chain more resilient.
- ▶ It will ensure Sustainable development by promoting clean energy development and export, expand energy grids, etc.

Significance of IMEC for India

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

What are the reasons behind India's rising interest in the Middle East?

- ▶ Improved security conditions and enhanced political stability.
- ▶ Proximity to important maritime trade routes and its role in countering terrorism and extremism.
- ▶ Middle East is a major source of India's energy imports, particularly oil and natural gas.
- ▶ More than 8 million Indians (or people of Indian origin) working in the larger Middle East region (sends more than \$50 billion a year in remittances).
- ▶ India has strong bilateral agreements in the region, such as defence agreement with countries like Qatar, and intelligence sharing with the UAE, Saudi Arabia, Oman, and Israel.

Challenges and considerations

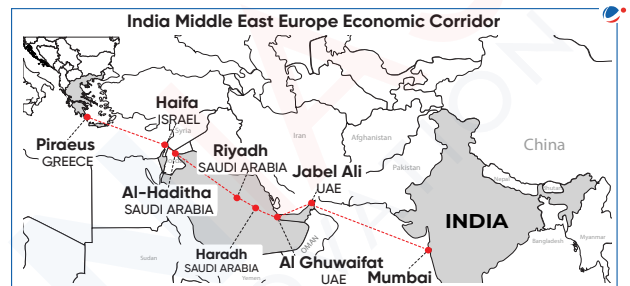
- ▶ Complex geopolitics of the region, e.g., uncertainties surrounding Saudi Arabia and Israel relations may hamper cooperation.
- ▶ China may divert trade and investments towards its own corridors
 - Further, diverting trade away from the Suez Canal may threaten Egypt's dominance in the region.
- ▶ Logistical challenges to establish a multi modal network across multiple countries.
- ▶ Security concerns as the region is susceptible to terrorism, conflicts, etc.
- ▶ Land and sea sections may escalate cost.
- ▶ Lack of commitment regarding the financial cost.

Way Forward

- ▶ Establish diplomatic dialogue and a unified vision among all participating nations.
- ▶ Harmonize regulatory frameworks such as customs procedures and enhance financial connectivity.
- ▶ Strengthen regional cooperation on defense, security by sharing intelligence.
- ▶ Create robust financial framework to attract investments from multiple stakeholders.

BRIEF BACKGROUND

About India-Middle East- Europe Economic Corridor' (IMEC)



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

2.2.1.3 AFRICAN UNION

CONTEXT

African Union (AU) became the **second regional organization** to become a permanent member of the G20.

ANALYSIS

Significance of inclusion of African Union in the G20

- ▶ **For the G20:**
 - Utilize Africa's enormous potential in mitigating climate change
 - Enhances G20's capacity to devise inclusive and equitable solutions.
 - G20 will now represent about 88.9% of global GDP and 78.9% of global population.
- ▶ **For India:**
 - Solidifies its image as the Voice of the Global South.
 - Aligns with India's own global aspirations to foster a multipolar, more equitable and representative international order.
 - Support from AU for Permanent Membership of the UNSC.
- ▶ **For Africa:**
 - More leadership and voice on issues like global tax reforms, debt relief, etc.
 - Active contributor to discussions shaping its economic destiny.
 - Signals the rise of a continent- otherwise framed as a victim of war, extremism, hunger, and disaster.

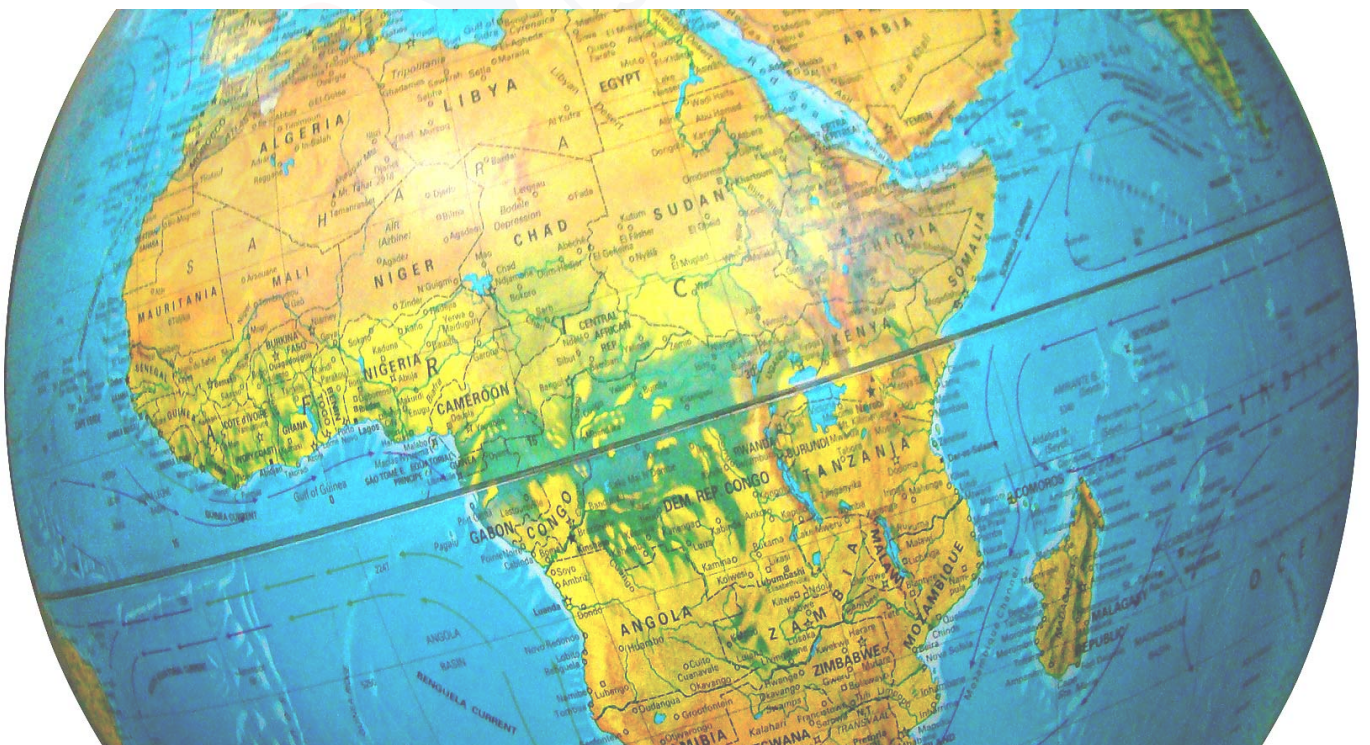
BRIEF BACKGROUND

About African Union

- ▶ **HQ:** Addis Ababa, Ethiopia.
- ▶ It is a continental body consisting of the 55 member states that make up the countries of the African Continent.
- ▶ Launched in 2002 as a successor to the Organisation of African Unity (OAU, 1963-1999).
- ▶ **Aim:** Promoting Africa's growth and economic development by championing citizen inclusion and increased cooperation and integration of African states.

India's efforts in promoting integration with the African continent

- ▶ **The Pan African E network Project (PANEP):** To connect the member states of the Union through a satellite and fiber-optic network to India and to each other.
- ▶ **India Africa Forum summit** for greater cooperation between India and Africa.
- ▶ **The Indian Technical and Economic Cooperation Programme:** Leading capacity-building platform of the Ministry of External Affairs active in the African Union.
- ▶ **Asia-Africa Growth Corridor:** To develop infrastructure and digital connectivity in Africa through Indo-Japan collaboration.



2.2.1.4 GLOBAL BIOFUEL ALLIANCE

CONTEXT

Global Biofuel Alliance (GBA) was launched by India along with the leaders of Singapore, Bangladesh, Italy, USA, Brazil, Argentina, Mauritius and the UAE.

ANALYSIS

Significance of GBA

- ▶ **Develop a market for biofuels.**
- ▶ **Facilitate implementation of standards** to incentivize biofuels adoption and trade.
- ▶ **International Energy Agency (IEA)** estimates that biofuel production would need to **triple by 2030**.
 - Presently, **over 80% of global sustainable biofuel production is concentrated in just four markets:** the US, Brazil, Europe and Indonesia.
- ▶ **Help in Decarbonizing the transport sector.**
- ▶ **Help raise awareness** about biofuels' role in reducing greenhouse gas emissions.

Benefits of GBA for India

- ▶ **Boost India's biofuel initiatives** such as PM-JIVAN Yojna, SATAT, and GOBARDhan scheme.
- ▶ **Contribute to increasing farmers' income** and create

new jobs.

- ▶ **Reduce oil dependency** (India imports more than 80% of its crude oil).
- ▶ **Achieve National Targets** (National Policy on Biofuels targets to achieve **20% ethanol blending in petrol by 2025-26**).
- ▶ **Additional opportunities for Indian industries** (meeting global biofuel demand and exporting technology and equipment)

Challenges for GBA

- ▶ **Lack of consensus on definition of sustainable fuels.**
- ▶ **Reluctance of developed nations** to transfer technology.
- ▶ **Oil-producing nations might not favour** the alliance.
- ▶ **The deployment of biofuels is not accelerating** fast enough.
- ▶ **Limited availability of quality feedstock**, effect on food production and prices, changes in cropping pattern, etc.

BRIEF BACKGROUND

About GBA

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



2.2.2 INDIA-ASEAN

CONTEXT

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

ANALYSIS

Key highlights of ASEAN-India summit:

- ▶ India's **12-point proposal** for strengthening India-ASEAN cooperation:
 - Establishing multi-modal connectivity and economic corridor linking South-East Asia-India-West Asia-Europe.
 - Sharing India's Digital Public Infrastructure Stack.
 - ASEAN-India Fund for Digital Future.
 - Invitation to ASEAN countries to join the **Global Centre for Traditional Medicine and Coalition for Disaster Resilient Infrastructure**.
 - Need to complete the review of **ASEAN-India Trade in Goods Agreement (AITIGA)**

Key highlights of the East Asia Summit:

- ▶ Reviewed the **implementation of the EAS Plan of Action (POA) 2018-2022** and welcomed the adoption of the new EAS POA (2024-2028).
 - EAS POA (2024-2028) aims at mainstreaming and implementation of ASEAN outlook on the Indo-pacific(AOIP) and furthering the 2030 Agenda for Sustainable Development.
- ▶ India reaffirmed **ASEAN centrality in the Indo-Pacific**.

Areas of cooperation:

- ▶ **Diplomatic relations:**
 - Year 2022 marked the 30th anniversary of ASEAN-India relations, and was elevated into a **Comprehensive Strategic Partnership**.
 - ASEAN is **central to India's Act East Policy and Indo-Pacific Vision** and contributes to the Security and Growth for All in the Region (SAGAR) initiative.
- ▶ **Economic and trade relations:**
 - Bilateral trade of **USD 131.5 billion** in 2022-23.
 - ASEAN **accounted for 11.3% of India's global trade in 2022-23**.
 - **ATIGA**, came into force in 2010 (**eliminating duties on more than 76% goods** and to liberalize tariffs on over 90 percent of goods)
- ▶ **Strategic convergence:**
 - ASEAN serves as a platform for **Regional Integration and Multilateral Cooperation**
 - Connectivity through the **India-Myanmar-Thailand Trilateral Highway (IMT)** and the **Kaladan Multimodal Project**.
- ▶ **Defence and security cooperation:**
 - **ASEAN Plan of Action in Combating Transnational Crime (2016-2025)**; Counter Terrorism Field Training Exercise (FTX) 2023.
 - **Countering China** is a major driving factor.

BRIEF BACKGROUND

About ASEAN



- ▶ ASEAN was **established in 1967 with signing of ASEAN Declaration (Bangkok Declaration)** by Indonesia, Malaysia, Philippines, Singapore and Thailand.
- ▶ **Member states:** Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei Darussalam, Lao PDR, Vietnam, Cambodia and Myanmar.
- ▶ **Purpose of ASEAN:**
 - Accelerate economic growth, social progress and cultural development
 - Promote regional peace and security.
 - Promote active collaboration and mutual assistance on matters of common interests.
 - Provide assistance to each other in form of training and research facilities.
- ▶ **Institutional Mechanisms:**
 - **ASEAN Chairmanship:** Rotates annually based on alphabetical order.
 - **ASEAN Summit:** Highest policy making body in ASEAN comprising the heads of the state government of ASEAN member states.
 - **ASEAN Secretariat:** Indonesia, Jakarta.
- ▶ **Regional Cooperation Mechanism:**
 - **ASEAN Plus Three Cooperation:** ASEAN member states, China, Japan and Republic of Korea.
 - **East Asia Summit:** ASEAN member states, Australia, China, India, Japan, New Zealand, Republic of Korea, Russian Federation and USA.

Challenges in India-ASEAN relations

- ▶ Theatre of great power competition between the United States (US) and China
- ▶ Disproportionate trade balance favouring ASEAN.
- ▶ Competing regional agreements like the RCEP and the CPTPP.
- ▶ Lack of market access and connectivity.
- ▶ Delayed projects like IMT trilateral highway.
- ▶ China's dominance within Southeast Asia.

Way Forward

- ▶ Greater coordination between India's Indo-Pacific Oceans Initiative (IPOI) and ASEAN's ASEAN Outlook on Indo-Pacific (AOIP).
- ▶ Greater maritime cooperation
- ▶ Value chain integration through trade facilitation, liberalisation of goods, services, etc.
- ▶ Expediting the IMT trilateral highway project.
- ▶ Promote cultural understanding and people-to-people ties through cultural events, tourism, and educational exchanges.

2.2.3 INDIA AS A GLOBAL UNIFIER

CONTEXT



The theme for India's G20 Presidency is "Vasudhaiva Kutumbakam – One Earth, One Family, One Future" symbolising India as a Global Unifier.

ANALYSIS



What is the ideology of Vasudhaiva Kutumbakam?

- ▶ It means 'the world is one family'. It affirms the value of all life – human, animal, plant, and microorganisms – and their interconnectedness on the planet Earth and in the wider universe.
- ▶ Origins: The phrase Vasudhaiva Kutumbakam is made up of three Sanskrit words, Vasudhaa (earth/world), iva (like) and kutumbakam (large/extended family).
- ▶ The verse finds mention in Maha Upanishad; and is further referred to in the Hitopadesha (written by Narayana Pandit).

Significance of the Vasudhaiva Kutumbakam ideology for Global Unification

- ▶ Encourages human-centric progress, a shared future – One Future
- ▶ Overcome the 'us-vs-them' mentality
- ▶ Inclusion by accepting diversity and not imposing uniformity.
- ▶ Cooperation for resolving problems associated with Global Commons.
- ▶ Takes forward the idea of ideological harmonization on values like equality, non-violence etc.

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

- ▶ Promoting a sustainable environment with its Mission LiFE (Lifestyle for Environment), net zero emission targets, reclamation of degraded lands, and multilateral initiatives.
- ▶ Interconnectedness: India is helping developing countries to adapt, build and scale Digital Public Infrastructure (DPI).
- ▶ Supporting Global Energy Transition through initiatives such as the International Solar Alliance and Global Biofuel Alliance.
- ▶ Inclusive multilateralism: India held the Voice of the Global South Summit and pushed for the inclusion of the African Union as a permanent member of the G20.
- ▶ Capacity Building: Under India's Indian Technical and Economic Cooperation Programme.
- ▶ Uniting humanity through culture: The UN General Assembly declared June 21 as the International Day of Yoga.

Challenges for India

- ▶ **Balancing global concerns with national interests.**
- ▶ According to some, Vasudhaiva Kutumbakam is not a peaceful construct but a **dysfunctional one with different power centres.**
- ▶ **Need political, economic, and military prowess** to enforce the agreed-upon norms.
- ▶ Vasudhaiva Kutumbakam, which is based on the principle of self-restraint is **counter intuitive to hard power.**
- ▶ **Identity Politics** negating the core philosophy of Vasudhaiva Kutumbakam.

Way Ahead

- ▶ **Spirit of co-existence** is required to overcome barriers of knowledge, distance, and language among others.
- ▶ **Greater push on effective, inclusive and networked multilateralism** to give voice to the marginalized world.
- ▶ **Cultural exchanges among countries** and the promotion of the idea of the world as a single entity.
- ▶ **Supporting the development and empowerment of developing and least developed countries** especially in Africa.

2.2.4 INDIA: THE VOICE OF GLOBAL SOUTH

CONTEXT



India used the platform of its G20 presidency to champion the cause of Global South and **hosted the second Voice of Global South Summit (VOGSS).**

- ▶ **Indian PM unveils DAKSHIN (Global South Centre of Excellence) and called for 5 'Cs' for the Global South: Consultation, Cooperation, Communication, Creativity, and Capacity building.**
- ▶ India previously **hosted the first VOGSS**, where 125 Global South countries came together with the theme **"Unity of Voice, Unity of Purpose."**

ANALYSIS



Challenges faced by the Global South Countries

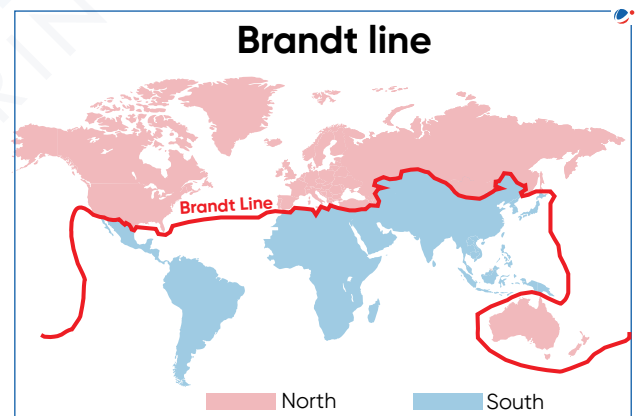
- ▶ **Under representation in global forums like UNSC.**
- ▶ **Geopolitical conflicts of the Global North impact global south.**
 - E.g., the Ukraine conflict led to inflation in food and oil prices.
- ▶ **Diverging approach of the Global North on normative issues like interpretation of democracy.**
- ▶ **Global South is disproportionately impacted** by global challenges like climate change.

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

- ▶ **Helped during global crisis situations** affecting the Global South.
- ▶ **Democratizing climate governance in the global arena.**
- ▶ **Pushing reform in multilateral institutions.**
 - India reiterated its commitment towards **Global South at G77 Plus China Summit in Cuba.**
 - India also hosted L69 grouping meeting, which **called for reform of UN Security Council (UNSC).**
- ▶ **Providing alternative approach** on normative issues like democracy and human rights.
- ▶ **Capacity building of the Global South** in various areas such as human resources, technology, etc.

BRIEF BACKGROUND

About Global South



- ▶ It refers to **developing, less developed, or underdeveloped countries**
 - They are located in the **Southern Hemisphere**, largely in Africa, Asia and Latin America.
- ▶ The concept of the Global South can be traced back to the **Brandt Report of 1980**, which proposed a division between North and South countries based on their **technological advancement, GDP, and standard of living.**

Initiatives by India for the Global South

- ▶ **Inducting African Union in G20 Grouping.**
- ▶ **Millet and other Ancient Grains International Research Initiative (MAHARISHI)** for global food security.
- ▶ **G20 Digital Public Infrastructure Framework.**

Factors favouring India to act as a voice of Global South



Historical and philosophical appeal

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



Economic and geopolitical clout in global politics.



Bridge between developed and developing world

One of the fastest-growing economies in the world.



Responsible partner

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

Challenges in front of India

- ▶ **Balancing national interests** with international obligations.
- ▶ **Limited resources** to adequately support countries of the Global South.
- ▶ **Chinese competition and interference.**

Way Forward

- ▶ Ensuring that the concerns of the Global South are acknowledged and accounted for at multilateral forums.
- ▶ Develop synergies in the Global South by investing in connectivity infrastructure and technology transfer.
- ▶ Reforming global trade and finance institutions.
- ▶ **India's proposal:** India has called for a global agenda of 4Rs – Respond, Recognize, Respect and Reform.
 - Responding to the priorities of the Global South,
 - Recognizing 'Common but Differentiated Responsibilities',
 - Respecting the sovereignty of all nations,
 - Reforming international institutions.

- ▶ **Global South Centre of Excellence** to conduct research on development solutions.
- ▶ **Global South Science and Technology Initiative** to share India's expertise in space technology and nuclear energy with other developing countries.
- ▶ **Global South Young Diplomats Forum** to synergize the diplomatic voice of the Global South.
- ▶ **Global South Scholarships** for students from developing countries to pursue higher education in India.
- ▶ **G20 satellite mission** for environment and climate observation for sharing of vital climate and weather data.

About L.69 Grouping

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

Quarterly Revision



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2.3. MISCELLANEOUS

2.3.1. ISRAEL-HAMAS WAR

CONTEXT

Israel under 'Operation Iron Swords', declared war on Hamas militants following their unprecedented attack under "Operation Toofan Al-Aqsa (Al-Aqsa Flood)."



ANALYSIS



What are the possible impacts of the current war?

- ▶ Conflict may unintentionally strengthen Hamas and weaken Palestinian Authority's position in the West Bank which could negatively impact peace negotiations.
- ▶ **Regional instability:** Saudi Arabia suspended talks; Bahrain recalled its ambassador; Bolivia officially severed its ties with Israel.
 - Escalation could impact oil prices, disrupt commodity markets and may lead to greater food insecurity in poorer countries.
 - May also impact the Suez Canal trade and jeopardize trade through the Strait of Hormuz.
- ▶ Involvement of Iran in the conflict may disrupt trade with landlocked Central Asia

What is the impact of war on India?

- ▶ **Economic:** India's exports to Israel may be affected, especially if operations at Israeli ports are disrupted.
 - Sectors which will be negatively impacted include Petrochemicals, Oil Marketing, Paints, Packaging, Textiles and Chemicals.
- ▶ **Geostrategic:** Normalisation between Arab countries has opened up unique opportunities for India to strengthen its global and economic position.
- ▶ **Connectivity efforts:** The war has cast its shadow on the India-Middle East-Europe Economic Corridor (IMEC), announced recently by the leaders of India, Saudi Arabia, the US, and the UAE.

What is India's stand on Israel Palestine issue?

- ▶ India has strategic interests in West Asia.
- ▶ In backdrop of this, India continues to support two state solution.
 - India formally recognized Israel in 1950, and established full diplomatic relation with it in 1992.
 - From 2017 India is following a 'de-Hyphenation Policy' allowing for independent relationships with both Israel and Palestine.

BRIEF BACKGROUND

Israel-Palestine Conflict

Israel-Palestine Conflict Over the Years

Ottoman Period

- Under Ottoman Empire rule, the territory had an Arab majority and a Jewish minority population.
- During Ottoman regime initial clashes between the small Jewish and larger Arab communities in Palestine arise.

Post-World War 1

- The fall of Ottoman regime saw intensification of conflict due to British Mandate over Palestine under Sykes-Picot agreement of 1916 and Balfour Declaration.
- **Sykes-Picot agreement:** Britain got control over Palestine on both sides of the Jordan River.
- **Balfour Declaration (1917):** British government supports the establishment of a "national home for the Jewish people" in Palestine.

Post-World War 2

- In the following decades, more Jews from various continents migrated to Israel because of the Holocaust, nationalism, and the Zionist movement.
- This significantly changed the demography of the territory and intensified the conflict between the two communities

UN Partition plan and Arab-Israel war

- UN envisages two States, Israel and Palestine, living side by side within secure and recognized borders and Jerusalem (a separate, internationally run entity). It was rejected by Arabs and violence further escalated
- As the British Mandate ended over Palestine, Israel declared itself as independent in 1948, leading to immediate attack by five Arab countries.

Festering consequences

- Israel's victory, territorial expansion that led to millions of Palestinians becoming refugees, and the failure to establish the envisaged Palestinian state set the stage for the subsequent Arab-Israeli conflict.

About Hamas

- ▶ It was founded in 1987 after the First Intifada to resist Israeli occupation of Gaza, the West Bank and East Jerusalem.
- ▶ The de facto authority in Gaza since Israel's withdrawal from the territory in 2005.
- ▶ It refuses to recognise Israel and is committed to armed resistance.

Related News

Yom Kippur War

- ▶ The attack by Hamas on Israel coincided with the **fiftieth anniversary of Yom Kippur War.**
- ▶ **About Yom Kippur War (1973)**
 - ▶ It was the **Fourth Arab-Israel War** in which a coalition of Arab nations, led by **Egypt and Syria**, attacked Israel on Yom Kippur, a **Jewish holy day.**
 - ▶ **Purpose of war:** Unlike the previous three wars, Egypt and Syria did not go to war in support of the Palestinians, rather they **hoped to reclaim lost territory after Israel's victory in the Six-Day War of 1967.**
 - ▶ **Involvement of Superpower:** The **US** supported **Israel**, and the **Soviet Union** supported **Egypt** and **Syria.**
 - ▶ **United Nations brokered a ceasefire.**
 - ▶ **Major Consequences of the war:** Israel took control of **Golan Heights**, **Shift of Egypt's allegiance to US**, **Dent to the image of Israel** and **Oil Embargo against US.**
 - ▶ **Landmark Peace Agreements between Israel and Arabs** following the Yom Kippur War: **1978 Camp David Accords** between **Egypt and Israel**, **Oslo Accords (1993)** between **Israel and PLO**, **Jordan-Israel Peace Treaty (1994)**, **Arab Peace Initiative (2002)** by **Saudi Arabia.**

- ▶ **The US, the EU, Israel, etc.** have declared **Hamas a terrorist organisation.**

Other players in Palestine

- ▶ **Fatah:** It is a secular nationalist organisation formed in Kuwait after the 1948 Israeli-Arab War. The key founder was Yasser Arafat. Its objective was to liberate Palestine.
- ▶ **Palestine Liberation Organisation (PLO):** Conceived in 1964 at an Arab League summit in Cairo, Egypt, with the **sole aim of liberating Palestine with the help of an armed struggle to achieve its goals.**
- ▶ **Palestinian Authority (PA):** The PA was founded in July 1994 by the **Oslo Accords as an interim body to govern parts of Gaza and the West Bank** (except East Jerusalem) till an agreed solution to the Israel-Palestine conflict. **PA functions as an agency of the PLO.**

Oslo Accords

- ▶ The **Oslo Accords** between the **PLO** and the **Government of Israel** since 1993 aimed at **ending decades of conflict** through the implementation of the **two-State solution.**



2.3.2. ABRAHAM ACCORDS

CONTEXT

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



ANALYSIS



Significance of Abraham Accords

- ▶ It creates a collective security framework for enhancing stability and preventing conflict in the Persian Gulf.
- ▶ **Solution to Israel-Palestine issue:** The Abraham Accords can advance the two-state solution by opening channels of communication.
 - Amid the recent Israel-Palestine conflict, **Bahrain and the United Arab Emirates (UAE)**, both signatories of the Abraham Accords, are calling for de-escalation among all involved parties.
- ▶ The trade between Israel and other West Asian countries increased by 74% between 2021 and 2022.
- ▶ It opened the door for communities to visit the historic religious sites in Israel such as the Al-Aqsa Mosque in Jerusalem.
- ▶ **Cooperation in technology:** For instance, the Prosperity Green & Blue agreement between Israel, the UAE, and Jordan.

Emerging Challenges for Abraham Accords

- ▶ **Changing Geopolitical Alliances in West Asia:** Growing involvement of Russia and China.
- ▶ Criticized for not effectively addressing the fundamental causes of the Palestinian conflict.

- Recently, Gaza-based Hamas mounted a mass-scale attack against Israel.
- ▶ Perceived to be motivated by shared concerns over Iran's nuclear program and regional influence.
- ▶ The China-backed Saudi-Iranian deal is seen as a setback to efforts to build a regional anti-Iran coalition; Russia sees the deal a step towards multi-polar world.
- ▶ **Internal Opposition:** Inter country opposition for normalization with Israel.

Significance of Abraham Accords for India

- ▶ **Regional cooperation:** Accords laid the foundation for expanded regional and multinational cooperation.
 - A concrete illustration of this is the establishment of the I2U2 Group, formed by Israel, India, the UAE, and the U.S.
- ▶ **Economic Opportunities:** The normalization of relations between Israel and Arab countries could potentially open up new economic opportunities for India.
- ▶ **Benefits for diaspora:** Convenience of direct flights between the UAE/ Bahrain and Israel.

BRIEF BACKGROUND

About Abraham Accords

- ▶ It refers to the collective agreement between the United States (US), the United Arab Emirates (UAE) and Israel that was signed in September 2020.
 - These Accords were later extended to the countries of Sudan, Bahrain and Morocco.
- ▶ It marks the first normalisation of ties between Israel and an Arab country since Jordan in 1994.
 - Egypt was the first Arab State to sign a peace deal with Israel in 1979. Jordan signed a peace pact in 1994.
 - Five Arab states- Egypt, Jordan, Bahrain, UAE and Morocco now have diplomatic ties with Israel.
- ▶ As per the agreement, the UAE and Bahrain will establish embassies, exchange ambassadors, cooperate and work together with Israel across a range of sectors, including tourism, trade, healthcare and security.
- ▶ The Accords were called 'the Abraham Accords' as the three major monotheistic religions of the world, Islam, Christianity and Judaism, all find their roots in Prophet Abraham.

2.3.3. INDO-PACIFIC ECONOMIC FRAMEWORK FOR PROSPERITY (IPEF)

CONTEXT



The third Indo-Pacific Economic Framework for Prosperity (IPEF) Ministerial Meeting was held in San Francisco, USA.

- ▶ **Negotiations under the IPEF Pillar-III (clean economy) and Pillar IV (fair economy)** were concluded. Ministers also signed the IPEF Agreement Relating to Supply Chain Resilience negotiated under Pillar II (supply chain).

ANALYSIS



Significance of IPEF

- ▶ Establishing new rules of commerce.
- ▶ Building a free and open Indo-Pacific.
- ▶ Making supply chains more resilient.
- ▶ Restoring US influence in the region since it exits from Trans-Pacific Partnership.
- ▶ Establishing an alternate to China in the Indo-Pacific.
- ▶ Deeper Integration of India in into global value chains.

Traditional trade agreements vs IPEF

- ▶ Unlike Traditional trade blocs (like the RCEP) or Free Trade Agreements (FTAs), IPEF will not negotiate tariffs or market access.
- ▶ Also unlike in FTAs, where everything is negotiated under a single umbrella, IPEF negotiations under the four module (pillars) are in silos, independent of each other.
- ▶ IPEF merely focuses on increasing regulatory coherence between the member nations.

Challenges to IPEF

- ▶ The unpredictability of U.S. domestic politics.
- ▶ De-coupling China is difficult as it is already the leading trading partner of all IPEF member countries.
- ▶ IPEF does not provide market access.
- ▶ Venturing into sensitive areas like the digital economy, clean energy, from labour and environmental standards.
- ▶ Lack of binding commitments.

Way Ahead

- ▶ Develop IPEF into a credible alternative that provides tangible benefits.
- ▶ Offer incentives to countries already signatories to regional FTAs (CPTPP and RCEP) to make joining IPEF more appealing.
- ▶ Ensure that negotiated rules are binding.
- ▶ Develop the process and criteria for inviting other countries from the region.
- ▶ A pragmatic approach towards China

BRIEF BACKGROUND

About IPEF

- ▶ IPEF was launched jointly by the USA and other partner countries of the Indo-Pacific region in May 2022 at Tokyo.
- ▶ **Objective:** To strengthen economic engagement among partner countries with the goal of advancing growth, peace and prosperity in the region.
- ▶ **Members:** 14 partner countries including India.
 - Together these countries represent 40% of world GDP and 28% of global goods and services trade.
- ▶ **Modules:** The framework is structured around four pillars:
 - Connected Economy (trade); Resilient economy (supply chain); clean economy; Fair economy.
 - India has joined all pillars except the trade one.

2.3.4. SOUTH CHINA SEA

CONTEXT

Philippines has removed a **floating barrier** installed by China which blocked Philippines fishing boats from entering a contested area in the South China Sea.

ANALYSIS

Challenges in South China Sea

- ▶ **Chinese Aggression** by militarising uninhabited islands and creating artificial islands.
- ▶ **Excessive Fishing** and no concurrent steps are taken to control it as a whole.
- ▶ **Damage to the marine ecosystem** by building of artificial islands by China.
- ▶ **Military drills by the littoral states**, in order to highlight the dominance over the region.
- ▶ **Global Commons** of freedom of navigation and trade are affected.

Significance of South China Sea

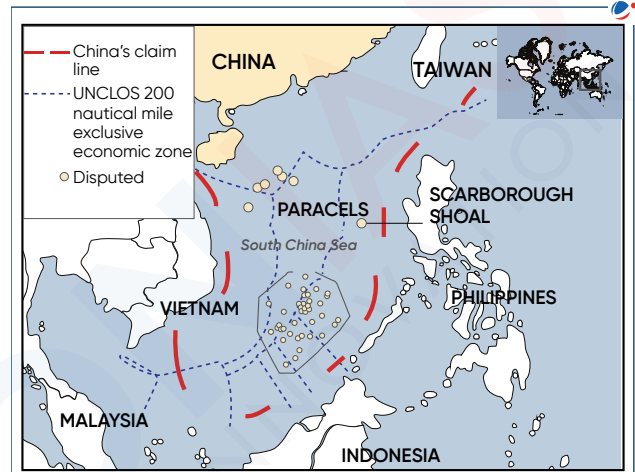
- ▶ **Busiest sea routes of the world** and more than 60% of the global trade passes through this sea.
- ▶ **55% of India's trade** passes through these waters.
- ▶ The region host vast reserves of **Oil, Natural Gas, Coral Lime**; Major commercial fishing ground.
- ▶ Hosts numerous uninhabited islands.
- ▶ Littoral countries are members of the **ASEAN grouping**, with which India has various economic and strategic ties.

Way Forward

- ▶ The stalled code of conduct negotiation process since 2018, should be revived.
- ▶ Excessive fishing in the region should be controlled.
- ▶ Establishing **Trans boundary Maritime Peace Parks (MPP)** similar to the Red Sea MPP.
- ▶ The creation of new artificial islands should be stalled.
- ▶ **Uninterrupted Freedom of passage** should be ensured to all civilian and trade vessels.

BRIEF BACKGROUND

About South China Sea (SCS)



It lies south of the Mainland China and its littoral states include Brunei, Indonesia, Malaysia, Philippines, Taiwan and Vietnam.

About the SCS dispute

- ▶ China claims around 90% of the region as its EEZ based on the **Nine-dash lines**.
 - It is a **U-Shaped line** that was adopted from **Chinese map of 1940's** which represents the Chinese claim over the region.
 - Meanwhile the **littoral states** also claim for their respective shares in the EEZ.
- ▶ China to uphold its influence, **started creating artificial islands** across the region.
- ▶ **Philippines** moved the issue to the **Permanent Court of Arbitration (PCA)** at The Hague.
- ▶ The court issued its ruling in favour of Philippines under **United Nations Convention on Law of the Seas (UNCLOS)** in 2016,

2.3.5 UNITED NATIONS HUMAN RIGHTS COUNCIL (UNHRC)

CONTEXT

The UN General Assembly elected 15 Member States to the Human Rights Council (HRC) and declined Russia's bid to re-join the same. Russia was ousted from UNHRC after it invaded Ukraine.

ANALYSIS

Role played by UNHRC

- ▶ Holding governments accountable through public scrutiny of country's human rights performance.
- ▶ Special sessions devoted to addressing gross and systematic violations in countries like Syria.
- ▶ Fact-finding investigations and country visits by independent experts
- ▶ Technical assistance and capacity-building

Criticism of HRC

- ▶ Many of the Council seats have been held by countries with human rights concerns, such as Saudi Arabia, China, and Syria.
- ▶ **Selectivity and politicization:** Example, the incessant focus on Israel raises questions.
- ▶ **Inability to adequately address participation needs for specific groups,** including children.
- ▶ Human rights defenders and NGOs often face interruptions and reprisals.
- ▶ **Implementation Deficiencies:**
 - Countries can easily dismiss recommendations.
 - Tendency to vote in blocs.

Way ahead

- ▶ Need for deeper scrutiny of candidate countries of human rights issues.
- ▶ Consider creating funds or offering technical assistance to NGOs.
- ▶ Revamp the UN NGO Committee's accreditation system.
- ▶ **Enhancing effectiveness in functioning:**
 - **Proactive approach:** Reduce the time between country visits and report presentations at the Council.
 - **Cooperative approach:** Make human rights standards central to the planning and delivery of all UN operations.



BRIEF BACKGROUND

About UNHRC

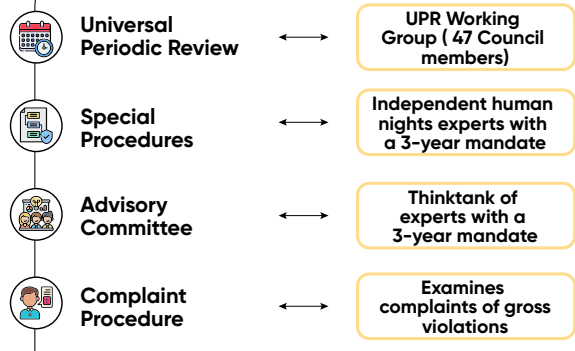
- ▶ **HQ:** Geneva
- ▶ It is the **principal intergovernmental body** within the UN for strengthening the **promotion and protection of human rights** around the globe.
 - It can also establish **international commissions of inquiry and fact-finding missions.**
- ▶ It was created by the UN General Assembly in 2006.
- ▶ **Institutional structure**
 - **Bureau:** President and four Vice-Presidents who represent each of the five regional groups.
 - **Secretariat:** Staff from the Office of the High Commissioner for Human Rights (OHCHR).
 - Council adopted an 'institution-building package', in 2007 to set up the Council's procedures and mechanisms.
- ▶ The **decisions** of the Council are **not legally binding.**

Human Rights Council

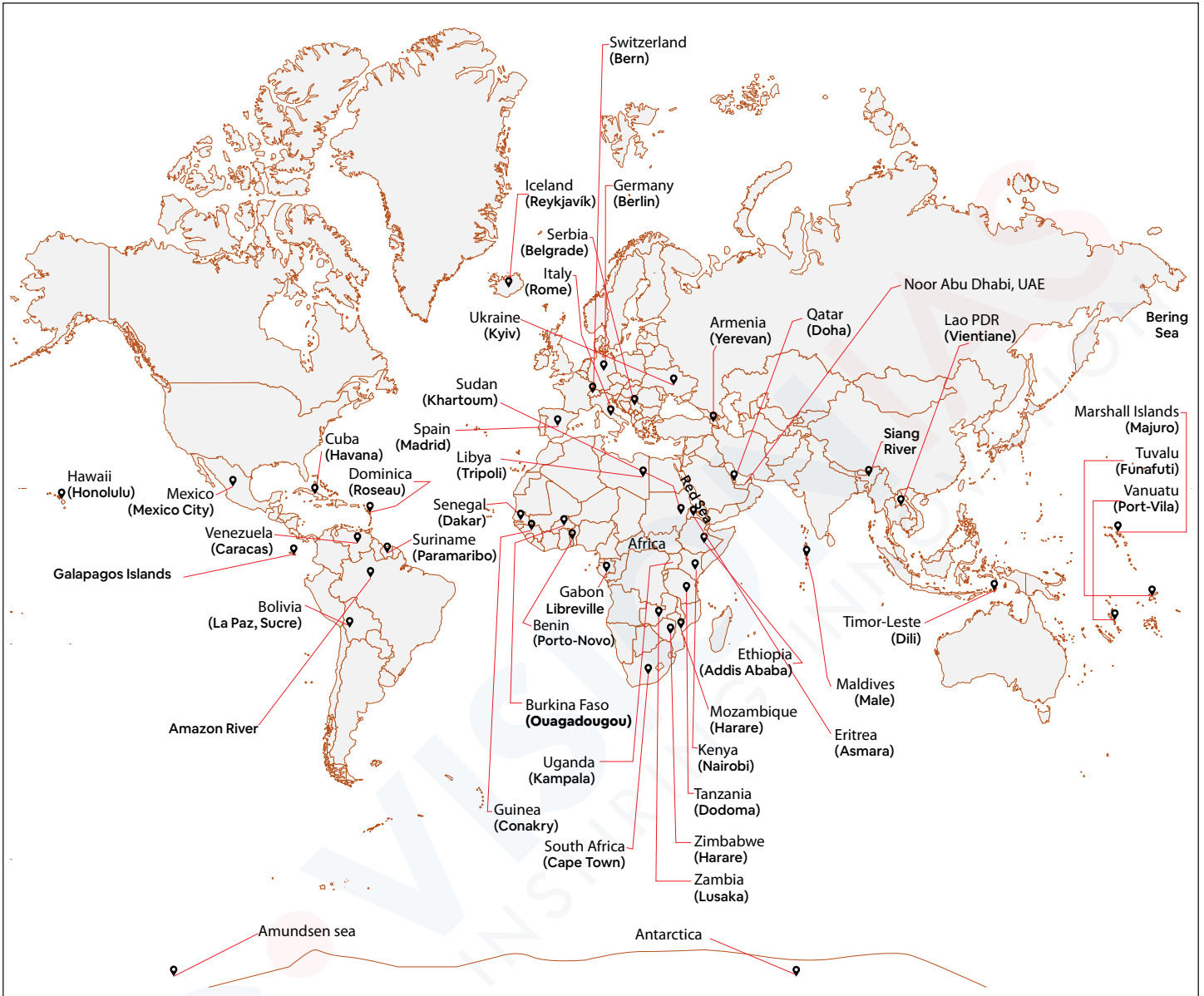
47 Member States elected by the UN General Assembly for 3 years

13 Africa	13 Asia Pacific	6 Eastern Europe
8 Latin America and Caribbean	7 Western Europe and others	

Institution Building Package (Resolutions 5/1)



2.4 PLACES IN NEWS



Place	Context and Few Important Facts
ASIA	
Armenia (Capital: Yerevan)	Union Cabinet approved the MoU with Armenia on Cooperation in the field of sharing successful Digital Solutions.
Siang River	A large barrage has been proposed on the Siang River to protect it from threats posed by massive Chinese dam being built on river Tsangpo (Tibet).
Qatar (Capital: Doha)	Qatar court sentenced eight former personnels of the Indian Navy to death. ➤ It has one of the world's largest reserves of petroleum and natural gas.
Lao PDR (Vientiane)	Second country after Bangladesh to eliminate lymphatic filariasis (LF) in 2023.
Noor Abu Dhabi, UAE:	Ranked among one of the world's largest stand-alone operational solar power facilities (total capacity of 1.2 GW.)
Maldives (Capital: Male)	Mohamed Muizzu is elected as New Maldives President.
Red Sea	India-bound cargo ship hijacked by Houthi rebels in Red Sea. ➤ It is one of the most heavily traveled waterways in the world
INDO-PACIFIC	
Vanuatu (Capital: Port-Vila)	Political crisis has been witnessed in Vanuatu
Timor-Leste (Capital: Dili)	India has announced the opening of an embassy in Dili
Marshall Islands (Capital: Majuro)	United States signed a new 20-year agreement on economic assistance to the Marshall Islands. ➤ Home to world's largest shark sanctuary
Tuvalu (Capital: Funafuti)	Australia inked an agreement with Tuvalu to offer residency to its citizens displaced by climate change. ➤ It is believed to be first nation to face climate change-induced complete submersion.
Amundsen Sea	High resolution computer model concluded that accelerated ice melt in West Antarctica is unstoppable.
AFRICA	
Zimbabwe (Capital: Harare)	Current President was re-elected in the recently concluded election. ➤ Lake kariba at the border of Zambia and Zimbabwe, is the world's largest man-made lake by volume.

Libya (Capital: Tripoli)	Libya's eastern port city of Derna suffered massive damage after torrential rains.
Gabon (Capital-Libreville)	Gabon military officers declare coup after president wins disputed election.
Eritrea (Capital: Asmara)	Eritrea defence forces allegedly committed war crimes and possible crimes against humanity in Tigray.
Sudan (Capital: Khartoum)	United Nations High Commissioner for Refugees (UNHCR) appealed for \$1 billion to support people of Sudan (facing civil war).
Burkina Faso (Capital: Ouagadougou)	Burkina Faso orders the French embassy's defense attache to leave
Zambia (Capital: Lusaka)	Indian Defence Secretary held a meeting with Permanent Secretary, Ministry of Defence, Zambia.
Benin (Capital: Porto-Novo)	MEA said India is Benin's largest trade partner and significant investor
Ethiopia (Capital: Addis Ababa)	6th Session of India-Ethiopia Joint Trade Committee held successfully in Addis Ababa.
Tanzania (Capital: Dodoma)	IIT Madras establishes first international campus in Tanzania's Zanzibar.
Kenya (Capital: Nairobi)	First Africa climate summit ends with the Nairobi declaration.
Uganda (Capital: Kampala)	48 African countries adopt Kampala Ministerial Declaration on Migration, Environment and Climate change(KDMECC)
Guinea (Capital: Conakry)	Indian Navy successfully conducted an Anti-Piracy patrol in the Gulf of Guinea
Senegal (Capital: Dakar)	Senegal hosts first meeting of WHO's initiative Global Onchocerciasis Network for Elimination(GONE)
Mozambique (Capital: Maputo)	INS Sumedha arrived at Maputo as a part of extended operational deployment to Africa
South Africa (Capital: Cape Town)	Statue of Mahatma Gandhi was unveiled at Tolstoy Farm in Johannesburg.
EUROPE	
Ukraine (Capital: Kyiv)	Missile explosion in Kostyantynivka city is being seen as a result of a wayward Ukrainian rocket. ➤ Ukraine is known as the 'breadbasket of Europe'.
Spain (Capital Madrid)	Mass protest was organised in Barcelona against possible amnesty for Catalan separatists.

Italy (Capital: Rome)	India and Italy signed pact to deepen defence cooperation. Mount Etna Volcano begun erupting again on island of Sicily.
Serbia (Capital: Belgrade)	Envoys of the EU and USA urged Kosovo and Serbia to resume dialogue to ease soaring tensions.
Iceland (Capital: Reykjavík)	Prime Minister of Iceland joined the women on strike over equal pay.
Switzerland (Capital: Bern)	Fifth meeting of Conference of Parties (COP 5) to Minamata Convention held in Geneva.
Germany (Capital: Berlin)	Global framework on Chemicals- for a planet free of harm from chemicals and waste" was adopted at 5th International Conference on Chemicals Management (ICCM5) in Bonn.

THE AMERICAS

Cuba (Capital: Havana)	Cuban Foreign Ministry stated that it uncovered a human trafficking ring aimed at recruiting Cubans to fight for Russia in its war in Ukraine.
Mexico (Capital: Mexico City)	Mexico's Supreme Court ruled that state laws prohibiting abortion are unconstitutional and violate women's rights.
Suriname (Capital: Paramaribo)	An illegal gold mine collapsed in Suriname. ➤ It is one of the top producers of Bauxite in the world.
Galapagos Islands	Two new coral reefs and seamounts discovered in Galapagos Islands. ➤ UNESCO World Heritage site.
Bolivia (Capital: La Paz, Sucre)	Bolivia severs diplomatic ties with Israel over disproportionate attack on Gaza. ➤ Lake Titicaca is the largest freshwater lake in South America and the highest of the world's large lakes.
Venezuela (Capital: Caracas)	US agreed to ease sanctions against Venezuela's oil, gas and mining industries. Home to one of the world's largest oil reserves.
Hawaii (Capital: Honolulu)	Kilauea volcano has erupted again
Dominica (Capital: Roseau)	Announced to create world's first sperm whale reserve.
Bering Sea	A recent study revealed a link between declining Bering Sea ice and increasing wildfire hazard in northeast China.
Amazon River	Amazon River basin is facing severe drought due to El Niño and the warming of northern tropical Atlantic Ocean waters.

TEST YOUR LEARNING

MCQs

1. Consider the following countries:

1. Jordan
2. Iraq
3. Kuwait
4. Oman
5. Israel
6. Yemen

How many of the above-mentioned countries share a land border with Saudi Arabia?

- (a) Only three
- (b) Only four
- (c) Only five
- (d) All six

2. Global Biofuel Alliance (GBA) was recently launched to develop a market for biofuels. How many of the following countries are members of the alliance?

1. USA
2. India
3. China
4. Bangladesh
5. Russia

Select the correct answer using the code given below:

- a) Only two
- b) Only three
- c) Only four
- d) All five

3. Consider the following statements regarding Indo-Pacific Economic Framework for Prosperity (IPEF):

1. It was jointly launched by India and USA at the latest G20 summit.
2. It aims to strengthen economic engagement among countries of Indo-Pacific region with the goal of advancing growth, peace and prosperity in the region.
3. India has joined all pillars of the framework.

Which of the statements given above is/are correct?

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

4. Which among the following countries does not share its border with the Red sea?

- a) Sudan
- b) Eritrea
- c) Ethiopia
- d) Djibouti

5. Consider the following pairs:

Country	Important reason for being in the news recently
1. Libya	President got re-elected
2. Gabon	Military officers declared coup against disputed Presidential election
3. Zimbabwe	IIT Madras establishes first international campus here
4. South Africa	Statue of Mahatma Gandhi was unveiled

How many pairs given above are correctly, matched?

- (a) Only one pair
- (b) Only two pairs
- (c) Only three pairs
- (d) All four pairs

Questions

1. The theme for India's G20 Presidency was "Vasudhaiva Kutumbakam – One Earth, One Family, One Future" symbolising India as a Global Unifier. Tracing the historical and ideological significance of the phrase, discuss India's role as a 'Global Unifier' along with the challenges. (250 words)
2. 'The Israel-Hamas conflict is the sum total of historico-religious friction coupled with colonial interference and political alignments.' Elaborate. Also, discuss its implication for India. (250 words)

Quarterly Revision

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ECONOMY



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3.1. MACROECONOMIC VARIABLES

3.1.1. GROSS DOMESTIC PRODUCT (GDP) ESTIMATION IN INDIA

CONTEXT

India recorded real GDP growth of 7.8% during the April–June period of 2023–24.

ANALYSIS

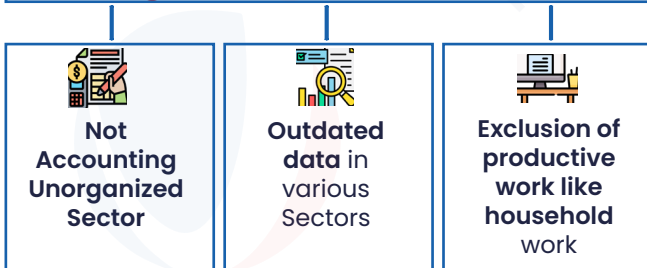
Present GDP Calculation Methodology in India

- ▶ Uses the income method.
- ▶ **Real and Nominal GDP:** The MoSPI calculates quarterly GVA (gross value added) at constant prices (2011–12) [Real GDP] and current prices [Nominal GDP].
- ▶ **GDP Deflator:** The ratio of Nominal GDP to Real GDP.
 - It reveals the increase in GDP that has happened on account of higher prices rather than an increase in output.

Why GDP is not a Very Good Marker to Measure Development?

- ▶ It doesn't take into account externalities such as crime, pollution, inequality, and depletion of natural resources.
- ▶ It doesn't measure aspects like Environmental protection, family bonding etc.
- ▶ GDP also includes socially negative activities if it generates economic output.
 - E.g., the money spent on the repair work after the train crash is counted in GDP.
- ▶ **Non-Inclusion of Social Aspects** of people's life such as state of health, quality of education, etc.

Challenges with current GDP Calculation



Way Forward

- ▶ **Regular updating of the base year** for accurate GDP estimation. (The current base year is 2011–12).
- ▶ **Adopting Double Deflation** i.e., outputs and inputs are deflated separately using relevant output and input price indices.
- ▶ **Timely data collection, storage, and processing**, especially with the help of Big Data and AI.
- ▶ **Include Productive activities** such as unpaid household work in the GDP calculation.



Read From Essential Material

Chapter “National Income Accounting” of Class 12th Macroeconomics NCERT

BRIEF BACKGROUND

GDP Calculation Approaches

- ▶ **Production Approach:** It sums the “value-added” at each stage of production.
- ▶ **Income approach:** It measures the total income earned by the factors of production.
- ▶ **Expenditure approach:** It measures the total expenditure incurred by all entities on goods and services.

Due to variations in data collection and processing, there are often gaps between the three approaches, which is considered while making the final calculation.

3.1.2. EXCHANGE RATE MANAGEMENT IN INDIA



CONTEXT

Indian rupee's valuation against currencies of major trading partners has surged to a near two-year high on central bank intervention and elevated domestic inflation.

ANALYSIS



What is an Exchange Rate?

- It is a **rate at which one currency is exchanged for another currency.**
- Its determining factors are interest rates, inflation, capital flow, money supply etc.

Effects of Exchange Rate

- Inflation:** An **over-valued currency** can contribute to **lower inflation** by reducing the cost of imported goods and services and vice versa.
- Interest Rates:** Central banks may respond to a strengthening currency by lowering interest rates to stimulate economic activity and vice versa.
- Economic Growth:** While a stronger currency can contribute to lower inflation, it may reduce export-driven sectors, **consequently resulting in a decline in overall economic growth.**
- Trade:** A stronger currency may contribute to **trade deficits as exports become less competitive and imports become more attractive** to domestic consumers.
- Capital Flow:** A stronger currency **may attract more foreign direct investment** as investors seek higher returns due to currency appreciation.

Challenges in Managing Exchange Rates

- Unpredictable geopolitical Events:** Geopolitical tensions or natural disasters, can lead to **volatility** in exchange rates.
- Speculation and Manipulation:** Buying and selling of currency in the forex market for speculation and manipulation can **exacerbate exchange rate volatility.**
- Government Intervention:** Devaluation and depreciation **may impact market perceptions** and create challenges for policymakers.
- Impossible/Inconsistent Trinity:** An Economy cannot pursue independent **monetary policy, maintain a fixed exchange rate, and allow the free flow of capital** across its borders at the same time.

Way Forward

- Governments and central banks should **coordinate policies to maintain stability.**
- Maintaining Foreign Exchange buffers** can help better manage market volatilities.
- Advocate against currency manipulation** that distorts the global market for selfish gains.

BRIEF BACKGROUND

Methods for Exchange Rate Determination

- Fixed Exchange Rates:** Value of a currency is pegged/fixed to the value of another currency/ basket of currencies/a commodity like gold.
 - Central banks actively intervene to maintain the fixed rate.
- Flexible/Floating Exchange Rates:** Determined by the market forces i.e., demand and supply of currency in international markets.
 - Central Bank does not intervene directly.
- Managed Exchange Rates:** Determined by market forces but central banks may occasionally intervene to influence the exchange rates.

Exchange Rate Determination in India

Currently **Nominal and Real Effective Exchange Rate (NEER and REER)** evaluations are used.

NEER is weighted average of bilateral nominal exchange rates of the home currency in terms of foreign currencies.

REER is weighted average of nominal exchange rates adjusted for relative price differential between the domestic and foreign countries.

3.1.3. MANAGING FOOD INFLATION IN INDIA

CONTEXT







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

ANALYSIS

Food Inflation in India

- ▶ **Retail Inflation** touched 6.83% with **Food Inflation at 9.2% in August 2023.**
- ▶ **Major Contributors** to current food inflation include tomatoes, onions, cereals (wheat and rice) etc.
 - **Wheat inflation** is due to domestic and global factors like **heat waves, unseasonal rains and Russia-Ukraine war.**
- ▶ **Factors Affecting India's Food Inflation** in the long term are monsoon, government policies, exchange rate fluctuations, outbreak of diseases etc.

Government Measures to Manage Food Inflation

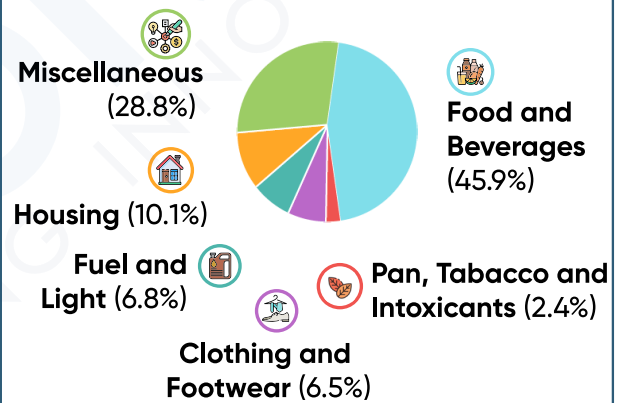
 <p>Export Restrictions like Export ban, Minimum Export Price (MEP) etc.</p>	 <p>Imposition of stocking limits on wheat traders and millers</p>	 <p>Maintaining buffer stock and selling it under the Open Market Sales Scheme (OMSS)</p>
 <p>Food Security Scheme for more than 80 crore beneficiaries</p>	 <p>Direct Support to Farmers: Through subsidies, income support and MSP</p>	 <p>Supply-Side Measures like Improving agricultural productivity etc.</p>

BRIEF BACKGROUND

Inflation Measurement in India

- ▶ **Wholesale Price Index (WPI)** measures the inflation at the wholesale level while **Consumer Price Index (CPI)** calculates inflation at the retail level.
- ▶ **WPI considers price change of goods only** while CPI considers both goods and services.
- ▶ **WPI gives more weightage to manufactured goods** whereas **CPI gives more weightage to food items**

All India Consumer Price Index- Groups



Concerns with the Current Food Inflation Management

- ▶ **Loss of Farmers' Income:** Export ban, OMSS and imposition of stock limits result in a collective loss of farmers' income.
- ▶ **Policy Bias:** Adoption of such market-distorting policy measures indicates a bias in favour of consumers.
- ▶ **Undervalued pricing:** As a result of the export ban and government selling wheat in the open market below the MSP.
- ▶ **Global Ramifications:** As India is the leading rice exporter (40% of the world), the export ban affects global prices and endangers global food security.

Managing Food Inflation without Adverse Effects

- ▶ **Calibrated trade policy** instead of a protectionist trade policy.
- ▶ **Maintain buffer stocks for volatile vegetable staples** like Tomato, Onion, and Potato.
- ▶ **Increase Income support to farmers** under PM-KISAN to offset the potential income losses.
- ▶ **Focus on food processing** as it can provide a viable substitute for consumers during price pressure on fresh produce.
- ▶ **Increase investment in R&D** from the current 0.48% of agriculture GDP to augment productivity.
- ▶ **Increase Irrigation coverage by expanding micro irrigation infrastructure.**

3.1.4. PERIODIC LABOUR FORCE SURVEY (PLFS)

CONTEXT

Recently, the Periodic Labour Force Survey (PLFS) 2022-23 was released. The LFPR increased from 55.2% to 57.9% (Male - 78.5% & Female - 37%) in 2022 - 23 compared to last year.

ANALYSIS

Key Indicators used in PLFS

- ▶ **Labour Force Participation Rate (LFPR):** Percentage of persons in the labour force (i.e. working or seeking or available for work) in the population.
- ▶ **Worker Population Ratio (WPR):** Percentage of employed persons in the population.
- ▶ **Unemployment Rate (UR):** Percentage of persons unemployed among the persons in the labour force.
- ▶ **Activity Status:** It is determined based on the activities pursued by the person during the specified reference period (preceding the date of the survey).
 - ▶ **Usual Status:** Reference period is 365 days.
 - ▶ **Current Weekly Status (CWS):** Reference period is 7 days.

BRIEF BACKGROUND

Periodic Labour Force Survey (PLFS)

- ▶ Launched by National Sample Survey Organization (NSSO) in 2017.
- ▶ The key objective of PLFS is to estimate the key employment and unemployment indicators (viz. LFPR, WPR, UR) annually, evaluated on activity status-
 - ▶ 'Current Weekly Status' (CWS) for the urban areas only for an interval of three months.
 - ▶ 'Usual Status' and CWS in both rural and urban areas annually.



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3.2. BANKING AND PAYMENT ECOSYSTEM

3.2.1. DIGITAL INCLUSION IN EMERGING TECHNOLOGIES

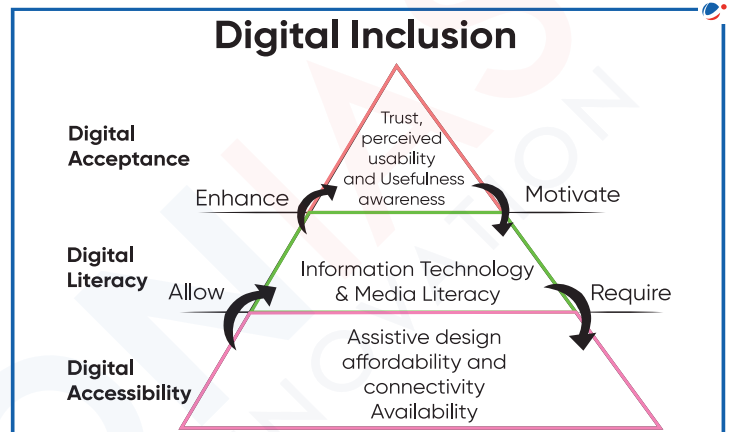
CONTEXT

The Telecom Regulatory Authority of India (TRAI) released a Consultation Paper on “Digital Inclusion in the Era of Emerging Technologies”. It aims to ensure inclusivity for all in its adoption.

ANALYSIS

Importance of Digital Inclusion

- ▶ **Job Opportunities:** It will increase data analyst and scientist jobs by 30–35% (Future of Jobs Report 2023 of WEF).
- ▶ **Education for All:** It can reduce the cost of education, digital divide, and enhance learning etc.
- ▶ **Inclusive Workspace:** It may provide employment opportunities for women and the disabled by improving access.
- ▶ **Better Pay:** Enhanced IT skills and digital inclusion boosts individual earning potential.
- ▶ **Healthcare:** It can improve the accessibility, affordability, and quality of healthcare.
 - ▶ E.g., 1 million Tele-consultations through the e-Sanjeevani platform during pandemic.
- ▶ **MSMEs:** Emerging technologies like process automation and IoT, could be helpful for creating use cases for MSMEs.



Initiatives taken for Digital Inclusion



Digital Connectivity: BharatNet Project and Digital India Programme



Digital Affordability: National Policy on Electronics 2019 and Design Linked Incentive Scheme



Digital Literacy: PM Gramin Digital Saksharta Abhiyan and Digital Skilling Programme

Digital Inclusion for MSMEs

- ▶ **Benefits of Digitalisation:**
 - ▶ Reduce manual effort, errors, and improve overall efficiency.
 - ▶ Expand business through online platforms etc.
 - ▶ Easy access to finance through digital lending platforms.
- ▶ **Challenges:** Internet affordability; building trust with online consumers; lack of knowledge and expertise to leverage digital technologies etc.
- ▶ **Initiatives:** Udyam Registration Portal, MSME Sampark (Digital platform connects job seekers with recruiters), Open Network for Digital Commerce etc.

Challenges for Digital Inclusion

- ▶ **Access:** High costs of adopting and utilizing emerging technologies widen the digital divide.
 - ▶ 49% of Indian adult men owned smartphones, compared to 26% of women (2021).
- ▶ **Infrastructure:** Lack of fiberization of mobile towers hampers the quality of internet access.
- ▶ **Affordability:** In India in 2022, the cost of the cheapest smartphone was about 1/3rd of the average monthly income.
- ▶ **Limited Digital literacy:** Unawareness about use and benefits of technology.
- ▶ **Misuse of Digital spaces:** Cyberbullying, financial frauds etc. discourage its use.

Way Forward

- ▶ **Policy Intervention** to ensure affordable access to all. E.g., **Affordable Connectivity Program, USA.**
- ▶ **Increase Investment** for high-speed internet infrastructure development in unserved areas.
- ▶ **Reduce mobile sector-specific taxes** and fees discouraging the internet.
- ▶ **Public Private Collaboration** to facilitate **Digital Inclusion** and adoption of digital technologies. E.g., **Smart Nation Singapore** programme.

3.2.2. CROSS-BORDER PAYMENTS

CONTEXT

RBI and the Bank for International Settlements (BIS) Innovation Hub organized G20 TechSprint 2023 to promote innovative solutions for improving cross-border payments.

ANALYSIS

Significance of Cross-Border Payments

- ▶ **Globalization:** Cross-border payments are a fundamental element of the globalization process by **improving access to global markets.**
 - It enables participants to diversify customer base, supplier base, and investment portfolio.
- ▶ **Financial Inclusion:** It can enable underserved communities to participate in the global economy.
- ▶ **Additional significance for Indian economy**
 - **Eases Remittances:** Since 2016, India's cross-border remittances growing at a CAGR of 8%.
 - **Facilitates Travel & Tourism:** Travel and tourism industry contributed around \$ 178 billion to the India's GDP (2021).
 - **Accelerating Foreign Investment:** India received a total FDI inflow of US\$70.97 billion in FY 2023.

Constraints In Cross Border Payments

- ▶ **Differing government regulations** in originating and receiving country.
- ▶ **Lack of standardization of financial data.**
- ▶ **Legacy technology platforms** lack real-time monitoring, have low data processing capacity etc.
- ▶ **Security risks** like money laundering, terror financing, cyber fraud etc.
- ▶ **High cost and delay in settlement** due to various checks and controls, multiple layers etc.

Steps Taken by India for Strengthening Cross-Border Payments

- ▶ **RBI Payments Vision 2025:** One of its focus areas is to bring ease in cross border payment.
- ▶ **NPCI International Payments Limited (NIPL):** Facilitating cross-border acceptance of UPI at merchant establishments.
 - Singapore, UAE, Mauritius, Nepal, Bhutan etc. have accepted UPI.
- ▶ RBI has allowed **access to UPI to foreign nationals and NRIs** visiting India.
- ▶ **India-UAE MoU on use of Central Bank Digital Currency (CBDC) for Cross-border payments.**

Way Forward

- ▶ **Improve existing payment infrastructures and arrangements** like aligning processes and operating hours etc.
- ▶ **Adopt a harmonized ISO 20022 version,** a standard for exchanging electronic messages.
- ▶ **Collaborate with fintech companies** specializing in cross-border payments.
- ▶ **Explore the potential role of new payment infrastructures and arrangements** like central bank digital currencies (CBDCs).
- ▶ **Ensure compliance with international and local regulations.**



Read From Essential Material

Chapter "Money and Banking" of 12th Macroeconomics NCERT

BRIEF BACKGROUND

Cross Border Payments

- ▶ It involves financial transaction in which the **sender and recipient are based in separate countries.**
- ▶ The cross-border payments market value is expected to reach \$290 trillion by 2030.

Types of Cross-Border Payment

International Wire Transfers like Society for Worldwide Interbank Financial Telecommunication network (SWIFT)	International Money Orders using a third-party provider
Digital Wallets like PayPal, Google Pay, Apple Pay	Others like Credit card Transactions, Crypto currencies

3.2.3. REGULATION OF CRYPTO ASSETS

CONTEXT

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

ANALYSIS

Crypto Regulation in India

- ▶ **Legal Provision:** Exchange, transfer, safekeeping or administration of cryptocurrencies is under the Prevention of Money Laundering Act (PMLA) 2002.
- ▶ **RBI's Stand:** RBI had banned cryptocurrencies in 2018, however it was overturned by the SC in 2020.
- ▶ **Regulatory Framework:** In 2022, the Finance ministry proposed the creation of a digital rupee (state-backed cryptocurrency) and recommended to establish a Digital Currency Regulatory Authority (DCRA).
- ▶ **Tax regime:** Classifying cryptocurrency, as "virtual digital assets", Union Budget 2022, announced a flat 30-percent income tax on its transfer.

BRIEF BACKGROUND

Global Regulation of Crypto Assets

- ▶ **Markets in Crypto-Assets Regulation (EU):** first cross-jurisdictional regulatory and supervisory framework for crypto-assets.
- ▶ **Crypto Asset Reporting Framework (CARF):** The G20 nations endorsed a framework for cross-border data sharing for effective tax compliance.
- ▶ **Emerging markets and advanced economies:** Both of these lag on regulatory development.
 - Only 25% of countries have regulations regarding taxation, AML/CFT, consumer protection, and licensing.

How India is shaping global regulation of crypto assets?

- ▶ The IMF-FSB Synthesis Paper on Crypto Assets was spearheaded by India.
 - It highlighted potential systemic implications of crypto assets, cross-border challenges, and various regulatory approaches etc.
- ▶ India advocated for inclusive regulation that promotes financial inclusion, especially for underserved populations.

Need for Regulation of Crypto Assets



Challenges in Regulating Cryptocurrency

- ▶ **Blanket Ban** can be costly and technically demanding to enforce.
 - It may heighten financial integrity risks.
- ▶ **Achieving consistency** in crypto regulations across different countries is a complex task.
- ▶ **Cross-border enforcement** as different jurisdictions defines and categorize crypto-assets in various buckets, creating ambiguity.
- ▶ **Fragmented monitoring, supervision and enforcement** due to a lack of coordination among various law enforcement agencies.

Way Forward for Crypto Regulation

- ▶ **Striking the right balance** between fostering innovation and mitigating risks.
- ▶ **No outright ban:** Blanket ban makes crypto-related activities like trading illegal and hence tough to monitor.
- ▶ **License and supervision of crypto assets service providers** in the same way as financial institutions.
- ▶ **Anti-money laundering measures** like customer due diligence, record keeping and reporting of suspicious activities.
- ▶ **Clear tax policy** that takes into consideration cross-border transactions.

Quarterly Revision

3.3. AGRICULTURE AND ALLIED SECTOR

3.3.1. CONTRIBUTIONS OF M S SWAMINATHAN

CONTEXT

The agricultural scientist, **Mankombu Sambasivan Swaminathan**, also known as “Farmers’ Scientist” passed away. He was the first recipient of the **World Food Prize (1987)**. He is also honoured with the **Padma Vibhushan and Ramon Magsaysay Award**.

ANALYSIS

Scientific Contributions of M S Swaminathan

- ▶ **Genetic Research:** Developed new crop varieties that are **high yielding, resistant to pests and diseases** and better suited to the Indian agricultural conditions.
- ▶ **Rice Varieties:** Under the **indica-japonica rice hybridization programme**, developed fertilizer-responsive, high-yielding and short-stature varieties of rice –
 - **ADT27, RASI** (both directly contributed in **Green Revolution**),
 - **Pusa Basmati**
- ▶ **Wheat Varieties:** Developed ‘**Sonalika**’ and ‘**Kalyan Sona**’ varieties which are dwarf, resistant to diseases and also high-yielding.
- ▶ **Potato Hybrid:** Developed a **frost-resistant potato variety** called ‘**Alaska Frostless**’.
- ▶ **Fostered Participatory Breeding:** In which farmers are assisted to develop new locally adapted varieties.

Contributions in Economic Ecology

- ▶ **Evergreen Revolution:** Ensured “improvement of productivity in perpetuity without ecological harm”.
- ▶ **Promoted blend of different approaches** i.e., organic farming, green agriculture, eco-agriculture and agriculture based on effective micro-organisms.
- ▶ **Proposed Idea of 4Cs: Conservation, Cultivation, Consumption and Commercialization** to harmonize conservation and development in agriculture.
- ▶ Introduced **ecotechnology-based bio-villages and modern information and communication-based Village Knowledge Centres (VKCs)**.

Policy and Institutional Contributions of M S Swaminathan & its relevance till today

- ▶ **National Commission on Farmers (NCF):** As the chairman of NCF, he recommended for the **Minimum Support Price (MSP) at least 50% more than the weighted average cost of production**.
- ▶ **Food Security:** Launched a **genetic garden of biofortified plants** to provide planting material and awareness of plants based on their nutritive property.
 - Also started a **community hunger fighters** program.
- ▶ **Disaster Management:** Advocated for adoption of **concepts of “drought code”, “flood code” and “good weather code”**, indicating the proactive measures that need to be taken.
- ▶ **Influenced Sixth Five Year Plan (1980–1985):** Introduced new chapters i.e. ‘**Women and development**’ and ‘**Environment and development**’.



Read From Essential Material

Chapter ‘**Biotechnology and its applications**’ of Class 12th Biology NCERT.

BRIEF BACKGROUND

Genetically Modified Crops (GM Crops)

- ▶ GM Crops involve **altering the DNA of plant’s genome**, to give it new or different characteristics.
- ▶ They are **resistance to pests, diseases, or environmental stress**, as well as **improve nutritional content or increase crop yield**.
- ▶ **Concerns Regarding GM Crops:** May provoke allergic reaction (allergenicity), gene transfer and outcrossing.
 - **Outcrossing** refers to Migration of genes from GM plants into conventional crops or related species in the wild.
- ▶ Clearance of **Genetic Engineering Appraisal Committee (GEAC)** is mandatory for the environmental release of GM crops.
 - It is the **statutory committee** under Environment (Protection) Act, 1986.
- ▶ **Bt cotton** is the only GM crop approved for commercial cultivation in India.

- ▶ **Key Role in Establishment of Institutions -**
 - ▶ International Board for Plant Genetic Resources in Rome (now known as **Biodiversity International**)
 - ▶ **International Crop Research Institute for the Semi-Arid Tropics** at Patancheru, near Hyderabad
 - ▶ **International Council for Research on Agro-Forestry (ICRAF)** in Nairobi
 - ▶ **International Centre for Genetic Engineering and Biotechnology (ICGEB)** in New Delhi
- ▶ **Other: Established M.S. Swaminathan Research Foundation (MSSRF) in Chennai, 1988.** The foundation helped in enacting the 'Protection of Plant Varieties and Farmers' Right Act 2001'.

3.3.2. INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)

CONTEXT



Indian Council of Agricultural Research (ICAR) and Consultative Group on International Agricultural Research (CGIAR) Gender Impact Platform hosted International Research Conference on 'From research to impact: Towards Just and Resilient Agri-Food Systems'

ANALYSIS



Role of ICAR towards better and resilient agri-food systems

- ▶ **Crop Varieties:** Key role in **Green Revolution** through development of new high-yielding varieties of crops.
 - ▶ **Rice varieties** - Jaya (first rice variety released in India), Swarna, Pusa Basmati 1121 (world's longest basmati rice) etc.
 - ▶ **Wheat varieties** - HD 2967, DBW 187 etc.
 - ▶ **Fruit varieties** - Amrapali, Pomegranate Bhagwa etc.
 - ▶ **Seed Programs:** ICAR deposited seeds in the **Svalbard Global Seed Vault** as safety duplicates.
 - ▶ **Genomics:** Helped to establish **the National Gene Bank** in New Delhi, (second largest gene bank in the world).
 - ◊ ICAR partnered in the **global genome sequencing of rice, wheat, tomato** and potato and independently sequenced the genome of pigeonpea, jute, mango and fishes.
- ▶ **Developed models of agro-forestry to promote agri-horti, agri-silvi and silvipastoral systems** for raising farmers' income.
 - ▶ Improved productivity of **indigenous breeds of cattle** such as Sahiwal cow, Tharparkar bull, Gir cattle, Banni buffalo and Kankrej cow etc.
 - ▶ **Improved poultry farming** with increasing productivity of desi birds such as CARI Nirbheek, Kadaknath, Ankaleshwar etc.
- ▶ **Health:** Developed Vaccines and diagnostics to eradicate **Animal diseases like Rinderpest, contagious bovine pleura-pneumonia, African horse sickness and Dourine** from the country.
- ▶ **Promoted Climate Smart Farming:** Through **rainwater harvesting, climate resilient varieties** such as Rati ML 365, Pigeonpea BRG 1, BRG 2 and BRG 5, and hydroponic cropping.
- ▶ **Bio-Technology Solutions:** Biofortified crops like **Solapur Lal** (first biofortified pomegranate variety), Groundnut **Girnar 4 and 5**, **Pusa Double Zero Mustard 31** (first canola quality Indian mustard variety) etc. to tackle malnutrition.
 - ▶ Developed **Pusa decomposer** for in situ and ex situ crop residue decomposition to mitigate residue burning problems.
 - ▶ India developed **first cloned buffalo** in the world and Pratham, the world's first in-vitro fertilized buffalo calf.
- ▶ **Blue Revolution:** Promoted **cage culture** - a low volume high density fish farming system - which raised per unit productivity.
 - ▶ Developed **Ecosystem Health Index (EHI)** to monitor coastal ecosystem.
- ▶ **Agricultural Mechanization:** Developed technologies such as millet mill, drone remote sensing, mulch laying machine etc.

BRIEF BACKGROUND

About ICAR

- ▶ Autonomous organisation under the **Ministry of Agriculture and Farmers Welfare.**
- ▶ Formerly known as the **Imperial Council of Agricultural Research.**
- ▶ **Established in 1929** as a registered society under the Societies Registration Act, 1860 in pursuance of the report of the Royal Commission on Agriculture.
- ▶ **Apex body for coordinating, guiding and managing research and education in agriculture** including horticulture, fisheries and animal sciences in the country.

Consultative Group on International Agricultural Research (CGIAR)

- ▶ Established in 1971, it is a **strategic partnership of donors** that support 15 international research centres, working in collaboration with government, civil society organizations and private businesses.
- ▶ CGIAR is a **global research partnership for a food-secure future** dedicated to transforming food, land, and water systems in a climate crisis.
- ▶ It focuses on **five impact areas** (see image).



3.3.3. NATIONAL TURMERIC BOARD

CONTEXT

Government of India has notified the **establishment of a National Turmeric Board** in the state of Telangana.

ANALYSIS

About National Turmeric Board

- ▶ Established to **increase awareness and consumption of turmeric** and develop new markets internationally to increase exports.
- ▶ The proposed board is to work **under the aegis of the Ministry of Commerce**.

Composition of Board

- ▶ **Chairperson** is selected by the Central Government.
- ▶ **Secretary** appointed to the Board by the Commerce Ministry.
- ▶ **Four members** representing the Ministries of Commerce, Agriculture, Ayush, and Pharmaceuticals.
- ▶ **Members from national/state institutions** involved in research, representatives of turmeric farmers and exporters among others.

Key Objectives of the Board

- ▶ **Create demand** in domestic and international markets through promoting new product and value addition.
- ▶ **Create and improve infrastructure** and logistics for exports of turmeric and turmeric products.
- ▶ **Ensure quality and safety standards** across the supply chain of turmeric.
- ▶ **Document the traditional knowledge** related to use of turmeric and its applications.
- ▶ **Encourage studies, clinical trials and research** on medicinal, health and wellness enhancing properties of turmeric.

BRIEF BACKGROUND

Turmeric (*Curcuma Longa*) in India

- ▶ Turmeric is **tropical plant** belonging to the **ginger family** (Zingiberaceae).
- ▶ It contains a natural active ingredient called "**Curcumin**" which gives the turmeric its colour and has **antioxidant and anti-inflammatory properties**.
- ▶ **Climatic Conditions:**
 - **Temperature:** 20 to 35 °C.
 - **Rainfall:** 1500 mm or more.
 - **Soil:** Well drained red loamy soil.
- ▶ **Cultivation: 75%** of global turmeric production happens in **India**.
 - More than 30 varieties of Turmeric are grown in India and the largest Turmeric producing states are **Maharashtra, Telangana, Karnataka and Tamil Nadu**.
- ▶ India is the **largest producer, consumer and exporter** of turmeric in the world.
- ▶ Bangladesh, UAE, USA and Malaysia are the **main export markets of Indian turmeric**.

3.3.4. DIGITISATION OF AGRICULTURE

CONTEXT

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



ANALYSIS



About Digitization of Agriculture

- ▶ It involves the integration of cutting-edge digital technologies like Artificial Intelligence, robotics, drones, sensors etc. into the farm production system.
- ▶ **Significance -**
 - **Across the agricultural value chain:**
 - ◆ **Input Supply:** Apart from reducing manpower requirements, it optimizes the input resources like fertilizers, pesticides, water etc. E.g., Use of AI with agricultural data.
 - ◆ **Production:** Helps farmers increase yield by assisting them in choosing better crops, hybrid seeds, etc.
 - ◆ **Trading:** Ensure the right price for the product by eliminating middlemen. E.g., e-NAM.
 - ◆ **Warehousing:** Aids Scientific Decision Making which will reduce burdens of crop loss or failure, low yield, pest attack etc.
 - **Improved Governance:** Better agriculture governance, by using agriculture data gathered across the country. E.g., India Digital Ecosystem of Agriculture (IDEA) framework.
 - **Social Benefits:** Bridges the gender gap, through the promotion of women-centric innovations.



Read From Essential Material

Chapter 4 – Food security in India of Economics (Standard 9, NCERT)

BRIEF BACKGROUND

Indian Agriculture

- ▶ Characterized by agro-ecological diversities in soil, rainfall, temperature, and cropping system.
- ▶ **Backbone of the Indian economy.**
 - Provides employment to approximately 52% of the Indian population.
 - 70 % of its rural households still depend primarily on agriculture for their livelihood.
 - It contributes 16% of the overall GDP.
- ▶ India is the world's largest sugar-producing country and second in rice production after China.
- ▶ India is also the second largest producer of wheat.

Challenges in Digitization of Agriculture in India

- ▶ **Digital Illiteracy:** Discourages farmers from trying new-generation technologies in agriculture.
 - Further, increased cybercrime has affected the trust in digital mode.
- ▶ **High Initial Capital Requirement** makes it difficult for a small and marginal farmer to acquire them.
 - For instance, farm mechanisation in India is only 40%, very low compared to 95% in US and 75% in Brazil.
- ▶ **Fragmented Landholdings** also make the scalability of a technology difficult.
 - The average size of operational holdings has decreased from 2.28 hectares in 1970-71 to 1.08 hectares in 2015-16 (10th Agriculture Census 2015).
- ▶ **Unemployment:** Automation can potentially reduce the manpower required for the process.
- ▶ **Nascent Stage of Agri-tech Startups:** Presently, there is only 1% Agri-tech startup penetration in India (as per EY India).
- ▶ **Availability & Accessibility Issues:** Lack of content in regional languages, user-friendly interface, Inadequate farm and farmer-level datasets etc.

Way forward

- ▶ Improving the access to innovative products to the farmers.
- ▶ Focusing on producing technologies at affordable cost.
- ▶ Portable Hardware models need to be focused as small plug-and-play hardware, which can be commonly shared among a group of farmers.
- ▶ Bridging the gap between field and academic institutes to resolve ground-level issues faced by the farmers.
- ▶ Arrangement of better financing options and incubation centres for the Agri-tech.

Applications of Technologies involved in Agriculture



Farm mechanisation like Drones, Robotics etc



Climate smart agriculture



Biotechnology and genetic modification



Biofortification



Digital technologies such as AI, remote sensing, big data, blockchain and IoT

Latest Initiatives for Digitization of Agriculture

- ▶ **Unified Portal for Agricultural Statistics** to generate crop estimates.
- ▶ **The Kisan Rin Portal (KRP)** is an Integrated hub which offers a comprehensive view of farmer data, loan disbursement specifics, interest subvention claims, and scheme utilization progress.
- ▶ **Weather Information Network Data Systems manual** to leverage advanced weather data analytics.
- ▶ **YES-TECH is a technology-driven yield estimation system**, for accurate yield assessments at the Gram Panchayat level.
- ▶ **National e-Governance Plan in Agriculture (NeGP-A)** to achieve rapid development in India through use of modern technologies in agriculture.



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3.4. INFRASTRUCTURE AND ENERGY

3.4.1. DIGITAL PUBLIC INFRASTRUCTURE (DPI)

CONTEXT

India launched the **Global Digital Public Infrastructure Repository and a Social Impact Fund**, during the Virtual G20 Leaders' Summit. GDPIR is **one of the three DPI deliverables** that were endorsed by the G20 New Delhi Leaders' Declaration.

ANALYSIS

What is Digital Public Infrastructure (DPI)?

▶ DPI is a set of shared digital systems which are secure and interoperable, built on open standards and specifications to deliver and provide equitable access to public and/or private services at societal scale.

▶ Digital

- Enables **remote, paperless, presence-less delivery.**
- **Reducing cost** and increasing access.

▶ Public

- Public governance and **accountability to people**
- For public interest with **Government orchestration**

▶ Infrastructure

- Building block for large scale development of digital solutions.
- Can be **built and leveraged by both Public and Private domains**

▶ Key pillars of DPI:

- **Open, interoperable,** extensible, and scalable technology.

➤ **Robust governance framework** with transparent legal framework, data protection etc.

➤ **Resilient local ecosystems** eliminating economic, technical/social barriers, ensuring community participation.

▶ Foundational elements: A strong DPI has three foundational systems—identity, payments, and data exchange.

- India's DPI architecture, known as **India Stack**, consists of Aadhaar (identity), UPI and Aadhaar enabled Payment System (payments), and Digilocker and Account Aggregator (data exchange).

India's Role in Promoting DPI at the Global Level

▶ **Modular Open-Source Identity Platform:** Launched by International Institute of Information Technology, Bengaluru to help other countries set up Aadhaar-like systems.

▶ **Payment linkages:** India has signed agreements with **Singapore, Malaysia, UAE, France** etc. to **extend the reach of its UPI payment system.**

▶ **G20 Consensus:** Under India's presidency, G20 leaders arrived at a consensus regarding the promotion and adoption of the DPI framework.

▶ **Alternative Model to traditional "big tech" approach:** India's DPIs emphasizes **Open-Source Infrastructure** i.e. public ownership and control of critical infrastructure.

▶ **One Future Alliance (OFA):** India proposed OFA for building capacity, providing technical assistance and funding support for DPI in LMICs.

BRIEF BACKGROUND

Global Digital Public Infrastructure Repository (GDPIR)

▶ **Developed by:** Ministry of Electronics & Information Technology.

▶ **Aim:** To bridge the knowledge gap in the choices and methodologies required for the design, construction, deployment, and governance of DPIs.

Social Impact Fund (SIF)

▶ **Aim:** Government-led, multi-stakeholder initiative to **fast-track DPI implementation in the global south.**

➤ It's a platform for stakeholders to **contribute to a fund and help accelerating SDGs achievement in Low- and Middle-Income Countries (LMICs)** through DPIs.

▶ **Funding:** India has pledged an initial commitment of **25 million USD** to SIF.

➤ It will provide **financial support** for upstream technical and non-technical assistance to **countries developing DPI.**

3.4.2. NATIONAL LOGISTICS POLICY (NLP)

CONTEXT

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



ANALYSIS



Progress under NLP so far

- ▶ **Digitalisation:** Over 614 industry players have registered on the Unified Logistics Interface Platform (ULIP).
- ▶ **Export-Import (EXIM) Logistics:** 60 projects of the MoRTH and 47 of Ministry of Railways have been sanctioned to improve connectivity to ports.
- ▶ **State Engagement:** 22 States have notified their logistics policies so far.
- ▶ **Issues and Grievance Redress:** Around 29 business associations have been empanelled so far in the Ease of Logistics Services (E-logs) Portal.

Challenges in NLP

- ▶ **Fragmented and Unorganized sector,** 90% of the market is dominated by unorganized players.
- ▶ **Lack of logistics standardization results in difficulty in interoperability** and leads to delays.
- ▶ **Only 4.7% of 22 million employed in the logistics sector are formally skilled.**
- ▶ **Lack of coordination between states** leads to delays and increased costs.
- ▶ **Lack of acceptance of Digital technologies** by transporters due to digital illiteracy.
- ▶ **Limited alternatives to first & last-mile connectivity.**

Way Forward

- ▶ **Address gaps in India's Export-Import (EXIM) connectivity** to create efficient and reliable logistics network.
- ▶ **Improving regulatory interface** to enable seamlessness between sectors.
- ▶ **Develop Sectoral Plans for Efficient Logistics (SPEL)** aligned with PM Gati Shakti for each sector.
- ▶ **Better State Engagement,** for the development of state and city-level logistics plans.

Role of States in Logistic Policy Implementation

- ▶ To create a **dedicated agency for the development of logistics in the state.**
- ▶ To identify **local logistics infrastructure requirements.**
- ▶ To create **quality storage facilities.**
- ▶ To **integrate quality data** from various states' master plan, for better and wider adoption of logistic policy initiatives.
- ▶ To **enable area-based development** and for gap identification, project planning, etc.

BRIEF BACKGROUND

Logistics Sector in India

- ▶ The logistics sector comprises **ports, stations, Multi-modal Logistics Parks (MMLPs), warehouses, connected by roads, railways etc.**

\$259.5 Billion was the value of Indian Logistics Sector in 2022.

38th Rank in World Bank's Logistics Performance Index 2023.

13% - 14% of the GDP is the cost of India's Logistics Sector.

About National Logistics Policy (NLP)

- ▶ Announced (in 2022) to **promote seamless flow of goods** across the country and **improve Indian goods competitiveness** in domestic and global markets.
- ▶ **Vision:** To drive economic growth through an integrated, seamless, efficient, reliable, green, sustainable and cost-effective logistics network by leveraging best-in-class technology, processes and skilled manpower.

Targets of NLP

- ▶ **Reduce cost of logistics** in India to global benchmarks by 2030.
- ▶ **Improve the Logistics Performance Index ranking** – and be among top 25 countries by 2030.
- ▶ Create **data driven decision support mechanism** for a logistics ecosystem.

3.4.3. PM GATI SHAKTI INITIATIVE

CONTEXT

PM Gati Shakti Initiative **completed two years** since its inception in October 2021.

ANALYSIS

Impact of the GATI Shakti Initiatives

- ▶ **Expedited Implementation of Processes Across Projects.** E.g. Reduction of the pre-alignment finalization time for infrastructure projects **from 3-4 months earlier to 1 month.**
- ▶ **Increasing Information Availability** through provisioning of data on upcoming connectivity projects, industrial areas etc.
- ▶ **Development of Multi-modal Logistics** through infrastructure schemes like Bharatmala, Sagarmala etc.
- ▶ **Facilitation of Last Mile Connectivity** of the Infrastructure.

Challenges In Implementation

- ▶ **Structural Problems:** Securing approvals for **land access**, obtaining **environmental clearances** etc.
- ▶ **Financial Constraints:** States don't have enough financial resources and **Private Banks are reluctant** to provide credit due to fear of NPAs.
- ▶ **Centre-State Coordination issue:** Involvement of multiple authorities without clear flow of accountability.
- ▶ **Balancing Infrastructure Development with Environmental Considerations:** E.g., need to minimize the ecological impact of new projects.

Way Forward







- ▶ **Better Land-use planning:** Reclaim lands that have **already undergone degradation** instead of acquiring new land.
- ▶ **Skill Development:** Internships and **on-the-job training** for students interested in infrastructure development.
- ▶ **Harness the capabilities of digital technologies** like AI to improve the effectiveness and transparency.
- ▶ **Centre-State Cooperation** mechanism for **resolving disputes /conflicts** and swift implementation of Gati Shakti projects.
- ▶ **Community Impact Assessment** of the infrastructure project on local communities.
- ▶ **International Collaboration** with organizations and countries that have expertise in infrastructure development.

BRIEF BACKGROUND

About GATI Shakti

- ▶ **PM Gati Shakti National Master Plan (PMGS-NMP)** is aimed to provide **multimodal connectivity** infrastructure to various economic zones of India.
- ▶ **Objectives of the Plan:**
 - ▶ To **incorporate Economic zones** like textile clusters, pharmaceutical clusters, defence corridors, electronic parks etc. in PMGS-NMP.
 - ▶ To set up a **unified portal** that would bring **16 Ministries** including Railways and Roadways together.
- ▶ **Primary Focus:** Strategic planning, innovative financing methods, leveraging technology, and expediting implementation processes.
- ▶ **Scope:** It will encompass the **seven engines (Roads, Railways, Airports, Ports, Mass Transport, Waterways and Logistics Infrastructure)** of the National Infrastructure Pipeline (NIP).

6 pillars of GATI Shakti

 Comprehensiveness	 Prioritization	 Optimization
 Synchronization	 Analytical	 Dynamic



3.4.4. DEDICATED FREIGHT CORRIDORS (DFCS)

CONTEXT

The Eastern Dedicated Freight Corridor (EDFC) has been completed fully in October 2023.

ANALYSIS

Significance of DFC

- ▶ **Capacity Enhancement:** Reduce congestion on existing rail routes.
- ▶ **Cost Reduction:** Quicker transit times, reduced fuel consumption etc. make **goods more competitively priced.**
- ▶ **Infrastructure Upgradation:** Modern signaling systems, electrification of tracks, establishment of new rail lines etc.
- ▶ **Environmental Benefits:** By diverting a substantial portion of freight traffic from roads to rail.
- ▶ **Equitable Regional development:** Enable the economic integration of relatively less developed regions with developed regions.

Challenges in the Creation of DFCs

- ▶ **Funding and Financing** affect the project timeline and increase overall costs.
- ▶ **Technical Challenges** like dealing with diverse terrains, constructing bridges and tunnels etc.
- ▶ **Integration with Existing Network** i.e., between the DFCs and the existing infrastructure poses a challenge.
- ▶ **Changes in market dynamics,** economic conditions, and fluctuations in freight demand etc.

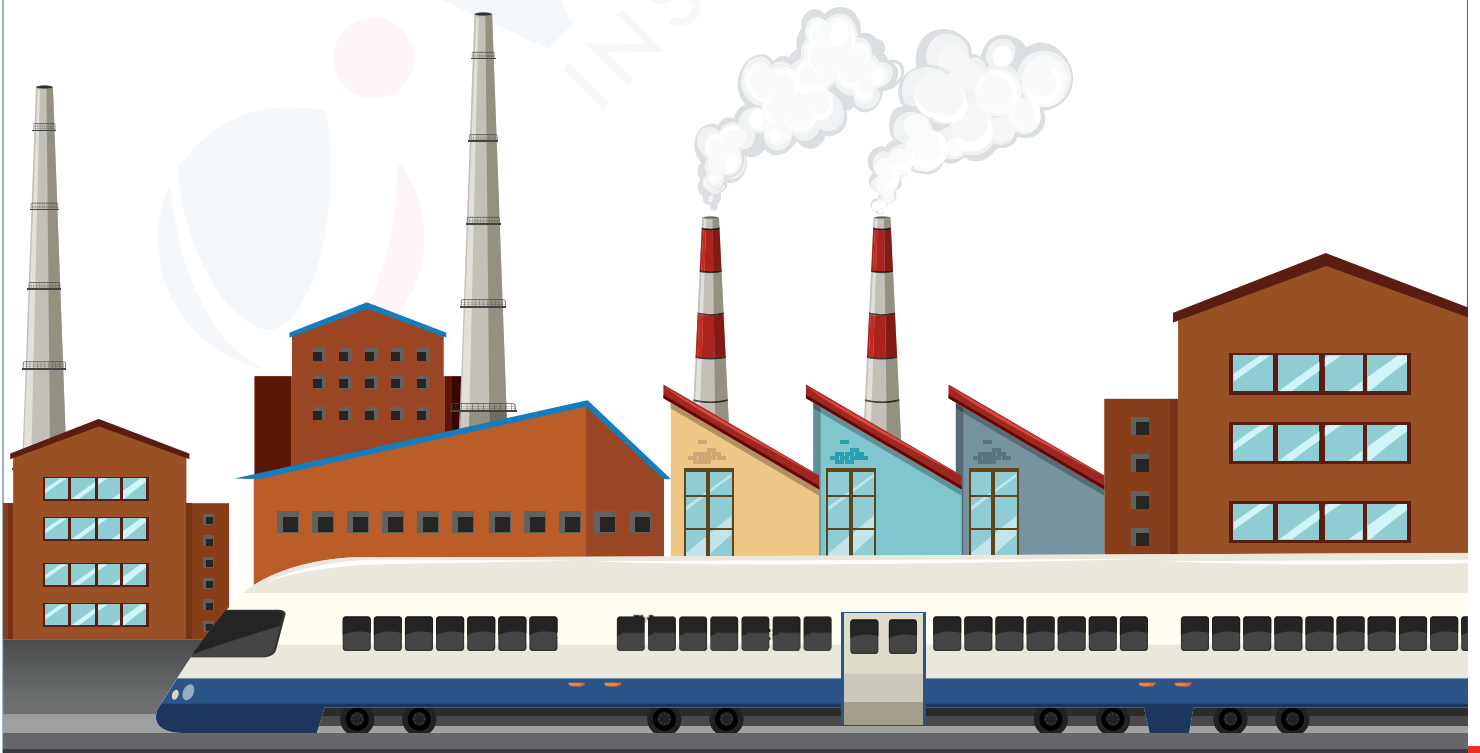
Way Forward

- ▶ **Efficient Integration** between the Indian Railways' network and the DFC.
- ▶ **Accelerated Land Acquisition** providing **fair compensation** and utilizing technology for land surveys and mapping.
- ▶ **Market Analysis and Demand Forecasting** to align the DFC capacity with the anticipated freight demand.

BRIEF BACKGROUND

What is a Dedicated Freight Corridor?

- ▶ It is a **railway corridor** designed for the rapid and efficient transportation of goods and commodities, characterized by **high speed** and **high capacity.**
- ▶ **Aim:** Decongesting India's railway network by separating **freight traffic** from **passenger traffic** on the railway network.
- ▶ **Implementing agency:** Dedicated Freight Corridor Corporation of India Limited (DFCCIL).
 - ▶ It is a **wholly owned enterprise of the Ministry of Railways** set up in 2006 for the construction, maintenance, and operation of DFCs.
- ▶ **Dedicated Coal Corridor:** On lines of DFC, Railway Ministry is developing DCC exclusively for coal transportation from Odisha, Jharkhand, and Chhattisgarh to other parts of country.



3.4.5. REGIONAL RAPID TRANSIT SYSTEM (RRTS) PROJECT

CONTEXT

The **First Regional Rapid Transit System (RRTS)** was launched with **Namo Bharat RapidX** train running from Sahibabad to Duhai Depot in Uttar Pradesh.

ANALYSIS

About RRTS Project

- ▶ It is a new, dedicated, high-speed, high-capacity, comfortable commuter service connecting regional nodes in NCR.
- ▶ These will operate at a speed of 160 km/hour but are designed to be able to run at speeds up to **180 km/hour**.
- ▶ **Different from Metro and Indian Railways:**
 - It caters to passengers looking to travel relatively longer distances with fewer stops and at higher speeds.
 - It will provide reliable, high-frequency, point-to-point regional travel at high speed along a dedicated pathway.
- ▶ NCRTC is implementing the RRTS in the National Capital Region (NCR).

BRIEF BACKGROUND

National Capital Region Transport Corporation (NCRTC)

- ▶ **About:** Incorporated in 2013, as a joint venture company of Govt. of India and the States of Delhi, Haryana, Rajasthan and UP.
- ▶ **Ministry:** Ministry of Housing and Urban Affairs (MoHUA).
- ▶ **Purpose:** Implementing RRTS project across NCR.
- ▶ **Functions and Responsibilities:**
 - Designing, developing, implementing, financing, operating and maintaining RRTS.
 - Ensuring balanced and sustainable urban development through better connectivity and access.

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3.4.6. MARITIME SECTOR

CONTEXT

India launched the **Maritime Amrit Kaal Vision 2047** during the 3rd **Global Maritime India Summit 2023, Mumbai**. It is prepared by **Ministry of Ports, Shipping and Waterways** for making India the global maritime leader by 2047.

ANALYSIS

Maritime Amrit Kaal Vision 2047

It is a comprehensive roadmap to transform India's maritime sector through initiatives under the 11 themes.

- ▶ **Sustainable and Green Maritime Sector:** Aims at making all 14 major ports **carbon neutral**, embracing **green fuel** and making India a hub for **hydrogen production** and distribution.
- ▶ **Port Modernisation:** Transforming ports into **smart, automated ports of the future** and placing **Indian ports among the world's top 25 ports**.
- ▶ **Global Player in Shipbuilding, Repair & Recycling:** To attain a spot in the top 5 global shipbuilding centres.
- ▶ **Improving India's tonnage:** **Quadruple port capacity** to reach 10,000 million tons port capacity at major ports.
- ▶ **Ocean, Coastal & River Cruise Sector:** Develop 25 cruise terminals to make India a leader in **cruise tourism** in the Asia Pacific region.
- ▶ **Enhanced Logistics:** Enhance modal share of coastal shipping and inland waterways from **6% to 12%**.
 - ▶ GOI aims at increasing **operational waterways more than twofold**.
- ▶ **Other themes:**
 - ▶ Offer **Maritime Professional Services** in areas like maritime law, finance etc.
 - ▶ **World-class education, research & training**.
 - ▶ **Maritime Cluster Development** for Streamlining the supply chain.
 - ▶ Dedicated IMO cell in India for **Global Maritime Presence**.
 - ▶ **Efficiency Enhancement** through a technology-driven innovation ecosystem.

Maritime Challenges to India

- ▶ **Infrastructural Deficiency** such as Inadequate port infrastructure and connectivity, limited facilities for shipbuilding and repair etc.
- ▶ **Security Concerns** like **Piracy and maritime terrorism** pose threats to the safety and **Non-traditional security threats** also emanate from drug trafficking, armed robbery, human smuggling etc.
- ▶ **Environmental Pollution from Maritime Sector** such as Increased greenhouse gas emissions, loss or degradation of coastal habitats, biodiversity, and ecosystem services etc.
- ▶ **Geopolitical Challenges** in the region impact the stability and security of maritime trade routes.
- ▶ **Climate Change** impacts like sea level rise and consequent decline in marine resources, intensification of disasters, oceanic acidification etc.
- ▶ **India lags in adoption of modern technologies** required for deep sea exploration and mining.

Conclusion

India endeavors to overcome obstacles and invest in the sustainable development of maritime sector. It sets the stage for a future where its maritime prowess not only ensures economic prosperity but also solidifies its position as a key player in the global maritime landscape.

BRIEF BACKGROUND





Maritime Sector in India

- ▶ **Maritime Sector:** Comprises Ports, Shipping, Shipbuilding and Ship repair and Inland Water Transport Systems.
- ▶ **Nodal Central Agency:** Ministry of Ports, Shipping and Waterways.
- ▶ **Ports in India:** 14 Major Ports (administered by the centre) and 200 minor ports (administered by States).
 - ▶ **Capacity of India's major ports has doubled in the last decade.**

Significance of developing India's maritime sector

- ▶ **Opportunities in Indian Ocean** with abundant mineral resources and connectivity with global cities.
- ▶ **Livelihood:** About 250 million people live within a 50 Km of coast.
- ▶ **Food Security:** India is the **second-largest fish producing nation** in the world.
- ▶ **International Trade:** Indian Ocean is the corridor of the global economy and **India is strategically located** along it.
- ▶ **Regional Power Aspirations:** India has emerged as a net security provider and a reliable partner in the Indian Ocean region.

Initiatives for Maritime Sector

 Maritime India Vision 2030	 Sagarmala Programme	 Landlord Port Model	 Promotion of Lighthouse Tourism
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3.4.7. INLAND WATERWAYS

CONTEXT

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



ANALYSIS



Inland Water Transport

- ▶ India has about 14,500 km of navigable waterways comprising rivers, canals, backwaters etc.
- ▶ As per constitutional provisions, waterways declared as National Waterways come under the purview of the Central Government and other remains under the respective State Government.

Importance of Inland Water Transport

- ▶ **Cost Savings:** Waterways are much cheaper than road & railways and can reduce logistics costs from ~13-14% of GDP in India.
- ▶ **Environment Friendly:** Least fuel consumption per ton-km.
 - ▶ For instance, CO2 emission is 50% that of trucks.
- ▶ **Strategic Importance:** Waterways offers natural navigation channels connecting the entire NER which faces connectivity hurdles with the mainland.
- ▶ **Supplementary Mode:** Reduces congestion and accidents on the rail and road.
- ▶ **Tourism and Recreation:** Can promote tourism and recreation, generating income for local communities.

Issues Associated with the Development of IWT

- ▶ **Unviability of projects:** The slow pace of development of waterways and high vessel and equipment costs, discourage investment.
 - ▶ Only 23 of 111 notified national waterways are operational.
- ▶ **Least Available Depth (LAD):** Maintaining a navigable depth of the river for vessels with a carrying capacity of 1500-2000 tons is a challenge.
- ▶ **Impact on the environment:** Inland waterways development can alter the ecology of the river.
- ▶ **High cost of development of Ancillary facilities,** like, multimodal terminals, jetties, and river information systems.

- ▶ Lack of convergence between IWT and other modes of transport.
- ▶ Recurring siltage and irregular siltation.

Steps Taken for Inland Water Transport

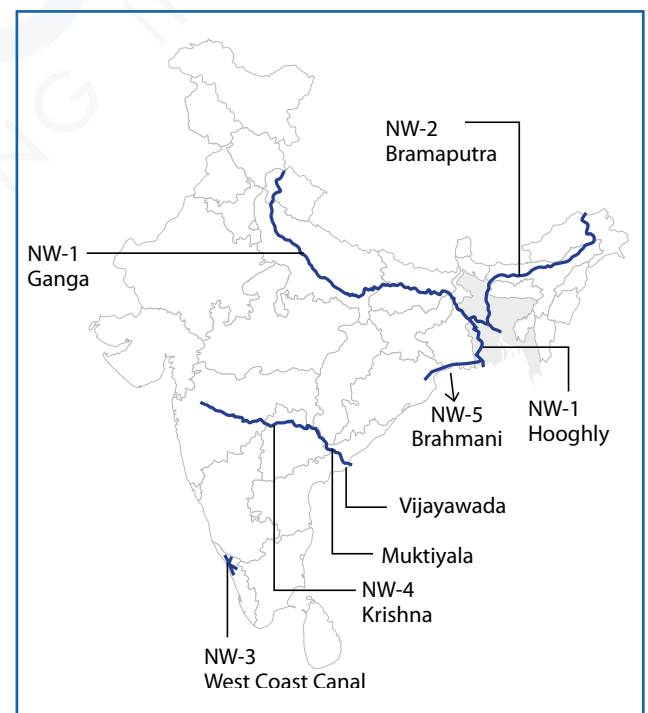
- ▶ **Jal Marg Vikas Project (JMVP):** For capacity augmentation of navigation on NW-1.
- ▶ **Ease of Doing Business:** Through digital solutions like PANI (Portal for Asset & Navigation Information) which integrates river navigation and infrastructure information on a single platform.
- ▶ **Maritime India Vision 2030:** Focus on enhancement and development of infrastructure at 23 priority NWS.

BRIEF BACKGROUND

Inland Waterways Authority of India (IWAI)

- ▶ **Ministry:** Ministry of Ports, Shipping and waterways.
- ▶ **Genesis:** Set up as a statutory body in 1986, under the Inland Waterways Authority of India Act, 1985.
- ▶ **Headquarter:** Noida
- ▶ **Mandate:**
 - ▶ Conduct surveys, techno-economic feasibility for inland waterways.
 - ▶ Development and regulation of National waterways for shipping and navigation.
 - ▶ Regulation of traffic, coordination with other modes of transport.
 - ▶ Assist and advise central and state government on matters relating to Inland water transport.

Important National Waterways



Way Forward

- ▶ Provide **financial incentives and subsidies** to encourage industries to shift their cargo transportation to inland waterways.
- ▶ **Active involvement of the private sector** in the inland waterways infrastructure development.
- ▶ **Ensure the connectivity to rail, road, and ports.**
- ▶ **Assessment of the impact** of the increased inland water transport activities on aqua-marine life.
- ▶ **International collaboration** for developing trans-boundary waterways, facilitating regional trade and connectivity.

3.4.8. CENTRAL ELECTRICITY AUTHORITY (CEA)

CONTEXT

On October 15, 2023, the Central Electricity Authority (CEA) celebrated its **50th foundation day**.

ANALYSIS

Emerging Challenges for CEA

- ▶ **India's Aging Power Infrastructure** requires substantial upgrades and modernization.
- ▶ **Increased Cybersecurity Risks** associated with the growing digitization of the power sector.
- ▶ **Increasing share of renewable energy sources** poses challenges in terms of grid integration, balancing, and ensuring grid stability.
- ▶ **Rise of Electric Vehicles (EVs)** presents challenges related to the demand for electricity, charging infrastructure, and managing grid impact.
- ▶ **Distributed renewable energy systems** like micro or mini grid etc. require new regulatory frameworks.

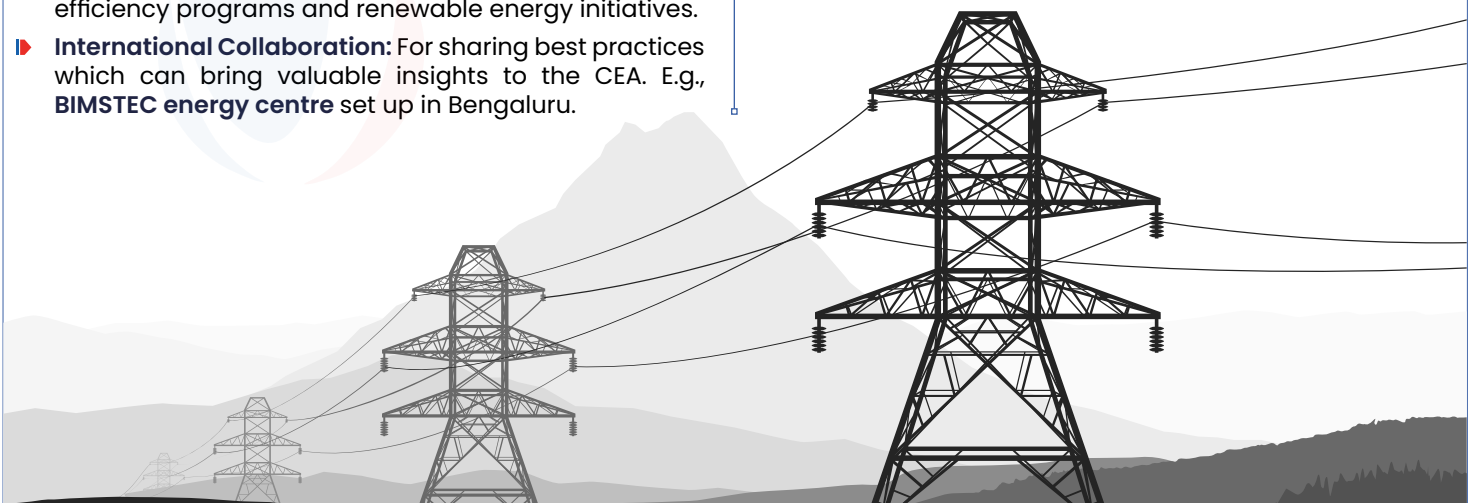
Way Forward

- ▶ **Energy Storage:** Promote the adoption of energy storage technologies to balance supply and demand and improve grid stability.
- ▶ **Ensure cyber-security:** Focus on developing and implementing cybersecurity policies to protect the power grid from potential threats.
- ▶ Implement **predictive modelling** for grid planning and management.
- ▶ **Awareness:** Encourage **public participation** in energy efficiency programs and renewable energy initiatives.
- ▶ **International Collaboration:** For sharing best practices which can bring valuable insights to the CEA. E.g., **BIMSTEC energy centre** set up in Bengaluru.

BRIEF BACKGROUND

About Central Electricity Authority

- ▶ It's a **statutory organization** under **Electricity Act, 2003** under the Ministry of power.
- ▶ It was originally established under the repealed **Electricity (Supply) Act, 1948.**
- ▶ **Objectives:**
 - To **regulate and oversee the development of the electricity sector** in India.
 - To **ensure reliable 24*7 power supply** of adequate quality to all consumers in the country.
- ▶ **Composition:**
 - Consist of **not more than 14 Members** (including its Chairperson) of whom not more than **eight are appointed by the Central Government.**
- ▶ **Functions & Responsibilities:**
 - **Advise the Central Government**
 - **Specify the technical standards**
 - **Specify the conditions for installation of meters**
 - **Promote and assist in the timely completion of schemes and projects**
 - **Promote measures for advancing the skill.**



3.5. MISCELLANEOUS

3.5.1. CORPORATE GOVERNANCE

CONTEXT

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

ANALYSIS

Need for a Strong Corporate Governance Framework

- ▶ **Improve Financial Performance** by improving overall operational efficiency, better-informed decisions etc.
- ▶ **Build trust and confidence** among individual and institutional investors, attracting more capital.
- ▶ **Improve access to financing** from capital markets; promote innovation, productivity, and foster Positive Corporate Culture.
- ▶ **Corporate governance failures in big companies can have wider economic impacts.**
- ▶ **Generates Positive Societal Impact** by aligning companies' business strategies with societal needs.

Challenges for corporate governance in India

- ▶ **Lack of Separation of ownership and management and Lack of independent directors** especially in family-owned companies.
- ▶ **Low education and awareness among investors.**
- ▶ **Limited scope of governance policies**, with some being applicable to only listed companies.
 - ▶ E.g., SEBI has directed only the top 1000 listed companies to publish annual Business Responsibility and Sustainability Report.
- ▶ **Lack of transparency** in the operations of companies and incomplete disclosures.
- ▶ **Fraudulent practices and financial irregularities.** E.g., Infrastructure Leasing & Financial Services (IL&FS) scam of 2018.
- ▶ Poor risk prediction and mitigation capabilities of companies and **limited focus on sustainability parameters.**

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

- ▶ **Effective Corporate Governance Framework** which is consistent with the rule of law and supports effective supervision and enforcement.
- ▶ **Protect and facilitate the exercise of shareholders' rights**, equal treatment, and effective redressal for violation of rights.
- ▶ **Disclose and minimize conflicts of interest** of entities/professionals that provide analysis/advice for investors.
- ▶ **Timely, accurate and standard-based disclosure** on all material matters regarding the corporation.
- ▶ **Incentives** for companies and their investors to make decisions for the sustainability and resilience of the corporation.
- ▶ **Responsibilities of the board:** Ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and the shareholders.

BRIEF BACKGROUND







What is corporate governance?

- ▶ It is the system of rules, practices, and processes by which a company is directed and controlled.
- ▶ It essentially involves **balancing the interests of the company's many stakeholders** i.e. Shareholders, management, customers etc.

Framework of Corporate Governance in India

- ▶ **The Companies Act, 2013:** Mandates the constitution of board and meetings, audit committees, disclosure requirements in financial statements etc.
- ▶ **Securities and Exchange Board of India (SEBI):** Monitors and regulates the corporate governance of listed companies.
- ▶ **Institute of Chartered Accountants of India (ICAI):** For issuing guidelines and standards, thereby directing the pathway of disclosing financial data.
- ▶ **Institute of Company Secretaries of India (ICSI):** Issues the secretarial standards primarily in terms of "Board of Directors Meetings" and "General Meetings".
- ▶ **Ministry of Corporate Affairs:** Regulates the functioning of the corporate sector in accordance with law.

Core principles of corporate governance

					
Accountability	Transparency	Independence	Integrity	Risk management	Shareholder rights

3.5.2. NATIONAL PHARMACY COMMISSION BILL 2023



CONTEXT

The Ministry of Health and Family Welfare (MoH&FW) released Draft National Pharmacy Commission Bill, 2023 to replace the Pharmacy Act, 1948, and the existing Pharmacy Council of India (PCI) with **National Pharmacy Commission**.

ANALYSIS

Objectives of the Legislation

- ▶ Promote **national health goals**, improving access to quality and affordable **pharmaceutical education**.
- ▶ Increase the availability of **high-quality pharmacy professionals** and promote **equitable healthcare**.
- ▶ Establish an **effective grievance redressal mechanism** for relevant matters.
- ▶ **Transparent assessment** of pharmacy institutions and facilitating the maintenance of a pharmacy register for India.
- ▶ Encourage pharmacy professionals to adopt the latest **pharmacy research**, contribute to research, and uphold **high ethical standards**.

Pharmacy sector of India	
 3rd largest in the world in terms of volume	 Accounts for about 60% of global vaccine production
70% of WHO's vaccines i.e. diphtheria-pertussis-tetanus (DPT), Bacille-Calmette-Guérin (BCG) are sourced from India	

Key provisions of Draft National Pharmacy Commission Bill, 2023

National Pharmacy Commission (NPC)	
Appointment	<ul style="list-style-type: none"> ▶ Central Government shall establish the NPC (head office in New Delhi) on the recommendations of Selection Committee.
Composition of NPC, Condition and Term of office of members and Removal	<ul style="list-style-type: none"> ▶ Composition: Chairperson (appointed by the Central Government), 13 ex officio Members and 14 part-time Members. ▶ Conditions and Terms of Office: Term not exceeding 4 years or 65 years of age from the date of joining their office (not eligible for extension or reappointment). ▶ Removal: By the Central Government.
Functions of Commission	<ul style="list-style-type: none"> ▶ Frame policies and regulate standards for governance of pharmacy education and training. ▶ Exercise appellate jurisdiction with respect to decisions of Boards. ▶ Provide basic standards of education, physical and instructional facilities, research, fee payable etc. ▶ Collaborate with industry and other institutions for the use of cutting-edge technology and to drive innovation and research.
Three Boards	
Boards	Central Government shall constitute three boards (functioning under NPC) namely <ul style="list-style-type: none"> ▶ Pharmacy Education Board: To maintain every pharmacy qualification granted by any University or pharmacy institution in India. ▶ Pharmacy Assessment and Rating Board: Establishment of new pharmacy institutions or courses prohibited without prior permission from this board. ▶ Pharmacy Ethics and Registration Board: To maintain a National Pharmacy Register containing details of pharmacy professionals, ensuring transparency.
Pharmacy Advisory Council	
Appointment	<ul style="list-style-type: none"> ▶ Constituted by Central Government to advise Commission on measures to enhance equitable access to pharmacy education, training and research.

National Pharmacy Commission Fund

About

- ▶ A fund will be constituted which shall form the **part of Public Account of India**.
- ▶ Fund shall be **applied for making payment towards** salaries and allowances payable to Chairperson, Secretary and Members of Commission, Presidents and Members of Boards and administrative expenses.

3.5.3. PM VISHWAKARMA SCHEME

CONTEXT



The Ministry of Micro, Small & Medium Enterprise (MoMSME) launched 'PM Vishwakarma', a central Sector Scheme for a period of 5 years. (2023-24 to 2027-28).

ANALYSIS



About PM Vishwakarma scheme

- ▶ **Aim:** To provide end-to-end support to artisans and craftspeople.
- ▶ **Eligibility criteria:**
 - ▶ An artisan/craftsperson (minimum age of 18) **working with hands and tools** and engaged in one of the **recognized (18) family-based traditional trades**.
 - ▶ Beneficiary should **not have availed loans** under similar credit-based schemes of Central/State Government **in the past 5 years**.
 - ▶ **Government employee** and their **family** members are not eligible.
 - ▶ Benefits under the Scheme shall be restricted to **one member of the family (consisting of the husband, wife, and unmarried children)**.
- ▶ **Scheme will be jointly administered:** By MoMSME, the Ministry of Skill Development and Entrepreneurship (MSDE), and the Department of Financial Services (DFS) under MoF.
- ▶ **Registration:** Free through **Common Services Centres** using a **biometric-based PM Vishwakarma Portal**.
- ▶ **Lending Institutions:** Scheduled Commercial Banks, Regional Rural Banks, Small Finance Banks, Cooperative Banks, NBFCs and Micro Finance Institutions.

BRIEF BACKGROUND

Other initiatives for Artisans taken by Government

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

Benefits of Scheme

- ▶ **Recognition:** PM Vishwakarma certificate and ID card will be issued.
- ▶ **Marketing Support:** **Quality Certification, Branding & Promotion, E-commerce linkage**, and other marketing activities.
- ▶ **Cheap Credit:** **Collateral-free Enterprise Development Loans, Concessional Rate of Interest** and **Credit Guarantee fees** to be borne by GoI.
- ▶ **Skill Upgradation:** Basic Training of 5-7 days and Advanced Training of 15 days or more, with a stipend of Rs. 500/day.
- ▶ **Creating a holistic support ecosystem:** Incentives for Digital Transactions and Marketing Support, liberal loan terms, etc. will help to develop a supporting ecosystem for this industry.
- ▶ **Preserving Traditions:** Nurture and preserve the Guru-Shishya parampara or family-based practice of traditional skills.

Concerns Raised

- ▶ **Outdated Data:** The last census of crafts was carried out during the Seventh Plan period, which ended in 2012.
- ▶ **Caste-Based Occupations:** There is concern that the scheme may inadvertently reinforce caste-based occupations.
- ▶ **Silent on Wages:** Low wages causing gradual erosion of artisanal communities.
- ▶ **Economic Unviability:** Due to poor market coverage and quality concerns, products often get a lower price tag denting the economic viability of the profession.

Way Forward

- ▶ **Standards and Certification:** It will help tackle the multiplicity of non-tariff barriers that impede access to global markets and help artisans realise better value for their work.
- ▶ **New Markets:** Linking traditional artisans with modern techniques can help open up new markets both at home and abroad.
- ▶ **Addressing Root Causes of poverty and inequality** among artisan communities.

3.5.4. NOBEL PRIZE IN ECONOMICS: WOMEN IN LABOUR FORCE

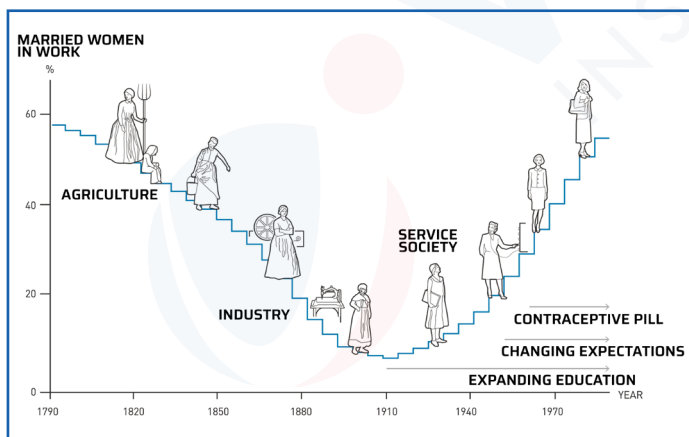
CONTEXT

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2023 has been awarded to **Claudia Goldin for advancing the understanding of women's labour market outcomes.**

ANALYSIS

Status of Gender Differences

- ▶ **Global Status:** Around **50% of women are in paid employment** (compared to 80% men).
- ▶ **Status in India:** labour force participation rate among females is **24% (males 73.6%) for 2022.**
- ▶ **U-shaped relationship:** In the development process, female labour force participation first declines and then rises.
 - Women's labour force participation is **high for the poorest countries (high in agriculture), lower for middle income countries, and then rises again among high income countries.**
- ▶ **Earnings Gap:** When women work, they **usually earn less.**
- ▶ **Opportunities:** Women are **less likely to work in formal employment** and have fewer opportunities for career progression.



BRIEF BACKGROUND

About Nobel Prize

- ▶ It is an **international award** administered by the Nobel Foundation in Stockholm, Sweden, and based on the last will of **Alfred Nobel (in 1895).**
- ▶ **Categories:** Instituted in **1901, awarded annually in five categories:** Physics, Chemistry, Physiology or Medicine, Literature and Peace - conferred to people for the greatest benefit to humankind in preceding year.
 - The **sixth category, the Nobel Prize in Economic Sciences, was instituted in 1968** by the Royal Bank of Sweden and was first awarded in 1969.
- ▶ **What do the winners receive?**
 - A **Nobel diploma**, each of which is a unique work of art;
 - A **Nobel medal**;
 - A **cash prize of 10 million Swedish kronor.**
- ▶ **Who awards the prizes?**
 - The **Royal Swedish Academy of Sciences** awards the **Nobel Prize in Physics, Chemistry and Economics.**
 - The **Nobel Prize in Literature** is awarded by the **Swedish Academy, Stockholm, Sweden.**
 - The **Nobel Assembly at Karolinska Institute, Stockholm, Sweden** awards the **Nobel Prize in Medicine (Physiology).**
 - The **Norwegian Nobel Committee** is responsible for the selection of eligible candidates and the choice of the **Nobel Peace Prize laureates.**
- ▶ The Nobel statutes **prohibit the judges from discussing their deliberations for 50 years.**

Measures taken for reducing gender gap in India

- ▶ **Code on Social Security 2020** - Maternity leave to 26 weeks, mandatory Crèche facility etc.
- ▶ **Code on Occupational Safety, Health, and Working Conditions (OSH), 2020:** Employment of women in the aboveground mines and in below-ground working in technical, supervisory and managerial work.
- ▶ **Code on Wages 2019:** No discrimination among employees on the ground of gender.
- ▶ **Training and skill development:** Training to women through a network of Women Industrial Training institutes and National and Regional Vocational Training Institutes.

Factors Influencing Female Labour Force Participation

Goldin's U-curve demonstrated that there is **no historically consistent association between women's participation in the labour market and economic growth**. They are influenced by following-

- ▶ **Social Norms:** Legislative gaps or customs known as "marriage bars" often prevented married women from continuing their employment despite increased demand for labour.
- ▶ **Parenthood Effect:** Responsibility of childcare more on women than men affected their career progression.
- ▶ **Technological Innovations:** Contraceptive pill resulted in women delaying marriage and childbirth, thus increasing their education and career prospects.

Way forward- Reducing gender differences in the workforce

- ▶ **Assessment:** Understanding why they exist.
- ▶ **Collective action:** Collective, coordinated, and bold action by private- and public-sector leaders.
- ▶ **Investment:** Investments in providing women equal access to information, education, and healthcare.
- ▶ **Congenial environment:** Reforms in taxation, public spending, financial infrastructure, labour markets etc. to remove institutional gender barriers.
- ▶ **Tackling biases and social norms:** Social and legal actions such as curbing underage marriage, criminalizing domestic violence etc.
- ▶ **Access to microfinance:** To increase female labour force participation by self-employment rather than salaried jobs.

3.5.5. GLOBAL INNOVATION INDEX (GII) 2023

CONTEXT

India maintains **40th Rank** in the recently released **GII 2023**, by the **World Intellectual Property Organization (WIPO)**.

ANALYSIS

About GII

- ▶ The GII is a reliable tool for governments across the world to **assess the innovation-led social and economic changes** in their respective countries.
- ▶ It is co-published annually by Cornell University, INSEAD Business School, and WIPO.

Criteria to measure innovation

Input Pillars:	Output pillars:
<ul style="list-style-type: none"> ▶ Institutions ▶ Human Capital and Research ▶ Infrastructure ▶ Market Sophistication ▶ Business Sophistication 	<ul style="list-style-type: none"> ▶ Knowledge and Technology Outputs ▶ Creative Outputs

BRIEF BACKGROUND

World International Property Organization (WIPO)

- ▶ **Genesis:** Specialized Agency of UN, established in 1967.
- ▶ **Objective:** Developing a balanced and accessible international Intellectual Property (IP) system.
- ▶ **Membership:** It has 193 members (including India).
- ▶ **Organizational Structure:** The General Assembly and the Coordination Committee.
- ▶ **Major Treaties** (India is a member of all three):
 - Paris convention for the Protection of Industrial Property (1998).
 - Berne Convention for the Protection of Literary and Artistic Works (1928).
 - Patent Cooperation Treaty (1998)

Key Findings

- ▶ For the 13th consecutive year, **Switzerland ranks first in the GII**.
- ▶ **Status of Innovation in India:**
 - India leads the lower middle-income group and is stable.
 - India continues as a record holder by being an **innovation overperformer for a 13th consecutive year**.
 - The **ascent of India in terms of publication output (ranking 4th in 2022)**, overtaking the UK (5th) and Germany (3rd).
 - India has **4 technology clusters among the top 100 clusters:** Bengaluru, Delhi, Chennai and Mumbai.

TEST YOUR LEARNING

MCQs

Q. 1 With reference to the Inflation measurement in India, which of the following statement is/are correct?

1. Wholesale Price Index (WPI) considers price change of goods only while Consumer Price Index (CPI) considers both goods and services.
2. WPI gives more weightage to manufactured goods whereas CPI gives more weightage to food items.

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

Q. 2 Which of the following statements is/are correct regarding recently launched PM Vishwakarma Scheme?

1. PM Vishwakarma is a Central Sector Scheme launched by Ministry of Micro, Small and Medium Enterprises.
2. It aims to provide holistic and end-to-end support to artisans and craftspeople.
3. The scheme recognizes 18 family-based traditional trades to avail the benefits under the scheme.

Select the correct answer using the code given below:

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

Q.3 Consider the following statements about the recently established National Turmeric Board:

1. It aims to increase awareness and consumption of turmeric and develop new markets internationally to increase exports.
2. The Board is headquartered in New Delhi and it works under the aegis of The Ministry of Agriculture and Farmers Welfare.

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

Q. 4 With reference to the Inland National Waterways in India consider the following pairs:

National Waterway (NW)	River
1. NW 1	: Ganga River
2. NW 2	: Brahmaputra River
3. NW 3	: Krishna River

How many pairs given above are correctly, matched?

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

Q.5 Which of the following is not correct about the term 'Regional Rapid Transit System (RRTS)', often mentioned in the news?

- (a) It is a new, dedicated, high-speed, high-capacity, comfortable commuter service connecting regional nodes in NCR.
- (b) NCRTC implementing the RRTS in the National Capital Region (NCR).
- (c) These trains will operate at a speed of 160 km/hour.
- (d) The project is undertaken by Ministry of Road Transport & Highways

Questions

Q.1 Discuss the Challenges in Regulating Cryptocurrency. Also, suggest a balanced approach to handle this emerging technology. (250 words)

Q.2 What is Digital Public Infrastructure (DPI)? Explain how India is Promoting DPI at the Global Level. (150 words)

SECURITY



Quarterly Revision

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4.1. BORDER INFRASTRUCTURE

CONTEXT



- ▶ The Defence Minister recently inaugurated 90 projects of the Border Road Organisation built across border regions of 11 states and union territories of India.
 - ▶ The border infrastructure projects consist of airfields, tunnels, all-weather roads, fencing and also laying of new railway lines.

ANALYSIS



Need for strengthening the border infrastructure

- ▶ Develop infrastructure and livelihood in bordering villages
- ▶ Left wing extremism and separatist forces operating from abroad
- ▶ Prevent smuggling of narcotics and arms
- ▶ Control Cross Border Terrorism and infiltration
- ▶ Check cross border aggression of other armies
- ▶ Provide all weather connectivity to the border areas
- ▶ Enable a swift movement of troops and ensure supply chains

Challenges in creating border infrastructure

- ▶ Challenging border terrain ranging from Marshy lands, salt pans, deserts, valleys, rivers, forests etc.
- ▶ Political instability in neighboring countries, such as Pakistan, triggering issues like mass migrations.
- ▶ Lack of Coordination between Ministries like Home Affairs and Defence Ministries.
- ▶ Potential hotspots for radicalization: For eg.- The northeastern states are marred with ethnic conflicts and regional separatism.
- ▶ Porous borders enable smuggling, human trafficking, etc. necessitating constant surveillance and security.
- ▶ Environmental concerns: Large infrastructure projects may lead to severe damage to the biodiversity of the region.
 - ▶ Currently, all highway projects within 100 km of India's Line of Control (LoC) are exempt from obtaining environmental clearances.
- ▶ 'Under-utilisation of funds' as highlighted by the parliamentary committee for the home ministry.

Way Forward

- ▶ Integrate local communities promoting better surveillance across the border.
- ▶ Reducing the distance between inter border outposts to reduce the cases of smuggling and fake currencies.
- ▶ Utilise Technology, like LIDAR, Laser Fencing, Drone Surveillance and create Border Protection Grids.
- ▶ Continuous upgradation of the present inventory of equipment and accessories.
- ▶ Private sector participation for technological up gradation aspects.

BRIEF BACKGROUND

Government Initiatives to Strengthen Border infrastructure

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

4.2. SEPARATISM

CONTEXT

Recently, the External Affairs Minister of India suggested focusing on the nexus between separatism and organized crime.



ANALYSIS



Factors responsible for separatist tendencies

- ▶ **Regional imbalance in economic development:** E.g., regional aspirations from Northeast India were mainly because the region suffered neglect in developmental terms after independence.
- ▶ **Cultural identity:** Demand for Nagalim is based on the preservation of their different culture and social practices.
- ▶ **Historical reasons:** E.g., after independence one of the reasons for the secession movement in Mizoram was that some Mizos believed that they were never a part of British India and therefore did not belong to the Indian union.
- ▶ **Lack of trust in the state:** For example, demand of separate state in West African states of Mali, Guinea, and Burkina Faso.
- ▶ **Foreign policy:** Some people of Ukraine believe that it should integrate into the EU and NATO and others believe in close cooperation with Russia.
- ▶ **International and financial support** in the form of ideological and financial support. For example, support for the Nagalim movement.

Concerns regarding the secessionist movements in India

- ▶ **Link with organized crime:** The secessionist movement often involved organized crime groups like the drug trade to finance themselves as seen in Kashmir.
- ▶ **Effect on international relations:** It can become a hurdle in international diplomacy, as seen in issues such as Canada.
- ▶ **Instability in the region:** These movements often involve use of violence against the state and the people of the region.

India's approach to separatist movements and other regional aspirations

- ▶ **Democratic negotiations:** For example signing the Mizo accord to bring peace in Mizoram.
- ▶ **Power sharing:** Groups and parties from the region are given a share in power so that they have a say in their development.
- ▶ **Backward areas development:** Programs like the **Aspirational District Programme** to ensure sustainable development of areas with inadequate infrastructure, and limited access to resources.
- ▶ **Special provisions for some states and regions:** The Sixth Schedule of the Constitution allows different tribes complete autonomy of preserving their practices and customary laws.
- ▶ **Use of force** against groups such as the **United Liberation Front of Assam** for maintaining peace in the region.

BRIEF BACKGROUND

What is separatism?

- ▶ It is the **demand for a separate statehood** (a region demanding the creation of a separate independent state or re-negotiation of the relationship with the State).

Different forms of Separatism in India:

- ▶ **Insurgency**
 - ◊ It is an **organized armed resistance against the state or constituted authority** with the aim of overthrowing the regime.
 - ◊ Unlike terrorism, insurgency movements generally involve or require material or **moral support from some section of the population** in order to justify their existence and also to erode the legitimacy of the government.
 - ◊ **Example:** Ideological or Maoist insurgency in central and eastern India.
- ▶ **Movement for separate statehood:** These movements generally assume three forms:
 - ◊ **Statehood movement**
 - » Seeking a **separate state consisting of a region** from one or more existing states.
 - ◊ **Autonomy movement**
 - » These are **collective mobilization of people in a region or across regions** with the aim of getting autonomy to their region for managing their economic, social cultural, and political affairs.
 - » For example, Bodoland and Karbis and Dimasas accepted autonomy within the state of Assam.
 - ◊ **Secessionist movement**
 - » It is also known as a cessation in which **one region in a country wants to secede and become a sovereign state.**
 - » For example, the demand for greater Nagalim.

4.3. INDIA'S ANTI-TERRORISM APPROACH

CONTEXT



The union Home minister while addressing the **Anti-Terror Conference organised by the National Investigation Agency (NIA)** highlighted the need to not only combat terrorism but also dismantle its entire ecosystem and suggested measures to combat terrorism.

- ▶ India is ranked **13th** in the latest **Global Terrorism Index (2023)** and is one of the worst affected countries by terrorism.

ANALYSIS



Factors highlighting the need to change the approach towards terrorism

- ▶ **Lack of hierarchical structure:** Terrorists are relying on loose affiliations with like-minded groups from a variety of countries and there is a rise of lone wolf attacks.
- ▶ **Changing nature of weapons:** Use of chemical, biological, radiological, or nuclear (CBRN) materials.
- ▶ **Use of technology** along with a coordinated cyber-attack exponentially increasing the risk of threat.
- ▶ **New methods of Terrorism Financing:** Dedicated crowdfunding platforms or websites.
- ▶ **Lack of definition at a global level:** A universally accepted definition of "terrorism" is lacking.
- ▶ **Nexus with other organised crimes** like Counterfeit goods production and trade, flora and fauna crimes, drug trafficking etc.
- ▶ **Lack of interagency cooperation:** Different **Anti-Terrorist Agencies (ATAs)** are working at the center and the state level with limited cooperation and data interchange.
- ▶ **Delays and complexities in the legal and judicial system.**

Way forward

- ▶ **Key measures suggested in the conference**
 - **Model anti-terrorism structure** should be established under the NIA for all states.
 - **Use of Data:** All ATAs should make **multidimensional and Artificial Intelligence-based use of the database.**
 - ◊ India has prepared many database verticals such as Inter-Operable Criminal Justice System (ICJS), etc.
 - **All State ATAs should have a uniform hierarchy, and standard operating procedure** to ensure better cooperation between center and state agencies.
 - **NIA, Anti-Terrorism Squad, and Special Task Force take innovative measures** to counter terrorism.
 - **Collaboration from the global level.**
 - **Creating a Common Training Module** for combating terrorism.
- ▶ **Other measures:**
 - **Focus on linkages of terrorism with other organised crimes:** E.g., in **Operation Dhvast** case, NIA in coordination with Punjab and Haryana Police busted a Terrorist-Gangster-Drugs-Arms Trafficking nexus.
 - **Cooperation with neighbouring countries:** The Parliamentary Standing Committee on External Affairs has recommended to establish a common platform to counter-terror under the **Neighbourhood First policy.**
 - **Strengthening the safety of the digital ecosystem:** To enable the same, Australia's 'essential 8' features for cybersecurity could be emulated.
 - **Strengthening our democracy from within** to gain the trust and cooperation of citizens.

BRIEF BACKGROUND

India's approach to tackling terrorism

- ▶ **Legislative framework:** The Unlawful Activities (Prevention) Act of 1967 and the National Security Act of 1980.
- ▶ **Dedicated Law enforcement agency:** National Investigation Agency (NIA) is India's primary counterterrorism law enforcement organization.
 - Supported by other agencies like Research and Analysis Wing (RAW), Intelligence Bureau (IB), State police services etc.
- ▶ **National Security Guard (NSG):** Also known as **Black Cats**, NSG is a special force to deal with anti-terrorist activities.
- ▶ **State level: Anti-Terrorism Squad (ATS) and Special Task Force (STF)**
- ▶ **Countering Violent Extremism (CVE):** The Ministry of Home Affairs is the lead agency for CVE.
- ▶ **Win the minds and hearts of people:** Civic Action Programme (supporting civil action by security forces), and the Udaan scheme (capacity building of the youth in J&K).
- ▶ **NATGRID** is conceptualised as a **seamless and secure database for information on terrorists, economic crimes and similar incidents.**
- ▶ **Global Level**
 - Proposed a draft document on the **Comprehensive Convention on International Terrorism (CCIT) at the UN in 1986.**
 - India is a member of **The United Nations Office of Counter-Terrorism (UNOCT).**
 - **Countering the Financing of Terrorism:** India is a member of the Financial Action Task Force, the Asia/Pacific Group on Money Laundering, and the Eurasian Group.

4.3.1 REPORT ON ORGANISED CRIME AND ILLEGAL ECONOMY

CONTEXT



Federation of Indian Chambers of Commerce & Industry (FICCI) released report on 'Hidden Streams: Linkages between Illicit Markets, Financial Flows, Organized Crime and Terrorism'

ANALYSIS



Key highlights of the report

- ▶ The report investigates the hidden linkages in 122 countries and decodes the relationship between organised crime actors and the illegal economy, including trade-based money laundering, counterfeiting, arms and drug trafficking and terrorism and crime.
- ▶ **The United Nations estimates** that the global amount of money laundered in a year is estimated to range from 2 to 5% of the global GDP.
- ▶ **India related findings:**
 - ▶ **The total amount of money laundering in India** as per the UN Office on Drugs and Crime estimates pegged at **\$159 billion**.
 - ▶ **The Global Organised Crime Index (2021)** shows a low prevalence of organised crime actors in India at 4.3 on a scale of 1-10, compared to the average benchmark of 5.2 for 122 countries.
 - ▶ **The Directorate of Revenue Intelligence in India identified** 437 instances of duty evasion in 2021-2022, a 40 percent increase from the previous year.
 - ▶ **India's informal economy** increases the likelihood of counterfeit goods production and trade, raising concerns about terrorist activities.

BRIEF BACKGROUND

About FICCI

- ▶ Established in 1927, it is the **largest and oldest apex business organisation** in India.
- ▶ It is a **non-government, not-for-profit organisation**.
- ▶ Its functions include **influencing policy** to encouraging debate, **engaging with policy makers** and civil society and **articulating the views and concerns of industry**.

Recommendations by the report

- ▶ Adopting 6 Cs as a policy playbook to negate the threats-
 - ▶ Cognisance of Terrorism and Organised Crime Under Regulatory Framework
 - ▶ Continuous and Critical Evaluation of Illicit Financial Flows
 - ▶ Central Nodal Agency for Greater Coordination
 - ▶ Creating Awareness and Changing Consumer Preferences
 - ▶ Combatting Trade Based Money Laundering
 - ▶ Cooperation and Coordination at International Level

Related news

Prevention of Money Laundering (Maintenance of Records) Rules, 2005

- ▶ Ministry of Finance notified changes in the **Prevention of Money Laundering (Maintenance of Records) Rules, 2005**.
- ▶ Amendments aim to **enlarge type and nature of individuals** who can come under Prevention of Money Laundering Act (PMLA) ambit.
- ▶ **Key amendments**
 - ▶ **Ownership rules**
 - ◊ A person having **ownership of more than 10%** (Earlier limit 15%) of **capital or profits of a partnership** will be considered as **beneficial owner**.
 - ◊ **A person who exercises control over partnership through other means**, will be treated as a **beneficial owner**.
 - ▶ **Definition of principal officer of a reporting entity** (banking company, financial institution, intermediaries etc)
 - ◊ Only an **officer at management level can be appointed as 'Principal Officer'**. Earlier, **reporting entity had discretion** to appoint any officer as 'Principal Officer'.
 - ◊ Reporting entity shall ensure that **in case of a Trust, trustees shall disclose their status or position** they occupy in the Trust.
 - ◊ **Reporting entities to keep client records for five years** after business relationship with client had ended or account has been closed, whichever is later.

4.4. DISTURBANCE IN NEIGHBOURING NATIONS AND INDIA'S INTERNAL SECURITY

CONTEXT

Recently, after a gunfight between the Myanmar Army and pro-democracy militias, about 1,500 people sought refuge in Mizoram's Champhai district.

ANALYSIS

Impact of disturbances in the neighbourhood on India's internal security

- ▶ **Illegal and influx of refugees:** This may cause unrest among the local population, and raise concerns about infiltration of extremists and smuggling of narcotics and weapons.
 - E.g., migration from Bangladesh during the Bangladesh Liberation War of 1971 led to ethnic clashes in regions of northeast India.
 - This also happened during the Rohingyas crisis in Myanmar.
- ▶ **Poor law and order in neighbouring regions facilitate drug trafficking, arms smuggling, counterfeit currency etc.**
 - E.g., There are apprehensions about the flourishing drug trade in the Shan State of Myanmar, known for narcotics production, sneaking into India.
- ▶ **Cross-border terrorism** due to instability in Pakistan, Bangladesh, and Myanmar.
 - E.g., Terrorist organizations like the ULFA get **safe haven** in Myanmar or Bangladesh due to the porous border and law and order situations in these countries.
- ▶ **Escalation of internal conflicts:** E.g., The influx of refugees in Manipur may heighten the ethnic conflict between Kuki and Meitei communities.
 - Meitei people have accused the Kuki community, who have ethnic ties with Myanmar's Chin state, of sheltering their kin people from Myanmar which, they feel, will alter the demographic balance.

India's engagement with its neighbours to bring peace

- ▶ **Joint military exercise** for example **Sampriti exercise** with Bangladesh.
- ▶ **Support democracy:** India has been a strong proponent of democracy to give power to the people.
- ▶ **Humanitarian aid** in response to disasters ranging from the tsunami in Sri Lanka and the water crisis in Maldives (Operation NEER) to the earthquake in Nepal.
- ▶ **India's Citizenship Amendment Act (2019)** provides amnesty and a fast track to citizenship for certain refugees currently in India from three neighbouring countries.
- ▶ India is **supporting more than 1 lakh Tibetan refugees and the Central Tibetan Administration** based in Dharamshala.

Way forward to address threats due to disturbance in neighbouring countries

- ▶ **Strengthen border security:** Through advanced technology, increased personnel, and improved infrastructure.
 - Herein, the recommendations of **Madhukar Gupta committee** assume significance.
- ▶ **Checking illegal migration:** The Ministry of External Affairs should work in close coordination with the Ministry of Home Affairs and the State Governments by monitoring the demographic changes along bordering villages.
 - Take up the issue of **repatriation of such illegal migrants with the Governments** of neighbouring countries for an early resolution.
- ▶ **Utilize Diplomatic engagements:** India should use platforms such as the United Nations, Commonwealth, SAARC, etc. to engage with neighbouring nations for peaceful and coordinated resolution of internal issues.
- ▶ **Strengthening intelligence efforts holistically:** By combining technology, human intelligence, and international cooperation, to create a robust defence against cross-border terrorism.

BRIEF BACKGROUND

Background of the Civil war in Myanmar

- ▶ Myanmar has been unstable since the **February 2021 coup**, which ousted Nobel laureate Aung San Suu Kyi's elected government.
- ▶ The conflict involves the **Myanmar Military Junta (Tatmadaw) and pro-democracy militias, 'The Three Brotherhood Alliance.'** The Alliance includes groups like the Myanmar National Democratic Alliance Army (MNDAA), Ta'ang National Liberation Army (TNLA), and the Arakan Army (AA).
- ▶ **Around 200,000 people have been displaced** due to the ongoing hostilities, according to the UN.
- ▶ **India's concerns and its approach:** The conflict in Myanmar raises concerns for India's internal security due to its proximity and potential regional instability.
 - India advocates for dialogue in Myanmar and maintains security cooperation with the junta to address insurgencies.

4.5. GLOBAL NUCLEAR REGULATION

CONTEXT



Recently, the Russian parliament passed a bill revoking Russia's ratification of the Comprehensive Test Ban Treaty (CTBT). The passage of the bill **mirrors the stand taken by the U.S.**, which has signed but not ratified the CTBT.

- ▶ The move has raised concerns that Russia may resume nuclear tests to try to discourage the West from continuing to offer military support to Ukraine.

ANALYSIS



International regulations regarding nuclear weapons

- ▶ **Comprehensive Test Ban Treaty (CTBT):** Prohibits any nuclear weapon test explosion or any other nuclear explosion anywhere in the world.
 - ▶ The treaty, adopted in 1996, cannot formally enter into force until it is ratified by 44 specific nations, **8 of which have yet to do so:** China, India, Pakistan, North Korea, Israel, Iran, Egypt, and the United States.
- ▶ **Non-Proliferation Treaty (NPT), 1968:** It is aimed at limiting the spread of nuclear weapons through the three pillars of non-proliferation, disarmament, and peaceful use of nuclear energy.
 - ▶ India, South Sudan, Israel, and Pakistan have never been signatories of the Treaty, and North Korea withdrew from the Treaty in 2003.
 - ▶ The International Atomic Energy Agency (IAEA) is entrusted with key verification responsibilities under the Treaty.
- ▶ **Treaty on the Prohibition of Nuclear Weapons (TPNW), 2017:** It is the first legally binding multilateral agreement to ban nuclear weapons adopted by UN.
 - ▶ It is signed by 91 states and ratified by 68 states.
- ▶ **Concept of Nuclear-Weapon-Free Zones (NWFZ):** It is a regional approach to strengthening global nuclear non-proliferation and disarmament norms and consolidating international efforts towards peace and security.
 - ▶ Presently there are five treaties: Treaty of Tlatelolco (For Latin America and the Caribbean), Treaty of Rarotonga (for south pacific), Treaty of Bangkok (for southeast Asia), Treaty of Pelindaba (for Africa), Treaty of Semipalatinsk (for Central Asia).
- ▶ **Nuclear supplier groups (NSG), 1974:** It aims to prevent nuclear exports for commercial and peaceful purposes from being used to make nuclear weapons.
 - ▶ It was established after India's nuclear test by the name of **Operation Smiling Buddha in 1974** and has 48 members.
- ▶ **Other treaties:**
 - ▶ **Missile Technology Control Regime (MTCR):** It seeks to limit the risks of proliferation of weapons of mass destruction (WMD) by controlling exports of goods and technologies that could contribute to delivery systems.
 - ▶ **Outer Space Treaty (OST):** It prohibits the placing of nuclear weapons in space.

BRIEF BACKGROUND

India's stand on Global Nuclear Regulations

- ▶ **CTBT:** India is against the failure of the treaty to include a commitment by the nuclear-weapon States to eliminate nuclear weapons within a time-bound framework.
- ▶ **NPT:** India did not sign the treaty due to biases as it divided the world into "nuclear haves" and "nuclear have-nots."
- ▶ **TPNW:** India did not sign the treaty as it does not constitute or contribute to the development of customary international law, nor does it set any new standards or norms.
- ▶ **NSG:** India wants NSG membership, to enhance its nuclear power capacity and its need for raw nuclear materials.
- ▶ **MTCR and OST:** India is a member of both.

Key features of India's nuclear doctrine

India's Nuclear Doctrine



Building and maintaining a credible minimum deterrence.



A posture of "No First Use" nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or Indian forces anywhere.



Nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage.



Nuclear retaliatory attacks can only be authorized by the civilian political leadership through the Nuclear Command Authority.



Continued commitment to the goal of a nuclear weapon-free world, through global, verifiable and non-discriminatory.

- ▶ **Fissile Material Cut-off Treaty (FMCT):** It is a proposed international agreement that would prohibit the production of the two main components of nuclear weapons: **highly enriched uranium (HEU) and plutonium.**

Effectiveness of Global Nuclear Regulations

- ▶ **Consensus Building:** Global consensus has been achieved on IAEA-established safety standards against the harmful effects of ionizing radiation.
- ▶ **Reduction in World nuclear stockpile:** Since its peak in the mid-1980s, global arsenals have shrunk by over three-fourths.
- ▶ **Promoting Peaceful use of nuclear technology** for energy production, medicine, agriculture, and research without diverting it for military purposes.
- ▶ **Limited nuclear testing:** North Korea is the only nation to have tested a nuclear weapon in the 21st century.
- ▶ **Mechanisms for Response to nuclear accidents:** The IAEA's effective emergency preparedness and response capabilities against nuclear accidents.

Limitations of Global Nuclear Regulations

- ▶ **Inadequacies in verification:** The access, budget, personnel resources and technological resources of IAEA, fall short, raising concerns about illicit trafficking in nuclear materials and the possibility of nuclear terrorism.
- ▶ **Rapid advancements in nuclear technology** pose challenges for regulators to keep pace with evolving risks.
- ▶ **Noncompliance:** E.g., Iran has allegedly engaged in a clandestine nuclear weapons program for many years, in violation of its obligations under NPT as a State Party.
- ▶ **Limited focus on disarmament:** E.g., Treaties like the NPT do not specify an end date for achieving disarmament.
- ▶ **Dual nature of technology:** Countries may pursue nuclear programs for peaceful purposes under full safeguards, and later divert it for military purposes.
- ▶ **Lack of commitment from nuclear-armed states** for disarmament due to the strategic importance.
- ▶ **Lack of trust among countries** impedes international cooperation in the establishment of effective agreements.

Way forward

- ▶ **Increasing the IAEA budget** and reforming its safeguards, security, and personnel systems.
 - ▶ IAEA can regularly review and adapt to address evolving challenges and technological advancements.
- ▶ **Negotiating new-age non-discriminatory nuclear arms control treaties** that aim toward complete nuclear disarmament.
- ▶ **Revisit the safeguards and constraints placed on the production of fissile material.**
- ▶ **Role of UN** should be to advance international peace and security through the pursuit of the elimination of nuclear weapons and other weapons of mass destruction as mentioned in its goals.

About IAEA

- ▶ **HQ:** Vienna, Austria
- ▶ **It is an autonomous organization that came into force in 1957.**
- ▶ **Mandate:** It works for the safe, secure, and peaceful uses of nuclear science and technology.
- ▶ **Reporting:** It is an independent international organization that reports annually to the UN General Assembly and UN Security Council.
- ▶ **Functions**
 - ▶ Encourages and assists **research, development, and practical application** of atomic energy for peaceful uses throughout the world.
 - ▶ Provides **independent, international verification that governments** are abiding by their commitments to the peaceful use of nuclear technology.
 - ▶ Enhances national, regional, and international capacities **to respond to nuclear and radiological incidents.**



4.6 SPACE WARFARE

CONTEXT



- ▶ China has reportedly established the world's first 'near-space command,' equipped with powerful hypersonic weapons.
 - ▶ The new command will act as China's 5th force, apart from the 4 current branches—Army, Navy, Air Force and Rocket Force.

ANALYSIS



What is near space and China's near-space command?

- ▶ **Near Space** refers to the area in Earth's atmosphere, approximately 20 to 100 kilometers from the Earth's surface.
 - ▶ In this region, the air is very thin, preventing military aircraft from flying, and satellites can't be placed due to strong gravity, creating a No-Man's land region.
- ▶ **China's near-space command** will be equipped with-
 - ▶ **Modern hypersonic missiles** to target critical military assets of enemies;
 - ▶ **Spy balloons, solar-powered drones** and other supporting equipment to carry out **High-altitude surveillance** around the globe.
- ▶ **Significance of Near Space:**
 - ▶ **Systems** in this region can operate for **weeks or months** as opposed to **Unmanned Air Vehicles**, whose missions last **24-40 hours**.
 - ▶ **Satellites** in this region are **less costly** than those in **geostationary orbits**.
 - ▶ System in **Near Space** could function as a **surrogate satellite**, offering **advantages of Shorter transmission distances, better communications, reconnaissance, and surveillance**.
 - ▶ Deployed equipment has **small radar and thermal cross-sections** making them **relatively invulnerable** to most **traditional tracking and targeting methods**.

Why space is emerging as the next battleground of war?

- ▶ **Satellites are critical components within a state's national infrastructure** making them a potential target for adversaries.
 - ▶ **E.g., India** has two dedicated **military satellites** – the **GSAT-7 (Rukmini)** and **GSAT-7A (Angry Bird)**.
- ▶ **Absence of comprehensive international agreements** and regulations governing military activities in space.
 - ▶ **E.g.,** Treaties like the **Outer Space Treaty, 1967** prohibit weapons of mass destruction in space but don't explicitly limit other kinds of space weapons, tests, or military space forces.

BRIEF BACKGROUND

About Space warfare

- ▶ Advent of Space warfare **began in 1962** when the US exploded a ground-based nuclear weapon in space, which eventually led to the **Outer Space Treaty of 1967**.
- ▶ Today, Space is emerging as the 4th dimension of warfare.

Types of Space weapons

- ▶ **Earth-to-space kinetic weapons:** Includes direct-ascent and briefly orbital **Anti-satellite (ASAT) weapons** with a warhead or projectile that directly strikes or detonates near the target spacecraft.
- ▶ **Earth-to-space non-kinetic weapons:** Includes **jammers, lasers, cyber-attack methods, electronic attacks such as spoofing, etc. affecting the working of the satellites** (temporarily or permanently).
- ▶ **Space-to-space kinetic weapons:** Includes **debris-creating, co-orbital ASAT weapons** that may directly crash into a target satellite (damaging it or pushing it out of its orbit)
- ▶ **Space-to-space non-kinetic weapons:** Includes **co-orbital jammers, high-powered microwaves (HPMs), lasers, etc.**
- ▶ **Space-to-Earth kinetic weapons:** Some weapon is de-orbited from a carrier spacecraft to attack terrestrial targets. **E.g., Fractional orbital bombardment system (FOBS)**- a missile/satellite with a nuclear warhead placed in low orbit that can be directed at a target on Earth.

Challenges of space warfare in India

- ▶ Limited budgetary allocation
- ▶ Limited indigenous technologies for detection of threats, protection, and offensive operations in space
- ▶ Absence of 'defence of space' strategy
- ▶ Low focus on the military applications of space technologies.

India's steps for developing capabilities in space

- ▶ **Defence Space Agency:** Created in 2019, supported by the Defence Space Research organization, and has been tasked with operating the space-warfare and Satellite Intelligence assets of India.

- ▶ **Rapid developments in space technology** like micro and nanosatellites, maneuvering satellites, satellite jammers, hypersonic missiles etc.
 - ▶ E.g., China has developed capabilities to execute remote proximity operations (physically interacting with a target satellite to repair or refuel the satellite).
- ▶ **Lack of transparency and dual-use nature** of space technologies have created an element of distrust.
 - ▶ E.g., a Chinese high-altitude balloon was shot down in the U.S. on suspicion of conducting surveillance activities but was claimed to be for meteorological purposes.
- ▶ **Countries are investing in weaponization of space to create deterrence** and maintain a technological edge over adversaries or future threats.

- ▶ **Defence Space Research Organization** was created to facilitate the development of civilian space technology for military purposes.
- ▶ **Mission Shakti, India's Anti-Satellite Missile test (2019):** It successfully demonstrated India's capability to interdict and intercept a satellite in outer space based on complete indigenous technology.
- ▶ **Mission DefSpace** was launched to make India Atmanirbhar in defence technologies in the space domain.
- ▶ **IndSpaceEx:** It is India's first-ever simulated space warfare exercise conducted in 2019.
 - ▶ It assessed the requisite space and counter-space capabilities that are needed by India to protect its national security interests.

▶ Countries like China, India, Russia, and USA have conducted anti-satellite (ASAT) weapons testing.

- ▶ **Creation of dedicated space forces** in countries like the USA, France, Japan, etc to preserve their strategic interests.

Concerns associated with space warfare

- ▶ **Arms race for space weapons** creating negative impact on peaceful space exploration and scientific research.
- ▶ **Potential destruction of expensive and critical space infrastructure** leading to socio-economic loss.
- ▶ **Space Debris can trigger Kessler syndrome** (debris created from collisions would create more debris having a cascading effect).
- ▶ Other concerns such as **Increased geopolitical conflict and instability and Monopolisation of orbits.**

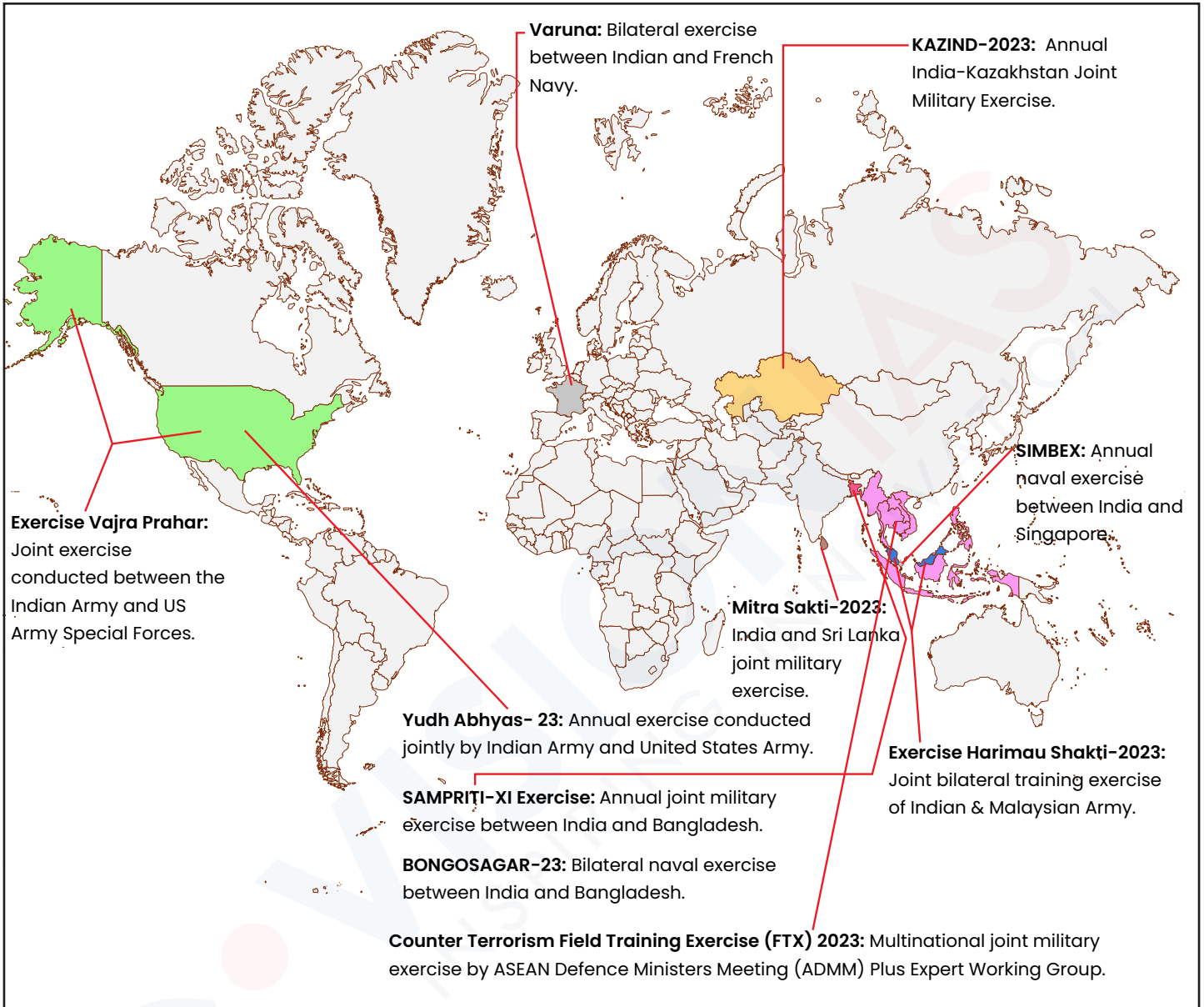
Global framework for maintaining peace in space

- ▶ **Outer Space Treaty (1967):** Prohibits the placement of weapons of mass destruction in outer space.
- ▶ **Liability Convention (1972):** It outlines the liability of Launching States for damage caused by their space objects both on the Earth or in space.
- ▶ **Convention on Registration of Objects Launched into Outer Space (1975):** Requires space-faring nations to register their space objects with the UN.
- ▶ **Moon Agreement (1979):** It states that the moon and other celestial bodies should be used exclusively for peaceful purposes and their environments should not be disrupted.
- ▶ **Partial Test Ban Treaty (PTBT):** It prohibits all testing of nuclear weapons in outer space.

Way forward for maintaining peace in space

- ▶ **Develop comprehensive International Agreements** with features such as-
 - ▶ robust verification mechanisms on the deployment of space weapons,
 - ▶ the principle of non-interference in sovereign space assets,
 - ▶ **proximity rules** on how close satellites can manoeuvre to each other,
 - ▶ mechanisms of data sharing,
 - ▶ cooperation in the removal of space debris etc.
- ▶ **Adopting Prevention of an Arms Race in Outer Space (PAROS):** It is a UN resolution seeking a ban on the weaponization of space.
- ▶ Creating an **international organization with expertise and credibility in outer space issues** to regulate the behavior of states and non-state actors in space.
- ▶ **Greater cooperation among nations for sharing of technological capabilities of satellites** that are located closely or pass each other regularly.

4.7 MILITARY EXERCISES IN NEWS



Quarterly Revision

TEST YOUR LEARNING

MCQs

1. India is a member of which among the following institutions that deals with countering the Financing of Terrorism?

1. The Financial Action Task Force
2. The Asia/Pacific Group on Money Laundering
3. The Eurasian group on combating money laundering and financing of terrorism (EAG).

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

2. Consider the following pairs:

Military exercise	Bilateral exercise between India and
1. BONGOSAGAR-23	Bahrain
2. Harimau Shakti	Singapore
3. Mitra Sakti	Sri Lanka

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

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

3. Consider the following:

1. Comprehensive Test Ban Treaty (CTBT)
2. Missile Technology Control Regime (MTCR)
3. Outer Space Treaty (OST)
4. Fissile Material Cut-off Treaty (FMCT)

How many of the above treaties deal with International regulations regarding nuclear weapons?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

4. Consider the following statements:

1. IndSpaceEx is India's first-ever simulated space warfare exercise conducted in 2019.
2. 'Mission Shakti' is India's Anti-Satellite (ASAT) Missile Test completely based on indigenous technology.

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. 'Three brotherhood Alliance' was often talked about in the media related to the affairs of

- (a) Sudan
- (b) Yemen
- (c) Myanmar
- (d) Palestine

Questions

1. India is ranked 13th in the latest Global Terrorism Index (2023). In this context, evaluate India's current approach to tackle terrorism and highlight the need to change the approach. (150 words)
2. Analyse the impact of disturbances in the neighbourhood countries on India's internal security especially in the context of Myanmar. Suggest how to resolve such threats. (150 words)

ENVIRONMENT



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5.1 CLIMATE CHANGE

5.1.1 CLIMATE CHANGE AND CHILDREN

CONTEXT

- ▶ Recently, the United Nations Children’s Fund (UNICEF) released two reports titled ‘Children Displaced in a Changing Climate’ and the **Climate-Changed Child: A Children’s Climate Risk Index Supplement**.
- ▶ These reports establish the **critical connection between climate, mobility, and childhood**.

ANALYSIS

Factors behind Children’s Vulnerability due to climate change

- ▶ **Limited Physical capabilities:** Particularly vulnerable to dehydration and heat stress.
 - ▶ E.g. The UNICEF report predicts that by 2050, nearly 2.2 billion children will be at risk from frequent heatwaves.
- ▶ **Lack of access to key essential services:** As per WHO, ~1.4 million lives are lost each year due to inadequate water, sanitation, and hygiene.
- ▶ **Less Focus on children:** Only 2.4% of climate finance from key multilateral climate funds support projects incorporating child-responsive activities.
- ▶ **Spend more time outdoors:** Children spending time outdoors, increases their exposure to heat, cold, rain, outdoor allergens, insect bites etc.
- ▶ **Developing emotionally:** Children are more prone to **mental health impacts like trauma** from extreme events.

Way forward:

- ▶ **3Ps Suggestions by the report:**
 - ▶ **Protect:** Child-critical services must be shock-responsive, portable, and inclusive, including for children already uprooted.
 - ▶ **Prepare by taking proactive steps** to improve children’s adaptive capacities & resilience in a climate changed world.
 - ▶ **Prioritize** children and young people in climate, humanitarian and development policy, action, and investments.
- ▶ **Suggestions by the Supplement Index**
 - ▶ Include **Children’s concerns in UNFCCC COP28**.
 - ▶ **Inclusion of children** and climate resilient essential services within in **Global Goal for Adaptation (GGA)**.
 - ▶ Make the **Loss and Damage Fund** and funding arrangements child responsive.



Read From Essential Material

Chapter 7: World and climate change
(Fundamental of Physical Geography, Class XI)

BRIEF BACKGROUND

Impact of climate change on children in India

- ▶ **Philippines, India, and China, had a combined total of almost 23 million child displacements** due to weather related events between 2016 and 2021.
- ▶ India, Niger, Eritrea, Yemen, and Burkina Faso are among top 5 countries, which had the highest overall child exposure to high or extremely high-water vulnerability.

Effect of Climate change on Children

Disease: For e.g More than 1,000 children under the **age of five die each day** from diseases arising from lack of water, sanitation and hygiene.

Diet and Nutrition: Climate change are associated with **failed crops** and **increased food prices**, leading to **reduced diet diversity** in children.

Education: For e.g In Ethiopia, for example, around 20% of girls and 5% of boys miss time in school to fetch water in normal circumstances.

Mental health: Extreme heat is associated with an increase in **mental health** problems including **post- traumatic stress disorder** and **depression** in children and adolescents.

Gender: For e.g, in Bangladesh, the number of marriages of girls ages 11 to 14 increased by 50% in **years with heatwaves** lasting longer than 30 days.

5.2 POLLUTION

5.2.1 AIR POLLUTION IN URBAN INDIA

CONTEXT



Recently, Delhi, Mumbai, and Kolkata were among the world's 10 most polluted cities, according to a Swiss air quality technology company, IQAir.

ANALYSIS



Causes of air pollution in cities

- ▶ **Burning of Fossil Fuels** to produce energy.
- ▶ **Industrial Emissions.**
- ▶ **Open Burning of Garbage Waste.**
- ▶ **Construction and Demolition activities.**
- ▶ **Indoor Air Pollution** caused by use of toxic products also called VOCs, inadequate ventilation, uneven temperature, and high humidity level.
- ▶ **Agricultural Practices** like **stubble burning**, the use of **fertilizers and pesticides**, **Livestock farming** in agriculture can release **ammonia**, methane and CO₂.
- ▶ **Variations due to geographic processes:**
 - **Change in weather patterns.** E.g., a dip in La Nina partially caused the recent spike in PM in coastal cities (including Mumbai).
 - **Dust storms, wildfires, and natural sources** of pollution also impact air quality. E.g. temperature difference between the Mumbai city and nearby hills draws winds and dust towards the city.

Impacts of urban air pollution

- ▶ **Adverse health outcomes:** E.g. **respiratory infections, heart disease and lung cancer**, particularly among children and elderly.
- ▶ **Climate Change:** Pollutants, such as **black carbon (soot) and methane** contribute to global warming.
- ▶ **Environmental Damage:** E.g. **Acid rain**, resulting from the release of **sulphur dioxide and nitrogen oxides**, can harm forests, aquatic systems, and soil quality.
- ▶ **Reduced Agricultural Productivity:** **Ground-level ozone** damages plant tissues.
 - **Particulate matter** can also get deposited on crops, affecting their growth.
- ▶ **Economic Costs:** Health impacts of air pollution result in increased healthcare expenses, lost productivity due to illness, cost of reduced agricultural productivity etc.

Regulatory measures taken to improve air quality

- ▶ **Vehicular Emission:**
 - **BS-IV to BS-VI norms** and introduction of **cleaner/alternate fuels** like CNG, LPG, and ethanol blending in petrol.
 - **Faster Adoption and Manufacturing of Electric Vehicles (FAME) -2** scheme.
- ▶ **Industrial Emissions:** **Ban on the use of pet coke and furnace oil in NCR.**
 - **Shifting of brick kilns in Delhi- NCR to zig-zag technology** (zigzagging the air flow in brick kilns) for reduction of pollution.
- ▶ **Extended Producer Responsibility (EPR)** framework for plastic packaging, battery waste, tire waste and e-waste.

BRIEF BACKGROUND

Major Air Pollutants

- ▶ Carbon dioxide (CO₂)
- ▶ Ground-level ozone
- ▶ Particulate Matter (PM) 2.5 and 10
- ▶ Nitrous oxides or NO_x (NO, NO₂)
- ▶ Benzene
- ▶ Methane
- ▶ Sulphur Dioxide (SO₂)
- ▶ Carbon Monoxide (CO)
- ▶ Black carbon
- ▶ Soot
- ▶ Volatile Organic Compounds (VOCs)

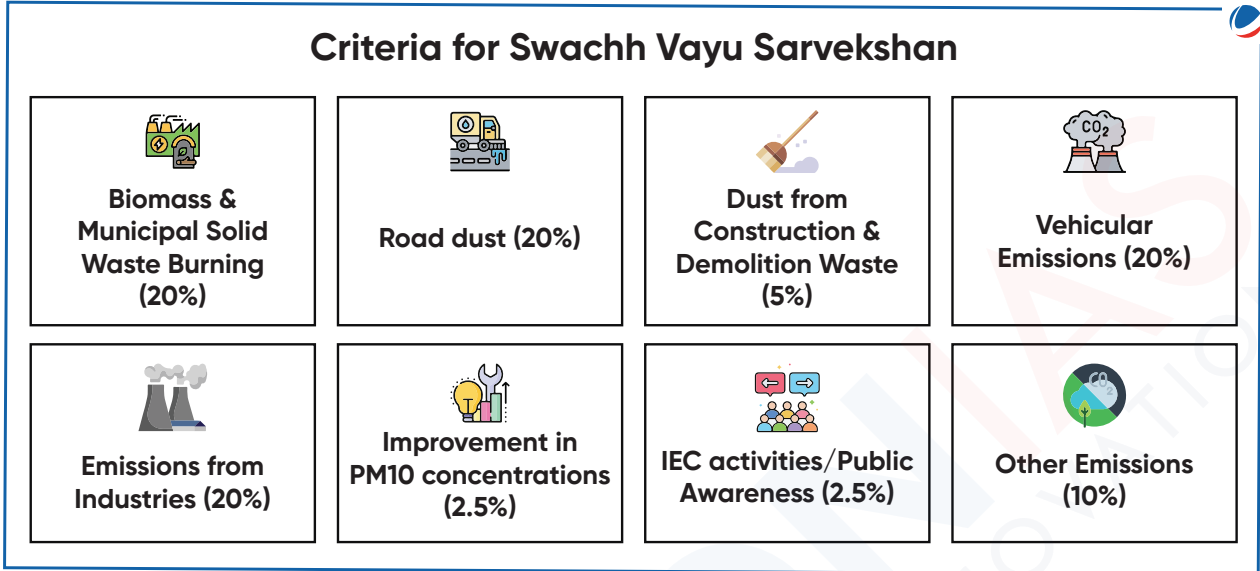
Why Delhi Air Worsens During Winters?

- ▶ Cold, denser winds have lower speeds.
- ▶ Dry and still air during winters.
- ▶ **Temperature inversion** entraps pollution at lower levels.
- ▶ **Stubble burning.**

Challenges in curbing air pollution in cities

- ▶ **Booming industrialisation**
- ▶ **Lack of awareness** among the public
- ▶ **Upfront costs and charging infrastructure** constraints for electric vehicle
- ▶ **Rising urbanisation**
- ▶ Balancing **economic growth with environmental sustainability**
- ▶ **Improper waste disposal** practices

- ▶ **Monitoring of Ambient Air Quality:** System of Air Quality and Weather Forecasting And Research (SAFAR) was launched to know Location-specific Air Quality.
- ▶ **National Clean Air Programme (NCAP):** Envisages achievement of National Ambient Air Quality Standards for PM 10 concentrations by 2025-26.
- ▶ **Swachh Vayu Sarvekshan,** under NCAP, to create awareness among all sections of the society, inform citizens about the health impacts and compare air quality conditions at different locations so as to achieve the goal of Clean Air for All.



Way ahead

- ▶ **Optimizing Power Sector:** Replacing inefficient power plants by efficient super-thermal plants or renewable energy based power generation.
- ▶ **Implementing National Emissions Trading System:** A market-based instrument within a regulatory framework based on the concept of 'polluters pay'.
- ▶ **Business Model to Utilize Crop Residue:** Direct procurement of crop residue by large **agro-waste management companies**, inter-state trading for paddy stubble.
- ▶ **Tackle City Dust through ULBs:** Undertaking reforestation and afforestation drive along roadsides, covering landfills with vegetation.
- ▶ **Decarbonization of transport sector:** Declaring some expressways and highways as **green freight corridors**.

5.2.2 STUBBLE BURNING

CONTEXT

Supreme Court directed Punjab, Haryana, Uttar Pradesh, Rajasthan, and Delhi to immediately stop stubble burning, considered a major cause of air pollution in Delhi.

ANALYSIS

Reasons why farmers burn the stubble

- ▶ Seen as a quick and efficient way to clear fields between the harvest of one crop and the sowing of the next. E.g., in Punjab and Haryana
- ▶ Increased mechanization of harvesting, which leaves stubble of 10 – 30 cm in the field.
- ▶ High expense and shortage of Labour for stubble extraction.
- ▶ No market for crop residue.
- ▶ Tradition and Conventional Practice.
- ▶ Can help in Pest and Disease Management.
- ▶ Limited access to equipment for residue management.

BRIEF BACKGROUND

Stubble (Parali) burning


- ▶ It is a process of setting on fire the straw stubble, left after the harvesting of grains, like paddy, wheat, etc.
- ▶ It is usually required in areas that use the **combined harvesting method** which leaves crop residue behind.

Impact of stubble burning

- ▶ Emits toxic pollutants and harmful gases like CO, methane, carcinogenic polycyclic aromatic hydrocarbons, and VOC.
 - These pollutants affect air quality and people's health by forming a thick blanket of smog.
- ▶ Destroys soil nutrients and radiates heat that kills fungus and bacteria, essential for soil fertility.
- ▶ Heat penetration causes loss of soil moisture and increased erosion.
- ▶ Destroy habitats for various wildlife species, such as insects, birds, etc.

Regulatory Measures and Policies

- ▶ National Policy for Management of Crop Residue (NPMCR) 2014.
- ▶ National Green Tribunal (NGT) had issued the following directions in 2015:
 - Evolve mechanisms for collection, transportation, and utilization of crop residue.
 - Appropriate punitive action for persistent defaulters of stubble burning.
 - States must provide equipment or cost to the farmers to remove, collect and store straws.
- ▶ Commission on Air Quality Management in NCR and Adjoining Areas (CAQM), developed an action plan for effective prevention and control of Stubble Burning.
 - In-situ Crop Residue Management: E.g Custom Hiring Centers, high yield and short duration paddy varieties, extensive use of bio-decomposer etc.
 - Ex-situ Crop Residue Management: Alternative usage of paddy straw viz. Biomass Power Projects, Co-firing in Thermal Power Plants, Feed stock for 2G Ethanol plants etc.
- ▶ Crop Diversification Programme (CDP): To divert the area of water-intensive paddy crop to alternative crops like pulses, oilseeds etc.
- ▶ Scheme for the Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and the National Capital Territory (NCT) of Delhi.







Emissions from Stubble Burning

One tonne of straw, on being burnt, releases

3 kg	Particulate matter
60 kg	Carbon Monoxide
1,460 kg	Carbon Dioxide
199 kg	Ash
2 kg	Sulphur dioxide

Challenges to Curb Stubble Burning

 <p>Overcoming deeply rooted traditional beliefs regarding stubble burning is difficult.</p>	 <p>In some cases, farmers may not fully understand environmental and health consequences of stubble burning.</p>	 <p>Lack of viable economic alternatives to Stubble Burning for farmers.</p>	 <p>States face challenges in allocating the necessary resources for effective regulation and enforcement.</p>
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Way forward

- ▶ **New and Improved Seed Varieties:** Recently, the Indian Agricultural Research Institute (IARI) has developed a high-yielding short-duration variety namely Pusa-2090.
 - New paddy variety will give around 30 days time to farmers to ready their fields for the next crop.
- ▶ **Innovative farm technologies:** Employing agricultural machines like Happy Seeder, Rotavator, Baler, Paddy straw chopper etc.
- ▶ **Biogas plants:** Installed under 'waste to energy mission', they generate bio-gas by utilising crop wastes.
- ▶ **Pusa-bio-decomposer:** Developed by IARI, it turns crop residue into manure in 15-20 days by accelerating the decomposition process.
- ▶ **Educating and empowering the farming community.**
- ▶ **Encouraging Sustainable Alternatives to Crop Residue Management:** E.g. Mulching, Zero-Till Farming, Residue Incorporation into the soil.

5.2.3 CLOUD SEEDING

CONTEXT

Researchers discussed the possibility of using cloud seeding to tackle Delhi's air pollution.

ANALYSIS

Significances/Applications of Artificial Rain using Cloud Seeding

- ▶ Provide relief to drought-stricken areas.
 - E.g. the Karnataka government's "Project Varshadhari", to induce artificial rainfall.
- ▶ Augment the production of hydroelectricity (by enhancing rainfall in catchment areas).
 - E.g., done in Tasmania, Australia, during the last 40 years.
- ▶ Maintain minimum river flows and dilute the impact wastewater discharges from industries.
- ▶ Fog dispersal and cyclone modification
 - E.g. USA in 1962 launched "Project Sky Water", aimed at fog dispersal, hail suppression, and cyclone modification.
- ▶ Controlling forest fires.
- ▶ Research and Experimental Studies to better understand atmospheric processes, cloud physics etc.

Issues with inducing Artificial Rains

- ▶ May cause harm to environment and humans.
 - E.g. Silver iodide can be toxic to aquatic life.
- ▶ Abnormal changes in climatic patterns due to interference with local weather patterns.
- ▶ High costs and logistic preparations.
- ▶ Issues related to water rights and environmental impact and human intervention in natural processes raise questions about different communities' rights to natural resources.

Conclusion

Research to understand the long-term impacts of Cloud Seeding and multi stakeholder collaboration is crucial to establish clear standards, and regulatory frameworks for the responsible implementation of cloud seeding projects.

BRIEF BACKGROUND

About Cloud Seeding

- ▶ It is a weather modification technique to enhance precipitation by dispersing substances into the air that help to saturate the clouds.
- ▶ The Process:
 - Identifying suitable clouds through weather analysis.
 - Release of seeding agents into the targeted clouds.
 - Seeding particles provide additional nuclei for formation of larger water droplets causing rainfall.
- ▶ Chemicals used: Clouds are injected with salts such as silver iodide, potassium iodide, sodium chloride, or dry ice (solid carbon dioxide), which act as the seed.
- ▶ Conditions required for cloud seeding to be effective:
 - Cloud type: Clouds should be deep enough and have a suitable temperature, typically between -10 and -12 degrees Celsius.
 - Cloudiness: Clouds should cover at least 50% of the target area.
 - Wind: Low wind speeds.
 - Humidity: Cloud seeding is less effective when relative humidity is less than 75%.
- ▶ Methods of cloud seeding
 - Hygroscopic cloud seeding: Involves dispersing salts through flares or explosives in lower portions of clouds.
 - Use of electrical charges: Electrical charges help water droplets to merge and form precipitation.

How Cloud Seeding Works



1. Silver iodide is released by a plane or ground-based generator
2. Silver iodide particles reach the targeted cloud
3. Silver iodide aids in the formation of ice crystals
4. Now too heavy to remain in the air, the ice crystals then fall, often melting on their way down to form rain

5.3 BIODIVERSITY

5.3.1 ASSESSMENT REPORT ON INVASIVE ALIEN SPECIES AND THEIR CONTROL

CONTEXT

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

ANALYSIS

Reasons for the growth of Invasive Alien Species

- ▶ **Lack of specific national legislation** toward their prevention and control.
 - Around 83% countries do not have legislation and nearly 45% do not invest in the management of invasive alien species.
- ▶ **A strong link between the volume of commodity imports and the number of invasive alien species in a region** has been seen in terms of global trade.
- ▶ **Increasing international trade of exotic plants and animals** and the movement of people, including tourism, facilitate the spread of invasive alien species.
- ▶ **Climate change** facilitates the spread and establishment of many alien species.

Impact of Invasive Alien Species

- ▶ **Devastating effects on native plant and animal species**, leading to human-wildlife conflicts.
 - 60% of global extinctions is considered to be driven by invasive alien species.
- ▶ Can be **highly flammable and lead to intense fires**.
- ▶ Major cause of **crop loss and degraded soil quality leading to issues of food insecurity**.
- ▶ **Negatively impact the autonomy, rights and cultural identities of Indigenous Peoples** through the loss of traditional livelihoods and knowledge, reduced mobility and access to land.
- ▶ Can serve as **vectors for infectious zoonotic diseases** that can lead to epidemics, such as malaria, dengue fever, chikungunya, Zika, yellow fever.
- ▶ Global **economic cost** of invasive alien species

exceeded \$423 billion annually in 2019, with costs having at least quadrupled every decade since 1970.

Initiatives against Invasive Alien Species

- ▶ **Target 6 of Kunming-Montreal Global Biodiversity Framework** aims to eliminate, minimize, reduce and or mitigate the impacts of IAS on biodiversity and ecosystem services by 2030.
- ▶ **Global Invasive Species Programme** addresses global threats caused by Invasive Alien Species and to provide support to the implementation of **Convention on Biological Diversity (CBD)**
- ▶ **Global Register of Introduced and Invasive Species** presents validated and verified national checklists of introduced (alien) and invasive alien species at country, territory, and associated island level.
- ▶ **Ramsar Convention** ensures that the impact of invasive species on wetlands is addressed.
- ▶ **As per UNCLOS**, states are required to protect marine environment from intentional or unintentional introduction of alien species.

Way Forward

- ▶ **Proper pathway management** through import controls, border biosecurity, and measures to address escape from confinement.
- ▶ **Awareness of public** by creation of citizen science platforms or campaigns.
- ▶ **Integrated governance** is required for **enhancing coordination and collaboration across nations**
- ▶ **Targeted investment in research innovation** and environmentally sound technology is required for the eradication of invasive alien species.



Read From Essential Material

Chapter 13: Biodiversity and Conservation
(Biology, class XII)

BRIEF BACKGROUND

About Invasive Alien Species

- ▶ **Invasive alien species** are a subset of alien species with negative impacts on biodiversity and local ecosystems.
 - **Alien species** are organisms introduced by human to new regions.
- ▶ Some of the **common characteristics of invasive alien species include** rapid reproduction and growth, high dispersal ability, high adaptability to new conditions.
- ▶ As per an estimate by 2050 the total number of alien species globally will **increase by 36% than 2005**.
- ▶ **Example**
 - **Conocarpus Trees**: Invasive mangrove species, recently banned by Gujrat government
 - **Red Fire Ant**: Recently found in Europe for the first time.

5.3.2 SUSTAINABLE FOREST MANAGEMENT (SFM)

CONTEXT

- ▶ India hosted a **Country-Led Initiative (CLI)** event as part of the United Nations Forum on Forests (UNFF) in Dehradun, Uttarakhand.
 - **UNFF was established in 2000**, by the resolution of the **Economic and Social Council of the United Nations (ECOSOC)**, to promote the management, conservation, and sustainable development of all types of forests.
- ▶ India led CLI focused on the themes of forest fires, forest certification and **Sustainable Forest Management (SFM)**.



ANALYSIS



Need for sustainable forest management

- ▶ **Biodiversity Conservation:** By maintaining ecosystems, protecting endangered species, and allowing for natural regeneration.
- ▶ **Tackling climate change:** Forests act as carbon sinks, and mitigate climate change.
- ▶ **Community development:** Forest conservation cannot be isolated from the well-being of tribal communities that rely on forest resources.
- ▶ **Forest fire management:**
 - **62% of Indian states** are prone to high-intensity forest fires.
- ▶ **Traditional Knowledge:** Forests are a repository of medicinal plants and traditional knowledge.



Read From Essential Material

Chapter 16: Management of Natural Resources
(Science Class X)

What are the benefits of certified sustainable forests?

Environmental aspects



Existing local **biodiversity** is maintained and enhanced.



Ecologically important **forest areas** are protected.



No use of **hazardous chemicals** or genetically modified organisms (GMOs).



Climate-positive practices, such as **reduction of GHG emissions**, are applied.

Social aspects



Consultations are carried out with the populations bordering the forest.



Property and **land tenure rights** are respected.



Respect for the **health and well-being** of forest communities is guaranteed.



Human and workers' rights compliant with ILO recommendations are respected.

BRIEF BACKGROUND

About Forest Certification

- ▶ **Forest certification** is a market mechanism to promote the SFM and to **identify "sustainably produced" products** for the consumer.
- ▶ Independent third party (the "certifier") **assesses the quality of forest management and production** against a set of standards.
- ▶ **Two types of forest certification:**
 - **Certification of Forest Management**, assesses whether forests are being managed according to a specified set of standards
 - **Certification of the Chain of Custody**, verifies that certified material is identified or kept separate from non-certified material.

About Sustainable Forest Management (SFM)

- ▶ According to Food and Agriculture Organization (FAO), SFM is the stewardship and use of forests and forests lands in a way, that:
 - **maintains their biodiversity**, productivity and
 - **maintains their potential to fulfil, relevant ecological, economic, and social functions**, and
 - **does not damage** other ecosystems.

Challenges faced by developing countries in forest certification

- ▶ Excessive costs of certification.
- ▶ Audit and compliance issues.
- ▶ Inaccessibility to forest owners in remote regions.
- ▶ Lack of capacity due to the complexity of various certification standards.

Measures taken by India for SFM

- ▶ **Legislative Framework:** Forest Conservation Act (FCA) 1980, the Indian Forest Act 1927, and Wildlife Protection Act 1972 etc.
 - ▶ E.g. FCA allows the government to declare specific areas as reserved or protected forests.
- ▶ **Joint Forest Management (JFM):** Involves the collaboration between forest authorities and local communities for the protection and management of forests.

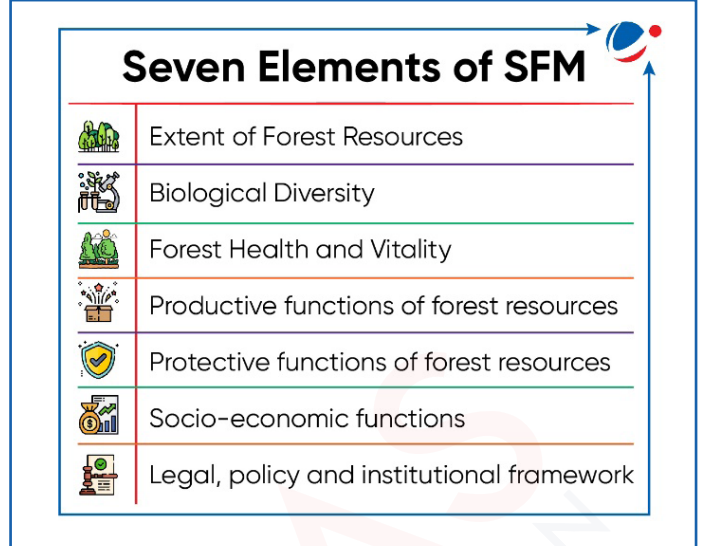
Afforestation and Reforestation Programs: E.g.

National Afforestation Program (NAP), Compensatory Afforestation Fund Management and Planning Authority (CAMPA), Green Highways Programme etc.

- ▶ **Technology Adoption:** E.g. Geographic Information System (GIS) mapping, satellite imagery, and remote sensing, assists in monitoring and managing forests.
- ▶ **Development of standards:** Through **Bhopal-India Process**, India developed its national set of 8 criteria and 37 indicators for SFM.
- ▶ **Forest Rights Act, 2006:** Recognizes and vests forest rights in forest-dwelling communities thus mobilizing indigenous people in SFM.
- ▶ **India's proposal to launch Gandhinagar Implementation Roadmap and Gandhinagar Information Platform**, to tackle restoration of forest fire and mining degraded lands.

Way Forward

- ▶ **Setting up global benchmark standards** for forest certification, conservation practices and forest fire management.
- ▶ **Integrated fire management strategy** for the prevention, management, and restoration of forest fires and policy interventions.
- ▶ **Livelihood improvement programmes and incorporating incentive schemes** while formulating forest management policies.
- ▶ **Promote regional and international cooperation** among governments to address subnational and transboundary forest fire issues. E.g. **Global Fire Management Hub** for sharing of best practices.



5.3.3 SPECIES IN NEWS

Red Sanders

Context: 77th CITES Standing Committee meeting removed Red Sanders from **Review of Significant Trade (RST)**.



- ▶ **Conservation Status**
 - ▶ IUCN Red List: Endangered
 - ▶ CITES: Appendix II
 - ▶ Wildlife Protection Act: Schedule IV
- ▶ **Distribution:** Endemic to **tropical dry deciduous forest of Eastern Ghats.**
- ▶ **Other feature:** Plants heartwood is heavily impregnated with **red dye called 'santalin', for which it is valued.**

Pangolins

Context: Scientists have discovered a new species of highly endangered Pangolin- *Manis Mysteria*.

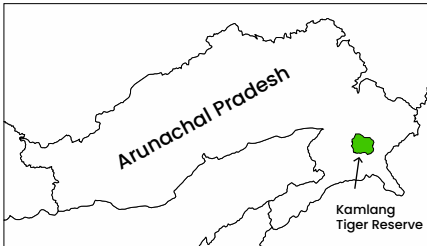


- ▶ **Only mammals wholly covered in scales.**
- ▶ **Four species live in Africa:** Black-bellied pangolin, White-bellied pangolin, Giant Ground pangolin and Temminck's Ground pangolin.
- ▶ **Four species found in Asia:** Indian pangolin, Philippine pangolin, Sunda pangolin, and the Chinese pangolin.
- ▶ **IUCN status:** Chinese, Philippine, and Sunda pangolins are listed as **Critically Endangered** on the IUCN Red List.
- ▶ **Conservation Status of Indian Pangolin**
 - **IUCN Red List:** Endangered
 - **Wildlife Protection Act:** Schedule I

5.3.4 PROTECTED AREAS IN NEWS

Kamlang Tiger Reserve

Context: Kamlang Tiger Reserve conducted a butterfly walk and nature trail event for the first time ever in association with NGOs.



- ▶ **Location:** Lohit district of Arunachal Pradesh
- ▶ Named after the Kamlang river which flows through it.
- ▶ **Climate:** Sub-tropical
- ▶ **Flora:** Common species of trees include ***Ammora wallichii* (Amari), *Gmelina arborea* (Gamari), etc.**
- ▶ **Fauna:** Snow Leopard, Clouded Leopard, Tiger, Himalayan Palm Civets, Hornbill, etc.
- ▶ **Glow Lake** falls within this reserve.

Sundarbans

Context: Experts from India and Bangladesh believe that climate change triggered loss and damage in the Sundarbans, should be seen as a "global common".



- ▶ Lies on the delta of the **Ganges, Brahmaputra and Meghna rivers**. It is the **largest area of mangrove forest** in the world.
- ▶ Designated as a **Cultural UNESCO World Heritage Site**.
- ▶ Accorded the **status of 'Wetland of International Importance'** under Ramsar Convention.
- ▶ **Fauna:** Estuarine crocodile, royal Bengal tiger, Water monitor lizard, Gangetic dolphin, Olive ridley turtle etc.
- ▶ **Threats:** Vulnerable to floods, earthquakes, cyclones, sea-level rise and coastline erosion.

5.4 SUSTAINABLE DEVELOPMENT

5.4.1 NATURE-BASED INFRASTRUCTURE SOLUTIONS (NBIS)

CONTEXT

Coalition for Disaster Resilient Infrastructure (CDRI) released the first biennial report titled “Global Infrastructure Resilience: Capturing the Resilience Dividend”, which talked about upscaling Nature-based Infrastructure Solutions (NbIS).

ANALYSIS



Significance of NbIS for Infrastructure resilience

- ▶ **Safeguarding traditional infrastructure:** Using NbIS to complement or substitute traditional ‘grey’ infrastructure.
- ▶ **Low-cost:** NbIS costs, on average, only 51% of grey infrastructure projects.
- ▶ **Reducing carbon emissions:** NbIS enable avoiding land use change and extending infrastructure lifespans.
- ▶ **Socio-economic outcomes:** NbIS increases opportunities for women’s involvement in decision-making and has the potential to create an **estimated 59 million jobs by 2030**.

Challenges for integrating NbIS

- ▶ **Traditional engineers/architects lack interdisciplinary knowledge and skill sets** for NbIS.
- ▶ **Lack of research** that quantifies ecosystem services, integrates nature-based values and cost-benefit accounting in the design of NbIS.
- ▶ **Lack of risk assessment** constrains the identification of resilience dividends that can accrue through adopting NbIS.
- ▶ **Politically unattractive** as it reduces opportunities for privatized profits.
- ▶ **Long Gestation period** in NbIS.

Way forward: Integrating NbIS

- ▶ Need of **national centres of excellence**, particularly in LMICs, to promote research in NbIS.
- ▶ **Linking NbIS monitoring to the SDGs and global common goals** may facilitate its greater uptake.
- ▶ **Legislation to protect and enhance ecosystems** is necessary to encourage greater investment in NbIS.
- ▶ **Rating tools** can serve as a market signal for resilience. E.g. **GRIHA** (Green Rating for Integrated Habitat Assessment) in India.
- ▶ **Prescriptive global standards for NbIS** could provide a pathway for greater project financing.
- ▶ **Financing incentives** like integrating NbIS into existing pipelines of grey infrastructure delivery systems can be a way to achieve resilient infrastructure.

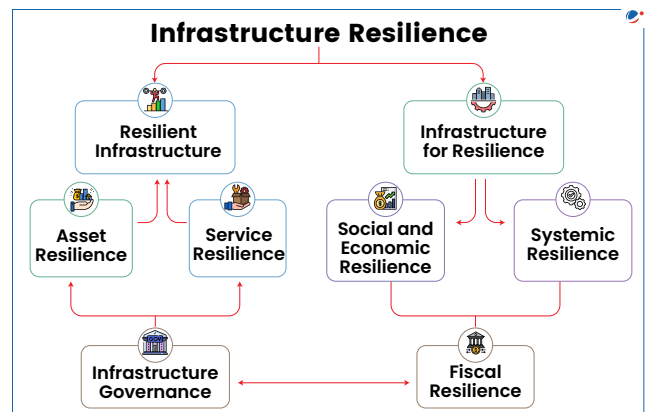
Conclusion

Strengthening infrastructure resilience is critical to address existential risks associated with catastrophic climate change and biodiversity loss.

BRIEF BACKGROUND

About Infrastructure Resilience






- ▶ **Infrastructure:** Defined by the UN as “the physical structures, facilities, networks and other assets which provide services that are essential to the social and economic functioning of a community or society”.
- ▶ **Resilience:** Ability to prevent, resist, adapt, respond and recover positively, when faced with a wide range of risks.
- ▶ **Need for Infrastructure resilience**
 - ▶ **Obsolescence of old infrastructure necessitates replacement.**
 - ▶ **Weak infrastructure governance** characterized by deficient planning and design, inadequate standards, ineffective regulation and compliance, and low levels of investment.
 - ▶ **Systemic risks** e.g. climate change and biodiversity loss.
 - ▶ **Developmental benefits** e.g., quality and dependable essential services, reduced damage to infrastructure assets, etc.
 - ▶ **Disproportionate impact on Low- and Middle-Income Countries (LMICs).**



About Nature-based Infrastructure Solutions (NbIS)

- ▶ It refers to practices that **concurrently protect and provide infrastructure, adapt to climate change, promote environmental integrity and biodiversity, and provide social well-being.**

Functional Categories of NbIS

 <p>Deliver Infrastructure Services directly</p>	<ul style="list-style-type: none"> • Can reduce or avoid need for engineered infrastructure assets. • NbIS such as wetlands, roads and ponds can filter pollutants, assimilate wastes and provide water treatment facilities.
 <p>Enhance engineered infrastructure function</p>	<ul style="list-style-type: none"> • Increasing efficiency, reduces need for maintenance. • Riparian vegetation can stabilize soils, and reduce sedimentation, thus reducing need for dredging.
 <p>Protect engineered assets</p>	<ul style="list-style-type: none"> • Protection from climate impacts. • Agroforestry can help in reducing occurrence of shallow, rapidly moving landslides.
 <p>Benefit the workforce</p>	<ul style="list-style-type: none"> • Boost health of infrastructure worker and improve productivity.
 <p>Deliver multiple additional social, environmental and economic benefits</p>	<ul style="list-style-type: none"> • Social benefits advancing global targets such as SDGs and Paris agreement. • Promotion of opportunities for women's involvement in decision making.

5.4.2 UNESCO WORLD HERITAGE SITES

CONTEXT

According to new research conducted by UNESCO and International Union for Conservation of Nature (IUCN), the World Heritage Sites (WHSs) make up less than 1 % of the Earth's surface, but they harbor more than 20 % of the planet's biodiversity.

ANALYSIS

Why World Heritage Sites are unique in conserving biodiversity?

- ▶ **Cover wide horizon** as they deal with natural, cultural heritage and mixed heritage sites.
- ▶ **Conferred the highest level of international protection.** E.g., Khangchendzonga National Park of India.
- ▶ Parties encouraged to integrate the protection of the sites with the help of **Regional Planning Programs**.
 - E.g., National Biodiversity Strategies and Action Plans (NBSAPs).
- ▶ **World Heritage Fund** fulfills the urgent need during disasters or natural calamities.
- ▶ **Reporting Mechanism** under the convention calls parties to regularly report to the **World Heritage Committee** on the state of conservation.
 - E.g., In Kaziranga National Park (India) and Chitwan National Park (Nepal), the population of Greater one-horned Rhinos has been doubled since their inscription on the UNESCO World Heritage List.
- ▶ **Encourages States Parties to strengthen the appreciation of the public** to enhance protection through educational and information programmes.
- ▶ **Facilitate dialogue between policymakers and**

BRIEF BACKGROUND

About World Heritage Sites

- ▶ They have **outstanding universal value** under the **World Heritage Convention of 1972**.
- ▶ Sites are selected under three categories i.e. **cultural, natural, and mixed**.
- ▶ There are **42 World Heritage Sites** in India. Out of these, 34 are cultural, 7 are natural, and one is of mixed type.
 - They protect over **20,000 endangered species**.
- ▶ For their role in conservation, **WHS** are also known as the **last line of defense against extinction** and have played key role in protection of **Javan & Sumatran Rhinos, Sumatran Orangutans, Vaquitas, Pink Iguanas, and Mountain Gorillas**.

About World Heritage Convention

- ▶ It has been adopted as **Convention Concerning the Protection of the World Cultural and Natural Heritage**.
- ▶ It recognizes the way in which **people interact with nature** and **need to preserve the balance between them**

World Heritage actors in the development and implementation of effective actions.

- ▶ **Strengthen the link between nature and culture**, as many cultural sites, including those in urban areas are promoting biodiversity.

Challenges faced by World Heritage Sites

- ▶ **Decline in the population of the endangered species** either by natural factors such as disease or by human made factors such as poaching.
- ▶ **Development activities and Human encroachment** such as construction of reservoirs, industrial and agricultural development etc.
- ▶ **Climate Change** leading to changes in migration pattern, food availability etc.
 - ▶ With every 1°C increase in global temperature, the number of species threatened gets doubled.
- ▶ **World Heritage Fund is not able to fulfil need of all nations** as many nations do not contribute on time.
- ▶ **Armed conflicts, rising frequency of disasters.**
 - ▶ E.g., UNESCO sites of Kyiv and L'viv are inscribed on the List of World Heritage in Danger due to Ukraine-Russia conflict.

- ▶ 195 State are parties to the convention and it is **being implemented by the World Heritage Committee.**
- ▶ **Strategic Objectives (Five Cs):** Credibility, Conservation, Capacity-building, Communication and Communities

Conclusion

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

5.4.3 ORGANIC FARMING

CONTEXT

Recently, Six organic products of NOCL were launched under the 'Bharat Organics' brand along with concept of 'Organic under one roof' i.e. a network of retail outlets for all organic products.

ANALYSIS

Benefits of Organic Farming

- ▶ **For the Environment:** Prohibits Use of Harmful Pesticides; Healthy Soil; Mitigate climate change through carbon sequestration; Reduces Erosion; Cleaner Water; Stimulates Biodiversity and microorganisms; Ethical pasture-based systems etc.
- ▶ **For Farmers:** Reduces the input cost; Attract more customers; More resilient to extreme weather events etc.
- ▶ **For Consumers:** Healthier; Higher nutritional quality etc.

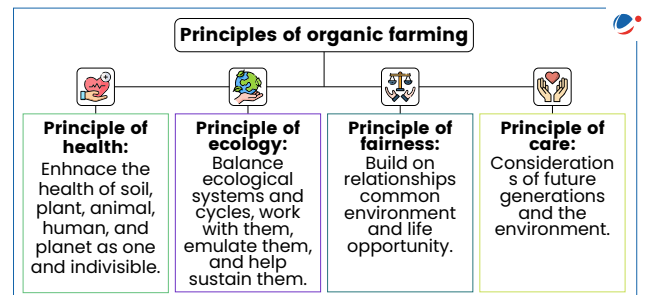
Major Challenges for the Organic Farming Sector

- ▶ **High input costs and low yields** in the initial years of transitioning from conventional to organic farming.
- ▶ **Inefficient supply chain** for marketing and distribution of organic food products.
- ▶ **Issues with certification process** like presence of multiple certifications, complex and costly

BRIEF BACKGROUND

What is organic farming?

involves exclusion of all synthetic off-farm inputs by using agronomic, biological, and mechanical methods.



Organic vs Natural Farming

- ▶ While both **are similar** in certain aspects e.g. prohibiting use of synthetic fertilizers, use of on-farm biomass management etc., they differ in certain aspects as well.

processes, and inadequate number of third-party accreditations.

- ▶ **Limited government support** for agriculture inputs (e.g. bio-fertilizers and bio-pesticides) needed for organic farming.
- ▶ **Lack of awareness** among farmers related to production technologies and benefits of organic farming.

Government initiatives for promoting organic farming

- ▶ **Pramparagat Krishi Vikas Yojana:** A cluster-passed program for the promotion of organic farming.
- ▶ **National project on organic farming:** A national center for organic farming was established at Ghaziabad to provide institutional support.
- ▶ **Organic value chain development in Northeastern Region Scheme:** To link growers with consumers of organic produce.
- ▶ **Organic e-commerce platform** (www.jaivikkheti.in) for directly linking farmers with retail & bulk buyers.
- ▶ Organic Certification regime in India: **National Programme for Organic Production (NPOP), Participatory Guarantee System of India (PSG-India), Jaivik Bharat logo** by FSSAI.

State level initiatives

- ▶ Kerala's Organic Farming Mission.
- ▶ Sikkim became the world's first 100% organic state.

Way forward

- ▶ **Mobilizing and training farmers** to produce on-farm input through farmer-field schools.
- ▶ **Encouraging local decentralized production** of inputs for organic farming.
- ▶ **Strengthening certification regime** by simplifying processes, handholding farmers to obtain certifications, promoting certifying agencies etc.
- ▶ **Incentivizing production of organic inputs** through government subsidies, tax benefits etc.
- ▶ **Investing in building the capacity** of small-scale manufacturers to upscale organic input production.
- ▶ **Enhancing the role of cooperatives** to support organic farming.

Differences between Organic and Natural farming	
Organic Farming	Natural Farming
Permits use of off-farm organic and biological inputs like compost, vermicompost, etc.	No external inputs used on farmlands; only on-farm-based inputs used.
Open for micronutrient correction through use of minerals.	Use of minerals not allowed.
Ploughing, soil tilling, and weeding might be undertaken in organic farms.	Mimics natural ecosystems: No ploughing, no soil tilling, and no weeding done on natural farms.



5.5 DISASTER MANAGEMENT

5.5.1 GLOF AND FLASH FLOODS

CONTEXT

Sikkim witnessed Glacial Lake Outburst Flood (GLOF) due to bursting of the southern bank of the South Lhonak Lake, triggering a flash flood.



ANALYSIS



Causes for Sikkim flash floods

Triggered by a combination of multiple factors

- ▶ **Glacier melting:** Sikkim's South Lhonak Lake experienced expansion due to climate change induced melting of high-altitude glaciers in the region.
- ▶ **GLOF event:** Due to the lake breaching its boundaries, combined with a cloud burst, triggered devastating flash floods.
- ▶ **Chungthang dam:** The floodwaters reached the Teesta-III hydel project at Chungthang via the Lachen River and were worsened by release of water from Chungthang Dam.

Causes for Flash Floods

- ▶ **Increased flow in rivers and tributaries:** Due to the high intensity rainfall, GLOFs etc.
- ▶ **Extreme rainfall:** E.g. Cloudburst, Rainstorms etc.
- ▶ **Human induced interventions:**
 - ▶ Haphazard construction in vulnerable regions, due to tourism and centralized development.
 - ▶ Commissioning of Hydropower projects in vulnerable regions prone to seismicity, landslides etc.
 - ▶ Unplanned infrastructure in ecologically fragile zones.
 - ▶ Climate change and increased warming of the planet due to anthropogenic emissions.

Flood mitigation measures

- ▶ **National Disaster Management Authority (NDMA) guidelines:** On management of GLOFs, urban flooding and flood management (refer infographic)
- ▶ **Structural Measures:** Creation of reservoir, embankments of rivers etc. for improvement of channel and drainage.
- ▶ **Floodplain zoning:** To demarcate flood prone zones of variable magnitudes, and specify the permissible developmental activities.
- ▶ **Early Warning System (EWS):** NDMA has planned to install EWS for real-time alerts at most of 56 at-risk glacial lakes in India.
- ▶ **Guidelines for Hydro projects:** Central Electricity Authority (CEA) has issued guidelines for slope stability in hydropower projects.

BRIEF BACKGROUND

About Glacial Lakes and GLOFs

- ▶ **Glacial lakes are large bodies of water** that sit in front of, on top of, or beneath a melting glacier.
 - ▶ Glacial lakes are mostly dammed by unstable ice or sediment composed of loose rock and debris.
- ▶ **Glacial lake outburst flood (GLOF)** is a sudden release of a significant amount of water retained in a glacial lake, irrespective of the cause.
- ▶ **GLOF vulnerability in India**
 - ▶ As per recent Hindu Kush Himalaya (HI-WISE) assessment report - in the event of global warming between 1.5°C to 2°C, by 2100, glaciers are set to lose 30–50% of their volume compared with 2015.
 - ▶ More than nine million people in High Mountain Asia (HMA) are vulnerable to glacial lake outbursts.
 - ▶ Three highly devastating GLOF events over last decade –Kedarnath (2013), Chamoli (2021) and Sikkim (2023).

Effects of GLOFs



Disastrous due to **unanticipated character**, peak discharge, fast and violent movement



Catastrophic impact on human lives, livelihoods, basic services (drinking water, sanitation, health and education)



Destruction of infrastructure such as habitations, roads, energy projects, sewage networks etc.



Destruction of ecological systems and agri-food systems



Can result in other disasters such as landslides

Way Forward

- ▶ **Risk assessment of vulnerable regions** to inform disaster risk-reduction strategies.
- ▶ **Intense monitoring and forecasting of meteorological events** for preventive measures near vulnerable glacier lakes, and rivers.
- ▶ **Use of technology like** Remote Sensing and Geographic Information System (GIS), drone and Light Detection and Ranging (LiDAR) technology to identify Vulnerable zones.
- ▶ **Institutionalising local knowledge and practices** to build collective resilience.
- ▶ **Green-grey infrastructure:** E.g. wetlands, vegetation shields, flood walls, diversion channels etc. to improve the geo-morphology of the mountain rivers.
- ▶ **Stringent quality control measures** for Infrastructure projects in mountains E.g. dams, bridges and highways.
- ▶ **EPIC Response Framework (Enable, Plan, Invest, Control):** World Bank's new perspective to better manage flood and drought risks.

NDMA GUIDELINES



HAZARD AND RISK MAPPING

Provide the basis for prioritizing, designing, and implementing risk management strategies.



MONITORING, RISK REDUCTION AND MITIGATION MEASURES

Early Warning Systems (EWS) as the most effective approach to disaster risk reduction.



AWARENESS AND PREPAREDNESS

On short, mid, and longer time.



CAPACITY DEVELOPMENT

Should focus both on training and strengthening academic education.



DISASTER RESPONSE

Well-established disaster response procedures at national, state district, and community levels.



RESEARCH AND DEVELOPMENT

Repeated monitoring using advanced space-borne and terrestrial technology for regular re-assessment of lakes across the entire Himalayan region.

5.5.2 HIMALAYAS' VULNERABILITY TO LANDSLIDES

CONTEXT



- ▶ **An under construction Silkyara-Barkot tunnel tunnel** (part of Char-Dham all-weather road project) in Uttarakhand collapsed due to a landslide.
- ▶ Tunnel is being built in an area comprising **limestone** and **other soft rocks** that have a tendency to collapse.

ANALYSIS



Why are Himalayas more prone to landslides?

- ▶ **Natural reasons**
 - Earthquakes resulting from tectonic activity.
 - Heavy rainfall can saturate the soil and weaken rock formations.
 - Climate change-induced warming can lead to permafrost thawing.
- ▶ **Anthropogenic**
 - Construction of dams, roads, and other significant infrastructure changes the natural stability of slopes.
 - Deforestation, Irrigation, Mining activities etc.

Comparison between Himalayas and Alps

Feature	Himalayas	Alps
Age	Relatively young (formed 40-50 million years ago)	Older (formed around 65 million years ago)
Formation	Result of the collision between Indian and Eurasian plates	Result of the collision between African and Eurasian plates
Tectonic Activity	Ongoing tectonic activity, seismic region	Tectonically active, but less seismic activity
Geological Features	Young, rugged terrain with deep valleys and high peaks	Older, more rounded mountains with U-shaped valleys

5.6 GEOGRAPHY

5.6.1 PACIFIC DECADAL OSCILLATION (PDO)

CONTEXT



- ▶ As per a recent study, a combination of global warming and the Pacific Decadal Oscillation (PDO) could make cyclones more frequent in the coming years. Also, an **interconnection between PDO, El Niño Southern Oscillation (ENSO) and global warming** has been inferred.

ANALYSIS

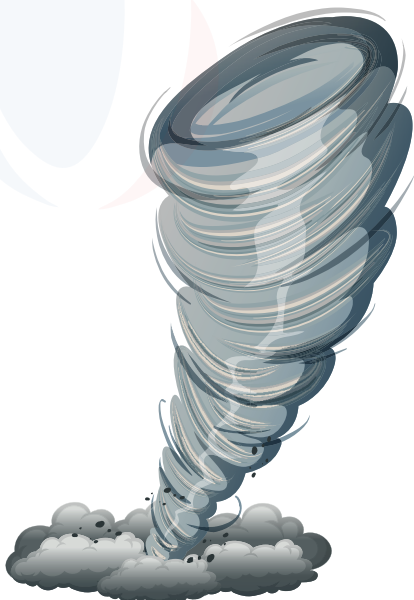


Relationship between PDO, ENSO and global warming

- ▶ **Negative PDO** along with **La Nina phase** creates **suitable condition** for the tropical cyclones.
- ▶ PDO entered a **cooler or negative phase** in 2019. If it remains so, it could mean more tropical cyclones in the **post-monsoon months** that originate near the equator.
- ▶ **Climate impacts** experienced during; a PDO event can go **hand-in-hand** with **impacts of ENSO**.
 - ▶ If **both phenomena** are in the **same phase**, their associated **impacts can be amplified**.
 - ▶ ENSO (El Niño phase) with a **positive PDO** is generally **not good for the Indian monsoon**.
- ▶ It is thought that negative phases of PDO could be linked to times of **slower warming**.
 - ▶ This is because **negative phase** of the PDO tend to increase **mixing of colder, deep ocean waters with warmer surface waters**.
 - ▶ It reduces the rate of **global warming** caused by **increasing greenhouse gas emissions**.

Conclusion

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

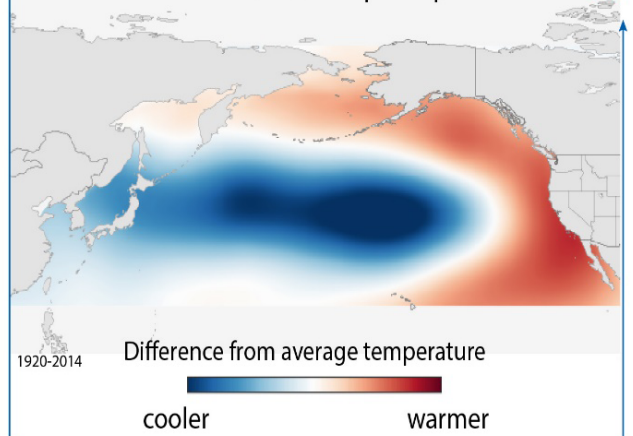


BRIEF BACKGROUND

About Pacific Decadal Oscillation (PDO)

- ▶ PDO is a long-term ocean **fluctuation** in the **Pacific Ocean** having two **phases**.
 - ▶ **Cool or Negative Phase** which is characterized by a cool wedge of lower than normal sea-surface heights/ocean temperatures in the eastern equatorial Pacific.
 - ◊ It also has a warm horseshoe pattern of higher than normal sea-surface heights connecting the north, west and southern Pacific.
 - ▶ **Warm or positive phase** which is basically the reversal of cool phase.
 - ◊ In this phase West Pacific Ocean becomes cool and the wedge in the east warms.
- ▶ It waxes and wanes approximately every 20 to 30 years. However, in the **recent time**, the **'warm'** and **'cold'** phases have been much shorter.

Pacific Decadal Oscillation warm phase pattern



5.7 CONCEPTS IN NEWS

5.7.1 CLIMATE EQUALITY

- ▶ Oxfam released a report titled "Climate Equality: A Planet for the 99%".
 - It states that the super-rich 1% were responsible for 16% of global carbon emissions in 2019 enough to cause 1.3 million deaths due to heat.
- ▶ Climate Inequality describes the disproportionate impact of climate change on few communities because of existing vulnerabilities.
- ▶ Climate Equality entails Just distribution of the benefits of climate action and unequal burdens created by climate change.

5.7.2 GREENWASHING

- ▶ Advertising Standards Council of India (ASCI) proposed Draft Guidelines for Environmental/Green Claims in Advertising to make advertising free of Greenwashing.
- ▶ Greenwashing (also called green sheen) is a deceptive practice of making misleading environmental claims.
 - Environmental claims mainly suggest or create an impression that a product/service has a neutral or positive impact and is less damaging to the environment.
- ▶ It utilizes different methods such as Fibbing (make false claims such as 'net-zero', 'green', 'ecological' etc.), Vagueness (non-specific about processes or materials used) etc.
- ▶ The term was coined by Jay Westerveld in 1986.

5.7.3 CARBON MARKETS

- ▶ United Nations Development Programme (UNDP) launched the National Carbon Registry.
- ▶ National Carbon Registry is an open-source software that allows countries to effectively manage national data and processes for trading carbon credits, promoting development of Carbon Market.
- ▶ Carbon markets are trading systems in which carbon credits are sold and bought.
 - Companies or individuals can use carbon markets to compensate for their greenhouse gas emissions by purchasing carbon credits from entities that remove or reduce greenhouse gas emissions.
 - One tradable carbon credit equals one tonne of carbon dioxide or the equivalent amount of a different greenhouse gas reduced, sequestered or avoided.
 - Carbon trading was introduced by Kyoto Protocol in 1997.
- ▶ In India, Ministry of Power notified Carbon Credits Trading Scheme (CCTS), 2023 for institutionalisation and functioning of Indian Carbon Market (ICM).

5.7.4 ARTIFICIAL REEF (AR)

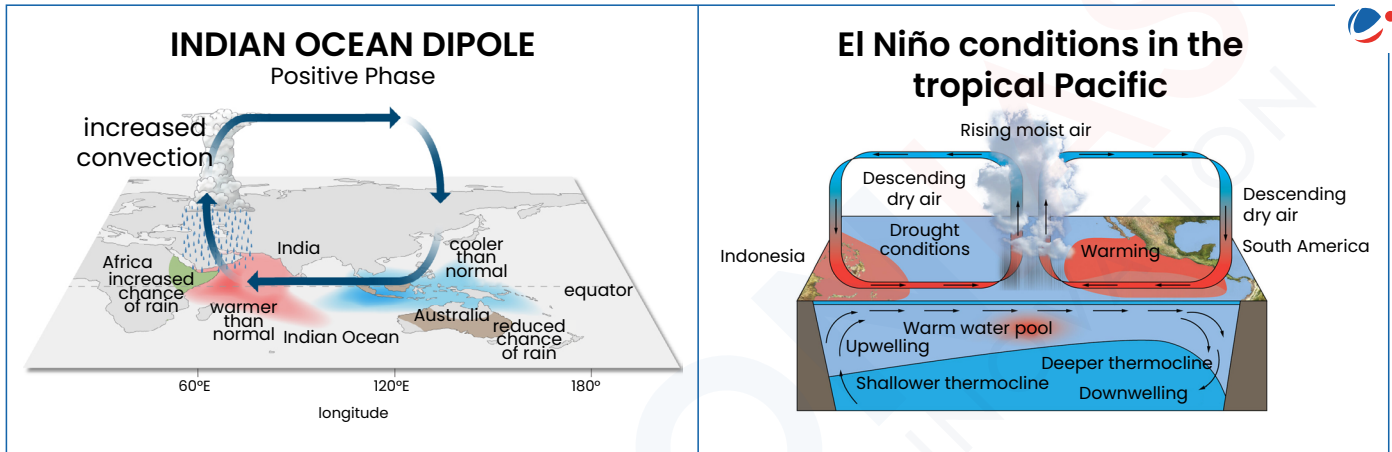
- ▶ Department of Fisheries is promoting AR under Pradhan Mantri Matsya Sampada Yojana for rejuvenating coastal fisheries.
- ▶ ARs are technology interventions used to rehabilitate or improve natural habitats, increase productivity and manage aquatic resources including habitat enhancement.
- ▶ Advantages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

5.7.5 ELECTRIFIED FLEX FUEL VEHICLE (FFV)

- ▶ World's first prototype of the BS 6 Stage II 'Electrified Flex fuel vehicle (FFV)' launched.
 - This vehicle has both the flex fuel engine as well as an electric powertrain.
 - It offers higher use of ethanol combined with better fuel efficiencies.
- ▶ FFV has an internal combustion engine that can run on more than one type of fuel, or even a mixture of fuels such as petrol and ethanol
 - For example: E85 which has 85% ethanol fuel and 15% gasoline or other hydrocarbon by volume.
- ▶ Benefits: Lower harmful pollutant emission like Carbon monoxide, sulphur, etc., reduced import dependence on crude oil.
- ▶ Drawbacks: Lower mileage compared to traditional gasoline, use of water-intensive crops such as sugarcane for production of ethanol etc.

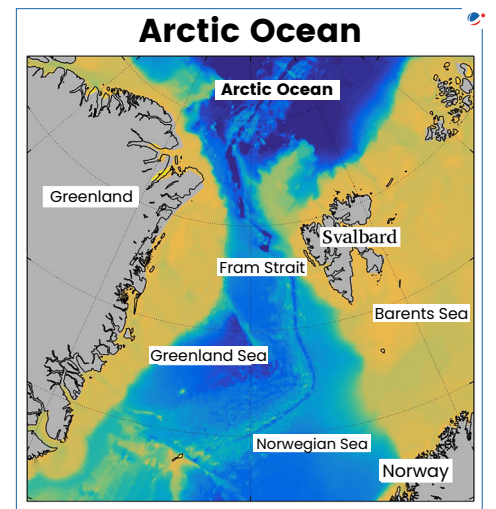
5.7.6 EL NIÑO AND INDIAN OCEAN DIPOLE (IOD)

- Once in a century flooding swamped Somalia after historic drought, according to UN Office for the Coordination of Humanitarian Affairs (UNOCHA).
- The Seasonal rainfall has been worsened due to the combined impact El Niño and a positive IOD which are associated with above-normal rains across the Horn of Africa.
- El Niño:** It is a climate pattern associated with the warming of the ocean surface temperatures in the central and eastern tropical Pacific Ocean.
- IOD:** Refers to the difference in sea surface temperature between the eastern and western sides of the Indian Ocean. It has 3 phases: Positive, Negative and Neutral



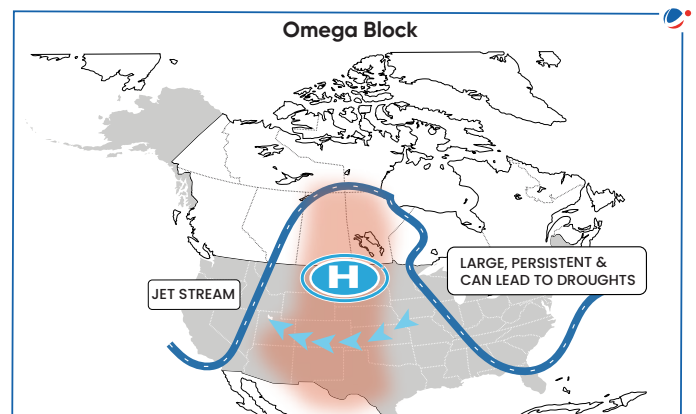
5.7.7 ATLANTIFICATION

- Atlantification is making the Arctic Ocean saltier and warmer.
- Atlantification is a process in which warm water from Atlantic is being advected into arctic ocean in increasing amounts thereby making some parts of Barents Sea to more closely resemble the Atlantic.
- Researchers believe that Atlantification is driven by a process called Arctic Dipole which is associated with anticyclonic winds over North America and cyclonic winds over Eurasia which alternates in an approximately 15-year cycle.
 - Positive phase of Arctic Dipole contributed to slowing Arctic sea-ice loss by restricting Atlantic water into the Arctic via the Fram Strait and negative phase accelerate sea-ice decline.



5.7.8 OMEGA BLOCKING

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



5.7.9 SEISMIC/EARTHQUAKE SWARMS

- ▶ Iceland has been hit by more than **5500 small earthquakes**.
- ▶ Seismic swarms are **sequences of many earthquakes** that occur in a **relatively short period** without a specific main shock.
 - It can last **weeks** and produce many **thousands of earthquakes** within a relatively **small volume**.
 - These are observed in **volcanic environments, hydrothermal systems, and other active geothermal areas**.

5.8 REPORTS

Report	Details
Adaptation Gap Report 2023	<ul style="list-style-type: none"> ▶ Released by: United Nations Environment Programme (UNEP) ▶ Adaptation gap is the difference between implemented adaptation and societally set goals. ▶ Key highlights <ul style="list-style-type: none"> ➤ Adaptation finance needs are 10-18 times higher than current public flows with Adaptation finance gap at US\$194-366 billion annually. ➤ Action plan on loss and damage has overlooked non-economic losses. E.g. Cultural heritage.
Paris Agreement Synthesis Report 2023	<ul style="list-style-type: none"> ▶ Under the report, UNFCCC secretariat analysed Nationally determined contributions (NDCs) of 195 Parties to the Paris Agreement. ▶ Key highlights <ul style="list-style-type: none"> ➤ Implementing latest NDCs will increase emissions by approximately 8.8% by 2030, relative to 2010 levels. ➤ Role of Indigenous Peoples and local communities: Highlighted by 40% of Parties in adaptation components of NDCs.
State of Climate Services Report 2023	<ul style="list-style-type: none"> ▶ Released by: World Metrological Organisation (WMO) ▶ Key highlights <ul style="list-style-type: none"> ➤ Climate change may reverse decades of progress towards better health. ➤ Large financing gap for air pollution as only 2% of international climate finance commitments goes towards it.
Global Landscape of Climate Finance 2023 Report	<ul style="list-style-type: none"> ▶ Released by: Climate Policy Initiative ▶ Key highlights <ul style="list-style-type: none"> ➤ Average annual climate finance flows doubled from previous year at almost USD 1.3 trillion in 2021-2022. ➤ Private actors provided 49% of total climate finance however adaptation finance continues to lag, with 98% coming from the public sector.
Sustainable Finance: Bridging the Gap in Asia and the Pacific	<ul style="list-style-type: none"> ▶ Released by: UNESCAP ▶ Key findings <ul style="list-style-type: none"> ➤ Asia-Pacific region is not on track to meet the SDGs by 2030. ➤ Only 17 of the 51 Asia-Pacific countries have reported their financial needs to meet their Nationally Determined Contributions (NDCs). ➤ Climate change under a high emissions scenario could impose 35% GDP losses in India by 2100.
'A Global Pathway to keep the 1.5 °C Goal in reach'	<ul style="list-style-type: none"> ▶ Released by: International Energy Agency (IEA) ▶ Key Highlights <ul style="list-style-type: none"> ➤ Limiting global warming to 1.5 °C is becoming harder but a narrow window remains because clean energy infrastructure has grown around the world. ➤ Clean energy like solar power, electric car are among technologies which together deliver 1/3rd of the emissions reductions between today and 2030 in the pathway.
Imperative of Cutting Methane from Fossil Fuels Report	<ul style="list-style-type: none"> ▶ Prepared by: International Energy Agency (IEA) with contributions from UNEP and UNEP-Convended Climate and Clean Air Coalition (CCAC). ▶ Key findings <ul style="list-style-type: none"> ➤ Targeted methane mitigation from fossil fuels could avoid 0.1°C warming by 2050. ➤ Without targeted action on methane, increase in global average surface temperature will likely exceed 1.6 °C by 2050.

TEST YOUR LEARNING

MCQs

1. Consider the following pollutants:

1. Carbon monoxide
2. Sulphur dioxide
3. Polycyclic aromatic hydrocarbons
4. Volatile organic compounds (VOC)

Which of the above pollutants are emitted from stubble burning?

- a) Only one
- b) Only two
- c) Only three
- d) All four

2. Which one of the following best describes the term “greenwashing”? (UPSC, 2022)

- a) Conveying a false impression that a company’s products are eco-friendly and environmentally sound.
- b) Non-inclusion of ecological/environmental costs in the Annual Financial Statements of a country.
- c) Ignoring the disastrous ecological consequences while undertaking infrastructure development.
- d) Making mandatory provisions for environmental costs in a government project/programme.

3. Consider the following Statements:

Statement-I: Natural farming involves exclusion of all synthetic off-farm inputs but permits use of off-farm organic and biological inputs like compost, vermicompost, etc.

Statement -II: Natural farming mimics and harmonizes with natural ecosystems.

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.

4. Which of the following released the State of Climate Services Report 2023?

- a) World Metrological Organisation (WMO)
- b) United Nations Environment Programme (UNEP)
- c) The UNFCCC Secretariat
- d) World Economic Forum (WEF)

5. The species is endemic to tropical dry deciduous forest of Eastern Ghats. It has IUCN Red List status of Endangered and is under Schedule IV of Wildlife Protection Act. Plant’s heartwood is heavily impregnated with a dye called ‘santalin’, for which it is valued.

Which of the following species is best described by the above passage?

- a) Rhododendron
- b) Indian rosewood
- c) Red Sanders
- d) Indian mahogany

Questions

1. What is cloud seeding? Analyze its utility in addressing challenges related to air pollution in urban areas of India. (150 words)
2. Explain the need as well as issues associated with sustainable forest management (SFM) in India. Also, outline the measures taken to ensure SFM. (250 words)

SOCIAL ISSUES



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6.1 WOMEN

6.1.1 DRAFT NATIONAL MENSTRUAL HYGIENE POLICY, 2023

CONTEXT



Ministry of Health and Family Welfare released the **Draft National Menstrual Hygiene Policy, 2023**. It recognizes menstruation as a natural bodily process for all who menstruate and aims to provide comprehensive support throughout the menstrual journey with special focus on **underserved and vulnerable populations**.

ANALYSIS



Need for a Menstrual Hygiene Policy

- ▶ **Health & Well-being:** Prevents reproductive tract infections and other health issues.
- ▶ **Education:** 23 million girls drop out annually due to lack of proper facilities. (2014 report by an NGO)
- ▶ **Gender Equality:** Safeguards women's dignity, privacy, bodily integrity, and self-efficacy.
- ▶ **Work Participation:** Access to sanitary products and menstrual leave promotes women's participation in work.
- ▶ **Environment:** Sustainable products and improved disposal practices benefit the environment.
- ▶ **Dignity & Respect:** Policies address discrimination against women during menstruation such as denial of entry into temples and shrines.

Challenges to Menstrual Hygiene

- ▶ **Social Stigma:** Segregation practices in remote areas due to taboos and belief such as menstrual blood is impure.
- ▶ **Poverty Limits Access:** Inability to afford menstrual hygiene products.
- ▶ **Waste Management:** Lack of proper guidelines and producer responsibility.
- ▶ **Work Environment:** Limited access to washrooms and cost-effective products.
- ▶ **No National Menstrual Leave:** Only Kerala and Bihar have such policies.

Conclusion

Draft Menstrual hygiene policy has the potential to contribute significantly to the creation of a society where menstruation is understood, accepted, and managed without barriers or discrimination.

BRIEF BACKGROUND

Status of Menstrual Hygiene

- ▶ **78% of women aged 15-24 years** use hygienic menstrual protection.
- ▶ **73% of rural women while 90% urban women** use a hygienic method of menstrual protection.
- ▶ **Bihar (59.7%) has lowest percentage of girls** using a hygienic method of menstrual protection.

Policy strategy

- ▶ Ensuring **access to affordable and safe** menstrual hygiene products.
- ▶ Promote **Quality Standards and Regulatory Framework**.
- ▶ **Availability of Clean and Dignified Menstrual Hygiene Facilities** in homes, educational institutions, and public spaces.
- ▶ Promotion of **education and awareness of menstrual hygiene**.
- ▶ **Collaboration with the Non-Government Sector/ Engagement with the private sector** for research and development, bringing innovation, developing distribution channels, etc.
- ▶ **Integrate principles of menstrual hygiene into existing health, education, sanitation, gender, and environment programs**.
- ▶ **Foster research and innovation** in menstrual hygiene management.

Current programs for menstrual hygiene management

- ▶ **Menstrual Hygiene Scheme (2011)** – For distribution of low-cost sanitary napkins in communities through ASHAs.
- ▶ **Swachha Bharat Mission (2014)** – Menstrual hygiene management was included in the Swachha Bharat Mission – Gramin initiatives in 2014.
- ▶ **National Guidelines for Menstrual Hygiene Management (2015)** – Provides a valuable blueprint for all the States to intensify work on the issue of menstrual hygiene management.
- ▶ **Schemes by various states** – “Asmita Yojana” in Maharashtra, “Udaan” in Rajasthan, and “Khushi” in Odisha, schemes, etc.

6.1.2 PRO-LIFE VS. PRO-CHOICE

CONTEXT



Supreme Court recently denied a woman's plea to terminate a 26-week pregnancy noting that there was no immediate threat to the mother and that it was not a case of foetal abnormality. The **judgement sparked Pro-life vs. Pro-Choice debate in India** vis-à-vis the reproductive rights of women.

ANALYSIS



Arguments of Pro-Life

- ▶ **Sanctity of Life:** Abortion is morally wrong as life begins at conception.
- ▶ **Sex Selection:** Legalization of abortion could lead to sex-selective abortions.
- ▶ **Support for Parents:** Social and familial support should be the solution, not abortion.
- ▶ **Religious and Moral Beliefs:** Some religions and individuals view abortion as morally unacceptable.
- ▶ **Foetal Viability:** Advancements in technology show early viability, raising ethical concerns.

Arguments of Pro-Choice

- ▶ **Bodily Autonomy:** Abortion bans deny women control over their own bodies and reproductive rights.
- ▶ **Mental Health:** Forced pregnancy can harm mental health of parent(s) and child upbringing.
- ▶ **Exceptions:** Abortion should be allowed in cases of rape, incest, or danger to the mother's life.
- ▶ **Family Planning:** Women's choice on pregnancy can address overpopulation.
- ▶ **Social Impact:** Unwanted pregnancies can lead to broken homes due to financial hardship, etc.

Pro-Life vs. Pro-Choice Debate in India

- ▶ Abortion under MTP Act, 1971, **is a qualified right** and can't be performed solely on woman's request.
- ▶ The judiciary adopted **careful, compassionate, and nuanced considerations** respecting the women's autonomy while considering unborn child's welfare.
- ▶ Further, the SC also noted that **medical practitioners should refrain from imposing extra-legal conditions** for abortion.

Way Forward

- ▶ **Sex education:** Age-appropriate education on relationships, fertility, and sex.
- ▶ **Reproductive healthcare:** Access **to comprehensive healthcare for all to ensure that every child is wanted, every birth is safe, and every girl and woman is treated with dignity.**
- ▶ **Workplace:** Equal pay for equal work regardless of gender, better paid parental leave, subsidized childcare, etc., can also help reduce the cases of abortions.

BRIEF BACKGROUND

Pro-Life	Pro-Choice
Pro-Life supporters demand that society should support the ability of women to give birth and provide life and no woman should be driven to have an abortion.	Pro-choice stance believes that women have the basic human right to decide when and whether to have children.

- ▶ **Medical Termination of Pregnancy (MTP) (Amendment) Act, 2021**
 - ▶ It allows termination of pregnancy in following cases:
 - ◊ **Up to 20 weeks:** Available to all on advice of single medical practitioner (MP).
 - ◊ **Between 20 and 24 weeks:** Only in specific cases subject to advice of two MPs.
 - ◊ **Beyond 24 weeks:** Only on grounds of substantial foetal abnormalities on the advice of a **medical board**.
- ▶ In India, carrying out abortion is illegal under section 312 and 313 of Indian Penal code, unless it is performed in a manner prescribed under the MTP Act.
- ▶ In 2022, the Supreme Court (SC) of India ruled that for the **sole purpose of the MTP Act, meaning of rape must include marital rape.**
- ▶ SC also extended the **right to safe and legal abortion up to 24 weeks to unmarried and single women.**

6.1.3 SURROGACY IN INDIA

CONTEXT

- ▶ Supreme Court in the **Arun Muthuvel vs. Union of India case (2023)** protected women's right to parenthood and struck down the 2023 amendment to Surrogacy (Regulation) Rules, 2022.
- ▶ 2023 amendment mandated that both male and female gametes (sperm and egg respectively) must come from intending couples for the process of surrogacy.
- ▶ In this case, woman was suffering from **Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome**. MRKH syndrome is a rare congenital disorder which causes absolute uterine factor infertility affecting female reproductive system.

ANALYSIS

Supreme Court observations in Arun Muthuvel V. Union of India Case

- ▶ Court **stayed the operation of Rule 7 of the Surrogacy (Regulation) Rules, 2022**, to allow a woman undergo surrogacy using donor egg.
 - **Rule 7 [as amended by Surrogacy (Regulation) Amendment Rules, 2023] banned the use of donor gametes for surrogacy.**
- ▶ Court observed **2023 amendment contradicts Rule 14(a) of Surrogacy (Regulation) Rules, 2022**, which recognised absence of uterus or any allied condition as a medical **Indication necessitating gestational surrogacy**.
- ▶ The Court also noted that **law permitting gestational surrogacy is "woman-centric"** and decision to have a surrogate child should entirely be based on the **woman's inability to become a mother**.
 - However, the Court was of the view that before deciding the matter, it **must obtain appropriate medical opinion from concerned District Medical Board**.

Challenges associated with Surrogacy Regulation Ecosystem

- ▶ **Lack of re-course: No specified process to review or appeal** if surrogacy applications are rejected.
- ▶ **Conflicting laws:** Contradictions between Surrogacy Act and ICMR guidelines regarding storage of embryos and gametes.
- ▶ **Ambiguity: Lack of clarity** as to who constitutes as close relatives to be surrogate mother.
- ▶ **Privacy concerns: Lack of standard procedure to ensure the privacy of the intending couple and surrogate.**
- ▶ **Lack of clarity in infertility definition:** Surrogacy Act's infertility definition excludes cases like inability to carry for 9 months or presence of multiple fibroids.

Way forward

- ▶ **Awareness:** Educate surrogate mothers about their rights, risks, and rare complications to obtain informed consent.
- ▶ **Clear Definitions:** Objectively define terms like "close relatives" and "infertility" for clarity.
- ▶ **Grievance Redress:** Establish an institutional mechanism for appeal and grievance redress to review surrogacy applications.

BRIEF BACKGROUND

Surrogacy

- ▶ Surrogacy is a practice whereby one woman bears and gives birth to a child for an intending couple.

Surrogacy Laws in India

- ▶ **Surrogacy (Regulation) Act, 2021**
 - **Only altruistic surrogacy is allowed** and penalises commercial surrogacy.
 - Establishes **National Assisted Reproductive Technology and Surrogacy Board (NARTSB)**.
 - **Eligibility criteria for surrogate mother:**
 - ◊ **A married woman (between 25-35 years)** having a child of her own;
 - ◊ **A surrogate only once in her lifetime and possess a certificate of medical and psychological fitness.**
 - **Eligibility criteria for intending couples:**
 - ◊ **married for five years, wife is aged between 25-50 years** and husband between **26-55 years**.
 - ◊ **must not have any living child** (biological, adopted or surrogate).
 - ◊ should have **'essential' certificate** of proven infertility of either partner, and an **order of parentage and custody of the surrogate child**, as prescribed.
 - ◊ **Insurance coverage for 16 months for the surrogate mother**, covering any postpartum complications.
 - **Abortion of surrogate child** requires **written consent of surrogate mother and authorisation of appropriate authority in compliance with Medical Termination of Pregnancy Act, 1971.**
- ▶ **Assisted Reproductive Technology (Regulation) Act, 2021 (ART Act)**
 - **Regulates and supervises ART clinics and banks**, to ensure safe and ethical practice of ART services.
 - Includes **treatment of surrogacy and protects the rights of surrogate mothers.**
- ▶ **Surrogacy (Regulation) Rules, 2022:**
 - **Number of attempts** of any surrogacy procedure on surrogate mother shall **not be more than 3 times**.
 - Intending woman or couple shall purchase **general health insurance coverage** in favour of surrogate mother for a period of **36 months**.

6.1.4 WOMEN'S BASIC INCOME

CONTEXT





Tamil Nadu launched the Kalaingar Magalir Urimai Thogai (Women's Basic Income) scheme. This scheme will provide a monthly stipend of Rs 1,000 for eligible women. Other states like **Karnataka, Madhya Pradesh, and Punjab** have similar schemes for women.

ANALYSIS



- ▶ As per the Economic Survey 2016–17, a Universal Basic Income (UBI) for women has large multiplier effects on the household.
- ▶ UBI has three components: universality, unconditionality, and agency (by providing support in the form of cash transfers to respect, not dictate, recipients' choices).

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



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6.2 CHILDREN

6.2.1 CHILD SEXUAL ABUSE MATERIAL (CSAM)

CONTEXT



Ministry of Electronics and Information Technology (MeitY) issued notices to social media platforms to **remove Child Sexual Abuse Material (CSAM)** from their platforms in India.

MeitY has warned the social media intermediaries that any delay in complying with the notices will result in the withdrawal of their safe harbour protection.

ANALYSIS



Impact of CSAM on Survivors

- ▶ **Guilt & Shame:** Survivors may blame themselves and feel guilty.
- ▶ **Mental Health:** Exposure to CSAM can lead to anxiety, depression, and Post traumatic stress disorder.
- ▶ **Social Isolation:** It can cause low self-esteem, hinder relationships, and worsen isolation.
- ▶ **Substance Abuse:** Survivors may turn to alcohol and substances.
- ▶ **Disease Burden:** CSAM can contribute to Sexually Transmitted Infections, HIV, and other health issues (unintended pregnancies, etc.).

Measures taken to curb CSAM

- ▶ **Information Technology (IT) Act, 2000:** Imposes stringent penalties and fines for online transmission of obscene or pornographic content including CSAM.
- ▶ **Protection of Children against Sexual Offences (POCSO) Act, 2012:** It provides protection to all children under the age of 18 years from offences of sexual assault, sexual harassment, and pornography.
- ▶ **Online Child Sexual Abuse and Exploitation (OCSAE) Prevention/Investigation Unit** set up by CBI.
- ▶ **'Cyber Crime Prevention against Women and Children (CCPWC)'**, for awareness under **Nirbhaya Fund**.
- ▶ **Digital Personal Data Protection Act, 2023:** Mandates verifiable parental consent for processing children's data and restricts tracking/ monitoring of children or targeting ads at them.
- ▶ **Initiatives by Social Platforms:** YouTube uses an **automatic tool called Child Sexual Abuse Imagery (CSAI) Match** to proactively weed out CSAM.

Challenges in Countering CSAM

- ▶ **Limited Awareness:** Few people know about CSAM reporting platforms.
- ▶ **Balancing Privacy and Safety of Children**
- ▶ **Anonymity:** Fake accounts make it difficult to identify and prosecute perpetrators and viewers.
- ▶ **Digital Age:** Online learning and apps increase vulnerability to CSAM.

Way forward

- ▶ **Regulation:** Social media platforms must implement proactive content moderation algorithms and effective Reporting mechanisms.
 - ▶ Develop a National Framework for Child Online Safety to recognize the importance of safe physical and online environments.
- ▶ **Targeting online abusers:** Identify and combat online grooming and preparatory behaviour.
- ▶ **Awareness:** Undertake nationwide campaign through mass media and integrate OCSAE modules into education curricula.
- ▶ **Collaboration:** Explore partnerships with countries like Australia that have robust mechanisms to address OCSAE.
- ▶ **Child Protection:** Develop enhanced online safety measures specifically for children.

BRIEF BACKGROUND

About Child sexual abuse material (CSAM)

- ▶ **CSAM** refers to any content that depicts sexually explicit activities involving a child.
 - ▶ **CSAM are part of Online Child Sexual Abuse and Exploitation (OCSAE)** that incorporates activities such as luring children into sexual chats, production, and distribution of child CSAM, live streaming sexual assault of minors etc.
 - ▶ Globally, it is estimated that **up to 1 billion children aged 2–17 years, have experienced physical, sexual, or emotional violence.**
- ▶ **Information Technology (Intermediary Liability Guidelines and Digital Media Ethics Code) Rules, 2021** under the IT Act 2000 lays down strict expectations from social media intermediaries that they should **not allow criminal or harmful posts like CSAM on their platforms.**

6.2.2 AGE OF CONSENT

CONTEXT

22nd Law Commission in its 283rd report advised that the age of consent should be not reduced from 18 to 16 years.

Law Commission received a reference to consider the reducing age of consent from 18 to 16 under the **Protection of Children from Sexual Offenses (POCSO) Act, 2012**.

ANALYSIS

Arguments for Reducing Age of Consent

- ▶ **Rising POCSO cases:** Girls' parents filing cases against boys in romantic relationships to pressure them, leading to injustice for boys.
- ▶ **Early maturity:** social media and internet access accelerate puberty, making children mature enough for responsible decision-making.
- ▶ **Sexual autonomy:** Recognize the right to consensual sexual activity while protecting individuals from unwanted aggression.
- ▶ **Global age of consent:** Lower consent age in many countries, like Germany (14), England & Wales (16), highlighting the need for review in India.

Arguments against Reducing the Age of Consent

- ▶ **Immaturity:** Adolescents lack maturity to make informed decisions about sexual activity.
- ▶ **Marriage Tie-in:** Age of consent and marriage are intricately linked in India's social context.
- ▶ **Exploitation Risk:** Lower age of consent could facilitate child exploitation, trafficking, and forced marriage.
- ▶ **Health & Wellbeing:** Early marriage and pregnancy negatively impact the health of children and their potential offspring.

Recommendations of Law Commission

- ▶ **Lesser sentences for intimate relationships:** Court can reduce punishments for intimate relationships with a child if the age difference is less than 3 years, there's consent, and the accused has a clean record.
- ▶ **Cases involving 16–18-year-olds under the POCSO Act:** Can be handled by the Juvenile Justice Board.
 - ▶ **Alternatives to imprisonment:** The Commission recommends alternative punishments for young offenders like community service, counselling, and probation instead of prison.
- ▶ **Comprehensive sex education:** Spread awareness about sex, consequences of early engagement, contraception, safe sex, and POCSO Act.

BRIEF BACKGROUND

Age of consent

- ▶ **Age of consent** is defined as the age at which one is considered legally competent to consent for sexual activity.
- ▶ POCSO Act fixed the age of being categorised as a child at 18 years, thus making it the default "age of consent".

Age of consent under the IPC

- ▶ In line with the POCSO Act, Section 375 of the IPC was **amended in 2013 to raise the age of consent to 18**.
- ▶ However, there is an exception for a man having **intercourse with his wife not under the age of 15 years**.
- ▶ This is **contradictory to the provisions of the POCSO Act**.
 - ▶ In the case of **Independent Thought vs Union of India**, Supreme Court read down this exception.



6.3 OTHER VULNERABLE SECTIONS

6.3.1 SUPREME COURT JUDGMENT ON LGBTQIA+ RIGHTS

CONTEXT





- ▶ Supreme Court (SC) in **Supriyo @ Supriya Chakraborty vs Union of India case** unanimously refused to accord legal recognition to marriages between persons of the same sex and left it for the legislature and executive to decide, citing them being **matters of policy**.
- ▶ While all five judges **acknowledged the need to eliminate discrimination against same-sex couples, they did not unanimously agree on granting queer couples** the designation of a legally recognized "civil union."
 - Civil Union is basically a halfway approach between non-recognition and full recognition to homosexual marriages.

ANALYSIS



LGBTQIA+ rights: Court verdict

 Issues	 Court Verdict
The right of transgender persons to marry	<ul style="list-style-type: none"> ▶ Unanimously held that there is no fundamental right to marry in India. ▶ Transgender persons in heterosexual relationships have a right to marry under existing framework.
Right to enter a Civil Union for queer couple	<ul style="list-style-type: none"> ▶ Court cannot prescribe a choice of civil unions to queer couples. ▶ Government is not obligated to recognize the bouquet of rights flowing from such a Union.
Interpretation of Special Marriage Act (SMA)	<ul style="list-style-type: none"> ▶ Court declined to invalidate or interpret the SMA in a gender-neutral manner and left it for the legislative domain.
Adoption rights for non-heterosexual couples	<ul style="list-style-type: none"> ▶ Upheld the restriction imposed by the under the CARA guidelines. ▶ Striking down rules may have deleterious, "disastrous" and "anomalous outcome".

Other key Highlights of the Judgment

- ▶ **Courts limit the question to secular laws:** During the hearings, the bench expressed that it would confine the issue only to the Special Marriage Act and would not touch personal laws.
 - If the court were to interpret Hindu Marriage Act, 1955 to include LGBTQIA+ marriages, the SC would also have to consider the bundle of rights dealing with adoption, guardianship and inheritance available to heterosexual couples.
- ▶ **Judicial restraint:** Judgement signifies judicial restraint wherein court refrained from taking on role of legislature or executive.
- ▶ **Future discussions paved:** The judgment's observations and dissenting opinions may guide future discussions on LGBTQIA+ rights.
- ▶ **Prevention of discrimination:** Court also directed the government and police to prevent discrimination against the queer community.

Conclusion

Though the judgement came as a setback for LGBTQIA+ rights, the assurance by the Union Government to constitute a **committee under the chairmanship of the Cabinet Secretary** gives a ray of hope in the struggle for equality.

6.3.2 TRIBAL WELFARE

CONTEXT

- ▶ On Janjatiya Gaurav Divas (Tribal Pride Day), government launched PM JANMAN, a mission dedicated to improve the lives of tribal communities.
- ▶ The occasion also coincided with the launch of the nationwide 'Viksit Bharat Sankalp Yatra', aiming to reach communities, raise awareness, and deliver welfare benefits.

ANALYSIS

Challenges faced by Tribal people

- ▶ **Erosion of identity:** Traditional systems clash with modern ones, e.g. Extinction of tribal dialect.
- ▶ **Forced displacement:** Development, disasters, and conflict displace tribals from their lands.
- ▶ **Low literacy:** Poverty, infrastructure, and language barriers limit education for tribals.
 - The literacy rate among STs is just 59% which is 73% among the general population. (Census 2011).
- ▶ **Triple health burden:** Malnutrition and communicable diseases, non-communicable diseases, and **mental illness and addiction** plague tribal communities.
- ▶ **Debt bondage:** Poverty, weak laws, and limited employment trap tribals in debt-slavery.
- ▶ **Climate vulnerability:** Close connection to nature exposes tribals to climate change impacts.
- ▶ **Marginalization & discrimination:** Social exclusion limits access to education, healthcare, and jobs.

Way Forward

- ▶ **Identify and assess PVTG vulnerabilities:** Conduct a special census to assess health, education, and nutrition, and objectively assess their debt levels.
- ▶ **Rights-based development:** Implement policies protecting and promoting tribal rights, including requiring free, prior, and informed consent for any development on their land.
- ▶ **Participatory governance:** Integrate PVTGs into existing governance structures and programs, while strengthening their traditional institutions and systems.
- ▶ **Culturally sensitive services:** Develop preventive and curative healthcare systems considering ecological and cultural aspects.
 - **Relevant education:** Develop locally relevant, culturally sensitive education curricula in tribal languages.



Read From Essential Material

Our Pasts II: Chapter 7 – Tribes, Nomads And Settled Communities

BRIEF BACKGROUND

About PM JANMAN

- ▶ Pradhan Mantri PVTG Development Mission was announced in the Union Budget 2023–24.
- ▶ It comprises of 11 critical interventions through 9 ministries with an estimated outlay of ₹24104 crore for 3 years.
- ▶ The mission aims to saturate PVTG households and habitations with basic facilities such as safe housing, clean drinking water and sanitation, improved access to education, health, and nutrition, etc.
 - In addition, saturation will be ensured for Sickle Cell Disease Elimination, TB Elimination, 100% immunization, PM Surakshit Matritva Yojana, PM Matru Vandana Yojana, PM Poshan, etc.

Particularly Vulnerable Tribal Groups (PVTGs)

- ▶ These are centrally recognized special category from among the Scheduled Tribes (STs).
- ▶ First recognized in 1973 as Primitive Tribal Groups (PTGs) based on recommendations of the U N Dhebar Commission (1961).
- ▶ In 2006, the Government of India renamed the PTGs as PVTGs.
- ▶ **Criteria for identifying PVTGs:**
 - Pre-agricultural level of technology
 - Low level of literacy
 - Economic backwardness
 - A declining or stagnant population
- ▶ Currently, there are 75 PVTGs spread over 18 states and the Union Territory of Andaman and Nicobar Islands.
- ▶ Odisha houses highest number (13) of PVTGs in India.

Measures taken for tribal welfare

- ▶ **Constitutional measures:** Article 342 (Notification of STs); Article 244: (Administration of Scheduled Areas and Tribes of the States (Schedule V)); Article 275 (Grant of special funds for promoting the welfare of STs).
- ▶ **Legislative measures:** Panchayat (Extension to Scheduled Areas) Act, 1996, Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, SC/ST (Prevention of Atrocities) Act, 1989.
- ▶ **Government schemes:** Eklavya Model Residential School (EMRS), Pradhan Mantri Adi Adarsh Gram Yojna (PMAAGY), Pradhan Mantri Jan Jatiya Vikas Mission (PMJVM).

6.4 HEALTH

6.4.1 UNIVERSAL HEALTH COVERAGE

CONTEXT



Report 'Tracking Universal Health Coverage (UHC): 2023 Global Monitoring' was jointly released by World Health Organization and World Bank to analyse progress towards UHC using two Sustainable Development Goals (SDGs) indicators i.e.

- ▶ **UHC Service Coverage Index** that covers **essential health services** (SDG 3.8.1).
- ▶ **Out-of-Pocket Health Expenditure** measuring **catastrophic health spending** (SDG 3.8.2).

ANALYSIS



Importance of Universal Health Coverage

- ▶ **Maximizing human capital** through **health investments** (vital for child education and adult productivity), promotes economic growth.
- ▶ Well-functioning healthcare infrastructure **increases demand for skilled jobs**.
- ▶ Helps in **achieving SDG 3** (Good Health and Well-being).
- ▶ **Reduce social barriers** to care, distribution of health resources, and **empowers patients** in decision-making.

Challenges in achieving Universal Health Coverage

- ▶ **Low Healthcare spending:** In Economic Survey 2022-23, **healthcare expenditure** by central and state governments' **increased marginally** from 1.6% in FY21 to 2.1% of GDP in FY23.
- ▶ **Lack of financial protection:** As per NITI Aayog, **at least 30% of population** lacks financial health protection due to existing coverage gaps and schemes overlap.
- ▶ **High out-of-pocket expenditure (OOPE):** India's OOPE as a percent of current health spending is 47.1% in 2019-20, significantly **above global average of 18%**.
- ▶ **Inequitable access** among rural communities like **lack of qualified medical professionals**, limited infrastructure, financial barriers in treatment etc.
 - ▶ As per Lancet publication (2023), **only 16% of Tamil Nādu district hospitals provide core health services**, while in Assam, Punjab, MP, Mizoram, and UP, it's only 1%.
- ▶ **Lack of medical manpower** including doctors, nurses, and paramedical staff, impacts delivery of healthcare services.

Way forward

- ▶ **Recommendations from report**
 - ▶ Adopting **primary healthcare approach** can improve health systems and accelerate progress toward UHC.
 - ▶ **Expansion of essential services**, especially for Non-Communicable Diseases.
 - ▶ Removing financial barriers e.g., issues of **indirect costs** and **co-payments** in healthcare.
- ▶ **Increase public spending** by government to around 5.2% i.e., average health spending of Lower- and Middle-Income Countries.

BRIEF BACKGROUND

Universal Health Coverage (UHC)

- ▶ **UHC** means that **all people have access to a full range of quality health services without financial hardship**.
 - ▶ It covers the **full continuum of essential health services**, from health promotion to prevention, treatment, rehabilitation and palliative care.

Key dimensions of UHC

- ▶ **Access to health services:** Everyone who needs services should get them, not only those who can pay for them.
- ▶ **Financial risk protection:** People should not fall into debt paying for treatment and care.
- ▶ **Quality of services:** Services should be adequate and effective.

Initiatives taken to achieve Universal Health Coverage

- ▶ **Ayushman Bharat Yojana** undertakes interventions to address health at primary, secondary and tertiary level.
- ▶ **Ayushman Bharat Digital Mission** improves equitable access to quality healthcare by encouraging use of technologies.
- ▶ **National Health Policy 2017** aims at achieving UHC and delivering quality healthcare services to all at affordable cost.
- ▶ **Intensified Mission Indradhanush** focusses on reaching **zero-dose children aged between 0 -5 years** and pregnant women who might have missed any vaccine doses in national immunisation schedule.

- ▶ **Address structural issues within healthcare delivery system** like lack of medical supplies and healthcare workers; irrational treatments etc. by engaging private sector, expanding medical seats, etc.
- ▶ **Collaborative mechanism** should be adopted by central government for **flexible policy-making, and differential financing, to empower states in developing health plans.**

6.4.2. GLOBAL HUNGER INDEX (GHI)

CONTEXT



GHI 2023 is released by **Concern Worldwide and Welt Hunger Hilfe**, Non-Government Organisations from Ireland and Germany respectively which highlighted that

- ▶ India is **ranked 111th** among 125 countries with **GHI score of 28.7** and is categorized as **Serious on GHI Severity of Hunger Scale.**
- ▶ **South Asia and Africa South of the Sahara** regions with **highest hunger levels**, with GHI scores of 27.0 each.

ANALYSIS



Issues raised by government of India on GHI

- ▶ **Methodological:** Three out of four indicators are related to health of Children and cannot be representative of entire population.
 - Child stunting, wasting and under-5 mortality are **outcomes of complex interactions of various other factors** like drinking water, sanitation, genetics, etc. apart from hunger.
- ▶ **Small sample size:** Indicator of **Proportion of Undernourished (PoU) population** is based on **opinion poll** conducted on a **very small sample size.**
- ▶ **Use of data:** Government **questions use of data for child wasting from NFHS 5** instead of Poshan Tracker which showed child wasting prevalence of 7.2% among total of 7.24 crore under-five-year-olds.

Government initiatives to address hunger in India

- ▶ **National Food Security Act (NFSA), 2013** recognizes the right to food as a statutory right.
- ▶ **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** provide food grains free of costs to **80 crore poor.**

- ▶ **Pradhan Mantri Matri Vandana Yojna:** Registered women were provided Rs 5000/- on birth of their first child for wage support and nutritious food during pregnancy and post-delivery period.
- ▶ **POSHAN Abhiyan (National Nutrition Mission)** to achieve improvement in key nutrition parameters for children and women.
- ▶ **POSHAN Tracker** is a real-time monitoring system that enables authorities to track progress and identify gaps in supply chain of service delivery.
- ▶ **Eat Right Movement** transforms the country's food system to ensure safe, healthy and sustainable food.

Conclusion

Despite GHI imperfections, India must address its malnutrition issue. While government initiatives target nutrition, a nuanced comprehension of diverse factors is vital for effective policies combating hunger and malnutrition.

BRIEF BACKGROUND

Global Hunger Index (GHI)

- ▶ GHI is a tool for comprehensively measuring and **tracking hunger at global, regional, and national levels.** GHI scores are based on the **values of four component indicators i.e.** (1/3 Undernourishment + 1/6 Child stunting + 1/6 Child wasting + 1/3 Child mortality = GHI Scores)
 - **Undernourishment:** Share of **population with insufficient caloric intake.**
 - **Child stunting:** Share of children under age five who have **low height for their age**, reflecting **chronic undernutrition.**
 - **Child wasting:** Share of children under age five who have **low weight for their height**, reflecting acute undernutrition.
 - **Child mortality:** Share of children who **die before their fifth birthday**, partly reflecting fatal mix of inadequate nutrition and unhealthy environments.
- ▶ GHI Severity of Hunger Scale: **Extremely Alarming** (GHI ≤ 50.0); **Alarming** (GHI 35-49.9); **Serious** (GHI 20-34.9); **Moderate** (GHI 10-19.9); **Low** (GHI ≤ 9.9).

6.5 EDUCATION

6.5.1 DRAFT GUIDELINES FOR SCHOOLS TO PREVENT SUICIDE

CONTEXT



Ministry of Education (MoE) released draft guidelines titled **UMMEED (Understand, Motivate, Manage, Empathise, Empower, Develop)** serve as “directions to schools for enhancing sensitivity, understanding, and providing support in case of reported self-harm”.

▶ ‘Every Child Matters’ is the underlying belief in developing the guidelines for prevention of suicide.

ANALYSIS



- ▶ Suicide is a complex interplay of personal and social factors, which is rarely caused by a single circumstance or event.
 - ▶ **Mental Healthcare Act 2017, decriminalized suicide** in India.
- ▶ **Factors influencing suicides**
 - ▶ **Individual: Adverse childhood experiences** (abuse, violence, etc.); Addiction to social media, substance use, etc.; internal pressure to perform well in life, etc.
 - ▶ **School: Lack of positive relationships** with peers/teachers, bullying, humiliation, isolation, etc.; Absence of school-family connect; Academic pressure from school, etc.
 - ▶ **Family:** Conflict and instability (divorce, financial hardships etc.); Parental neglect/ abuse; Pressuring students into preparing for competitive examinations, etc.
 - ▶ **Community and Society:** Stigma associated with mental illness; Sensationalized and insensitive reporting of suicide cases in media, etc.
- ▶ **Actions towards prevention of suicide**
 - ▶ **Setting up of School Wellness Team** under the leadership of the school Principal
 - ▶ **Building capacity** for different stakeholders
 - ▶ **Promoting a Positive School Environment** by integrating mental well-being into school functioning
 - ▶ **Responding immediately** and supporting students at risk



6.5.2 REGULATION OF FHEIS IN INDIA

CONTEXT



UGC (Setting up and Operation of Campuses of Foreign Higher Educational Institutions (FHEIs) in India) Regulations, 2023 Notified.

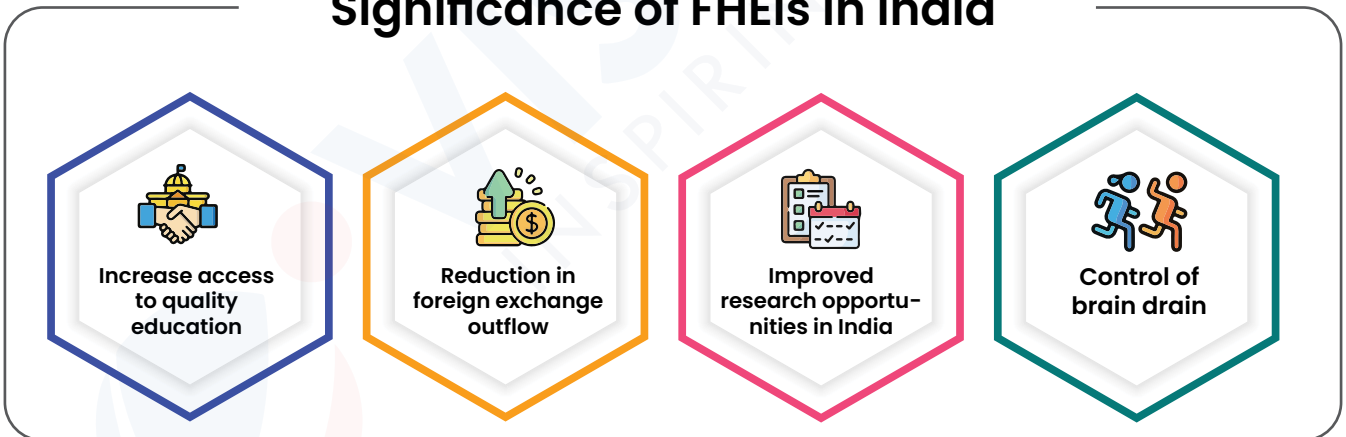
ANALYSIS



UGC Regulations for FHEIs

- ▶ University Grants Commission (UGC) regulation aims to facilitate the entry of FHEIs into India, in line with the recommendations of the National Education Policy (NEP) 2020.
- ▶ **Key highlights of regulations:**
 - **Approval:** FHEIs require **UGC's approval** before the establishment of Indian campuses, offer any programme, and discontinue any course or programme.
 - ◊ Not allowed to offer programmes which are contrary to the standards of higher education in India.
 - **Eligibility:** FHEIs ranked within the **top 500 in global rankings** either in the **overall category or in the subject-wise category** or possessing outstanding expertise in a particular area.
 - **Qualifications:** Qualifications awarded and quality of education in Indian campuses shall be equivalent to those awarded in their home jurisdiction.
 - ◊ FHEIs cannot offer programmes online or in open and distance learning modes.
 - **Autonomy:** Allowed to decide on admission process and criteria, recruit faculty and staff, and decide on a transparent and reasonable fee structure.
 - **Restrictions:** FHEIs' Operation shall not be contrary to the sovereignty and integrity of India, security of the State, friendly relations with foreign States, public order, decency, or morality.
 - ◊ For receiving donations from foreign sources, FHEIs require prior permission from the Central Government.

Significance of FHEIs in India



6.6 DEVELOPMENT ISSUES

6.6.1. CASTE CENSUS

CONTEXT

State government of Bihar recently released a report on caste survey conducted in state, after a resolution passed by state legislature for the same

ANALYSIS

Arguments for Caste Census

- ▶ **Constitutional mandate:** Article 340 mandates the appointment of a commission to investigate conditions of socially and educationally backward classes.
- ▶ **Social justice and reforms in reservation policy:** It facilitates government in **determining the inclusion of new castes and graduation of creamy layers.**
 - Caste data facilitates **fair distribution of reservation benefits** through 'quota-within-quota' system.
- ▶ **Formulation of more informed and evidence-based policy making** to cater to needs and demands of underprivileged and downtrodden.
- ▶ **Fostering diversity:** It helps in **monitoring caste representation in elected bodies and Civil services**, thereby promoting inclusivity.
- ▶ **Judicial requirement:** In Indra Sawhney case, SC held that States must conclude "backwardness" of particular class of people only after assessment and objective evaluation.
 - SC also held that such conclusion must be subject to **periodic review** by permanent body of experts.
- ▶ **Annihilation of caste:** To abolish caste, it is essential to first abolish caste-derived privileges. This requires state to initially map castes and their socio-economic status privileges/deprivations.

Arguments against caste census

- ▶ **Constitutional provisions:** Constitutions speak of backward classes and not backward castes.
 - Word caste is used in constitution **only in relation to scheduled castes.**
- ▶ **Difficulties in data enumeration** due to thousands of castes and sub-castes, complications of **inter-caste marriages, hypergamy, migration**, etc.
- ▶ **Potential for Political Misuse:** Caste data could be **exploited for political purposes, including vote bank politics** and identity-based mobilization.
- ▶ **Rise in demand for reservations** in jobs and educational institutions from various communities.
- ▶ **Risk of Resentment** among different groups may exacerbate inter-caste tensions and **hinder efforts toward building a more inclusive** and harmonious society.



Read From Essential Material

Chapter "Gender, Religion and Caste" of Class 10 - Democratic Politics-II NCERT

BRIEF BACKGROUND

Census in India

- ▶ Census is a **Union subject** (entry 69 of union list under **Schedule VII**) under **Article 246** of constitution.
- ▶ **Census Act, 1948** provides a plan for conducting population census along with duties and responsibilities of census officers.
- ▶ **Registrar General and Census Commissioner of India**, under **Ministry of Home Affairs** is entrusted with responsibility to conduct decadal census.
 - Later, this office was also entrusted with task of implementation of **Birth and Death Registration Act, 1969.**

History of Caste census in India

- ▶ **1881:** Caste-wise enumeration of population was **introduced under British colonial administration and continued till 1931 census.**
- ▶ **1941:** caste-based data was **collected but not published.**
 - **2011:** Socio-Economic and Caste Census (SECC) was conducted.
 - **2016:** **SECC data, excluding caste data**, was finalized and published.
 - **2021:** Central Government, in an affidavit submitted to SC, stated that caste/tribe data derived from SECC 2011 is deemed "defective" and "not suitable for use".

Way Forward

- ▶ **Create political consensus:** Decisions on issues of socio-political concern should be taken through broad political consensus.
- ▶ **Inclusive Consultations:** To ensure unbiased enumeration process, it requires involving stakeholders like community leaders, experts, social scientists, and research institutions in the planning and execution of caste census.
- ▶ **Identify caste and subcaste:** A preliminary socio-anthropological study can be done at State and district levels to establish all sects and sub-castes present in the population.
- ▶ **Use of technology** such as **Artificial Intelligence, Big Data Analytics**, etc., to analyze and assess caste-based data and **derive meaningful conclusions**.

6.6.2. AGEING POPULATION

CONTEXT



United Nations Population Fund India has released India Ageing Report 2023.

- ▶ The report finds significant interstate variation in absolute levels and growth of the elderly population.
- ▶ Compared to southern and western India, central and north-eastern regions have the younger group of states.

ANALYSIS



Challenges of Ageing Population

- ▶ **Social Issues:**
 - ▶ **Feminization (Women living longer than men) of Ageing:** In old age, women often facing poverty due to widowhood, limited assets, and dependence on family support.
 - ▶ **Ruralization of Ageing:** According to Census 2011, about 71 % of older persons live in rural areas are more vulnerable to income insecurity, inadequate healthcare etc.
 - ▶ **Ageing of aged:** During 2000–2022, total population of country grew by 34 %, while population of 60+ years grew by 103 %.
- ▶ **Economic Burden:** Productivity of nation will **fall along with labour force shortages**, public dissaving, and old-age income insecurity.
- ▶ **More extensive healthcare services and long-term care** are required by elderly, which can strain healthcare system.
- ▶ **Psychological Issues:** Longitudinal Ageing Study in India (LASI) survey finds that incidence of depression was higher among elderly women than men.

Ways to Transform Ageing Population into Opportunity

- ▶ **Promoting Elderly SHGs (ESHGs):** ESHGs should be linked with Livelihood Mission, making them more productive and self-reliant.
- ▶ **Regulating old age homes:** They should be brought under government monitoring, and a regulatory body can be set up for the same. Also, ensuring **ageing in situ (at home) should be a priority**.
- ▶ **Promoting digital literacy among old population** will enhance their productivity and promote their integration into economy.



Read From Essential Material

Human Ecology and Family Sciences Part II:
Chapter 10 – Management of Support Services,
Institutions and Programmes for Children, Youth and
Elderly

BRIEF BACKGROUND

Factors contributing to population ageing



Increasing survival at older ages



Declining fertility



Reduction in mortality

Initiative Taken

- ▶ **Global: Madrid International Plan of Action on Ageing 2002; Sustainable Development Goal 3– Ensuring healthy lives and well-being at all ages; United Nations Decade of Healthy Ageing: 2020–2030.**
- ▶ **India**
 - ▶ **Constitutional: Article 41** mandates well-being of senior citizens.
 - ▶ **Legislative and policies:** Maintenance and Welfare of Senior Citizens Act 2007; Senior Citizens' Welfare Fund 2016 etc.
 - ▶ **Social Security and Welfare Schemes:** Indira Gandhi National Old Age Pension Scheme (IGNOAPS), Pradhan Mantri Vaya Vandana Yojana, Atal Vayo Abhyuday Yojana' (AVYAY) etc.

- ▶ **Awareness Derives** for Senior citizens about various programmes meant for them. As per LASI report, only 12% of elderly are aware of **Maintenance & Welfare Act**.
- ▶ **Other:** Promote Corporate Sector Involvement in Elder Care; **Expand services for the elderly**, including home healthcare, Creche-like facilities or equipped day-care centres, and assisted living facilities etc.

6.6.3 SOCIAL ISOLATION AND LONELINESS

CONTEXT



World Health Organization has declared loneliness a pressing global health threat and has initiated an international commission focused on tackling loneliness.

ANALYSIS



Factors Responsible for Social Isolation and Loneliness

- ▶ **Migration and related issues:** People relocated to different places may feel isolated due to language barriers, financial struggles, and difficulties in adapting to a new culture.
- ▶ **Personality Types:** Individuals with higher levels of conscientiousness and neuroticism are more likely to feel lonely.
- ▶ **Internet or social media addiction** issues can reduce face-to-face interactions, contributing to a sense of isolation.
- ▶ **Extended working hours and limited leisure** time may cause individuals to prefer solitude, leading to isolation.
- ▶ **Professional failures**, comparison and continuous evaluation result in low self-esteem which leads to social isolation.
- ▶ **Challenges faced by Older Adults:** Factors like retirement; loss of touch with colleagues; **empty nest syndrome** (children leave home for education/careers) etc. can intensify loneliness among older parents.
- ▶ **Social Exclusion:** Experiences of exclusion based on gender, race, or other factors can lead to social isolation and loneliness.

BRIEF BACKGROUND

Social isolation

- ▶ **Social isolation** is the lack of relationships with others and little to no social support or contact.
 - ▶ **Loneliness** is feeling of being alone or disconnected from others. It reflects the difference between a person's actual and desired level of connection.
- ▶ **Benefits of more connected communities**
 - ▶ Enjoy significantly **better health outcomes**.
 - ▶ **Lower levels of community violence**.
 - ▶ **Economic Prosperity**.
 - ▶ **Civic Engagement** and Representative Government.
 - ▶ **Natural Hazard** Preparation and Resilience.

Impact of social isolation and loneliness

- ▶ **Health Risks** with about a **50% increased risk of dementia**, **29% increased risk of heart disease** and **32% increased risk of stroke**.
- ▶ **Adoption of unhealthy habits:** Substance abuse, disrupted cycle and poor quality of sleep etc. lead to daytime fatigue, irritability, lack of focus and loss of productivity.
- ▶ **Increased risk of premature deaths** from all causes, which may rival those of **smoking, obesity, and physical inactivity**.
- ▶ **Diminished job satisfaction and performance results** from experiencing a sense of isolation and lack of support in workplace. Loneliness costs US economy an estimated \$406 billion a year.
- ▶ **Poor education outcome:** Young people experiencing loneliness in high school are more likely to drop out of university.

Way Forward to Address Social Isolation and Loneliness

- ▶ **Community level**
 - ▶ Establish an **environment designed to guarantee accessibility to secure, cost-effective physical infrastructure**, encompassing parks and community centres.
 - ▶ **Encourage involvement in social causes** and fulfilling activities like volunteering at old age homes, orphanages, or NGOs.
 - ▶ **Establish non-familial intergenerational support** programs to reduce loneliness and exclusion for older people.
- ▶ **Individual level**
 - ▶ Embrace **personalized programs** like mindfulness and meditation to reprogram the subconscious mind.
 - ▶ **Foster meaningful relationships** and build a support system to combat loneliness.

► **Societal level**

- **Launch educational campaigns** to increase awareness of loneliness and its health implications.
- **Advocate for government policies** that empower schools, workplaces, and community-based organizations to prioritize addressing social isolation and loneliness.
- **Secure public and private funding** to support the development, implementation, and evaluation of loneliness programs.

6.6.4 ACCESSIBILITY IN URBAN INFRASTRUCTURE

CONTEXT



The Chief Commissioner of Persons with Disabilities Court issued landmark judgments, directing government offices with inaccessible premises to **relocate services to the ground floor or another accessible location** within the same facility.

Additionally, the Court urged airlines to strictly adhere to the Rights of Persons with Disabilities Act 2016.

ANALYSIS



Need for Accessible Infrastructure

- **The right to accessibility** is ensured as a **legal right to PwDs** under the **Right of PwD (RPwD) Act 2016**.
- **To provide livelihood opportunities** and avenues for obtaining skills to those persons with disability in need.
- **Differing Needs** range from physical, sensory and mental capabilities and the **accessibility design needs various elements, features and services**.
- Inclusion of PwDs in employment could result in an **increase of 3-7% in GDP** as per ILO.

Challenges in establishing Accessible infrastructure

- **Missed targets** of the Accessible India campaign like only 8.73% of buses were made accessible till 2022 as to target of making 25% of buses accessible by 2018.
- **Allocation of funds for PwDs is meagre** for improving the accessibility aspect of all public infrastructures. **Ministry of Social Justice and Empowerment was allocated only 1,225 crore** (0.027% of the total budget for 2023-24).
- **The slow pace of issue redressal** against the complaints raised regarding the accessibility issues
- **Lack of awareness among PwDs** that claiming for accessibility is their right as per provisions of **RPwD Act, 2016** and not a welfare measure.

Way Forward

- **Introducing accessibility professionals** along with empanelled professionals maintained by municipal authorities and codifying the same in **model building by-laws** and the **National Building Code**.
- **Set up an accessibility committee by Parliament**, to deliver recommendations on making every aspect of the Parliamentary process more disabled-friendly.
- **Incorporating accessibility criteria** in all **central and state-level procurement laws and policies** in public procurement of physical, digital and transport infrastructure.
- **Ensuring that accessibility targets are met** and allocating required funds is mandated to do the same.
- **By not treating accessibility merely as a physical attribute** of the built environment but also to create sensory, cognitive and multi-faceted impact, as per the need of all PwDs accessing them.

BRIEF BACKGROUND

Person with Disabilities in India

- **Nearly 2.21% of the population** have disability in one form or the other as per the last census report (2011)
- Office of the Chief Commissioner for Persons with Disabilities was set up under Section 57 of The Persons with Disabilities Act, 1995.
 - The office has been **mandated to take steps to safeguard the rights of persons with disabilities**.

Government initiatives for making infrastructures accessible

- **Accessible India Campaign (Sugamya Bharat Abhiyan)** makes a barrier-free and conducive environment for PwDs all over country.
- **Harmonised Guidelines and Space Standards for Barrier Free Built Environment for PwDs and Elderly Persons, issued by Ministry of Housing and Urban Affairs in 2017.**
- **Sugamya Bharat app** enables persons with disabilities to report any building that is inaccessible.
- **ICT Ecosystem (Websites)** –Nearly 603 Central and State/UT government websites have been made accessible for visually impaired through assistive technologies like screen readers.
 - **Bureau of Indian Standards** has set **two standards for digital offerings** in websites, applications, information and communication technology-based public facilities and services meant for everyday use for PwDs.

6.7 MISCELLANEOUS

6.7.1 YOUTH LED DEVELOPMENT

CONTEXT

Mera Yuva Bharat (MY Bharat, an initiative of the Ministry of Youth Affairs & Sports) platform has been launched for youth on National Unity Day.



ANALYSIS



Why does India need to focus on youth?

- ▶ **To reap the demographic dividend**
- ▶ **Political engagement:** To increase youth's participation in policymaking and its implementation as they have emerged as strong voices in the form of civil society groups or non-profit organisations.
- ▶ **Economic development:** Educated and skilled, youth can help in expanding the economy.
- ▶ **Environment protection:** Indian Youth is adopting the 'Lifestyle for the Environment (LiFE) Movement' and promoting its underlying principle to move forward with Sustainable development.
- ▶ **Addressing social challenges** like gender inequality, access to quality education, and healthcare by focusing on youth.
- ▶ **International forum:** To ensure that youth's presence at multilateral organisation is rising to promote India's interest. E.g. Gita Gopinath, became the first Indian woman to be appointed as chief economist at IMF.

Challenges Faced by Youth of India

- ▶ **Poor Education System,** lack of access to higher education, skill mismatch, low employability, and high dropout rates etc.
- ▶ **Exploitative Workplaces** includes paid low wages, work long hours, harassment (especially women), and have no social security or legal protection.
- ▶ **Social Issue** like substance abuse, communalism, discrimination, human trafficking, forced marriages etc. affect their moral values, civic sense, social responsibility, and national integration.
- ▶ **Psychological Issues:** Low confidence and self-belief throw them in depression and to the extent of suicide when they are not able to achieve their dream. E.g. recent cases in the education hub of Kota.
- ▶ **Cultural norms and societal expectations** can sometimes restrict the choices and aspirations of young people, particularly in terms of education, career, and marriage.
- ▶ **Social media addiction in youth** is impacting their mental health, relationships, and productivity.

Way Forward

- ▶ **Political Empowerment:** Train youth and civil society for effective advocacy on youth issues.
- ▶ **Skill Gap:** Prioritize vocational training, apprenticeships, and soft skills for practical learning experiences.
- ▶ **Health & Education:** Boost investments for enhanced productivity and promote practical education with industry exposure.
- ▶ **Governance Reforms:** Emphasize inter-ministerial coordination for strategic planning and monitoring.
- ▶ **Entrepreneurship:** Foster sustainable businesses using innovative, tech-enabled solutions.
- ▶ **Access & Participation:** Implement special initiatives for marginalized communities and regions, including rural areas and North-east India.

BRIEF BACKGROUND

About MY Bharat

- ▶ MY Bharat is an **autonomous body** to provide an over-arching institutional mechanism powered by technology for youth development and youth-led development.
 - ▶ It is an initiative of the **Ministry of Youth Affairs & Sports**.
- ▶ The platform connects youth with programs and learning opportunities in Businesses, Government Departments and Non-Profit Organisations.
- ▶ MY Bharat will benefit the youth in the **age group of 15-29 years**, in line with the definition of 'Youth' in the National Youth Policy.
 - ▶ In the case of programme components specifically meant for adolescents, the beneficiaries will be in the age group of **10-19 years**.
- ▶ **Objectives of MY Bharat**
 - ▶ **Leadership development** in youth
 - ▶ **Better alignment** between the aspirations of youth and the community needs
 - ▶ **Enhanced efficiency** through coverage of existing programmes
 - ▶ **Ensuring accessibility** by creating a phygital ecosystem – a blend of physical and digital experiences
 - ▶ Create a **centralise youth database**.
 - ▶ Act as a **one stop shop for young people** and ministries.

6.7.2 SPORTS IN INDIA

CONTEXT

In the 19th Asian Games India achieved a new milestone by clinching 107 medals, including 28 gold, 38 silver, and 41 bronze.



ANALYSIS



Factors behind Improved Performance

- ▶ **Sports Governance:** In 2011, MYAS implemented the **National Sports Development Code of India** to bring **transparency and accountability** to the functioning of NSFs and **promote good governance practices** in the management of sports at the national level.
- ▶ **Improved Infrastructure and Training**
- ▶ **Increased Funding for sports:** For instance, Budget allocation for MYAS has been increased by 11% in FY2023-24 in comparison to FY 2022-23.
- ▶ Corporations have utilised their **Corporate Social Responsibility** for the promotion of sports.
- ▶ **Community-based sports** organize leagues, fitness classes, and community events centred around sports and physical activities.
- ▶ **Recognition in Society:** Earlier, only sportspersons from a few sports received recognition. But now athletes from different fields have been recognised in society.
- ▶ **Greater international competitive exposure to Indian athletes** with several world-class tournaments hosted at home like the Indian Open Badminton tournament.

Challenges Faced in Promoting Sports

- ▶ **Lack of hierarchy in sports** from the grassroots level to the national level.
- ▶ **Poor Governance:** The current model of governance of Indian sports **lacks accountability and transparency**, which creates an environment that is conducive to wide-scale corruption.
- ▶ **Changing nature of society and social activity:** Increasing urbanisation and digitisation have reduced the avenues and interest of children to engage in physical activities and consequently in sports.
- ▶ **Lack of remuneration and job security:** Parents **hesitate to choose sports as a profession** for their children and focus more on academic excellence.
- ▶ **Poor Funding:** Approx. Rs 24 per capita/ year for the sports budget in India which is much less in comparison to the European Union's Rs 8,000 per capita sports budget.
- ▶ **Psychological Support:** Training is solely sports-oriented with little focus on the psychological robustness of athletes.
- ▶ **Other:** Regionalism in selection and facilities (States like Haryana and Punjab have better facilities), sexual harassment, too much importance to Cricket etc.

Measures Required to Further Improve Sports Performance

- ▶ **Sports education** as part of the **National Curriculum Framework**
- ▶ **Sports associations** should be established at block and district levels
- ▶ **Involving Sports professionals** in sports administration
- ▶ **Adequate funds** for infrastructure and other facilities
- ▶ **Employ sportspersons** for a certain percentage of vacancies.

BRIEF BACKGROUND

Sports in India

- ▶ **Listed in Entry 33, List II of constitution** and are necessarily under domain of federal states.
- ▶ **Current Sports Governance Model in India**
 - ▶ **The Ministry of Youth Affairs & Sports (MYAS)** has institutions like Sports Authority of India (SAI) and other institutions working towards promoting sports training under SAI.
 - ▶ **Indian Olympic Association (IOA)** has State Olympic Associations (SOAs) and National and State Sports Federations (NSFs and SFs).
 - ▶ For non-Olympic sports (cricket), federations like **Board of Control for Cricket in India (BCCI)** are directly affiliated with their respective international boards.
- ▶ **Initiatives Taken to Promote Sports**
 - ▶ Target Olympic Podium Scheme (TOPS)
 - ▶ Khelo India Scheme
 - ▶ Fit India Movement
 - ▶ States like Uttar Pradesh have launched initiatives like One District, and One Sport scheme.
 - ▶ India's first National Sports University has been set up in Manipur.

6.7.3 TRANSGENDERS IN SPORTS

CONTEXT



The ICC has barred cricketers who experienced male puberty from international women's games, regardless of surgery or gender reassignment treatment.

- **Gender reassignment surgery**, sometimes called **sex reassignment surgery**, is performed to transition individuals with **gender dysphoria** to their desired gender.

ANALYSIS



- ▶ ICC's new policy is based on the **following principles** (in order of priority).
 - protection of the integrity of the women's game, safety, fairness, and inclusion.
- ▶ **Debate around allowing transgenders in sports:**
 - It centres around the balance of inclusion, sporting fairness, and safety in women's sports.
 - **Physiological differences established during puberty** can create significant performance advantages
- ▶ **Rules governing transgender persons** in sports vary by organization, For example;
 - As per **World Athletics (WA)**, **Differences in sex development (DSD) athletes** must keep their **testosterone be 2.5 nmol/L for 24 months** to participate in the female category across events.
 - ◊ **DSD is a condition** when an individual's physical sex traits don't match typical male or female development.
 - ◊ **Testosterone boosts athletic performance** by increasing muscle mass, strength, and haemoglobin levels.
 - **World governing bodies for cycling (UCI) and swimming (FINA) and World Rugby** barred trans women from competing in women's events.
 - **The International Olympic Committee** places responsibility on individual federations to determine eligibility criteria in their sport for transgender people.

6.7.4 SOCIAL MEDIA AND CONSUMER BEHAVIOUR

CONTEXT



A recent report titled "**Meta GWI Beauty Report 2023**" highlighted that Facebook and Instagram reels influenced 80% of Indians to purchase beauty products.

ANALYSIS



How does Social Media influence consumer behaviour?

- **Discovery of new products:** 47% of surveyed consumers discovered new products through social media reels.
- **Shift in consumer preferences:** 15% increase in online purchases post-pandemic by beauty buyers which currently stands at 68%.
- **Evaluation of alternatives:** Virtual try-outs through Augmented Reality and other related technologies.
- **Buyer socialization:** Correspondence among buyers influences their psychological, full of feelings and conduct mentalities.
- **Electronic words of mouth:** Customer reviews help consumers in their purchasing decisions.

Associated Concerns: Impulsive buying behaviour, targeted advertisements, **increased debt** and financial stress, **environmental degradation** due to excessive consumerism, **violation of privacy** through consumer profiling, etc.

Way forward

- **Transparency:** Social Media platforms should **provide clear information on content curation**, moderation, and algorithms.
- **Strengthen anti-trust rules:** For both platform providers and Social Media influencers.
- **Disclosure of material interests by Social Media influencers:** In January 2023, the Department of Consumer Affairs released endorsement guidelines for celebrities and Social Media influencers.

TEST YOUR LEARNING

MCQs

1. Which of the following is not a key objective of the Draft Menstrual Hygiene Management (MHM) Policy?

- Promoting safe and healthy menstrual practices through education and awareness campaigns.
- Ensuring easy access to affordable and high-quality sanitary products, especially in rural areas.
- Dismantling taboos and breaking the silence surrounding menstruation through social mobilization.
- Providing menstrual leave for female employees in the organized and unorganized sectors.

2. Which of the following statements is not true about the conduct of the Census in India?

- It is a Union subject under Article 246 of the Constitution.
- It is governed by the Census Act, 1948.
- The Registrar General and Census Commissioner of India is entrusted to conduct the Census in India.
- Socio-economic and Caste Census (SECC) data published in 2016 included the caste data.

3. With reference to the Global Hunger Index, consider the following statements:

- It is released by the Food and Agriculture Organisation
- It is based on 4 indicators with the highest weightage assigned to Undernourishment and Child Mortality.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

4. Which of the following constitute criteria for identifying PVTGs in India?

- Pre-agricultural level of technology
- Distinctive culture
- Geographical isolation
- Economic Backwardness

Select the correct answer using the code given below:

- 1 and 2 only
- 1, 2 and 3 only
- 1 and 4 only
- 1, 2, 3 and 4

5. Consider the following Statements.

- The Board of Control for Cricket in India (BCCI) is affiliated to the Sports Authority of India (SAI)
- Constitutionally, sports form a part of the State List.

Which of the statements given above is/are correct?

- 1 Only
- 2 Only
- Both 1 and 2
- Neither 1 nor 2

Questions

- Discuss the challenges and vulnerabilities faced by PVTGs. Analyze the statutory provisions for the protection of the rights of tribal communities, particularly PVTGs. (250 words)
- Analyze key strategies adopted by governments in India towards achieving Universal Health Coverage (UHC). Identify gaps and limitations in ensuring UHC in India. (150 words)

SCIENCE & TECHNOLOGY



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7.1. BIOTECHNOLOGY

7.1.1. Y-Chromosome

CONTEXT

Scientists have successfully sequenced the Y-chromosome using 'long-read' sequencing techniques revealing 41 new genes and added 30 million new bases to human genome.

ANALYSIS

About Y-chromosome

- ▶ It is one of the two human sex chromosomes (X being the other).
- ▶ Y chromosome is **male-determining** because it bears **SRY genes (sex-determining region Y gene)**.
 - ▶ Y also has a lot of 'junk DNA (sequences that don't seem to contribute to traits)'
 - ▶ About **66% of the Y chromosome is composed of repetitive DNA**, which requires specialized DNA sequencing and analysis techniques to determine their arrangement.
 - ▶ All individuals who have a Y chromosome are related to a single Y-bearing ancestor.
- ▶ Y is the last human chromosome to be sequenced **end-to-end or telomere-to-telomere (T2T)**.
 - ▶ **Telomeres** are structures made from DNA sequences and proteins that **cap and protect the end of a chromosome**.
- ▶ Y chromosome is passed down from **male parent to male offspring**. It illustrates ancestry of one direct lineage of male ancestors.
 - ▶ Unlike the X chromosome, **Y chromosome is smaller and bears few genes** (only 27 compared to about 1,000 on the X).
- ▶ **Loss of the Y chromosome** is associated with **increased risk of cancer, Alzheimer's disease, and cardiovascular disease**.
- ▶ **Comparison between Y – and X– Chromosome**
 - ▶ Y is always contributed by sperms (X by eggs or sperms)
 - ▶ Y is smaller than X (Contains just around 100 protein coding genes)
 - ▶ Y occurs single in male only
 - ▶ Y represents 2% of entire human genome (X represents 5%)

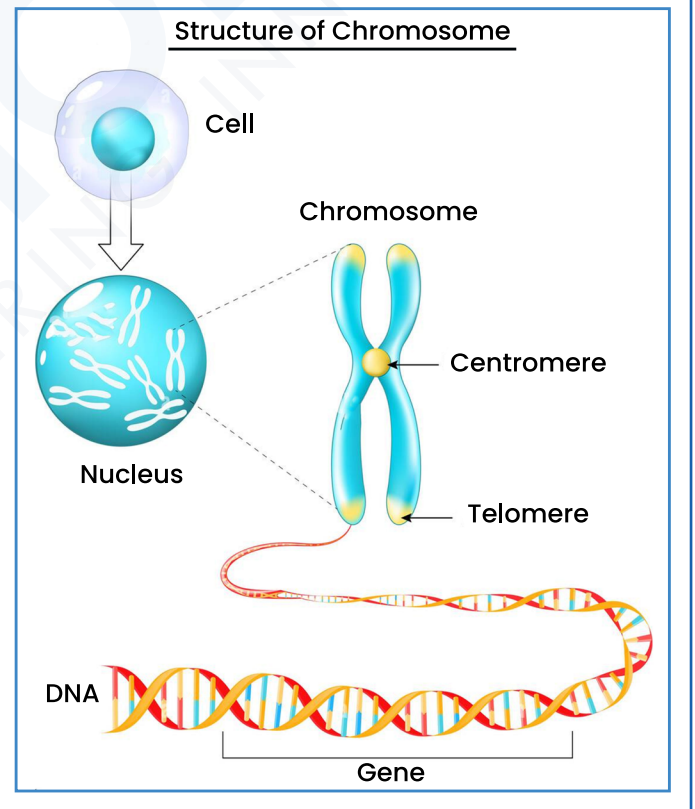
Genome sequencing

- ▶ Sequencing simply means **determining the exact order of the bases in a strand of DNA**.
- ▶ **Approaches to genome sequencing**
 - ▶ **Short-read sequencing:** Genome is broken into small fragments (usually 50 to 300 bases) before being sequenced.
 - ▶ **Long-read sequencing:** DNA is fragmented and tagged for sequencing to **keep track of each fragment**, followed by local assembly.

BRIEF BACKGROUND

About Chromosomes

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



7.1.2. Gene-drive Technology (GDT)

CONTEXT

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

ANALYSIS

About GDT

- ▶ GDT is a type of genetic engineering technique that modifies genes to alter the typical rules of **Mendelian inheritance**.
- ▶ **Components:** A gene drive consists of **three key components**:
 - The **gene to be spread**
 - The **Cas9 enzyme** to cut DNA
 - **CRISPR, a programmable DNA sequence** that determines where the enzyme should cut.
- ▶ **Outcomes:** The **genetic material** that encodes for these three elements **gets inserted into an animal's DNA, in place of the naturally occurring gene**.
 - It increases the **likelihood that a particular suite of genes will be passed onto the next generation**, allowing the genes to rapidly spread through a population and override natural selection.
- ▶ **Applications:** GDT can be used to **exterminate insects such as mosquitoes** that can spread malaria, dengue, and the Zika virus.
 - Gene drives can also be used to **control invasive species such as rodents**.
- ▶ **Concerns**
 - **Ecological:** Long-term disruption in ecosystem like disturbance in balance of food-web, potentially leading to unintended ecological consequences.
 - **Legal:** Gene drive could get out of control and spread uncontrollably across international borders.
 - **Security:** It could potentially be used for bioterrorism or other malicious purposes.
 - **Ethical:** Deciding which species to target and the irreversible nature of GDT raises complex ethical and moral issues.

BRIEF BACKGROUND

About CRISPR and Related Terms

- ▶ **CRISPR** (Clustered Regularly Interspaced Short Palindromic Repeats) are **repetitive DNA sequences** developed as a method of repurposing bacterial immune system to **make breaks in DNA at precise locations**.
- ▶ **Cas9** is an **enzyme** that acts as a **molecular scissor** that cuts the DNA at a specific location in the genome.
- ▶ **Mendelian inheritance** refers to certain patterns of how traits are passed from parents to offspring.



7.1.3. CAR-T Cell Therapy

CONTEXT

Recently, the Central Drugs Standard Control Organisation (CDSCO) approved the Indigenous Chimeric Antigen Receptor T cell (CAR-T cell) therapy called NexCAR19.

ANALYSIS

About NexCAR19 (Actalycabtagene autoleucel)

- ▶ NexCAR19 (first humanized CD19-targeted) is a type of CAR-T and gene therapy developed indigenously in India by ImmunoACT.
 - It will treat lymphoma and Leukaemia (Blood Cancer).
- ▶ Therapy is designed to target cancer cells that carry the CD19 protein.
 - CD-19 is a biomarker (or flag) for B lymphocytes (or B-cells) and can be utilised in leukaemia immunotherapies.
 - ◊ A **Biomarker** is a molecule or characteristic, that provides information about a biological process, condition, or response to a treatment.
 - It is for people with **B-cell lymphomas** (blood cancer) who **don't respond** to standard treatments like **chemotherapy**.
 - Chemotherapy uses drugs to kill rapidly dividing cells, including cancer. It also affects healthy cell unlike CAR-T therapy.

Challenges in adoption

- ▶ **Cytokine Release Syndrome (CRS)** (release of abundant cytokines into the bloodstream, triggering an intensified immune system response)
- ▶ **Neurological Toxicity** (leads confusion, seizures, or other neurological issues)
- ▶ **Limited Applicability** (limited to treatment of blood cancers, like leukaemia and lymphoma)
- ▶ **High Cost** (limits its accessibility to a larger population)

Way forward

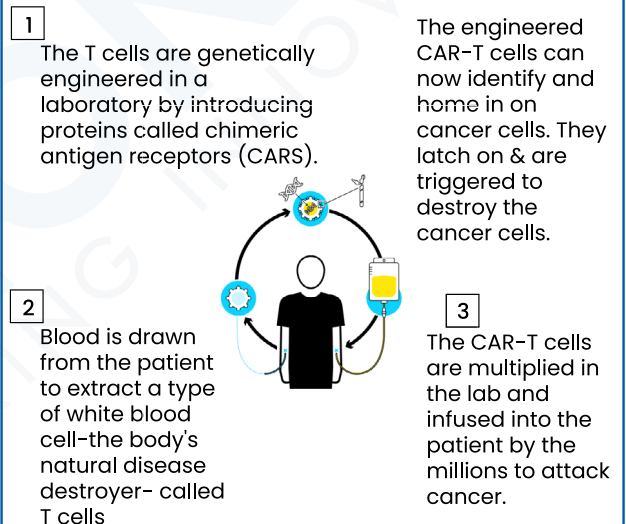
- ▶ **Enhance Safety Profiles:** Continuous research will minimise severe side effects such as cytokine release syndrome (CRS) and neurotoxicity.
- ▶ **Global Collaboration:** Sharing best practices.
- ▶ **Enhancing Accessibility:** By developing Standard Operating Procedures (SOPs).
- ▶ **Intensive Research:** Invest in research to broaden the applications, exploring its effectiveness etc.

BRIEF BACKGROUND

About CAR-T Therapy

- ▶ It is a type of **cellular immunotherapy** treatment that uses **T cells** that are **genetically altered in a lab** which destroy cancer cells more effectively.
- ▶ **India** is now one of the **first developing countries** to have its indigenous CAR-T and gene therapy platform.

How CAR-T Works



Lymphocytes

- ▶ They are a type of **White Blood Cells (WBCs)** that circulate in blood and are part of the immune system. There are two main types of lymphocytes: T cells and B cells.
 - **T cells are direct fighters of foreign invaders** and also produce cytokines, which are biological substances that help activate other parts of the immune system. (**Attacks infected cells**).
 - **B cells produce antibody molecules** that can latch on and destroy invading viruses or bacteria. (**Attacks foreign bodies outside the cells**).

7.1.4. Diverse Epigenetic Epidemiology Partnership (DEEP)

CONTEXT



CSIR–Centre for Cellular and Molecular Biology (CCMB) is collaborating with research groups across the world on the Diverse Epigenetic Epidemiology Partnership (DEEP) project.

ANALYSIS



About DEEP Project

- ▶ It is a five-year project.
- ▶ It is led by researchers at the University of Bristol, London and the CSIR Centre for Cellular and Molecular Biology in India.
- ▶ **Rationale:**
 - Project till now has mainly collected data of **white European origins** leaving many global communities **under-represented** in health studies.
 - Diverse genetic databases are crucial.
- ▶ **Procedure:** Generate **genomic datasets in underrepresented populations** across African, Asian, and North and South American continents.
 - By **analysing DNA methylation data and health-related measures from people around the world.**
- ▶ **Significance for India:** CCMB will understand the genetics behind Non-Communicable Diseases (NCDs).
 - It helps understand implications for common diseases like type 1 and 2 diabetes, chronic pancreatitis, etc.

BRIEF BACKGROUND

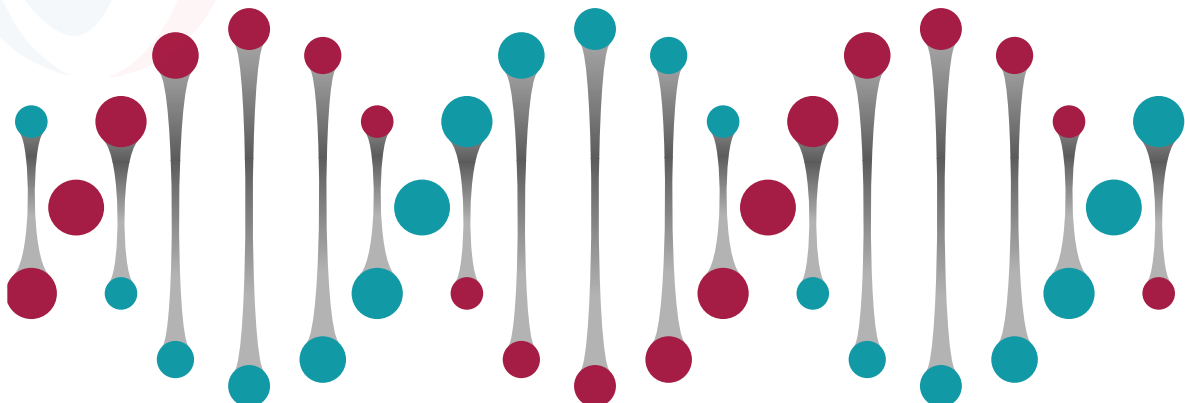
- ▶ Epigenetic epidemiology studies the effects of epigenetic changes on the occurrence and distribution of diseases’.
- ▶ DNA (DeoxyriboNucleic Acid) is a molecule that carries the genetic information.
 - It is made of two linked strands that wind around each other to resemble a twisted ladder – a shape known as a **double helix**.
- ▶ DNA methylation involves the **addition of a methyl group to the DNA molecule.**

Challenges in implementing the Project

- ▶ **Data Privacy and Security** (Genomic data is highly sensitive)
- ▶ **Ethical Considerations** (such as informed consent of individuals)
- ▶ **Data Storage and Management** (requires advanced storage and computational resources)
- ▶ Understanding **dynamic Nature of the Genome** (such as mutation rates, and selection pressures)
- ▶ **Integration of Clinical and Genomic Data** (including electronic health records)

Way forward

- ▶ **Collaboration and Data Sharing** (open sharing of genomic data)
- ▶ Establishing **standardized protocols** to accelerate research.
- ▶ **Ethical Guidelines**(emphasis on participant consent and data privacy)
- ▶ **Public Perception and Education**
- ▶ **Community Engagement** (to address concerns and build trust)



7.1.5. Stem Cell Therapy (SCT)

CONTEXT



Delhi High Court permitted Stem Cell Therapy for treatment of Autism Spectrum Disorder (ASD). ASD is a **neurological and developmental disorder** that affects how people interact with others, communicate, learn, and behave. **About 1 in 100 children has autism.**

ANALYSIS



About Stem Cell Therapy (SCT)

- ▶ It is a form of **regenerative medicine** designed to **repair damaged cells** within the body by **reducing inflammation and modulating the immune system.**
 - **Regenerative medicine** focuses on developing and applying new treatments to **heal tissues and organs** and **restore function** lost due to **aging, disease, damage or defects.**

Process involved in SCT

- ▶ It includes **Harvesting** (process of collecting stem cells of a donor), **Conditioning** (prepare body for transplant), **Transplanting stem cells** and **Recovery.**

Regulation of SCT

- ▶ As per 'New Drugs and Clinical Trial Rules 2019' stem-cell derived products are to be used as "new drugs" which means that any doctor who uses SCT needs to **take permission from government.**

BRIEF BACKGROUND

About Stem Cell

- ▶ **Stem cells are special human cells (fundamental building blocks) that are able to develop into many different cell types** such as muscle cells, blood cells, and brain cells.
- ▶ **Types of stem cells**
 - **Embryonic stem cells** (supply new cells for an embryo as it grows and develops into a baby).
 - **Adult stem cells** (supply new cells as an organism grows and to replace cells that get damaged).
 - **Induced pluripotent stem cells, or 'iPS cells'** (stem cells that scientists make in laboratory).

Related Development: Model of Human Embryo without Eggs or Sperm

- ▶ Scientists used **mix of stem cells** to **assemble them into an embryo-like structure**, mimicking molecular characteristics of an early **embryo stage.**
- ▶ **Process of creating an embryo model**
 - **Stem cells were reprogrammed** to become any type of tissue in body.
 - Chemicals were then used to **coax** stem cells into becoming four types of cells found in **earliest stages of human embryo, viz.**
 - ◊ **Epiblast cells**, which become the embryo proper (or foetus).
 - ◊ **Trophoblast cells**, which become the placenta.
 - ◊ **Hypoblast cells**, which become the supportive yolk sac.
 - ◊ **Extraembryonic mesoderm cells.**
- ▶ **Significance**
 - Assist in the study of the **earliest moments of human.**
 - Better understanding of **genetic, epigenetic, and environmental effects** on a developing embryo.
 - **Other:** test effect of **drugs on pregnancies, etc.**



7.2. IT AND COMPUTER

7.2.1. Artificial Intelligence (AI): Regulation and Application

CONTEXT

27 major countries including the United States, China, Japan, UK, France, and **India**, and the European Union agreed to sign a declaration, named the **Bletchley Declaration**.

ANALYSIS

What are the risks associated with AI development that necessitate its regulation?

- ▶ **Control of Big Tech**, have access to vast stores of digital data and immense computing power.
- ▶ **Frontier AI** systems may **amplify risks such as disinformation through the use of algorithms**.
- ▶ **Model Collapse scenario** (datasets may be poisoned by AI-generated content and **incorporate mistakes of previous AI models**) **Model adoption challenges:**
 - **Closed:** Limited to a few people and private organizations
 - **Open-source:** It may be misused by malicious actors.
- ▶ Rise in **cybercrime** or hacking incidents
- ▶ **Economic risks** (cause labour market displacement or the automation of financial markets, etc.)

What has been done to regulate AI?

- ▶ **European Union:** EU's enacted the **world's first comprehensive AI law**.
- ▶ **USA:** voluntary commitments adopted by more than a dozen companies.
- ▶ **India:** Contemplating to bring out a comprehensive **Digital India Act**.
 - NITI Aayog released the **National Strategy on Artificial Intelligence (NSAI)**.
 - **New Delhi Declaration** has been adopted by Global Partnership on Artificial Intelligence.
- ▶ **China:** China's regulations require an **advanced review of algorithms** by the state and should adhere to the core socialist values.

Way Forward

- ▶ **Examine** and address the **potential impact** of AI systems.
- ▶ Countries should consider the importance of a **pro-innovation** and **proportionate governance** and regulatory approach.
- ▶ Increase **transparency** in private actors by developing frontier AI capabilities, appropriate evaluation metrics, etc.
- ▶ **Create** curated, fine-tuned datasets with inclusion of more diverse groups and continuous feedback mechanism.

Key Applications

Healthcare

- ▶ **Higher-quality patient care** (AI-powered clinical decision support (CDS))
- ▶ **Clinical research and discovery** (**advance early disease identification and intervention**)
- ▶ **Healthcare supply chain resilience** (Predictive models driven by data)
- ▶ **Workforce optimization** (automated with AI capabilities can tackle scarce labor resources)

BRIEF BACKGROUND

- ▶ **Artificial intelligence** leverages computers and machines to mimic the problem-solving and decision-making capabilities of the human mind.
- ▶ **Frontier AI** is a highly capable general purpose AI models that can perform a wide variety of tasks and match or exceed the capabilities present in today's most advanced models.
- ▶ **Generative AI (GAI)** is a branch of AI that uses **deep-learning models** (like OpenAI's ChatGPT) to create high-quality content like text, speech, etc.
 - It leverages advanced **Natural Language Processing (NLP)** to understand complex language structures.
 - ◊ **NLP** is a machine learning technology that gives computers the ability to interpret, manipulate, and comprehend human language.
- ▶ **GPT (Generative Pre-Trained Transformers)** belongs to the family of **Large Language Models** – a type of **Machine Learning model based on neural networks**.
 - **LLMs** are deep learning algorithms that can **recognize, summarize, translate, predict, and generate content** using

Potential Challenges

- › Blind spots in data access and collection,
- › Privacy issues,
- › Data misuse, and
- › Regulatory ambiguity.

Future prospect

- › Advancements in diagnostics and treatments,
- › Therapeutic discovery and clinical research,
- › Supply chain resiliency, and
- › Operational and administrative efficiencies.

Agriculture

- › Intelligent crop planning (precision agriculture)
- › Smart Farming (nutrition management, etc.)
- › Farmgate-to-fork (Market-based intelligence, traceability and quality of logistics, etc.)
- › Data-driven agriculture

Potential Challenges

- › Need for infrastructure development
- › Access to technology in remote areas, and
- › Farmer's education and awareness.

Future prospect

- › Continued investment
- › Research and Development.
- › Collaboration between the government, tech developers, and farmers.

Multimodal AI

- › Multimodal AI combines the power of multiple inputs to solve complex tasks. It can piece together data from multiple data sources such as text, images, audio and video, creating applications across sectors.
- › Business Analytics (recognizes different types of information and give better and more informed insights)
- › Data processing (generating textual descriptions, transcription of videos, etc.)
- › Accessibility (assist individuals with disabilities by providing environmental awareness)

Potential Challenges

- › Privacy concerns
- › Ethical considerations, and
- › Need for standardized frameworks

Future prospect

- › Creating multi-stakeholder frameworks addressing privacy, security and ethical concerns.

7.2.2. Deepfakes

CONTEXT



Recently, the Centre issued an advisory to social media intermediaries to identify misinformation and deepfakes.

ANALYSIS

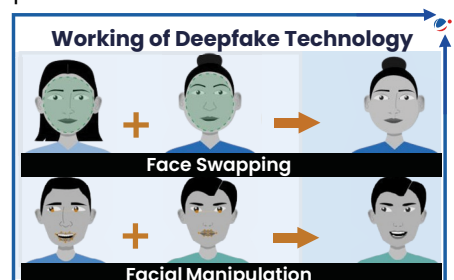


How does Deepfake work?

- › It use technologies of deep learning, AI and photoshoping.
 - › Generative Adversarial Networks (GANs), a class of Machine Learning, are interplayed to create the videos.
- › GANs consist of generators and discriminators.
 - › Generators take the initial data set to create new images.
 - › Discriminator does further refinement.
- › They also employ a deep-learning computer network called a variational auto-encoder (artificial neural network).
 - › Auto-encoders (enable a versatile "face swap" model) detect facial features, suppressing visual noise and "non-face" elements in the process. etc.

BRIEF BACKGROUND

- › Deepfakes Refers to a video/image that has been edited using an algorithm to replace a person in the original video/image with someone else.
- › Deep learning is a machine learning subset, using artificial neural networks inspired by the human brain to learn from large data sets.
- › Deepfake imagery could be an imitation of a face, body, sound, speech, environment, etc.
- › Artificial Neural Networks (ANNs) is an information processing paradigm that is inspired by the way brain process information.



Opportunities with Deepfake technology

- ▶ **Entertainment:** Voices and likenesses can be used to achieve desired creative effects.
- ▶ **E-commerce:** Retailers could let customers use their likenesses to **virtually try on clothing**.
- ▶ **Communication:** **Speech synthesis and facial manipulation** can make it appear that a person is authentically speaking another language.
- ▶ **Research and Simulation:** It can aid in training professionals in various fields by providing realistic scenarios for practice, such as **medical training**.

Issues associated with Deepfake

- ▶ **Misinformation and Disinformation** (by creating **fake videos** of politicians or public figures)
- ▶ **Privacy Concerns** (featuring individuals without their consent, leading to privacy violations)
- ▶ **Lack of Regulation** (**difficult to prosecute individuals or organisations** that engage in malicious or fraudulent activities using deepfakes)
- ▶ **Challenges in Detection** (lack of effective tools)
- ▶ **Gender inequity** (Women form about 90% of the victims of crimes like revenge porn)
- ▶ **Erosion of trust** (trustworthiness of media content)

Regulatory measures applicable to deepfakes

- ▶ **Legal provisions in India:** In India, there are **no specific legal provisions**. However, some laws indirectly address deepfake such as **Section 66E of the IT Act of 2000, Indian Copyright Act of 1957 etc.**
- ▶ Global measures against Deepfakes:
 - **Digital Services Act of EU**
 - **Google announced tools:** Watermarking to identify synthetically generated content.

Way Forward

- ▶ **Strengthening legal framework**
- ▶ **Promote Responsible AI Development** (**Asilomar AI Principles** can act as a Guide)
- ▶ **Responsibility and Accountability** of social media platforms (create a **uniform standardization**)
- ▶ **International Cooperation** (shared standards and protocols)
- ▶ **Invest in Research and Development** (support ongoing research into **technologies, detection methods, etc.**)

7.2.3. Net Neutrality

CONTEXT

Many Start-ups have written to **Telecom Regulatory Authority of India (TRAI)** and opposed **Telecom Service Providers (TSPs)** push to regulate **Over the Top (OTT) services** to charge 'network usage fee' from them for using their infrastructure



ANALYSIS



Implications of disregarding Net Neutrality

- ▶ **Induces internet discrimination:** The Internet Service Providers (ISP) can favour and boost a specific content, application.
- ▶ **Discourages Innovation:** It will discouraging them to innovate on new ideas, strengthening the hands of Big tech companies
- ▶ **Privacy Concerns:** ISPs may **monetize user data** without their consent.
- ▶ **Limits consumer freedom:** Consumers **freedom to choose is hindered**.
- ▶ **Widens Digital Divide:** It exacerbates the digital divide, especially for marginalized communities.

BRIEF BACKGROUND

What are Net Neutrality and OTT?

- ▶ It is the concept of an **open, equal internet for everyone, regardless of device, application or platform** used and content consumed.
- ▶ Its **basic principles** include equal access, transparency, no blocking etc.
- ▶ **TRAI released 'Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016'**, to net neutrality.
- ▶ OTTs can be content, a service or an application that is provided to the end user over the public Internet.
- ▶ They are **classified into two groups**.
 - OTT **communications services** (telecommunication services over the internet e.g. Whatsapp, Telegram etc.)
 - OTT **application services** (include all services such as media services, e.g. Amazon, Netflix etc.).

Way Forward

- ▶ **Create a level playing field through regulatory framework**, which is fair and equal for both the players without affecting the end consumers.
- ▶ **Define OTTs and their services** in order to bring them under an ambit of regulation in terms of their content, service etc.
- ▶ **Protect the welfare of the customers** and ensure that there is no rise in cost either directly or indirectly which is transferred to the customers.
- ▶ **Proactive Monitoring:** TRAI should proactively monitor TSPs' behaviour to detect and **address any violations** towards net neutrality promptly.

7.2.4. Wi-Fi 7 Technology

CONTEXT



Recently U.S. based company Qualcomm suggested that India should adopt the newest Wi-Fi 7 technology.

ANALYSIS



Key Features of Wi-Fi 7

- ▶ **Backward Compatibility:** Connects with devices in 2.4GHz, 5GHz, and 6GHz bands without requiring new hardware.
 - It won't be stuck to a single frequency but **use a mix of available spectrum** frequencies to provide a solution.
- ▶ **Lower Latency:** Enables faster cloud-based operations.
- ▶ **Multi-Link Operation (MLO):** Combines multiple channels on different frequencies.
- ▶ **Speed and Capacity:** Support a bandwidth of up to 330 Gigabits per second per access point. Speed is four times faster than Wi-Fi 6.

BRIEF BACKGROUND

About Wi-Fi 7

- ▶ Wi-Fi, **Wireless Fidelity**, is a wireless technology that allows devices to connect to the internet and communicate with each other.
 - It **uses radio waves**.
 - For transmitting Wi-Fi signal there needs **three medium**, such as Base station, Router and Accessing devices (like Phone, Laptop, etc.)

Benefits of Wi-Fi 7

- ▶ **Alignment with India's Tech Adoption:** Adoption of cloud-based and wireless applications.
- ▶ **Promising Developments in India:** Digital transformation in the enterprise sector, fixed wireless connectivity, smartphone technology, and the potential of Artificial Intelligence (AI), especially Edge AI.
- ▶ **Addressing emerging technologies demands:** Wi-Fi 7 could support the growing number of **Internet of Things (IoT) devices**, includes **smart home devices, wearables**, and industrial IoT applications.
- ▶ **Medicinal Field:** Tele-diagnostics and telesurgery.
- ▶ **Enhancing User Experiences in Advanced Applications:** Wi-Fi 7 can facilitate the streaming of higher-resolution content, such as **8K videos**.
 - Also, could enhance performance in **cloud gaming, AR/VR and other data-intensive activities**.



7.2.5. Satellite Internet

CONTEXT



Reliance Jio demonstrated India's first satellite-based gigabit internet service. Jio is partnering with Luxembourg-based satellite communications company SES to provide **Medium Earth orbit (MEO) satellite internet**.

ANALYSIS

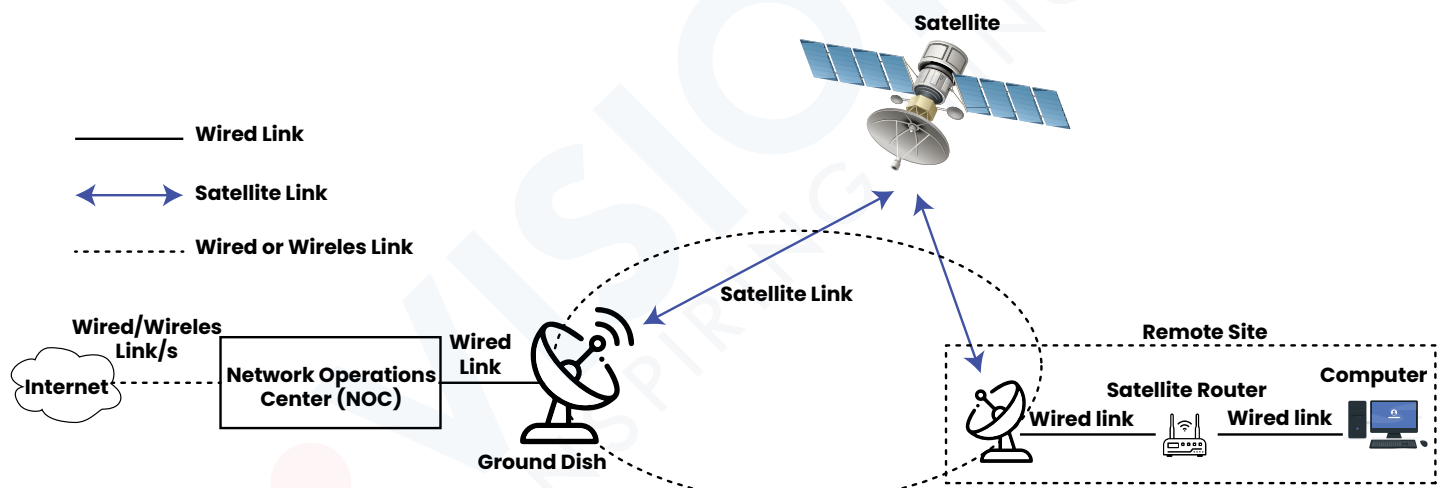


About Satellite Internet

- ▶ It provides an online connection powered by satellites.
 - Internet service providers **launch multiple satellites** into space that orbit around Earth.
 - It works by using **radio waves** to communicate with satellites.
 - Data is sent and retrieved through a **communication network**.
 - The communication network includes a **modem**, satellite dish, and a centralized **Network Operations Centre (NOC)** for monitoring the entire system.
- ▶ **Advantages:** connecting people from remote or rural areas, multi-device access, quick installation process, etc.
- ▶ **Disadvantages:** higher latency and expensive compared to ground-based internet, Severe weather conditions can interrupt transmission, etc.

BRIEF BACKGROUND

- ▶ Satellite internet involves **constellations of low-Earth orbit (LEO) satellites** as used in Starlink and OneWeb.
- ▶ Unlike **terrestrial spectrum** which is used for mobile communications, **satellite spectrum** has no national territorial limits and is **international in character**.
 - It is **coordinated and managed** International Telecommunications Union (ITU).



Quarterly Revision

7.3. SPACE TECHNOLOGY

7.3.1. Chandrayaan-3

CONTEXT

Pragyan and Vikram of Chandrayaan provided different new findings about Moon.



ANALYSIS



Key Findings of Chandrayaan Mission

- ▶ **Lunar Soil:** During the Vikram Lander's landing process, surprisingly little dust was produced, suggesting that the lunar surface was not loose dust but rather sticky and lumpy (part of lunar regolith).
 - It indicates the presence of a volatile substance like water ice.
 - It doesn't have organic matter.
 - Without wind and water to wear down the edges, lunar soil grains tend to be sharp with fresh fractured surfaces.
 - A peculiar component only found on the Moon called "agglutinates".
- ▶ **Sparse plasma:** It has been noticed near the lunar surface.
 - **Plasma, fourth state of matter**, is gas that is so hot that some or all its constituent atoms are split up into electrons and ions, which can move independently of each other.
- ▶ **Sulphur:** Pragyan recorded the presence of **Sulphur** near the lunar south pole.
 - It also detected presence of other elements including **Aluminium (Al)**, **Calcium (Ca)**, **Iron (Fe)**, **Chromium (Cr)**, **Titanium (Ti)**, **Manganese (Mn)**, **Silicon (Si)**, and **Oxygen (O)**.
- ▶ **Temperature:** ChaSTE (Chandra's Surface Thermophysical Experiment) recorded temperature variation from 70 degree Celsius to -10 degree Celsius.

BRIEF BACKGROUND

About Chandrayaan-3 mission

- ▶ It was launched with the help of **Geosynchronous Satellite Launch Vehicle Mk III**.
- ▶ **Indigenous Payloads:**
 - **Vikram Lander module (LM)**,
 - **Propulsion module (PM)**
 - **Pragyan Rover**
- ▶ Vikram lander landed on the near side of moon on August 2023.
 - Point is named as **Shiv Shakti**.
- ▶ **India has declared August 23 as National Space Day** to commemorate India's achievement of Chandrayaan-3.

Related Development: Formation of water

- ▶ Analysis of data from Chandrayaan-1 found that **high-energy electrons from the Earth may be forming water on the Moon**.
 - **Electrons in Earth's plasma sheet are contributing to weathering process** that aids the formation of water on the lunar body.
 - It is thought to be one of the primary ways in which water has been formed on the Moon.



7.3.2. Tidal Locking

CONTEXT

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



ANALYSIS



About Tidal Locking

- ▶ It refers to the **synchronization** between the Moon's **rotation** around its axis (with respect to the Sun) and its **orbit** around the **Earth**.
- ▶ It is due to the **gravitational force** exerted by both the Moon and the Earth on each other.
- ▶ All the solar system's large moons are tidally locked with their planets.
- ▶ Some binary stars are tidally locked to one another.

Consequences of Tidal locking

- ▶ **Only one side of moon visible:** One side of the Moon is always facing the Earth. Giving rise to two sides of the Moon:
 - **Near Side:** The portion of the moon (about 60%) that is visible from Earth.
 - ◊ It is relatively smoother, thinner crust and has large volcanic plains compared to far side.
 - **Far side:** The portion of the moon that is never visible from the Earth.
 - ◊ It is illuminated in sunlight during the 'new moon' phase (when the moon is invisible from Earth) and continues to receive light for nearly a fortnight.
 - ◊ Thus, it is **dark only** in the sense that its various topographical features were hidden.
- ▶ **Distortion of shape:** The gravitation force that is exerted is always stronger on the sides facing each other. This force causes the bodies to stretch and distort.
 - Earth's gravitational force **deforms the Moon** (slightly squashed at the poles and a bulge at its equator).
 - The same sort of deformation manifests itself in Earth's oceans leading to alternating high and low ocean tides.
- ▶ **Slow rotation:** Tidal torque slows down the spin of the planet.
- ▶ **Hospitability:** High diurnal temperature range impacts the potential hospitability.

BRIEF BACKGROUND

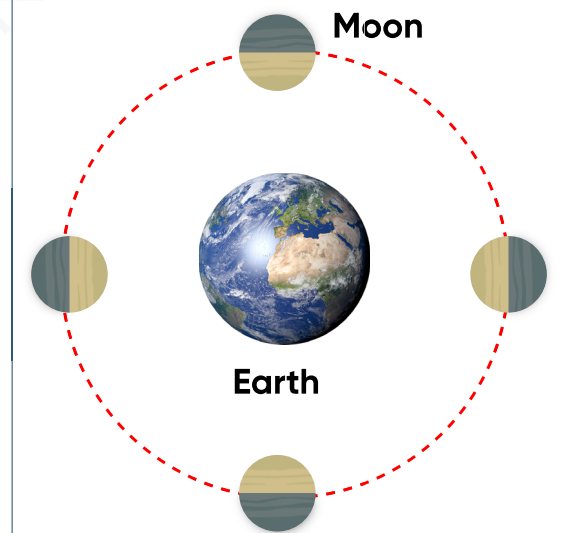
About Lunar Day and Night

- ▶ **Lunar Day** is the time the moon takes to complete one rotation on its axis with respect to the Sun.
- ▶ Lunar day is **29.5 Earth days**.
- ▶ Therefore, the **daylight** on the Moon or **Lunar day** would last **approximately two weeks**, followed **two weeks of lunar night**.
- ▶ They have high diurnal temperature range.
 - It is caused due to tidal locking and absence of atmosphere.

Impact of Lunar night

- ▶ **Shapes Moon missions:** Extremely low temperature makes it difficult to keep spacecraft systems alive.
- ▶ **Aid in Research:** Since Moon does not have atmosphere to distribute heat, **everything has its own unique amount of time** to heat up and cool down.

Tidal Locking



7.3.3. Aditya-L1

CONTEXT

ISRO has successfully placed Aditya L1, India's first space-based observatory-class solar mission in halo orbit at Lagrange Point L1, to study the Sun.

ANALYSIS

- ▶ **Aditya – L1 carries 7 payloads** (5 by ISRO and 2 by Indian Academic institutes)
 - ▶ **Remote sensing payloads**
 - ◊ Visible Emission Line Coronagraph (VELC)
 - ◊ Solar Ultraviolet Imaging Telescope (SUIT)
 - ◊ Solar Low Energy X-ray Spectrometer (SoLEXS)
 - ◊ High Energy L1 Orbiting X-ray Spectrometer (HELIOS)
 - ▶ **In-situ payloads**
 - ◊ Aditya Solar wind Particle Experiment (ASPEX)
 - » It consists of the Supra Thermal & Energetic Particle Spectrometer (STEPS)
 - ◊ Plasma Analyser Package For Aditya (PAPA)
 - ◊ Advanced Tri-axial High Resolution Digital Magnetometers
- ▶ **Uniqueness of the mission**
 - ▶ Provide for the first time **spatially resolved solar disk** in the **near UV band**.
 - ▶ **CME and solar flares will be measured close to the solar disk**
 - ◊ For this, it will use **on-board intelligence system**.
 - ▶ **Directional and energy anisotropy of solar wind**.

About Lagrangian points

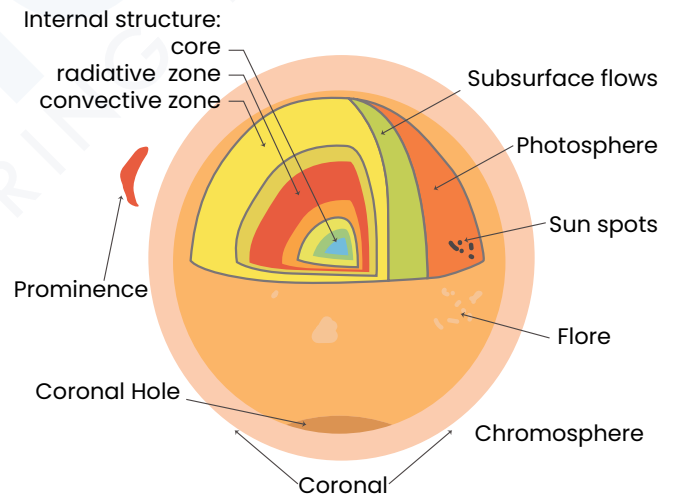
- ▶ **What:** Lagrange Point is a spot in space where the **force of gravity** of the nearest celestial entities cancels each other out, helping an object remain in equilibrium.
 - ▶ **For two body gravitational systems**, there are **total of five Lagrange points** denoted as L1, L2, L3, L4 and L5.
 - ▶ Of these **five Lagrange points**, three (**L1, L2, L3**) are **unstable** and two (**L4, L5**) are **stable**.
 - ▶ **Unstable Lagrange points** lie along the **line connecting the two large masses**.
 - ▶ **Stable Lagrange Points**, form the **apex of two equilateral triangles** that have the **large masses at their vertices**.
- ▶ **Significance:** Spacecraft will remain at these positions with **reduced fuel consumption**.
 - ▶ Also, gives advantage of **continuous observation** without any **occultation/ eclipses**.
- ▶ **Mechanism:** At Lagrange point, the **gravitational pull of the two large bodies equals the necessary centripetal force**.

BRIEF BACKGROUND

About Aditya – L1

- ▶ **Launch vehicle: PSLV C57**
- ▶ It will be placed in a **halo orbit around the Lagrangian point 1 (L1)**.
- ▶ **Science objectives of the Aditya – L1**
 - ▶ **Solar upper atmospheric (chromosphere and corona)**
 - ▶ **Chromospheric and coronal heating, coronal mass ejections (CMEs), and solar flares.**
 - ▶ **In-situ particle and plasma environment.**
 - ▶ **Identify the sequence of processes that occur at multiple layers** (chromosphere, base and extended corona)
 - ▶ **Drivers for space weather** (origin, composition and dynamics of solar wind).

Layers of the Sun



Lagrange Points

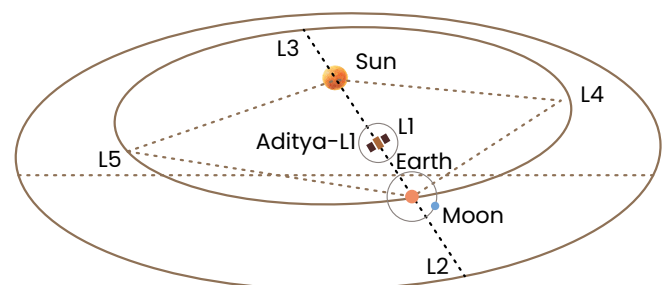


Illustration of all five Lagrange points of Sub-Earth system. Aditya-L1 will be placed around Lagrange point 1

Related Development: Solar wind

- ▶ Solar Orbiter Spacecraft has **detected numerous relatively small jets of charged particles** (called picoflare jets) that could be a major source to sustain solar wind.
 - **Picoflare jets** are expelled intermittently from structures on corona (outermost layer of sun’s atmosphere) called coronal holes where sun’s magnetic field stretches into space rather than back into it.
- ▶ Solar wind **continuously flows outward from Sun** and consists mainly of protons and electrons in a state known as plasma.
- ▶ **Impact of solar activities on Earth;**
 - Affect space-dependent operations like **GPS, radio** etc.
 - Hampering **flight operations, power grids, etc.**
 - **CMEs** are common and create **disturbances in Earth’s magnetosphere** (protective shield surrounding the planet).

7.3.4. Asteroids

CONTEXT



NASA’s **OSIRIS-REx** (Origins, Spectral Interpretation, Resource Identification, and Security - Regolith Explorer) mission brought the sample from **carbon-rich asteroid Benu** back to Earth.

ANALYSIS



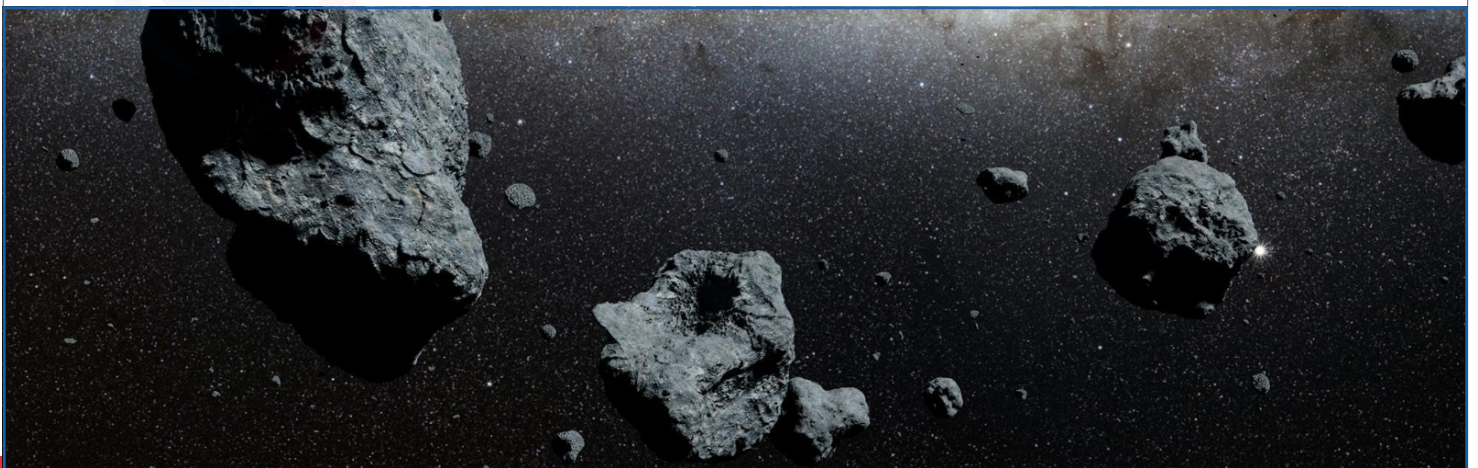
How does Asteroid exploration contribute to Astronomy?

- ▶ **Insight on formation of Solar System:** Samples can help us understand the conditions and materials present at that time.
- ▶ **Origin of Life:** For example, Initial studies of the Benu sample show evidence of **high-carbon content and water**, which together could indicate the building blocks of life on Earth.
- ▶ **Planetary Defense:** It is crucial for creating **planetary defence efforts** for the future.
- ▶ **Space Exploration Technology:** The mission demonstrates **advanced technology** in spacecraft **design, navigation, and sample collection** which can be applied to future space missions.
 - **JAXA (Japan)** will launch its **MMX (Martian Moons eXploration)** mission in 2024 to study the **Martian moons & will collect surface samples from Phobos.**
- ▶ **Resource Utilization:** Such as mining asteroids for valuable minerals or water.
- ▶ **International Collaboration:** It includes global missions for gathering samples from space in general and exploration of asteroids in particular.

BRIEF BACKGROUND

About Asteroids

- ▶ Asteroids, sometimes called **minor planets** are **rocky objects** that orbit the Sun, **much smaller than planets.**
- ▶ Asteroids are divided into 3 classes based on their location:
 - **Main Asteroid Belt:** Between Mars and Jupiter.
 - **Trojans:** Share an **orbit with a larger planet.**
 - **Near-Earth Asteroids:** Asteroids that cross the Earth’s orbit are called **Earth-crossers.**



7.3.5. Unlocking India's Spacetech Potential

CONTEXT

A report titled "Exploring Opportunities for Indian Downstream Spacetech" was jointly launched by Indian Space Association (ISPA), Nasscom, Deloitte India.

ANALYSIS

Potential areas for the Indian downstream space sector

- ▶ **Remote sensing/Earth Observation (EO):** Includes services for storage of satellite data, data analysis and development of applications. In sectors like :
 - ▶ **Agriculture:** Crop identification, soil mapping, etc.
 - ▶ **Urban Planning and Development:** Master plan development, etc.
 - ▶ **Other:** Disaster Management, etc.
- ▶ **Satellite Communications (SatCom):** Focuses on services like broadcasting, communication, and internet connectivity.
- ▶ **Positioning, Navigation & Timing services (PNT):** Includes services used for tracking of assets, navigation services on air, land and sea etc.
- ▶ **Space for Strategic Purposes:** Categorized as the fourth operational domain, serves national security and strategic interests.
 - ▶ **Secure Communication:** Integrated Command and Control Centre.
 - ▶ **Intelligence, Surveillance and Reconnaissance:** Strategic Surveillance, Marine Domain Awareness etc.

BRIEF BACKGROUND

Components of Space Value chain

- ▶ **Upstream** consists of activities, products and infrastructure that ensure development, launching, etc.
- ▶ **Downstream** consists of applications, services and devices relying on satellites to create business value including Earth Observation Satellite, etc.
- ▶ **Auxiliary** includes additional space-related activities such as space insurance, etc.

The paradigm shift in India's Space journey

- ▶ **The Start:** INCOSPAR (Indian National Committee for Space Research) was set up in 1962, ISRO (Indian Space Research Organization) in 1969 and the Department of Space (DoS) in 1972.
- ▶ **Government was the only player:** Since then and up till the 2010s.
- ▶ **Entry of Private Sector**
- ▶ **Segmental diversification:** Upstream segment flourished through satellite manufacturing, launching etc.
 - ▶ **India's new space policy 2023** is promoting downstream segment.

Challenges for the emerging Indian Private Space ecosystem

- ▶ **International Competition:** Global space industry is highly competitive.
- ▶ **Access to Capital:** Major funding is for the industries related to the upstream activities.
- ▶ **Supply Chain Disruption:** Global instability and geopolitical conflicts disrupt supply chains.
- ▶ **Other concerns:** Lacks comprehensive data aggregation and analytics capabilities. And, low Return on Investment (ROI) due to the high cost of space resources.

Way Forward

- ▶ **Active role of Government:** Need to act as enablers and consumers of Earth observation-based services.
- ▶ **Streamlined Regulatory Framework:** Simplify and expedite regulatory processes, etc.
- ▶ **Public-Private Partnerships:** It can be through New Space India Ltd (NSIL), Commercial arm of ISRO and UNNATI (Unispace Nano Satellite Assembly & Training by ISRO)
- ▶ **Global Collaboration:** It can be done through initiatives like Satellite Services, NISAR (India-US) etc.


7.3.6. Space Missions in News

Mission/Projects	Objective/Related Agency
CALIPSO (Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observation) mission	NASA and France's CNES
Subsurface Water Ice Mapping (SWIM) project	NASA
Mars Oxygen In-Situ Resource Utilization Experiment (MOXIE)	NASA/Part of Perseverance Mars Rover
Lucy Mission	NASA/First space mission to explore Jupiter Trojan asteroids.
Jupiter Icy Moons Explorer (JUICE Mission)	European Space Agency
Euclid Space Telescope	European Space Agency
Integral Field Ultraviolet Spectroscopy Experiment (INFUSE) mission	NASA
SOFIA (Stratospheric Observatory for Infrared Astronomy)	NASA and German Aerospace Center
Exobiology Extant Life Surveyor (EELS)	NASA/ robot that would autonomously map, traverse, and explore previously inaccessible destinations

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FAST TRACK COURSE 2024





GENERAL STUDIES PRELIMS




PURPOSE OF THIS COURSE

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-  Sectional mini test and Comprehensive Current Affairs.



Starts:

1 DEC, 5 PM

7.4. HEALTH

7.4.1. Ultra-processed Food

CONTEXT



The Food and Agriculture Organisation (FAO) has released 'the State of Food and Agriculture (SOFA) 2023 Report which raises concerns associated with hidden cost of ultra-processed foods.

ANALYSIS



Impacts of Ultra-Processed food (UPF)

- ▶ **Impact on digestibility**, bioavailability of nutrients, acellular nutrients, duration of chewing, increased eating rate, over-consumption.
- ▶ **Formation of acrolein**, furans, acrylamide, industrial trans fatty acids, advanced glycation endproducts.
- ▶ **Dietary exposure** to contaminants from **packaging materials (bisphenols, phthalates, mineral oils)**.
- ▶ **High consumption** combined with low physical activity leads to issues like obesity, diabetes and cardiovascular diseases.

BRIEF BACKGROUND

- ▶ Ultra-processed foods are made mostly from substances extracted from foods, such as fats, starches, added sugars, and hydrogenated fats.

Challenges in Curtailing Ultra-Processed food

- ▶ **Lack of standard definition** and their categorisation.
- ▶ **Lack of a nutrition-based tax model (goods and services tax (GST) rates are not aligned with nutrition content)**
- ▶ **Lack of data** (like carbonated drinks by sugar content is not available) to undertake policy decisions.
- ▶ **Lack of Subsidies** and other **fiscal incentives**
- ▶ **Lack of implementation** (FSSAI proposed Indian Nutrition Rating as a format for **Front-of-Pack Labelling (FOPL)**)

FSSAI initiatives to curtail Ultra-Processed food

- ▶ It has put a **cap on trans-fatty acids** in food products, at **2% or less** from 2022.
- ▶ The **Food Safety and Standards (Advertising and Claims) Regulations, 2018**. **Food Safety and Standards (Safe Food and Healthy Diets for School Children) Regulations, 2020**.
- ▶ **'Eat Right India' movement**.
- ▶ Initiated social media campaign **'Aaj Se Thoda Kam'**, to bring about dietary modifications.

Way Forward

- ▶ **Create a clear and transparent definition**.
- ▶ **Introduction of Nutrition linked taxes**.
- ▶ **Provide Fiscal incentives linked to nutrition**.
- ▶ **Mapping global best practices and implementing it in India**.
- ▶ Draft Notifications on **Food Safety and Standards (Labelling & Display) Amendment Regulations (2022)** should be implemented.
- ▶ **Efficiently use advertisement and marketing**.

7.4.2. Food Fortification

CONTEXT

Food Safety and Standards Authority of India (FSSAI) operationalised provisions of Draft Food Safety and Standards (Food Product Standards and Food Additives) amendment regulations.

ANALYSIS

About Fortification

- ▶ **Fortification** is addition of key vitamins and minerals to staple foods such as rice, wheat, oil, milk and salt to improve their nutritional content.
 - ▶ Rice fortification refers to adding FRK-containing FSSAI-prescribed micronutrients (Iron, Folic Acid, Vitamin B12) to normal Rice in the ratio of 1:100.
 - ▶ Coating, extrusion and dusting are key technologies for it.
 - ▶ In India, extrusion technology (milled rice is pulverized and mixed with a premix containing vitamins and minerals).
- ▶ **Benefits:** Fortification is a cost-effective method for combating malnutrition.
- ▶ **Key initiatives**
 - ▶ Distribution of fortified rice under
 - ◊ Saksham Anganwadi and Poshan 2.0
 - ◊ Centrally sponsored pilot scheme on "Fortification of Rice & its Distribution under Public Distribution System.
 - ▶ '+F' logo by the FSSAI to identify fortified foods.
- ▶ **Key issues:** Harmful to people suffering from thalassemia and sickle cell anaemia.

BRIEF BACKGROUND

- ▶ Draft Food Safety and Standards (Food Product Standards and Food Additives) amendment regulations is issued under Food Safety and Standards Act 2006.
- ▶ It limits micronutrients in vitamin and mineral premix for manufacturing of fortified rice kernels (FRKs) (refer to the table).
 - ▶ This will strengthen the national fortification programme.

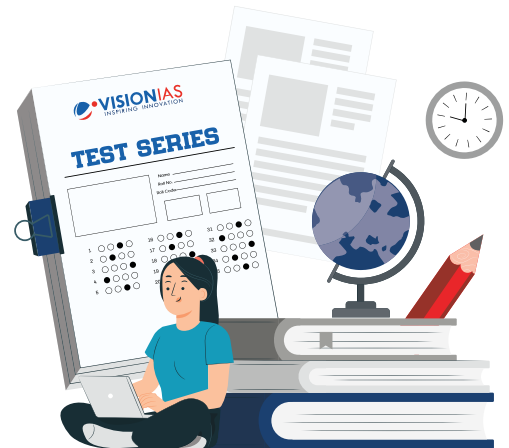
Limits of Micronutrients in Vitamin and Mineral premix for manufacturing of fortified rice kernels (FRKs)

Micronutrient	Composition (per 100g of Vitamin and mineral premix)
Iron	8-20g/100g
Vitamin B9 (folic acid)	45-55mg/100g
Vitamin B12 (Cynocobalamine)	0.45-0.55mg/100g

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7.5. ALTERNATIVE ENERGY

7.5.1. Battery Energy Storage System (BESS)

CONTEXT

Union Cabinet has approved a scheme for Viability Gap Funding (VGF) for development of Battery Energy Storage System. Scheme envisages development of 4,000 MWh of BESS projects by 2030-31.

ANALYSIS

About Battery Energy Storage System (BESS)

- ▶ It is categorized under the electrochemical storage system (refer infographics for types of Electric Energy Storages) which uses different electrochemical reactions to store electricity.
- ▶ **Types of BESS**
 - **Standard (non-flow) batteries:** Consists of pairs of plates (electrodes) immersed in electrolyte and separated by non-conducting materials.
 - **Flow batteries:** It uses tanks of electrolyte and membrane to control the flow of electrons and pumps to control the flow of electrolyte.

Need of domestic manufacturing of BESS

- ▶ **Economic:** Reduction of battery cell imports and prevention of outflow of forex reserves.
 - Reduction in oil imports and growth of mining sector.
- ▶ **Social:** Opportunity for skill development, incubation centres etc.
- ▶ **Environmental:** Assistance in meeting Pancharmit targets (COP 26 of UNFCCC). It will enable RE integration (also bringing down variability of generation in RE sources) with grid.
- ▶ **Other:** Improves grid stability, bringing down peak deficits, reduces pollution etc.

Challenges of battery manufacturing in India

- ▶ Extremely low reserves of in-house materials like lithium, cobalt, etc.
- ▶ **Policy uncertainty** such as discontinuation of tax holidays, etc.
- ▶ Lack of appropriate **technology transfer** and **exchange of information**.
- ▶ **Lack of high-quality R&D infrastructure** for research.
- ▶ **Absence of EV and storage policies**.
- ▶ **Reluctance among banks/financial institutions** to provide loans.

Way Forward

- ▶ Implementation of a **soft loan facility** for Discoms/transmission companies.
- ▶ Facilitate **demand creation of e-buses/e-cabs/e-autos**.
- ▶ **Incentivize advanced cell manufacturing**, supported adequately by states to encourage investors.
- ▶ **Re-design GST rates** to discourage imports and encourage domestic procurement of batteries, etc.
- ▶ Ensure **effective implementation of Extended Producer Responsibility (EPR)** and move from 'End-of-Life' approach to 'circular economy'.

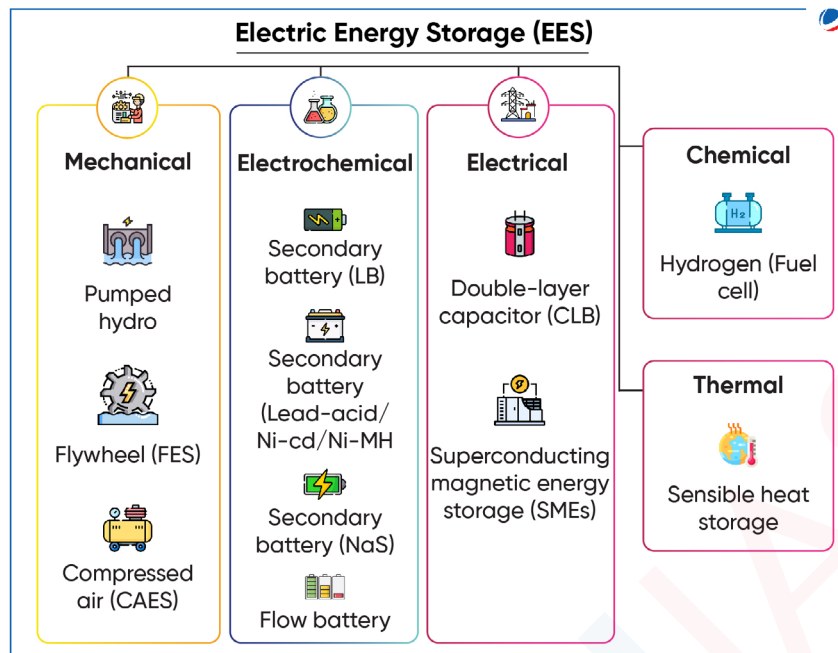
BRIEF BACKGROUND

Key highlights of the scheme

- ▶ Provide a financial support of up to **40% of the capital cost in the form of VGF**.
- ▶ Scheme targets to achieve a **Levelized Cost of Storage (LCoS)** ranging from ₹5.5-6.6 per kWh.
- ▶ A minimum of **85% of the BESS project capacity will be made available to Discoms**.
- ▶ **Ministry:** Ministry of Power

Other Initiative Taken in India

- ▶ **Legal status for Energy Storage Systems (ESS)**
- ▶ **Bidding Guidelines for Battery Energy Storage Systems (BESS)**
- ▶ **National Framework for Promoting Energy Storage Systems**
- ▶ **Battery Waste Management Rules, 2022**



7.5.2. Vanadium

CONTEXT

Researchers at the Geological Survey of India (GSI) discovered vanadium, from the Gulf of Khambhat in Gujarat which is the first report of vanadium occurrence in the offshore sediments of India.

ANALYSIS

Major Applications of Vanadium

- ▶ **Energy storage:** Used in vanadium redox flow batteries (VRFB).
 - VRB is a mobile battery that converts energy stored in an electrolyte into electricity by exchanging electrons between vanadium ions separated by a membrane.
 - They are a type of rechargeable batteries.
- ▶ **Steel manufacturing:** Used as an alloying element in steel production.
- ▶ **Catalysts:** In the production of chemicals, plastics, and other materials.
- ▶ **Nuclear reactors:** Because of their low-neutron-absorbing properties.
- ▶ **Medicine:** Treatment of prediabetes, and diabetes.
- ▶ **Automotive industries:** Provides high fuel-efficiency due to its high strength-to-weight ratio.
- ▶ **Aerospace and aviation:** Because of its high strength, lightweight, and heat resistance properties.

Concerns regarding use of Vanadium

- ▶ **Occupational exposure:** Vanadium oxides can produce severe toxic effects on human health.
- ▶ **Environmental Improper:** Disposal can lead to soil and water pollution.
- ▶ **Supply chain:** Few countries control its supply and production.
- ▶ **Limited technological development:** Adoption of VRFB batteries still in the early stages.

BRIEF BACKGROUND

About Vanadium

- ▶ It is a **transition metal**.
- ▶ Listed as one among the **30 critical minerals** identified in India.
- ▶ **Occurrence:** It rarely exists as a **free element in nature** (found in the form of organic complexes).
- ▶ It is **primarily derived from mined iron ore, carbonaceous shale or phyllites**.
- ▶ It is also found in small percentages **in meteorites** etc.
- ▶ It can be detected spectroscopically in the Sun's rays and occasionally in the light of other stars.
- ▶ It is hard **silvery-grey metal**.
- ▶ It is very **ductile** (can be drawn into wires), and **malleable** (can be hammered into thin sheets).
- ▶ It **does not react with water or oxygen** at room temperature, thus resist corrosion.
- ▶ **Brazil** is its **largest exporter**.
- ▶ **China has the highest vanadium reserves** (also it is largest consumer).
- ▶ In **India, Karnataka, Maharashtra and Odisha** are major states with vanadium reserves.
- ▶ Vanadium discovered at Gulf of Khambhat drained from the

7.6. AWARD AND PRIZES

7.6.1. Nobel Prize in Physics 2023

CONTEXT



Pierre Agostini, Ferenc Krausz, and Anne L'Huillier (**only the fifth woman to win a Nobel Prize in Physics**) have been awarded Nobel Prize in Physics 2023. They have been awarded for **Experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter.**

ANALYSIS



How did the discovery overcome the challenge of Studying rapidly moving electrons?

Generation of attosecond pulses of light (Anne L'Huillier)

- ▶ In 1987, Anne L'Huillier and her colleagues transmitted an Infrared laser beam through a **noble gas** and it produced multiple overtones.
 - They used **precision lasers to generate ultra-short bursts of light.**
 - They discovered a **new effect from a laser light's interaction with atoms in a gas.**
 - This effect can be used to **create shorter pulses of light.**
- ▶ **Mechanism:**
 - When the peak of one overtone **merges with the peak of another**, they undergo **constructive interference** and produce a **larger peak.**
 - Similarly when the peak of one overtone merges with the **trough of another**, they undergo destructive interference, '**cancelling**' themselves out.
- ▶ **By combining a large number of overtones** in this way, physicists fine-tune a setup to produce **light pulses for a few hundred attoseconds.**

Production of pulse train (Pierre Agostini and Ferenc Krausz)

- ▶ In 2001, Pierre Agostini and Ferenc Krausz were able to produce **verified attosecond pulses in a 'train':** a pulse followed by a gap, followed by a pulse, and so forth.
 - By 2017, experts were able to produce a **pulse as short as 43 attoseconds.**
- ▶ Resultantly, these experiments produced **pulses of light** that were measured in **attoseconds.** **These pulses can be used to provide images** of the processes inside atoms and molecules (including electron dynamics).

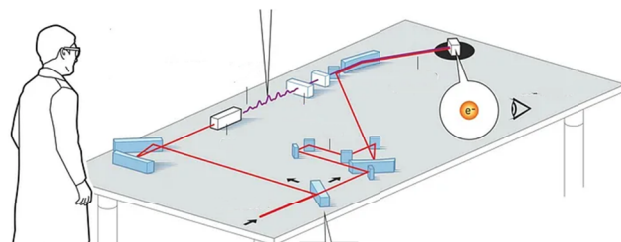
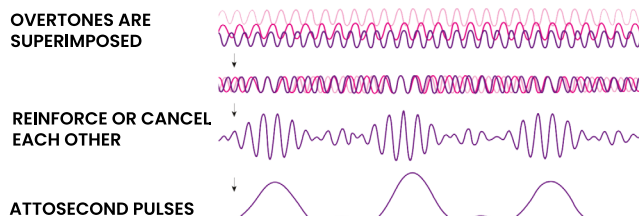
BRIEF BACKGROUND

About Electron Dynamics

- ▶ **Electron dynamics** refers to the behaviour and movement of electrons within **atoms and molecules.**
- ▶ **Atoms' natural time scale** is incredibly short.
- ▶ **Atoms can move and turn** in millionths of a billionth of a second, known as **femtoseconds** (Femtosecond is equal to 10^{-15} second).
- ▶ **Electrons move or change rapidly**, in the **magnitude of attosecond**, which makes them difficult to study.
 - For a long time, **femtosecond was seen as the shortest achievable duration** of the light pulses. Thus, making the study of electrons very difficult.
 - Just as the naked human eye cannot discern the individual beats of a hummingbird's wing, scientists were **not able to observe the individual movements of an electron.**

The world of electrons is explored with the shortest of light pulses

When laser light is transmitted through a gas, ultraviolet overtones arise from the atoms in the gas. In the right conditions, these overtones may be in phase. When their cycles coincide, concentrated attosecond pulses are formed.



The laser light is divided into two beams, where one is used to create a train of attosecond pulses. This pulse train is then added to the original laser pulse and the combination is used to perform extremely rapid experiments.

Applications of attosecond physics

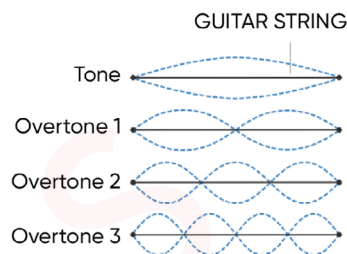
- ▶ **Medical diagnostics** (to check presence of certain molecules)
- ▶ **Development of Ultrafast Electronics** (faster electronic devices, and better telecommunications, imaging, and spectroscopy)
- ▶ **Precision Control of Electrons** (explore short-lived atomic and molecular processes in fields like materials science, etc.)
- ▶ **Other:** Open ups the new research field of **attosecond physics**

Overtones

- They are **waves of light whose wavelength was an integer fraction** of the beam.
- **For example**, if the beam had a wavelength of 100, the overtones would have wavelengths of 10, 25, 50, etc.



Overtones have several cycles for each cycle in the fundamental tone. Overtones work the same way in light waves.



7.6.2. Nobel Prize in Chemistry 2023

CONTEXT

The Nobel Prize in Chemistry 2023 has been given to **Moungi G. Bawendi, Louis E. Brus and Aleksey Yekimov**. They are awarded for the **discovery and development of quantum dots**.

ANALYSIS

About Quantum dots (QDs)

- ▶ Quantum dots are **man-made semiconductor particles**, whose sizes are normally not more than **10 nanometers**.
 - At the scale of nanometres, materials and particles are capable of new, size-dependent properties because quantum physical forces start to dominate.
 - ◊ At the macroscopic scale, like in our day to day lives, gravity and the rules of classical physics dominate.

Properties of QDs:

- ▶ They exhibit **quantum confinement**, which leads to many unique optical and transport properties.
 - **Fluorescence:** When excited by an external electric or light source, QDs emit photons of a specific wavelength.
 - **Tunable Emission:** QDs can emit light of different colours depending on their size. This property is called size-tunable emission (used in display technologies and bioimaging).
 - **Photostability:** QDs are less prone to photobleaching (loss of fluorescence over time) compared to traditional organic dyes. This makes them suitable for **long-term imaging applications**.
 - **Material Variety:** They can be made from different semiconductor materials, such as **cadmium selenide (CdSe)**, **lead sulfide (PbS)**, and **indium arsenide (InAs)**.
 - **Biocompatibility:** Used in **biological applications** without causing harm to **living cells** (advantageous in **bioimaging and drug delivery**).

About Nobel Winning Research

- ▶ In the early 1980s, **Alexei Ekimov** succeeded in creating **size-dependent quantum effects in coloured glass**.
- ▶ A few years later, **Louis Brus** was the first scientist in the world to prove size-dependent quantum effects in **particles floating freely in a fluid**.

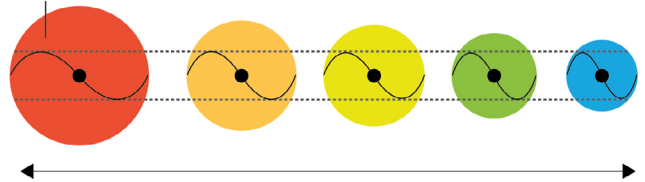
BRIEF BACKGROUND

- ▶ QDs are also denoted as **artificial atoms or zero-dimensional electron systems**.
- ▶ **Quantum confinement** occurs when particles, typically electrons, are confined to a very small space, such as in nanoscale structures.
 - It means that when particles are squeezed into tiny regions, they start to exhibit unique behaviours.

Quantum effects arise when particles shrink

When particles are just a few nanometres in diameter, the **space available to electrons shrinks**. This **affects the particle's optical properties**.

ELECTRON WAVE



Larger nanoparticle, **more** space for the electron wave **Smaller** nanoparticle, **less** space for the electron wave

- ▶ In 1993, **Moungi Bawendi** developed a technique to make quantum dots.

Applications of Quantum Dots

- ▶ **Electronics:** Television screens based on **QLED technology**, and **LED lamps**.
- ▶ **Advanced surgery:** In cancer treatment for **targeted drug delivery**, **nanomedicine**, biochemists and doctors use them to **map biological tissue etc.**
- ▶ **Anti-counterfeit measure:** Used as security markers on currency and documents.
- ▶ **Other potential uses:** In quantum computing, thinner solar cells, flexible electronics, tiny sensors, and encrypted quantum communication etc.

7.6.3. Nobel Prize in Physiology or Medicine 2023

CONTEXT

The prize Nobel Prize in Physiology has been given to **Katalin Karikó** and **Drew Weissman**. They have been **awarded for discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19.**

The mRNA vaccines posed significant challenges. These challenges were addressed in the work of Nobel Laurates.

ANALYSIS

Work of Nobel laureates

- ▶ **Understanding the concerns with mRNA vaccines**
 - ▶ **Issues with In vitro transcribed mRNA vaccines:**
 - ◊ **Unstable** and require **sophisticated delivery systems.**
 - ◊ **Inflammatory reactions** (cells are recognized as a foreign substance)
 - ◊ **Inefficient protein production.**
 - ▶ **Synthetic mRNA was considered to be a foreign substance** in comparison to mammalian cells.
 - ◊ The mRNA from cells (mammalian mRNA) undergoes a chemical change after entering the body (synthetic mRNA remains unchanged).
- ▶ **Breakthrough by them**
 - ▶ **Understanding:** Karikó and Weissman knew that **nucleoside bases in RNA from mammalian cells are frequently chemically modified.**
 - ◊ **Mammalian cells** derived from the tissue of mammal Eukaryotic cells (cells that contain a nucleus and organelles).
 - ▶ **Hypothesis:** **Absence of altered bases** could explain the **unwanted inflammatory reaction.**
 - ▶ **Testing:** On testing, they produced different variants of mRNA, each with unique **chemical alterations in their bases**, which they delivered to **dendritic cells.**
 - ◊ **Dendritic cells** have important functions in immune surveillance and activation of vaccine-induced immune response.
 - ▶ **Result:** Base modification abolished the **inflammatory response.**

Working of an mRNA vaccine

- ▶ It has laboratory created mRNA which make a protein, triggers an immune response inside our bodies.
- ▶ It produces antibodies; these protect us from getting sick immediately.

Applications of the discovery

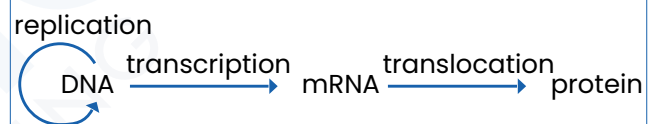
- ▶ **Covid-19 Vaccination** at an unprecedented pace. E.g., mRNA vaccines developed by Pfizer/ BioNTech and Moderna.
- ▶ **Rapid vaccine development with flexibility and speed.**
- ▶ It is **non-infectious** and cannot integrate with host DNA.
- ▶ **Broad applicability** (can be used for **deliver therapeutic proteins and treat some cancer types**).

BRIEF BACKGROUND

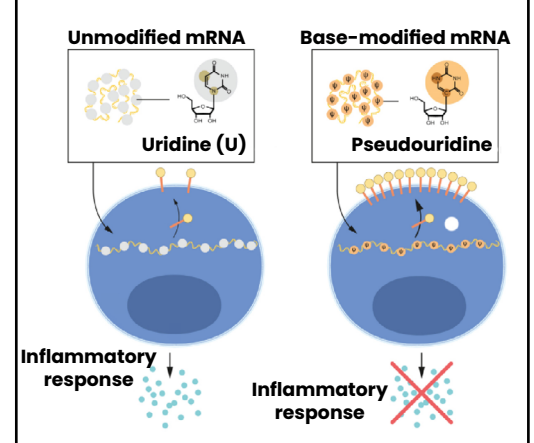
About mRNA (Messenger Ribonucleic Acid)

- ▶ **DNA stores all the genetic information** in our bodies; mRNA carries that genetic information, and translates into proteins.
- ▶ **RNA contains 4 nucleoside bases**, abbreviated A, U, G, and C, corresponding to A, T, G, and C in DNA, the letters of the genetic code.

DNA to Protein



Base modified in-vitro transcribed mRNA



TEST YOUR LEARNING

MCQs

Q.1 CRISPR technique is sometimes talked about with reference to which one of the following?

- (a) Nuclear Technology
- (b) Gene Editing
- (c) Artificial Technology
- (d) Quantum Computing

Q.2 GANs (Generative Adversarial Networks) and Artificial Neural Networks (ANNs) were in the news in the context of

- (a) India's advance air defence missile system
- (b) 5G Technology
- (c) Chandrayaan
- (d) Creation of Deepfakes

Q.3 Consider the following statements with reference to Lagrange points:

1. The gravitational pull of the two large bodies equals the necessary centripetal force.
2. India's Aditya-L1 will be also placed at a Lagrangian point.

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.4 Consider the following statements regarding Vanadium:

1. It is a rare earth metal.
2. It is used in redox flow batteries.
3. It is also used in the Nuclear reactors because of its low-neutron-absorbing properties.

How many of the above statements are correct?

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

Q5. Identify the incorrect statement in the context of the Quantum Dots.

- (a) They are natural semiconductor particles.
- (b) They are also referred as zero-dimensional electron systems.
- (c) They exhibit quantum confinement, which leads to many unique optical and transport properties.
- (d) They can be used in nanomedicine.

Questions

1. Discuss the issues related to Deepfakes. What measures have been taken in India to regulate it? (150 Words)
2. What are the emerging potential of India's space sector? Also, identify the issues which are inhibiting the growth of the sector. (250 Words)

CULTURE



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8.1. SCULPTURE AND ARCHITECTURE

8.1.1. KONARK SUN TEMPLE

CONTEXT

- ▶ The G20 Summit featured a mural of the renowned **Konark Sun Temple wheel**, a UNESCO World Heritage Site. It is also known as the Black Pagoda, Arka Kshetra, and Padma Kshetra.
- ▶ Constructed in the 13th century under Eastern Ganga King **Narasimhadeva-I**, it was described by Rabindranath Tagore as a place where the language of stone surpasses that of man.

Key Information

Structure of the Temple

- ▶ **Period:** Kalinga Architecture.
- ▶ **Entrance:** The main entrance has **Gajasimha** - gaja meaning elephant and simha referring to lions.
 - **Lions resemble pride, elephants resemble wealth** and both of them kill the human.
- ▶ **Natya Mandapa** which is after Gajasimha is hall for dance and theatre.
- ▶ **Jagamohan or Mukhasala:** The assembly hall of the temple.
- ▶ **Deul:** It is followed by Jagmohan and the idol is placed here.
- ▶ **Bhoga-mandira (kitchen)** to make bhoga for the deity and devotees.

Architectural features of the Temple

- ▶ **Sun rays:** The rising sun's first rays would illuminate the sanctum and the presiding deity.
- ▶ **Chariot Design:** Temple has been designed like a chariot of **Surya, the Sun God**.
- ▶ **Konark Wheel:** The rims are carved with designs of **foliage with various birds and animals**, whereas the **medallions** in the spokes are carved with **the figures of women in various luxurious poses**, mostly of a sensual nature.
- ▶ **Seven Horses drawing chariot:** These seven horses have been named in the Bhagawat Gita, which depicts rhythmic representation of the sacred verses of the Vedas.
 - The seven horses are also named after the seven colors of the rainbow
- ▶ **Carvings of the Temple:**
 - **War Horses:** The sculpture depicts **massive strength and energy crushing down the warrior**.
 - ◊ It has been accepted as the **symbol of the state Government of Odisha**.
 - **Sun God** at three strategic locations, to catch the sun at dawn, at noon and at sunset.
 - **Everyday activities:** The carvings at the base and on its walls chronicle everyday activities.
 - **Others:** Some carvings depict **sensuous details** while others exhibit **mythical creatures and animals**.
- ▶ **Different Interpretations of the Konark Wheel:** Time, Life cycle, Zodiac signs, Dharmachakra, Sun dial and Symbol of democracy.
- ▶ **Other Prominent Sun Temples in India include** Martand Sun Temple (J&K), Katarmal Surya Temple (Uttarakhand), Surya Pahar Temple (Assam), Dakshinaarka Sun Temple (Bihar), Arasavalli Sun Temple (AP), Suryanar Kovil (TN), Modhera Sun Temple (Gujarat) and Brahmanya Dev Temple (MP).



Read from Essential Material

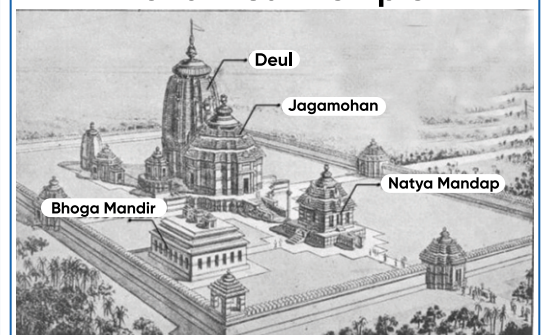
Chapter 6: "Temple Architecture and Sculpture" of class 11th An Introduction to fine art NCERT.

BRIEF BACKGROUND

Eastern Ganga Dynasty

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

Konark Sun Temple



8.1.2. UNESCO WORLD HERITAGE SITES RECOGNITION

8.1.2.1. SANTINIKETAN

CONTEXT

Santiniketan has been designated as the **41st UNESCO World Heritage Site (WHS)** of India. It exhibits an important **interchange of human values** on developments in architecture or technology. It is the third WHS of West Bengal, after the **Sundarbans National Park** and the **Darjeeling Mountain Railways**.

Key Information

About Santiniketan (Abode of Peace)

- ▶ **Location:** District Birbhum, West Bengal.
- ▶ **Brief Description:** It drew elements from **ancient, medieval and folk traditions of India as well as Japanese, Chinese, Persian, Balinese, Burmese and Art Deco forms** (Western Europe and the United States).
- ▶ **Uniqueness:** ‘Total work of art’ (**Gesamtkunstwerk**) where life, learning, work and art along with the local and the global intertwined.
 - ▶ It exhibits the crystallization of their ideas of **humanism, inclusiveness, environmentalism** and a **pan Asian modernism**.
- ▶ **Establishment:** In 19th century, by **Maharshi Devendranath Tagore** (father of **Rabindranath Tagore**).
 - ▶ Flanked by the rivers, the **Ajay** and the **Kopai**.

Key Architecture and Cultural Features

- ▶ **Overall:** The first architectural structures are part of the complex was the glass Temple (Mandir).
- ▶ It consist of **three main areas:** **Ashrama** (Hermitage), **Uttaryan** (residential quarters), **Kala Bhavana** and **Sangit Bavana**, the schools for Art and Music respectively.
- ▶ **Indigenous Architecture Style:** celebrating the narrative of **local communities, crafts, and nature**.
- ▶ **Buildings Material:** Both **traditional materials** (mud and thatch) and **reinforced cement concrete**.
- ▶ **Open spaces:** For engagements and discussions.
- ▶ **Decoration:** **Murals, frescoes, and sculptural friezes** by leading Indian artists adorn on the walls.
 - ▶ The walls and corridors of Kalo Bari are adorned with **Bharhut, Mahabalipuram, Mohenjodaro, Egyptian and Assyrian motifs**.

Read from Essential Material







Chapter 6: “The Bengal school and cultural nationalism” of An Introduction to Indian Art—Part II NCERT.

BRIEF BACKGROUND

About Rabindranath Tagore (1861- 1941)

- ▶ **Birth Place:** Kolkata
- ▶ **Education:** Educated at home (didn't completed his formal education).
- ▶ **Profession:** Writer, song composer, playwright, essayist, and painter
- ▶ **Awards:** Nobel Prize in Literature (1913)
- ▶ **Notable Works:** Gitanjali, Kabuliwallah, Gora etc.
- ▶ **Contribution of Rabindranath Tagore in Education**
 - ▶ He promoted following elements: **Self Realisation, Intellectual, Physical Development, Moral and Spiritual, and Social Development**.
 - ▶ Also, included **humanity, co-relation of objects (between man and nature) and economic opportunities**. Emphasised on **mother tongue as the medium of instruction**.

Key Architecture elements of different cultures

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

8.1.2.2. SACRED ENSEMBLES OF HOYSALAS

CONTEXT

The Sacred Ensembles of Hoysalas, comprising the **Chennakeshava temple (Belur)**, **Hoysaleshwara temple (Halebidu)**, and **Keshava temple (Somanathapur)** in Karnataka, have been designated as the 42nd UNESCO World Heritage Site (WHS).

Constructed during the 12th-13th century, these temples represent the 4th WHS in Karnataka, alongside Hampi, Pattadakal, and the Western Ghats.

Key Information

Temples and Features of the Hoysalas

▶ Chennakeshava Temple (also referred as Vijayanarayana Temple)

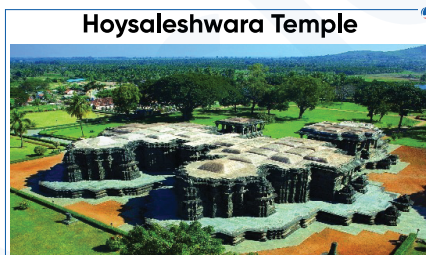
- ▶ Commissioned by: King Vishnuvardhana in 1117 CE in Belur Region, Hassan District.



- ▶ Deity: It is an **ekakuta** (temple with one shrine) and the **garbha griha** (sanctum sanctorum) houses portrait of Krishna.
 - ◊ Dedicated to Lord Vishnu.

▶ Hoysaleshwara Temple (Halebid Temple)

- ▶ Commissioned: in 1121 CE, King Vishnuvardhana in Halebidu, Hassan.
- ▶ Deity: Dedicated to Lord Shiva as Nataraja.



- ▶ Keshava Temple
 - ▶ Commissioned by: Somanatha Dandanayaka (during the regime of Narasimha III) in 1268 CE in Somanathapura, Mysuru.
 - ▶ Deity: It is a **Trikuta Temple** dedicated to Lord Krishna in three forms.



- ▶ **Mandapas** (hall where groups of people used to gather for prayers): They were both open and closed.
- ▶ **Gopuram (entrance of temple)** were lofty.
- ▶ **Sculpture:** Salabhanjika (a woman), a common form of sculpture.
- ▶ **Vimana** (structure over the garbhagriha or inner sanctum): Simple on the inside though lavishly decorated on the outside.
- ▶ **Other Features:** Ceilings featured **corbelled domes**.
 - ▶ On the uppermost part of the temple tower, temples have a **vase-shaped water pot**



Read from Essential Material

Chapter 6: "Temple Architecture and Sculpture" of class 11th An Introduction to fine art NCERT.

Hoysala Dynasty

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

Key Features of Temple Architecture

- ▶ **Style:** Followed a **stellate plan** (looking like a star) built on a **raised platform (adhithana)**.
- ▶ **Material used:** Soapstone.
- ▶ **Garbha griha (sanctum sanctorum)** houses a **centrally placed murti (enshrined icon)** on a **pitha (pedestal)**.

8.1.3. SHARDA TEMPLE

CONTEXT

Navratri puja was held at the **newly built Sharda Devi Temple** close to the **Line of Control (LoC)** in Teetwal village in the Kupawara district of Jammu and Kashmir.

Key Information

Significance of Sharda Peeth

- ▶ **Religious significance:** It is also one of the **18 Maha Shakti Peethas**, or a **“Grand Shakti Peethas”** and is considered to be the abode of Hindu Goddess Saraswati.
 - **Goddess Sharada** is regarded by Hindus as an **incarnation of the goddess Saraswati**.
 - Goddess Sharada is **considered by Kashmiri Pandits as their kuldevi** (principal deity)
- ▶ **Educational significance:** The peeth was also one of the **universities of higher learning of Vedic works, scriptures, and commentaries**.
 - It is believed that Sharda University had a **script known as Sharada**.
 - **Renowned scholar Adi Shankaracharya** is said to have **studied at Sharada University**.
 - **Ramanujacharya**, one of the most important exponents of the Sri Vaishnav tradition is also **believed to have visited Sharada Peeth & written his treatise, Sri Bhasya**.

Sharada Temple



BRIEF BACKGROUND

Sharda Devi Peeth

- ▶ Sharada Peeth was **one of the three principal shrines** of the region, along with the **Martand Sun Temple and the Amarnath Temple**.
- ▶ The temple has a **close resemblance with the Martand temple** in architecture, design and construction style.
- ▶ **Al Beruni** famous scholar and traveller **described the temple as a much-venerated site of pilgrimage**.

8.1.4. KING KULASHEKARA ALUPENDRA

CONTEXT

Archaeologist discovers an inscription announcing the death of King Kulashekara Alupendra I at Someshwara (Karnataka).

It was the **first record of the Alupa Dyansty** that announced the death of a king. The inscription is significant in the study of Tuluva history and culture.

Key Information



About Kulashekara Alupendra

- ▶ He ruled Tulunadu from 1156-1215 A.D.
 - ▶ He established new city **Kulashekara** in Mangaluru.
 - ▶ He laid down **strict rules and regulations for temple administration**, which are still followed in all temples in this region.
 - ▶ He was **first ruler to give royal patronage to Tulu language** and culture.
 - ▶ In inscriptions, Alupa emperor was described as "**Lokantamanta**", meaning "famous in the universe" in Tulu.
 - ▶ **Someshwara temple** was built during his time in honour of Soma and adorned with Nava Durgas.
 - ▶ Soma cult was founded by one Soma Sharma of Gujarat in the 11th century AD and it spread across the country.

BRIEF BACKGROUND

Alupa dynasty

- ▶ They were one of the **longest reigning dynasties of Tulu Nadu** (in Karnataka).
- ▶ Barkur was the capital city of the royal family.
- ▶ The Alupas had shifted their capital to **Barkur from Udyavara**.
- ▶ Tulu has a **rich oral literature tradition** with **folk-song forms** like paddana, and traditional folk theatre yakshagana.
- ▶ The **Halmidi Inscription (Hassan, Karnataka)** mentions about a grant recommended by King Pashupati of Alupa and the Chief Commander of Kadamba forces.

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8.2. PAINTINGS AND OTHER ART FORMS

8.2.1. UNESCO CREATIVE CITIES NETWORK (UCCN)

CONTEXT



Gwalior, Kozhikode joined the UNESCO Creative Cities Network (UCCN). New cities were acknowledged for their strong commitment to harnessing culture and creativity as part of their development strategies.

Key Information



About Cities

- ▶ **Kozhikode ('City of Literature')**
 - ▶ It has a robust literary foundation with over 500 libraries and more than 70 publishers;
 - ▶ It is also a permanent venue for the annual Kerala Literature Festival and numerous book festivals.
- ▶ **Gwalior ('City of Music')**
 - ▶ It has a rich musical history encompassing legends like Mian Tansen (Ramtanu Pandey) and Baliti Bawra.
 - ▶ It is also considered the birthplace of Gwalior Gharana (the oldest Hindustani musical Gharana).
- ▶ **Other Indian cities on UCCN:** Mumbai (Film), Chennai (Music), Hyderabad (Gastronomy), Varanasi (Music), Jaipur (Crafts and Folk art) and Srinagar (Crafts and Folk art).

BRIEF BACKGROUND

- ▶ **UCCN:**
 - ▶ It was created in 2004.
 - ▶ The UCCN tag gives global recognition and boosts tourism.
 - ▶ It has 350 creative cities in more than 100 countries, spanning seven creative fields:
 - ◊ Crafts and Folk Art, Design, Film, Gastronomy, Literature, Media Arts, and Music.
- ▶ **UNESCO:** It was established in 1945. It currently has 194 members including India.
 - ▶ It contributes to the building of a culture of peace, eradication of poverty, sustainable development, etc.

8.2.2. NEW PARLIAMENT'S GATES AND THEIR GUARDIANS

CONTEXT





The New Parliament has 6 entrances, each signifying a different role. Out of these, 3 are designed as ceremonial entrances, to welcome special guests and to mark special events.




Key Information



Ceremonial entrances and their Guardians

Gaja Dwar (North Gate)		<ul style="list-style-type: none"> ▶ Represents wisdom and wealth, intellect, and memory, and also embodies the aspirations of the elected representatives of the democracy. ▶ Inspired by a similar statue at Madhukeshvara Temple at Banabasi, Karnataka.
Garuda Dwar (Eastern Gate)		<ul style="list-style-type: none"> ▶ Eagle-like Garuda stands, which signifies the aspirations of the people and the administrators of the country. ▶ Inspired by a similar statue of Nayaka period sculpture from Kumbhakonam, Tamil Nadu.
Ashwa Dwar (Southern Gate)		<ul style="list-style-type: none"> ▶ Horse standing alert and ready which is symbol of endurance and strength, power, and speed, also describing the quality of governance. ▶ Inspired by a similar statue at the Sun temple, Konark, Odisha.

Public Entrances and their Guardians

<p>Shardul Dwar (Western Gate)</p>		<ul style="list-style-type: none"> ▶ Mythological creature, Shardul symbolising the power of the people of the country. ▶ Inspired by a similar statue at Shiva Temple at Sihonia in Morena, Madhya Pradesh.
<p>Hansa Dwar(North East)</p>		<ul style="list-style-type: none"> ▶ Reminding the people the power of discernment and self-realisation as essential feature of Democracy. ▶ Inspired by a similar statue at Vijay Vitthala Temple, Hampi, Karnataka.
<p>Makara Dwar</p>		<ul style="list-style-type: none"> ▶ Mythological aquatic creature, Makara representing, unity in diversity among the people of the country. ▶ Inspired by a similar statue at the Hoysaleswara Temple at Halebidu.

BRIEF BACKGROUND

Central Vista Redevelopment plan

- ▶ Central Vista was designed **as the capital of British India and envisioned to be the 'living center of administration'**.
- ▶ It was **inaugurated in 1931**, with only five important buildings.
- ▶ The **Redevelopment of Central Vista Master Plan** was conceived in September 2019.
- ▶ It is a generational infrastructure investment project, involving multiple projects spread over 6 years.
- ▶ The plan will provide **modern, sustainable, and upgradeable facilities for administration, cultural institutions, and public space**.
- ▶ It includes the **new Parliament building, Chambers for Members of Parliament, the Central Vista Avenue, 10 buildings of the Common Central Secretariat**.

8.2.3. CHAUSATH YOGINI TEMPLE

CONTEXT



It is believed that the design of the old Parliament Building was inspired from **Chausath Yogini temple located in mitaoli village in Madhya Pradesh**. Old Parliament building was designed by architects **Edwin Lutyens and Herbert Baker**.

Key Information



About chausath yogini temple

- ▶ The grand Chausath Yogini temple is **circular**, with 64 chambers dedicated to the 64 yoginis, and a **central shrine dedicated to Shiva**.
 - The 64 yoginis are **believed to be powerful warriors and sorceresses**.
- ▶ It was built around 1323 by King Devapala of the **Kachchhapaghata dynasty**.

Chausath Yogini temple



8.2.4. NATARAJA STATUE

CONTEXT



The world's tallest Nataraja statue was installed at Bharat Mandapam, the venue of the G20 summit in Delhi. It is a ~27-foot-tall statue and was made by sculptor Radhakrishnan Sthapathy in Thanjavur District of Tamil Nadu. The statue was built in Ashtadhatu (8 metals) using the traditional lost wax casting method.

Key Information

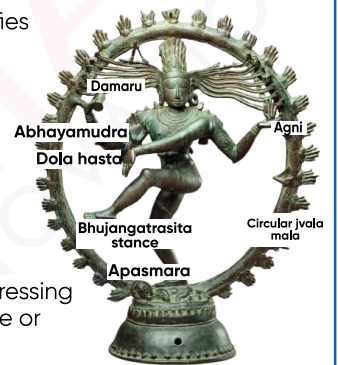


About Nataraja Statue

- ▶ Nataraja is regarded as the 'Lord of Dance' and his dance represents the cyclical creation and destruction of the universe.
- ▶ The dance is a manifestation of panchkryyas or the five activities.
- ▶ Temples associated:
 - A bejeweled image of Nataraja is located at the Thillai Nataraja Temple in Chidambaram (Tamil Nadu).
 - ◊ Temple is located at the Center Point of world's Magnetic Equator.
 - Uma Maheswarar Temple in Konerirajapuram, and the Brihadeeswara Temple, in Thanjavur.

Features of the Nataraja Statue

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



BRIEF BACKGROUND

Art and architecture under Chola dynasty

Sculptures

- ▶ The Chola period is well known for its metal sculptures.
- ▶ Chola bronze sculptures were made using the **cire perdue** or **lost-wax casting** technique.
- ▶ The sculptures featured holes at the bottom.

Paintings

- ▶ There were paintings on the themes of **Puranas** painted on the inner walls of the **Raja Rajeswara Temple** and **Gangaikonda Cholapuram Temple**.
- ▶ A painting believed to be that of **Marco Polo** is in the **Brihadeeswarar Temple**.

Music and dance

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



Read from Essential Material

Chapter 7: "Indian Bronze Sculpture" of class 11th An Introduction to fine art NCERT.

8.2.5. ANCIENT STITCHED SHIPBUILDING METHOD (TANKAI METHOD)

CONTEXT



Recently, the **Ministry of Culture** collaborated with the Indian Navy to **reconstruct an ancient stitched ship**. The **Ministry of Culture** has fully funded this project. Indian Navy is overseeing the **ship's design and construction**.

Key Information



About the Project

- ▶ Under the project, a **21-metre "stitched ship"** will be made by stitching the planks of wood using ropes, cords, coconut fibres, natural resins and oils.
 - These ships, constructed by stitching wooden planks together rather than using nails, **offered flexibility and durability**.
 - The idea of ship design was taken from an **Ajanta painting** of a stitched ship.
 - This initiative is **in synergy with the Ministry of Culture's Project Mausam**.



Read from Essential Material

Chapter 9: "International Trade" of class 12th Fundamentals of Human Geography NCERT.

BRIEF BACKGROUND

Some of the important trade routes

- ▶ **Ancient Maritime and cultural links to South and Southeast Asian regions:** Local traders known as **Sadhavs** used to sail through regions like Bali, Sumatra, Silon (Sri Lanka), etc.
- ▶ **Red Sea trade route:** This maritime highway linked the Roman Empire and India, through the Red Sea.
 - Trade was in like **spices, ivory, pearls, and precious gemstones**, etc.
- ▶ **Silk Road:** An overland trade route supposedly stretching across Asia from Xian in China to Antioch in Turkey.

8.2.6. MEWAR SCHOOL OF PAINTING

CONTEXT



Recently, there was a discussion on **Allah Baksh, Maharana Jai Singh's Court painter**, had illustrated the Mahabharata with 4,000 Mewari miniature paintings.

Key Information



About Mewar Miniature painting (17th-18th centuries)

- ▶ It is a school in the **Rājasthanī style** developed in Mewar (Rajasthan).
- ▶ The emergence of the Mewar School is **associated with a set of Ragamala paintings painted at Chawand in 1605** by an artist named Nisardin.
- ▶ In the 18th century, Mewar painting shifted **towards courtly and secular subjects, including portraiture, court scenes, hunting expeditions, festivals, zenana**



Read from Essential Material

Chapter 2: "The Rajasthani Schools of Painting" in An Introduction to Indian Art—Part II of NCERT.

activities, and sports.

- ▶ **The Nathdwara School** is a subset of the Mewar School of painting.

Features:

- ▶ It is characterized by **simple bright colour and direct emotional appeal.**
- ▶ Miniature painting is a **small, finely wrought portrait executed on vellum, prepared card, copper, or ivory.**
- ▶ **Mewar school artists:** Sāhibdīn (drew Raagmala), Manohar (Bal Kanda of Ramayana), and Jagannath (Bihari Satsai).

BRIEF BACKGROUND

Rajasthani painting

- ▶ It differs from the **Mughal painting** in its bolder use of colour, an abstract and conventionalized conception of the human figure, and an ornamental treatment of landscape.
- ▶ **Two main factors contributed to the development of Rajasthani paintings:**
 - the patronage of rich Rajputana communities
 - the revival of Vaishnavism and the growth of bhakti cults.



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8.3. PERSONALITIES

8.3.1. SIR SYED AHMED KHAN

CONTEXT

Year 2023 marked Sir Syed Ahmed Khan's 125th death anniversary. He worked as a civil servant, journalist, educationist, social reformer and historian.

Key Information

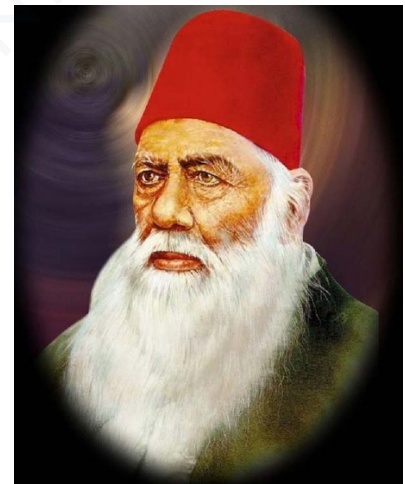
Role as a Social Reformer

- ▶ **Transformation in the Education sector**
 - He instituted **Scientific Society** in 1863 to instill a scientific temperament into the Muslims.
 - He founded **Muhammadan Anglo-Oriental College in Aligarh** in 1875 and started the **Aligarh movement**.
 - He was against **ignorance, religious intolerance, and irrationalism**.
- ▶ **As part of the National Movement**
 - In his later years, encouraged the Indian Muslims not to join the **National Movement**.
 - He is regarded as one of the founders of the **Two-Nation Theory**.
- ▶ **Record on women's rights: Conservative**
 - Faced criticism for advocating "**disorganized tutor-based home education**" for women.
 - He supported **gender segregation and purdah-centric home education**, opposing co-education and girls' institutions.
 - Despite this, he **denounced polygamy, infanticide, and child marriage**.
 - His visit to England in 1869-70 influenced a somewhat **revised outlook on women's education**.

Read from Essential Material

Chapter 2: "Cultural Change" in Social Change and Development in India, textbook of sociology of class 12.

SIR SYED AHMED KHAN



BRIEF BACKGROUND

- ▶ **Religious view of Sir Syed Ahmed Khan**
 - His **interpretation of Islam emphasised the validity of free enquiry (ijtihad)**.
 - He also **highlighted similarities between Koranic revelations and the laws of nature**.
- ▶ **Writings:**
 - Written a paper titled "**The Causes of the Indian Revolt**" to explain the reasons for the revolt from a native perspective.
 - **The Aligarh Institute Gazette**, a magazine published by him.
 - **Tahzebul Akhlaq** (Social Reformer in English), a magazine he founded, to awaken people's consciousness on social and religious issues.
 - '**Commentary on the Holy Bible**' on Christianity.
 - **Historical Documentation** like "**Asar-us-Sanadid**,"

8.3.2. RANI DURGAVATI

CONTEXT

Recently, the 500th birth anniversary of Veerangana Rani Durgavati was celebrated. She was born in Chandel Dynasty of Mahoba in Banda, UP and was married to Dalpatshah of Gond Dynasty of Garha-Katanga in 1542. Gonds are one of the largest tribal groups and located in central India.

Key Information

Contributions

- ▶ **Assuming leadership:** She took reins of the Gond Dynasty in 1550.
- ▶ **Infrastructure Development:** She constructed reservoirs and moved the Capital to Chauragarh (from Singaugarh).
- ▶ **Patronage of Religious Figures:** She allowed Acharya Bitthalnath to establish a seat of the Pushtimarg Cult at Garha.
- ▶ **Commitment to Secular Governance.**
- ▶ **Victory over Baz Bahadur of Malwa:** Tarikh-i-Firishta mentions Durgavati defeated Baz Bahadur, the ruler of Malwa.
- ▶ **Historical documentation:** Story of Durgavati was chronicled by Abul Fazl (Akbar's chronicler) and British Colonel, Sleeman.
- ▶ **Conflict with Akbar:** She was a contemporary of Mughal emperor Akbar and opposed Mughal expansionism.

RANI DURGAVATI



BRIEF BACKGROUND

About the Chandela dynasty of Bundelkhand

- ▶ Chandelas were an Indian Rajput clan of Central India (aka Jejakabhukti dynasty).
- ▶ **Founder:** Nanuka in 835 CE.
- ▶ **Prominent Rulers:** Yashovarman, Dhanga, Vidhyadhara, Paramardideva, Trilokyavarman.
- ▶ **Major Cities:** Capital city: **Khajuraho** (later changed to **Mahoba**)
- ▶ **Language:** Sanskrit and Prakrit
- ▶ **Social System:** Varna system was the basis of social organisation. Women as wives occupied a high place in the family and society.
- ▶ **Features of Temples of Khajuraho School** (mid-10th century)
 - **Themes:** erotic sculptures drawing inspiration from Vatsyayana's Kamasutra.
 - **Religion:** belonged to the Hindu and Jain religions.
 - **Material:** Sandstone.
 - **Major temples:** Lakshmana Temple (Vishnu), Vishvanatha Temple (Shiva), Kandariya Mahadeva Temple (Shiva), Sun temple in Mahoba.
- ▶ **Decline:** Invasion of Mahmud Ghaznavid, Qutb ud-Din Aibak.



Read from Essential Material

Chapter 2: "New kings and Kingdoms" in Our Past-2 history.

8.3.3. SANT MEERA BAI

CONTEXT

The 525th birth anniversary of **Sant Meerabai** was recently celebrated in Mathura, Uttar Pradesh. She was a great **Bhakti saint**, Hindu mystic poet, and a devotee of the Lord Krishna.

Key Information



- ▶ **Early life**
 - ▶ She was born as **Princess of Mewar**.
 - ▶ In **1516**, Meera Bai married **Rana Bhoj Raj**, and left Mewar After the death of Bhoj Raj in **1521**.
- ▶ **Life as a saint**
 - ▶ She moved to multiple places including **Brindavan**, **Dwarka** followed **Saguna**.
- ▶ She considered **Lord Krishna** as her husband since her childhood and addressed him as **Giridhar Gopal**.
- ▶ **Major works**
 - ▶ One of her celebrated songs is **"Paayoji maine Ram Ratan dhan paayo (today I got the most precious wealth of Lord Rama's name)"**.
 - ▶ Some of her bhajans translated into English by **Robert Bly and Jane Hirshfield** as **'Meerabai: Ecstatic Poems'**.
 - ▶ **Bhaktmal**, a poetry collection that describes the biography of Meera Bai, is written by **Guru Nabha Dass ji** in **1585** in **Braj language**.
- ▶ **Social Reforms**
 - ▶ She became a disciple of **Sant Ravidas** (also known as **Raidas**) who belonged to a caste considered **"untouchable"**.
 - ▶ She **rejected traditional women's roles and societal norms** by leaving palace and choose to become wanderer.

SANT MEERA



BRIEF BACKGROUND

Bhakti Movement

The Bhakti movement originated in South India between the 7th and the 12th centuries A.D.

Bhakti movement in different regions

- ▶ **South India**
 - ▶ Initially led by the **Alvars** (Devotees of Lord Vishnu) and **Nayanars** (devotees of Lord Siva).
 - ▶ **Nayanars**: Devotees of **Lord Siva**, were sixty-three in number.
 - ▶ **Alvars**: Devotees of **Lord Vishnu** who were twelve in number. The **devotional songs of Andal** are called **Thiruppavai**.
- ▶ **Central and North India**
 - ▶ Bhakti traditions into two broad categories:
 - ◊ **Saguna**: Worship of **God with attributes** or form. Example: **Tuslidas, Meera Bai**, etc.
 - ◊ **Nirguna**: Worship of the **Formless form of God**. Examples: **Kabir Das, Guru Nanak Dev**, etc.
- ▶ **Maharashtra**
 - ▶ Region focused on the **Vitthala** (a form of Vishnu) **temple in Pandharpur** and followed **Warkari tradition**.
- ▶ **East and North East**
 - ▶ **Neo-Vaishnavite Movement** was propagated by **Śankaradeva** in **Assam region**.
 - ▶ **Chaitanya Mahaprabhu**, a great devotee of **Lord Krishna**, was a saint from **Bengal**. He popularised **'Sankritan** or public singing of God's name.



Read from Essential Material

Chapter 2: "Bhakti-Sufi Traditions" in Theme in Indian history part-II.

8.3.4. KAZI NAZRUL ISLAM

CONTEXT



The re-tuning of **Kazi Nazrul Islam's 1922 anti-British anthem Karar Oi Louho Kopat** (Iron bars of a jail) for a film has led to widespread criticism in Bangladesh.

Key Information



- ▶ **Overview:** He was born in **Churulia village, Burdwan** (now Bardhaman) district of **West Bengal**. He is popularly known as the **Bidrohi Kobi** (Rebel Poet).
 - He wrote and composed more than **2000 songs** which are popularly known as '**Nazrul Geeti**'.
- ▶ **Major Works:**
 - ▶ In 1919, he published his first piece, '**The Autobiography of a Delinquent**' or '**Saogat**', while serving in the army.
 - ◇ Nazrul left the military in 1920 and then joined the '**Bengali Muslim Literary Society**'.
 - ▶ **Famous work:** **Bandhan-hara** (Freedom from bondage), '**Bodhan**', '**Shat-il-Arab**', '**Badal Prater Sharab**', etc.
 - ▶ He created his famous poem '**Anondomoyir Agomone**' in 1922, for which he was sent to prison for one year by the British authority.
- ▶ **Role in National movement**
 - ▶ He took an active part through his writings on **Swadishi and Khilafat movement**.
 - ▶ He organized the **Sramik Praja Swaraj Dal (Workers and Peasant Party)**.
 - ▶ He became critic of the "**Khilafat**" struggle and the **INC** for not bargaining for political independence.
- ▶ **Hindu-Muslim Unity:** During Hindu-Muslim riots in Calcutta in 1926, he called for Hindu-Muslim unity.
- ▶ **Awards & Achievements:** In 1960, he was awarded the **Padma Bhushan**.

Kazi Nazrul Islam



BRIEF BACKGROUND

Swadeshi movement

- ▶ It was officially proclaimed on August 7, 1905, at the **Calcutta Town Hall, in Bengal**.
- ▶ The movements included using goods produced in India and burning British-made goods.
- ▶ Initially focused on **reversing the Bengal partition**, it evolved into the broader Swadeshi movement later.

8.3.5. BHAGWAN BIRSA MUNDA

CONTEXT



Janjatiya Gaurav Divas is celebrated on **15th November (since 2021)** to recognize the efforts of the tribal freedom fighters. The date is the **birth anniversary of Sri Birsa Munda** who is revered as **Bhagwan** by tribal communities across the country.

Key Information



About Birsa Munda (1875-1900)

- ▶ **Early life:** Birsa Munda also known as **Dharti Aaba**, was born in **Munda tribe** at **Ulihatu, Khunti district of Chotanagpur Plateau region (Jharkhand)**.
- ▶ **Social reforms:** He stressed on the importance of **prayer, staying away from alcohol**, having faith in God and observing a code of conduct.
 - ◇ Based on these, he started the faith of **Birsait**.
- ▶ **Ulgulan movement :** Birsa started a movement called '**Ulgulan**', or '**The Great Tumult**' against the exploitation and discrimination against tribals.

Birsa Munda



BRIEF BACKGROUND

Ulgulan Movement

- ▶ It aimed at establishing **Munda Raj by driving out the British**.
- ▶ Munda used traditional symbols and language to urge people them to destroy **dikus** or outsiders and Europeans.
- ▶ They attacked police stations and churches and raided the property of moneylenders and zamindars.
- ▶ Led to **Chotanagpur Tenancy Act** being passed in **1908** which restricted the passing on of land from the tribal people to non-tribals.

8.4. AWARDS

8.4.1. NOBEL PRIZE IN LITERATURE FOR 2023

CONTEXT



It was awarded to the Norwegian author and dramatist **Jon Fosse**, “for his innovative plays and prose which give voice to the unsayable.” The Academy honored Fosse’s body of work written in **Norwegian Nynorsk** which includes several plays, novels, poetry collections, essays, children’s books and translations.

Key Information



About Nobel prize for literature

- ▶ **Nobel prize for Literature** is worth **11 million Swedish kronor (\$1 million)** and is regarded widely as the world’s most prestigious literary award.
- ▶ The Nobel Prize in Literature has been awarded **116 times to 120 Nobel laureates** between 1901 and 2023.
- ▶ In the recent years, the prizes have gone to **French author Annie Ernaux (2022), Tanzanian novelist Abdulrazak Gurnah (2021)**

BRIEF BACKGROUND

Nobel Peace Prize

- ▶ The Nobel Peace Prize is **one of the five original Nobel Prizes established by the will of Alfred Nobel.**
- ▶ It was to be awarded to the person “who shall have done the **most or the best work for fraternity between nations**, for the **abolition or reduction of standing armies** and for the **holding and promotion of peace congresses”.**
 - It has been awarded both to individuals and organizations.
- ▶ The **first Nobel Prizes were awarded in 1901.**

8.4.2. SANGEET NATAK AKADEMI AMRIT AWARDS

CONTEXT



Recently, **84 artists** were conferred with the **Sangeet Natak Akademi Amrit Awards**.

Key Information



About the Award

- ▶ **Purpose**
 - **National honor** bestowed by the country on **performing artists, teachers and scholars** in the field of performing arts.
 - To honor the **Indian artists aged above 75 years** who have not been accorded any national honor in their career so far.
 - This is **one-time awards** by the Sangeet Natak Akademi.
- ▶ **Prize:** ₹1 lakh, besides a ‘**Tamrapatra**’ and ‘**Angavastram**’.
- ▶ **Award presented by:** Vice president of India.

BRIEF BACKGROUND

Sangeet Natak Akademi

- ▶ **Genesis:** Set up in 1953, as an apex body in the field of performing arts in the country.
- ▶ **Ministry:** Autonomous body under the Ministry of Culture.
- ▶ **Objective:** For the preservation and promotion of the vast intangible heritage of India’s diverse culture expressed in forms of music, dance, and drama.
- ▶ **Major awards:**
 - ▶ Sangeet Natak Akademi Fellowship (Ratna sadshya)
 - ▶ Sangeet Natak Akademi Award
 - ▶ Ustad Bismillah khan yuva puraskar.

8.5. MISCELLANEOUS

8.5.1. RURAL TOURISM

CONTEXT



Recently, the United Nations World Tourism Organization (UNWTO) announced its list of **Best Tourism Villages 2023**. Launched in 2021, Best Tourism Villages by UNWTO initiative is part of the UNWTO Tourism for Rural Development Program.

Key Information



The initiative comprises three pillars:

- ▶ **Best Tourism Villages by UNWTO:** Recognizes outstanding rural tourism destinations with accredited cultural and natural assets.
- ▶ **Best Tourism Villages by UNWTO Upgrade Program.**
- ▶ **Best Tourism Villages Network.**

About Dhordo Village (Best Tourism Villages 2023)

- ▶ Dhordo village in Kutch district of Gujarat.
- ▶ Dhordo is famous for hosting the annual Rann Utsav (White Desert Festival).
- ▶ Rann Utsav celebrated every year in November.
- ▶ Dhordo is also home to the Mutwa community from Sindh, specialising in Mutwa embroidery

Mutwa Embroidery



About Madla Village (Selected in Upgrade Programme)

- ▶ Madla Village is located in Panna district of Madhya Pradesh.
- ▶ River Karnawati (Ken) flows through the village.
- ▶ Some intangible heritage of the village includes folk music & dance, local festivals and Bundelkhand cuisine.
- ▶ The architecture of the houses is still having the essence of the village.

BRIEF BACKGROUND

Rural Tourism

- ▶ Rural tourism represents any form of tourism that showcases the rural life, art, culture and heritage at rural areas.
- ▶ **Significance of rural tourism:** Create employment opportunities, promote social harmony, develop local markets, and improve the standard of living in rural areas.
- ▶ **Challenges associated with Rural Tourism:** Poor infrastructure, Lack of awareness and skills, Lack of trained manpower, Digital Illiteracy, etc.
- ▶ **Initiatives taken to promote Rural Tourism**
 - ▶ **National Strategy and Roadmap for the Development of Rural Tourism in India**
 - ▶ **National Strategy for Promotion of Rural Homestays (RH):** It aims to develop RH as an experiential tourism product which boosts rural tourism.
 - ▶ **National Tourism Awards (NTA):** The Ministry of Tourism presents annually NTA to various segments of the travel.
 - ▶ **Kongthong village** honoured with 'Best Tourism Village (Bronze)' award at National Tourism Awards (NTA) 2023
 - ▶ **Dekho Apna Desh Scheme:** It aims to increase domestic tourism.

8.5.2. Revamped 'Adopt a Heritage 2.0' Programme

CONTEXT

Archaeological Survey of India (ASI) launched revamped 'Adopt a Heritage 2.0' programme. The scheme was originally launched in 2017 under Ministry of Tourism, Ministry of Culture, ASI, and State/ UTs Government.

Key Information

About the programme

- ▶ Objective was ensuring **quality and inclusive provision of amenities** through participation of **private and public sector organizations and individual**.
- ▶ **Director-General of ASI may receive voluntary contributions** towards the cost of maintaining a protected monument under the **Ancient Monuments and Archaeological Sites and Remains (AMASR) 1958, Act**.
- ▶ **Key highlights of Adopt a Heritage 2.0**
 - ▶ **Smāraka Sārathī:** Any private/ public sector company/ trust/ NGO/ society that has been selected by ASI for the programme (earlier called as monument mitra).
 - ▶ **Funding of projects:** **Private and public sector companies shall utilize their CSR fund** while others may provide **voluntary contribution**.
 - ▶ **Flexibility:** Either **adopt a monument in whole or provide a particular amenity** such as drinking water facility, cleaning services, etc. for one or several sites.
 - ▶ **Four-pronged framework of amenities:** Hygiene, Accessibility, Safety, and Knowledge.
- ▶ **Project Duration: 5 years**

BRIEF BACKGROUND

Archeological Survey of India (ASI)

- ▶ **Genesis:** Founded in 1861 by Alexander Cunningham, the first director-general of ASI.
- ▶ **Ministry:** Ministry of culture.
- ▶ **Role:** Archaeological research and protection of cultural heritage of nation.
- ▶ **Function:** Regulate all archaeological activities in te country as per the provision of Ancient Monuments and Archaeological sites and remains act, 1958.
- ▶ **It also regulates Antiquities and Art Treasure Act 1972.**

8.5.3. Geographical Indications(GI) Tags

CONTEXT

Various products from Uttarakhand have been given the GI tag by the Geographical Indications Registry.

Key Information

GI Tag	Key Features
Bering Tead	<ul style="list-style-type: none"> ▶ It is made from the leaves of a plant that grows wild in the Himalayas. ▶ Beringag gets its name from the Beringag Temple (called 'Bedinag' locally), which is a Nag Devta Temple situated at the top of Bering Hill.
Bichhu Buti Fabrics	<ul style="list-style-type: none"> ▶ It made from Himalayan nettle fibres. ▶ As the plant's fibres are hollow, they have the unique ability to accumulate air inside, thus creating a natural insulation and making an ideal clothing material for both winters and summers.
Mandua	<ul style="list-style-type: none"> ▶ It is a finger millet grown in Garhwal and Kumaon that is part of the staple diet in many parts of the State. ▶ It is a super-cereal. It consists of high dietary fibers, proteins, iron, calcium, antioxidants, essential amino acid, vitamins, and essential nutrients.

Jhangora	<ul style="list-style-type: none"> ▶ A home grown millet commonly cultivated in the rain-fed areas of the Himalayas in Uttarakhand. ▶ It is one of the oldest food known to mankind in the lush Himalayan valleys of Uttarakhand the Jhangora is a grain with a superb nutrition profile.
Gahat	<ul style="list-style-type: none"> ▶ Pulses growing in the dry regions of the State. ▶ Its medicinal uses have been known to Ayurveda and traditional physicians for centuries.
Lal Chawal	<ul style="list-style-type: none"> ▶ A red rice organically grown in the Purola region. ▶ It is also good for the heart and useful in diabetes.
Kala Bhat	<ul style="list-style-type: none"> ▶ It is traditionally cultivated under "Barah-anaja" system of cultivation (upto 12 crops grown together) where in varieties of millets, beans, pulses and cereals are cultivated in the same field under rain-fed conditions. ▶ It is one of the richest sources of flavones in the human diet.
Malta Fruit	<ul style="list-style-type: none"> ▶ Chamoli is among the few places in the country which has a high genetic diversity of Malta fruits. ▶ Malta fruit is a Sweet, brightly colored fruit that bring a burst of sunshine into winter days.
Chaulai (ramdana)	<ul style="list-style-type: none"> ▶ It is a pseudo-cereal, drought-tolerant, protein and fibre rich grain. ▶ In Uttar Pradesh it is called "Chaulai". It is also known as "Chua" in Kumaun area of Uttarakhand.
Buransh	<ul style="list-style-type: none"> ▶ Burans, is the bright red flower whose scientific name is Rhododendron arboreum is the state flower of Uttarakhand. ▶ Buransh flowers contain anthocyanins (a class of water-soluble flavonoids) and flavonols (possess numerous health benefits) as the major pigments.
Pahari Toor Dal	<ul style="list-style-type: none"> ▶ Due to their full organic characteristic and taste, it is highly demanded in the market and much different in the color of the plain area Arhar. ▶ Toor (Pigeonpea), being a good source of home-grown high protein food.
Likhai	<ul style="list-style-type: none"> ▶ Likhai is a building craft and is situated in a construction method of using local resources and materials in Kumaon. ▶ The carving is generally found in the form of folks, religious, and tantric motifs.
Mombati	<ul style="list-style-type: none"> ▶ They are hand carved and filled with multicolor waxes. ▶ These natural flower candles are widely known for its durability and quality.
Rangwali Picchoda of Kumaon	<ul style="list-style-type: none"> ▶ Pichhoda is made of yellow fabric with big red circular motifs printed on it. ▶ In the center, a Swastik is drawn and in the four quadrants of the Swastik, Sun, Shankh (Conch Shell), A Bell with Om and Goddesses are drawn.
Ramnagar Nainital Litchi	<ul style="list-style-type: none"> ▶ Ramnagar Litchi is usually known as Pearl of India. ▶ Litchi is a sub-tropical fruit and thrives best under moist sub-tropical climate.
Ramgarh Nainital Aadu	<ul style="list-style-type: none"> ▶ Ramgarh Aadu (Peach) is an important stone fruit crop of the temperate zone. ▶ High quality peaches are produced in higher hills.
Chamoli Woodn Ramman mask	<ul style="list-style-type: none"> ▶ Ramman is a religious festival and ritual theatre of the Garhwal region in India. ▶ It is a festival based on the epics of Ramayana of the Hindu community Chamoli district of Uttarakhand.
Almora Lakhori Mirchi	<ul style="list-style-type: none"> ▶ It was first grown in a village called Lakhora situated on the Garhwal and Kumaon border of Uttarakhand. ▶ It is low in saturated fat, cholesterol and sodium and is high in Vitamin A, C, K, B6, Potassium, Copper, Manganese, dietary fiber, Thiamin, etc.

BRIEF BACKGROUND

Geographical Indication (GI) tags

- ▶ A GI is a sign used on products that have a **specific geographical origin and possess qualities or a reputation that are due to that origin.**
 - ▶ To function as a GI, a sign must identify a product as **originating** in a given place.
- ▶ GIs are part of the **intellectual property rights** that come under the **Paris Convention for the Protection of Industrial Property.**
 - ▶ They are also covered under Articles 22 to 24 of the **Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement**, which was part of the Agreements concluded in the Uruguay Round of GATT negotiations.
- ▶ In India, GI registration is administered by the **Geographical Indications of Goods (Registration and Protection) Act of 1999.**
- ▶ **GI can be registered:** On agricultural products, foodstuffs, wine and spirit drinks, handicrafts, and industrial products, etc.
- ▶ **Duration:** Once a product has been granted a GI tag, it is **valid for a period of ten years.**
- ▶ **Nodal Ministry:** Department for Promotion of Industry and Internal Trade, **Ministry of Commerce and Industry.**
- ▶ **Significance:** Confers legal protection against unauthorised use, boosts exports, etc.

8.5.4. World Health Organisation International Classification of Diseases list

CONTEXT



Ministry of Ayush has sought for Ayurveda and related systems to be included in **11th revision of International Classification of Diseases (ICD-11) as Module-2** of a supplementary chapter on traditional medicine conditions.

- ▶ Development of Module-2 relies on implementation knowledge obtained from **National Ayush Morbidity and Standardized Terminologies Electronic (NAMSTE) portal and Ayush Health Information Management** to maintain health and diagnose and treat physical and mental illness.

Key Information



About ICD-11

- ▶ ICD is the **international standard for systematic recording, reporting, analysis, interpretation, and comparison of mortality and morbidity data.**
 - ▶ Previously, ICD-11 included **Module-1** that covers **traditional medicine conditions originating in ancient China**, which is now commonly used in Japan, Korea etc.
- ▶ ICD-11 came into effect from **January 2022.**
- ▶ **Significance of ICD-11**
 - ▶ **Provides a list of diagnostics categories to collect and report on traditional medicine conditions in an internationally comparable manner.**
 - ▶ **Link traditional medicine practices with global conventional medicine's norms and standard development.**

BRIEF BACKGROUND

Traditional Medicine

Refers to sum of knowledge, skills and practices indigenous and different cultures have used over time to maintain health and diagnose and treat physical and mental illness.

Indian technological initiatives to promote traditional Knowledge

- ▶ **National Ayush Morbidity and Standardized Terminologies Electronic (NAMSTE) portal:** It provides standardized terminologies & morbidity codes for Ayurveda, Siddha and Unani systems of medicine.
- ▶ **Ayush Health Information Management System (A-HIMS):** It is a comprehensive IT platform to effectively manage all functions of health care delivery systems and patient care in Ayush facilities.

Related News

Central Council for Research in Ayurveda Sciences (CCRAS) has launched Ayurveda Gyan Naipunya Initiative (AGNI)

AGNI aims to promote research for mainstreaming the pragmatic Ayurveda practices through scientific validation and evidence-based appraisal.

Need of AGNI:

- Ayurveda practice requires a rigorous evidence-based appraisal.
 - ◊ Scientific validation and the documentation are essential for global acceptance.
 - ◊ It can be leveraged as a soft power.
- Dissemination of innovative ayurvedic practices for disease management.

8.5.5. Military Systems in Ancient India

CONTEXT

Defense minister launched Project Udbhav. It is a collaborative project between the Indian Army and the United Service Institution of India (USI), a defense think tank.

It aims to integrate ancient Indian wisdom with modern military pedagogy.

Key Information

Relevance in today's time

- **Kautilyan realism:** India today can benefit from adopting a realistic assessment of geopolitical challenges and opportunities. **Ex:** Understanding the strategic motive of China, USA.
- **Enduring Elements of Kautilya's foreign policy:** such as the fight for power, **national interests**, alliances, enmity, and diplomacy, remain unaltered.
- **Being Vigilant** as suggested in Mandala theory. **Ex:** India is vigilant in its borders with Pakistan and China.
- **Ethical principles:** Thiruvalluvar's ethical principles provide a timeless framework for **evaluating the morality of actions** in modern conflicts.

BRIEF BACKGROUND

Military systems in Ancient India

India's ancient military wisdom is based upon **large body of intellectual texts, scriptures, manuscripts, thinkers and study of prominent military campaigns and leaders.**

- **Kautilya's realism:** Kautilya wrote Arthashastra around 300 BC, belongs to Mauryan period. His strategies emphasize understanding **ground realities and adapting tactics accordingly.**
 - **Mandala theory:** It deals with **knowledge of foes, friends and allied countries.**
 - **Diplomacy and Alliances:** emphasis on diplomatic strategies and forming alliances to achieve strategic goals and the **use of spies (Amatyas)**
- **Kamandaka by Nitisara:** It belongs to the Gupta age and follows the Arthashastra tradition.
 - Strategy of Upeksha (diplomatic neglect, diplomatic indifference), Maya (deception) reused and revived during the Indian freedom struggle.
- **Thiruvalluvar by Thiruvalluvar (31 BC):** It deals with **Ethical conduct during warfare.**
- **Agni Purana:** It was first to explain the **philosophy of reserve (pratigraha) on the battlefield.**
- **Ramayana, Mahabharata, Buddhist Jatakas:** The victory and defeat in the battle largely depended on the knowledge of the **science of Vyuh** and the tactical deployment of the troops.

8.5.6. National Games of India

CONTEXT



Recently, 37th edition of National Games concluded in Goa. It is an **Olympic-style multi-sport event** where athletes from the various states and Union Territories of India compete for medals. They are entirely within the jurisdiction of the **Indian Olympic Association**.

Key Information



The Indian Olympic Association was established in 1927 with Sir Dorabji Tata as its founding President. It is currently governed by a 32-Member executive council.

About 37th edition of National Games

- ▶ The **Raja Bhalendra Singh trophy** was given to Maharashtra for overall championship in national games.
 - Raja Bhalendra Singh was considered responsible for bringing the **9th Asian Games to Delhi in 1982** and organizing them.
- ▶ Best woman athlete trophy was given to **Pranati Naik and Sanyukta Kate** while best man athlete trophy was given to **Shrihari Natraj**.
- ▶ The torch for national games was handed over to **Uttarakhand** as **38th National Games** will be organized there.
 - The 39th edition will be held in Meghalaya.

BRIEF BACKGROUND

National Games

- ▶ 1st edition of the **Indian Olympic Games** (former name of National Games) at Lahore in an undivided Punjab in 1924.
 - After the eighth edition in 1938 in **Calcutta**, the event was christened as the **National Games**.
 - **Lucknow** hosted the **National Games** in its first post-independence avatar.
 - The first **National Games on the lines of the Olympics** were held in 1985 in **New Delhi**.

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MCQs

1. Consider the following statements regarding UNESCO's World Heritage Sites:

1. The Konark Sun Temple has a special kitchen for deity and devotees.
2. Recently Santiniketan has been inscribed to the World Heritage Sites lists as India's 41st Entry.

Which of the above statements is/are correct?

- A) 1 Only
- B) 2 Only
- C) Both 1 and 2
- D) Neither 1 and 2

2. Consider the following statements about the Central Vista Redevelopment Plan:

1. Central Vista was designed as the capital of British India.
2. Redevelopment of Central Vista Master Plan was conceived in 2022.
3. It includes the construction of a new Parliament building.

Which of the above statements is/are correct?

- A) 1 and 2 only.
- B) 1 and 3 only.
- C) 1 only.
- D) All of the above.

3. Which of the following statements about Sir Syed Ahmed Khan is incorrect?

- A) He instituted Scientific Society in 1863 to instil a scientific temperament into the Muslims.
- B) He is regarded as one of the founders of the Two-Nation Theory.
- C) He was in favour of ignorance, religious intolerance, and irrationalism.
- D) He faced criticism for advocating "disorganized tutor-based home education" for women.

4. Consider the following statements about Geographical Indications Tags:

- 1) GIs are part of the intellectual property rights that come under the Paris Convention for the Protection of Industrial Property.
- 2) GI tag is valid for a period of ten years.

Which of the above statements is/are incorrect?

- A) 1 Only
- B) 2 Only
- C) Both 1 and 2
- D) Neither 1 and 2

5. Consider the following statements about National Games:

- 1) 1st edition of the Indian Olympic Games (former name of National Games) at Lahore in an undivided Punjab in 1924.
- 2) Kanpur hosted the National Games in its first post-independence avatar.

Which of the above statements is/are correct?

- A) 1 Only
- B) 2 Only
- C) Both 1 and 2
- D) Neither 1 and 2

Questions

1. Highlight the key features of the Sacred Ensembles of Hoysalas which have recently been inscribed on UNESCO's World Heritage Sites list. (150 words)
2. What is Rural Tourism? While mentioning the key challenges, discuss the steps taken to promote rural tourism in India. (250 words)



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9.1. ETHICS OF WAR

CONTEXT



Recent conflicts between Russia-Ukraine and Israel-Hamas and the continuous circulation of images and stories in social media about the atrocities of war raise various ethical questions.

ANALYSIS



What are the Ethical concerns that arise in war?

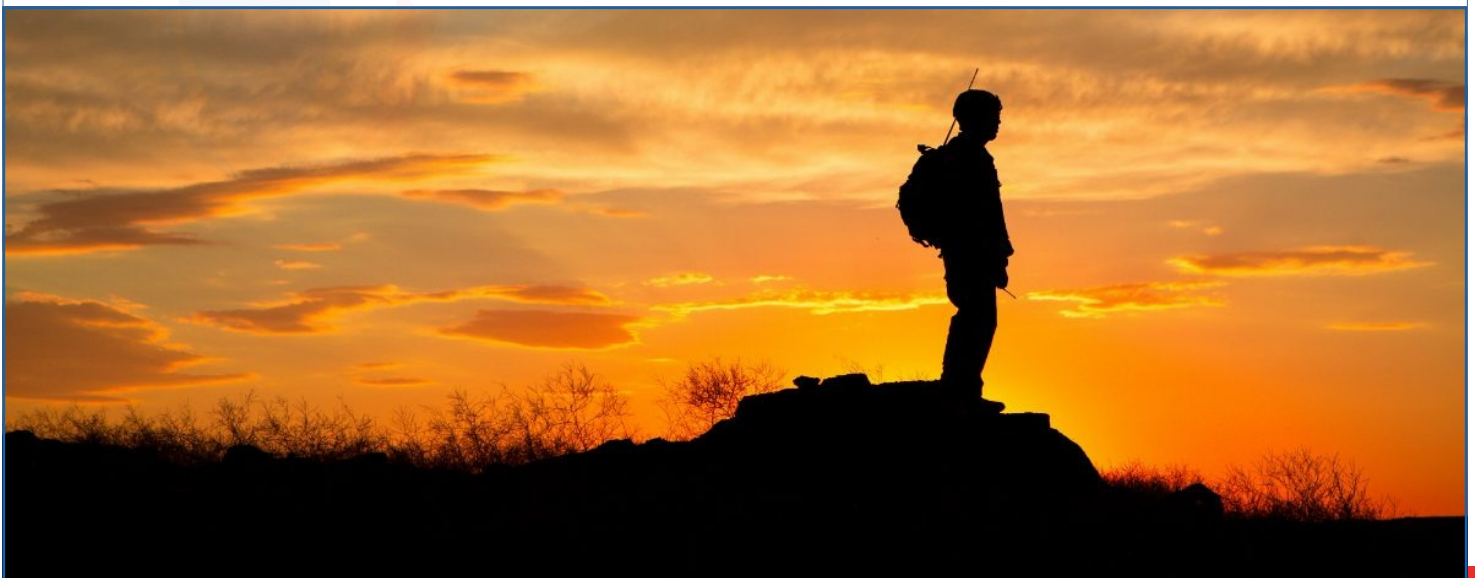
- ▶ **Reduction to Right side vs. wrong side:** Key issues like war crimes, displacement etc. are dominated by debate who is right or who is wrong, rather than issues created by war.
- ▶ **Punishment and revenge:** Rationales based on **punishment and revenge** are often seen as a moral path to correct a wrong.
- ▶ **Degradation of Human beings:** Humans are often treated as tools to achieve the objectives of war.
- ▶ **Individual vs. collective identity:** People don't see individuals as they are and see them only in terms of a collective identity, creating the idea of 'us' vs. 'them'.
- ▶ **Violation of Just War Theory:** Action of Non-State Actors such as insurgent groups frequently violate **just war principles**.
 - ▶ Factors such as ignorance of principles, limited efficiency of global governance (United Nations), etc. have also resulted in limited adoption of these principles.

KEY INFORMATION

- ▶ **Just War Theory:** It provides for Principles of Just War Criterion.
- ▶ **Just War Criterion consists of-**
 - ▶ **Jus ad bellum** (Just reasons for resorting to war).
 - ◊ It includes **Just cause, Right intention** etc.
 - ▶ **Jus in bello** (Just way to conduct a war)
 - ◊ It includes **Discrimination** (between enemy combatants and non-combatants), **Proportionality** (excessive or unnecessary harm should be avoided) etc.
 - ▶ **Jus post bellum** (Just conduct after the war)
 - ◊ It includes securing repatriations, long lasting peace etc.

What can be done to ensure that ideas of Just War are followed?

- ▶ **Strengthening International Cooperation and Institutions:** Strengthen and enforce international agreements that govern the conduct of war, such as the **Geneva Conventions**.
- ▶ **Advocacy for stricter Arms control and disarmament:** To limit the use of lethal weapons.
- ▶ **Peace-building and Conflict Resolution:** Addressing the root causes of conflicts by facilitating **dialogue** and **negotiations**.
- ▶ **Code of Conduct:** Adopting a **collective and enforceable code of conduct** for militaries.
- ▶ **Human rights monitoring:** Strengthen human rights monitoring mechanisms.



9.2. ETHICS OF LAWMAKERS

CONTEXT



In various instances, concerns have been raised over the **conduct of lawmakers**. Such instances include the **'Cash for Query'** probe by the **Ethics Committee** of Parliament and the suspension of some lawmakers for unruly conduct in the House. The core reason being cited for such issues is the **general decline of values in public life**.

ANALYSIS



What are the Ethical concerns that arise in war?

- ▶ **Corruption:** It includes bribery, embezzlement, and other forms of corruption.
- ▶ **Criminalisation of politics: Vohra Committee (1995)** pointed out the **nexus between criminal gangs, police, bureaucracy and politicians**.
- ▶ **Limitations of the Criminal Justice System:** It is facing challenges in addressing organized crime, economic offences, etc.
- ▶ **Conflict of Interest:** In many cases, a member may have a pecuniary interest in a matter being considered by the House, Ministry or Department, etc.
- ▶ **Nepotism and Dynastic Politics:** It undermines the **merit-based selection** process and leads to favouritism and compromised ethical standards.
- ▶ **Weak enforcement:** There is no clear mechanism for addressing the ethical misconduct of lawmakers outside the parliament house.

Stakeholders and their Interests/ responsibilities

Citizen/ Voters	Expecting ethical behavior from their elected representatives .
Political Parties	Ensuring candidates adhere to ethical standards and promote a culture of integrity .
Media	Holding lawmakers accountable and avoiding sensationalism or biased reporting.
Judiciary	Legal processes are followed while adjudicating cases of corruption or ethical violations.
Election Commission	Enforcing electoral rules and ensuring that candidates adhere to ethical standards .

Measures to imbibe ethical values in lawmakers

- ▶ **Strengthening legal measures:** Enhancing the legal provisions with the protection of whistle-blowers and implementing stringent anti-corruption laws.
- ▶ **Code of conduct:** It will help in ensuring standard norms for behaviour.
- ▶ **Political party reforms:** Without the sincerity and commitment of political parties, integrity in public life would be difficult to ensure.
- ▶ **Electoral reforms:** Measures minimising the **role of money power in elections** such as revision of ceiling on election expenses, corporate or State funding of political parties, etc.
- ▶ **Penalties in the House:** The House can impose penalties for unethical behaviour such as censure; reprimand; suspension from the House for a specific period or termination of its membership.
 - ▶ This can be done through **empowering the Ethics Committee in the House**.
- ▶ **Education Programmes:** Introduce civic education programs that emphasize on improving ethical values.

Ethics Committee of Lok Sabha

- ▶ The Ethics committee consists of **15 Members nominated by the Speaker for one year term**.
- ▶ **Key Functions:**
 - ▶ To examine **complaint relating to unethical conduct** of a member referred to it by the Speaker.
 - ▶ Make recommendations and **formulate a code of conduct** for Members.

9.3. ETHICS OF MEDIA TRIAL

CONTEXT



In the wake of sensationalization and deteriorating media ethics, the Supreme Court (SC) has directed the Union government to prepare guidelines on how the police should brief the media about ongoing investigations.

ANALYSIS



What is a Media Trial?

- It can be understood as the process in which media publishes their **own versions of stories** to sensationalize the case.
- This function of media is seen as an invasion of the domain of the judiciary by conducting **indirect trials parallel with the courts**.

Key Ethical Issues with Media Trials

- Credibility of the Justice System:** It undermines the principle of **innocent until proven guilty by the law**.
 - E.g. Aarushi-Hemraj murder case
- Undermines Right to Fair Trial:** Expert opinions have the potential to change the perception of judges toward the accused/victim.
 - E.g. Jasleen Kaur harassment case.
- Threatens Right to Privacy:** The identity/personal information of the accused and victim is revealed.
 - E.g. Sushant Singh Rajput case.
- Undermines Media Ethics:** It violates key principles such as **truth** and **accountability**.

Way Forward: Finding the Right Balance

There are many impediments in controlling media trials such as ineffective self-regulation, proliferation of social media etc. These can be tackled by:

- Promoting Self-regulation Mechanism:** Organizations like the **Broadcasting and Digital Standards Authority (NBSA)** can create **comprehensive guidelines concerning Media Trials**.
- Authenticity:** Media should reveal facts/figures only after scrutinising their authenticity.
- Checking Opinion-Based Reporting:** Media channels should regulate opinion-based reporting which neither favours nor defames any person/party.
- Implementing Media Ethics:** Ensuring effective implementation of the **Code of Journalistic Conduct (2010)**.
- Implement the recommendation of the 200th Law Commission:**
 - A prohibition on the **dissemination of material** that is **harmful** to the accused.
 - The High Court should have the **authority to order the delay of publishing or transmission of information** in criminal cases.

Stakeholders and their Interests/Responsibilities

Judiciary/ Judges	» Free trial is the foundation of justice.
Accused/ Family members	» Media should present things without twisting facts or figures .
Victim/Family members	» Identity/personal information should not be revealed by the media. » They hope that the media will help them in getting justice .
Witnesses	» The protection and safety of the witness is crucial in the entire justice ecosystem.
Media	» Reporting the truth i.e., acting as 4th pillar of democracy and managing the commercial interest.
Individual/ Citizen	» Significant issues should be highlighted and honest reporting by media i.e., without bias, prejudice, or any vested interests.

9.4. ETHICS IN SPORTS

CONTEXT



A controversy erupted during the Cricket World Cup match between Bangladesh and Sri Lanka regarding the call for a timed-out decision against Sri Lankan cricketer Angelo Mathews. Although, it was as per the rules, but the conduct of Bangladeshi cricketers was debated in the context of poor sportsmanship.

ANALYSIS



What are the ethical issues that arise in sports?

- ▶ **The idea - winning is everything:** Athletes and coaches place greater emphasis on the outcome of the game rather than on the way it is played.
- ▶ **Pressure of excessive competition:** Modern sports are extremely competitive which creates pressure on athletes to adopt unethical means to gain a competitive advantage. E.g., doping among athletes.
- ▶ **Law-Morality conundrum:** While there are established rules and regulations within the legal framework of sports, the interpretation and application of these rules sometimes lead to moral ambiguity.
- ▶ **Bracketed morality:** This approach holds that sport and competition are set apart from real life and occupy a realm where ethics and moral codes do not apply.

How can sports ethics be promoted?

- ▶ **Education and awareness:** Implementing educational programs emphasizing the importance of sports ethics, fair play, and sportsmanship.
- ▶ **Role modelling:** Promote positive role models in sports who exemplify the highest standards of ethical behaviour.
- ▶ **Code of Conduct:** Develop and enforce a clear code of conduct for athletes, coaches, officials, and spectators.
- ▶ **Anti-doping initiatives:** Implement robust anti-doping programs to ensure fair competition and protect the health of athletes.
- ▶ **Media responsibility:** Promote responsible and ethical sports journalism that focuses on fair reporting and avoids sensationalism.
- ▶ **Sponsor responsibility:** Encourage responsible sponsorship and corporate practices that align with ethical standards.

Stakeholders and their Interests/ Responsibilities	
Government	<ul style="list-style-type: none"> ▶ Promoting and monitoring implementation of code of sports ethics. ▶ Inclusion of sports ethics in school curricula.
Sports institutions/ organizations	<ul style="list-style-type: none"> ▶ Publish clear guidelines on ethical and unethical behaviour. ▶ Establish systems which reward sports ethics and penalize unethical behaviour.
Sportspersons	<ul style="list-style-type: none"> ▶ Setting a good example through good conduct on and off the field. ▶ Refrain from rewarding unfair play.
Sport fans	<ul style="list-style-type: none"> ▶ Express support for their team without resorting to disrespectful or offensive language. ▶ Rejecting and condemning any form of discrimination. ▶ Responsible online behaviour and respecting privacy of sportspersons.



9.5. KNOWLEDGE WITHOUT CHARACTER

CONTEXT



'Dark web used for illegal drug trafficking', 'Deadly weapons being used in Ukraine-Russia conflict', these instances alongside countless others highlight how Knowledge without Character can be detrimental. Only intellectual development without simultaneous internal character development rarely contributes to the welfare of society.

ANALYSIS



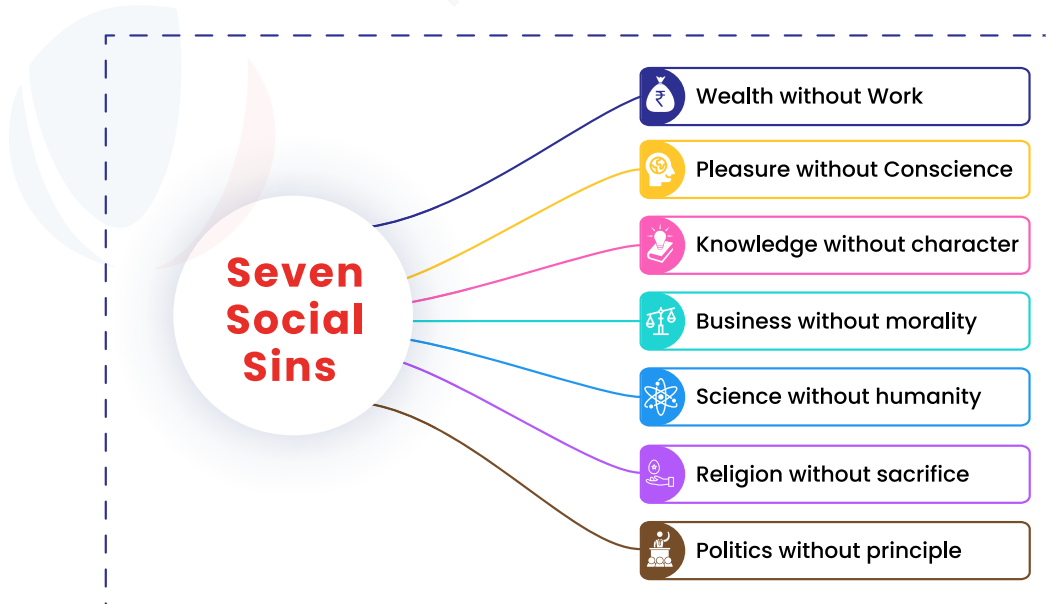
Ethical issues/concerns arising when Knowledge is used without Character

- ▶ **Unjust Decision-Making:** Lack of a sense of equality and empathy in character can lead to biased decision-making.
- ▶ **Promotes Unethical Activities:** If knowledge is used with ulterior motives, then it may give rise to tendencies of intolerance, racism, xenophobia, etc.
- ▶ **Blurredness between right Means and End:** If knowledge is only used for self-interest, then a person focuses only on achieving the end (objective).
 - E.g., the Expansionist policy of Adolf Hitler.
- ▶ **Lack of Accountability:** An individual or government will not take accountability for their actions if they lack traits like courage, leadership, and selflessness.

Stakeholders and their Interests/ Responsibilities	
Citizen/ Individuals/ Society	▶ Knowledge should be used for the welfare of all {'Sarve jana sukhino bhavantu (Let everyone be happy)'}
State/ Governments	▶ Knowledge should be used with character so that it helps in development of everyone.
Institutions	▶ Institutions aim to promote intellectual development along with imparting good character.

Way Forward

- ▶ **Intertwining knowledge with character:** Focus of the curriculum should be on the overall personality development of individuals (including both intellectual and character).
- ▶ **Developing critical thinking and wisdom:** A person should be open to new information and accept it only after critically evaluating it.
- ▶ **Promote Emotional Intelligence:** It will help in enhancing self-awareness and empathy.
 - For instance, schools and parents can plan social awareness drives such as visiting slums, orphanages, old-age homes etc.
- ▶ **Transforming self-interest-oriented and narrow mindset:** With the help of Ideas like Vasudhaiva Kutumbakam ('the world is one family').



9.6. AI AND HUMAN RIGHTS

CONTEXT



Freedom on the Net, an annual study of human rights online, states that conditions for human rights online are deteriorating. The finding highlights that AI technologies have the potential to not only promote but also infringe upon human rights. An understanding of the delicate balance between them is the need of the hour.

ANALYSIS



AI and human rights

Ethical Concerns

- » **Right to privacy:** Big-data surveillance systems aggregate and analyze massive amounts of personal data, inferring people's most sensitive information.
- » **Free expression:** Automated systems are deployed to censor political, social, and religious speech in certain cases.
- » **Due process:** AI-enabled surveillance tools may treat everyone as a possible wrongdoer.
- » **Discrimination:** Algorithmic systems can perpetuate bias built into their training data.
- » **Association and assembly:** AI systems with abilities like facial recognition can identify and track targeted people.
- » **Digital election interference:** Harnessing AI to augment disinformation campaigns, creating deep fakes to sow doubt, discredit opponents, and manufacture public support etc.

Potential Positive Outcomes

- » **Right to equality:** Reduces biases in decision-making processes.
- » **Privacy Protection:** Developing advanced privacy protection mechanisms, including secure data encryption, identity protection, and secure communication.
- » **Ensuring Accountability:** Facial recognition technology can be used to document and expose police brutality, ensuring transparency and accountability.
- » **Protecting collective rights by enabling Governance:** For example-
 - ◊ **Predictive Policing:** AI can help law enforcement agencies allocate resources more effectively, proactive crime prevention, and objective decision-making.
 - ◊ **Governance:** AI-enabled early warning systems for natural disasters and humanitarian crises.

Stakeholders and their Interests/ Responsibilities	
Governments	» Promotion of national security, law enforcement, and public administration. Also, fostering innovation and economic growth in the AI sector.
Users of AI (citizens)	» AI should take care of fundamental rights, such as privacy, freedom of expression, etc.
Civil Society and Activists	» To raise awareness of human rights issues and to hold governments and corporations accountable for any violations.
AI Developers and Engineers	» Advancement their field, solve complex problems, along with ensuring fairness.
International Organizations	» International bodies have interests in global peace, security, and development.

Way ahead

- » **Defend information integrity in the age of AI:** Regulations covering AI should incorporate human rights principles of legality, necessity, and proportionality in the developer framework.
- » **Assessing societal impact:** A framework for Social Impact Assessment (SIA) can be developed.
- » **Public and Stakeholder Involvement:** Public, stakeholders, and experts should ensure that AI technologies respect and incorporate human rights.
- » **Global Collaboration:** Encourage international collaboration and agreements to establish common standards for regulation.
- » **Ethical Guidelines and Regulations:** Develop and adhere to ethical guidelines for AI development and deployment on the lines of **Asilomar principles.**
 - » These principles deal with research, ethics, values and other long-term issues incorporating ideas like Personal privacy, shared benefits among others.

9.7. CHILDREN'S PROLONGED USAGE OF SOCIAL MEDIA

CONTEXT

A recent survey has indicated that 60% of urban kids spend 3 hours daily on social media and other online platforms.

ANALYSIS

Concerns related to prolonged usage of Social Media by Children

- ▶ **Cyberbullying and Harassment:** Children may be bullied, harassed, or excluded, leading to emotional distress, anxiety, and depression.
- ▶ **Fake news:** Potential platform to spread fake and embarrassing information about others.
- ▶ **Defective social relationship:** Children can get stressed while making face-to-face contact with the people around them and become addicted to social media to communicate with others.
- ▶ **Facebook Depression:** Children can become afraid of not having enough likes and losing perceived online support.
- ▶ **Excessive Screen Time** can result in reduced physical activity, poor sleep patterns, etc.

Way forward

- ▶ **Parental Controls:** Regulate children's internet access using parental control settings.
- ▶ **Empowering Children:** Teach children about online safety in age-appropriate language, and discuss cultural norms and expectations.
- ▶ **Technology Use:** Update children's devices with the latest software and settings to protect privacy.
- ▶ **Regulation:** Enact laws to safeguard children's online privacy and prevent cyberbullying.
- ▶ **Internet Providers:** Develop child-centred features and report mechanisms to protect children.
- ▶ **Physical Activities:** Encourage physical activities and a healthy lifestyle through initiatives like "Fit India Movement".
- ▶ **International Standards:** Adopt International Telecommunication Union (ITU) guidelines on Child Online Protection (2000) to local contexts.

Stakeholders and their Interests/ Responsibilities

Government and Public Authorities	▶ Enacting laws to prevent online abuse.
Parents and Caregivers	▶ Protecting their children from online dangers.
Schools	▶ Ensuring digital literacy.
Private Sector	▶ Creating a safe platform for children.
Children	▶ Upholding their right to have safe internet.



9.8. CONSUMERISM

CONTEXT



In the last few decades, it has been noticed that the tendency of consumerism has been rising among people. This has manifested in people running behind multiple gadgets, luxury accessories etc., which they might not need, but they desire.

ANALYSIS



Ethical values undermined by Consumerism

- ▶ **Promotes Undesirable Means:** E.g., advertisements (Beauty and cosmetic services/products) claim that products will change user's life.
- ▶ **Equity/Equality:** It promotes disparities in societies; some people live lavish life while other's basic needs are not fulfilled.
- ▶ **Violates basic tenets of the society:** Most of the religion/societies propagate that satisfaction comes from inner solace rather than material possession.
- ▶ **Derive Selfishness:** It creates selfish society in which people just think about their need.
- ▶ **Violates Environmental ethics:** Over consumption and exploitation leads to change in land use, threaten biodiversity and **generates** of more waste among other issues.

Stakeholders and their Interests/ Responsibilities	
Consumer	▶ The advertisement which manipulates them should be avoided.
Brands	▶ Enhance their profit and increase the market share of their products.
Advertising Companies	▶ They work according to the demands of the brands.
Government/ Authorities	▶ Their motive is to ensure welfare of all , both consumer and companies.
Environment	▶ Resources should be utilised in the sustainable way.

Striking a balance between Needs and Desires

- ▶ **Adopting Ethical Consumerism:** It emphasizes on minimizing negative impact social and/or environmental consequences.
- ▶ **Moral and Consumer Education:** needs to be part of the curriculum.
- ▶ **Promoting corporate responsibility:** Through ideas like 'Stakeholder Capitalism' instead of 'Shareholder Capitalism'.
 - ▶ Stakeholder capitalism serves the interests of all their stakeholders, and not just the shareholders.
- ▶ **Curtailing Advertisements/Influencers:** Regulating authorities like Advertising Standards Council of India (ASCI) should keep eye on the advertisements.
- ▶ **Setting up Role Models:** Celebrities/influencers should become role model for others by making sustainable choices.
- ▶ **Efforts of Civil Society Organisation:** To carry out awareness drives to promote sustainable living.



Quarterly Revision

TEST YOUR LEARNING

Questions

1. Media trials are a threat to privacy and the Right to fair trial. Illustrate with examples (150 words)
2. Knowledge without Character may lead to disastrous consequences. Elucidate it in the context of some recent events. (150 words)

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Answer Key

Polity

1	2	3	4	5
Answer: C	Answer: A	Answer: A	Answer: D	Answer: C

International Relations

1	2	3	4	5
Answer: D	Answer: B	Answer: C	Answer: C	Answer: B

Economy

1	2	3	4	5
Answer: C	Answer: C	Answer: B	Answer: B	Answer: D

Security

1	2	3	4	5
Answer: D	Answer: A	Answer: D	Answer: C	Answer: C

Environment

1	2	3	4	5
Answer: D	Answer: A	Answer: D	Answer: A	Answer: C

Social Issues

1	2	3	4	5
Answer: D	Answer: D	Answer: B	Answer: C	Answer: B

Culture

1	2	3	4	5
Answer: C	Answer: B	Answer: C	Answer: D	Answer: A

Science and Technology

1	2	3	4	5
Answer: B	Answer: D	Answer: C	Answer: C	Answer: A

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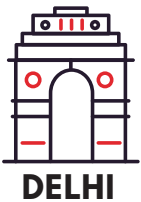
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