ENSURE IAS

Current Affairs Total (CAT)

October 2023

Central hub: **CURRENT AFFAIRS**

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- Polity
- International Relations
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1. One Nation, One Student ID Initiative

Context

In October 2023, numerous state governments have urged schools to obtain parental consent to introduce a novel student identity card titled the **Automated Permanent Academic Account Registry (APAAR)**. This initiative aligns with the '**One Nation, One Student ID**' program launched by the Union government following the implementation of the **new National Education Policy of 2020.**

About Automated Permanent Academic Account Registry (APAAR) ID:

1. It is **conceptualized as a distinctive identification system** designated for all students across India from their early years.

2. Within this initiative, every student would **receive a lifelong APAAR ID**, simplifying the process for learners, educational institutions, and authorities to monitor academic advancement from early childhood education through higher education.

3. Additionally, the APAAR ID would act as an **access point to Digilocker.**

DigiLockeris a key Ministry of Electronics and Information Technology (MeitY) initiative under the 'Digital India' program. It aims to establish an electronic repository for documents, facilitating easy verification and storage in a printable format.

Need for the Introduction

1. The primary objective behind implementing APAAR is **to streamline the educational process,minimizing** students' **need to carry physical documents.**

2. This initiative was introduced under the **National Education Policy 2020 and** spearheaded by the Education Ministry.

3. The overarching vision is to **instigate positive transformations** enabling state governments to:
   a. Monitor literacy rates
   b. Curb dropout rates, and
   c. Facilitate improvements in the education sector.

4. APAAR seeks to **mitigate fraud and the circulation of counterfeit educational certificates** by offering a **singular, reliable reference for educational institutions**.

5. **Strict authentication measures** will permit only original sources issuing certificates to input credits into the system, ensuring credibility and authenticity.

Functioning of the APAAR ID System

1. **Integration with the Academic Bank Credit (ABC):**
   a. Each person will possess a unique APAAR ID, which will be linked to the Academic Bank Credit (ABC).

2. **School Transition:**
   a. When a student changes schools within the same state or relocates to another state, **all their data in the Academic Bank Credit seamlessly transfers to the new educational institution** simply by sharing the APAAR ID. This negates the necessity for students to present physical documents or transfer certificates.

Academic Bank of Credit (ABC) Overview

1. **Conceptualization and Purpose:** ABC is conceived as a digital repository housing a student's earned credits from various courses. Its primary aim is to facilitate comprehensive and interdisciplinary education.
2. **Flexibility in Higher Education:** ABC intends to offer students several entry and exit points within higher education, allowing flexibility in their academic pursuits.
3. **Fostering Futuristic Skills:** The ABC initiative aims to orient the youth towards the future, potentially contributing to an Artificial Intelligence (AI)-driven economy.

3. **Enrollment Process for APAAR:**
    a. To enroll in APAAR, **students must furnish basic information like name, age, date of birth, gender, and a photograph.** This information undergoes **verification through their Aadhar number**.
    b. Students must **sign a consent form** with the option to either consent or decline to share their Aadhar number and demographic details with the Ministry of Education to create the APAAR ID.
    c. **For minors, parental consent is necessary** for the Ministry to utilize the student's Aadhar number for authentication via UIDAI.
    d. It's essential to note that registering for an **APAAR ID is voluntary and not obligatory.**

Concerns Associated with APAAR

1. **Apprehensions Regarding Aadhar Sharing:**
    a. Parents and students express apprehensions regarding sharing their Aadhar details, fearing potential personal information leakage to external parties.
2. **Concerns Associated with UDISE+:**
    a. Despite government assurances regarding the confidentiality of shared student data limited to educational entities, such as the Unified District Information System for Education Plus (UDISE+) database, there's a lack of explicitly defined guidelines for UDISE+ to follow and prevent any data breaches strictly.
3. **Information Processing:**
    a. Students retain the right to cease sharing their data with the mentioned entities, halting further data processing. However, withdrawing consent doesn't impact previously processed personal data.
4. **Burden on Teaching Staff:**
    a. School authorities express concerns over the optional Aadhaar verification process for students, foreseeing an increased administrative load due to the addition of the APAAR registry.

About United Information System for Education Plus (UDISE+)

1. **Extensive School Management Information System:**
    *   UDISE+ stands as one of the most expansive Management Information Systems in the realm of school education. Launched in 2018-2019, its primary objectives include expediting data entry processes, minimizing errors, enhancing data accuracy, and simplifying verification procedures.
2. **School Information Aggregation Platform:**
    *   It is an application designed to compile comprehensive details about various aspects of a school and its available resources.
3. **Enhanced Iteration of UDISE:**
    *   UDISE+ represents an updated and refined version of the earlier UDISE, which originated in 2012-13 under the Ministry of Education.
4. **Vast Coverage:**
    *   Encompassing a vast educational landscape, UDISE+ spans over 1.49 million schools, 9.5 million teachers, and more than 265 million students.
5. **Educational Parameter Measurement:**
    *   It plays a crucial role in assessing educational metrics spanning classes 1 to 12, encompassing both government and private schools across the expanse of India.

Way Forward

1. **Data Protection Measures:** Ensuring stringent data security measures for sensitive information is imperative. Effective implementation of the Digital Personal Data Protection Act 2023, stands as a crucial step in achieving this goal.
2. **Stringent Guidelines for UDISE+:** Defining and implementing stringent guidelines for UDISE+ is vital to prevent potential data breaches.
3. **Alleviating Teaching Staff Workload:** Acknowledging the overwhelming workload of teaching staff due to additional responsibilities, such as Aadhar verification processes for students. Implementing measures to alleviate this workload is essential to preserve their primary focus on teaching and guiding students.
4. **Public Awareness Drive:** Conducting public awareness campaigns becomes essential to inform the masses about consent provisions and dispel unnecessary apprehensions regarding data-related matters.

Conclusion

APAAR, a lifelong identification system for Indian students, shows the promise of streamlining academic tracking from early education to higher studies. Its effective implementation promises efficient monitoring and management of educational progress, benefiting students, institutions, and authorities. However, the concerns need to be addressed to reap its benefits.

2. Role of Technology in Public Service Delivery

Context

In October 2023, the **Comptroller & Auditor General (CAG)** of India, Girish Chandra Murmu, **emphasized the need for increased use of IT systems and technology in service delivery to the citizens.**

Linkage of Technology and Public Service Delivery

1. **E-government,** also known as **digital government services,** refers to the utilization of information and communication technologies **(ICT) for delivering a wide array of services** within governmental entities and between these entities and the general public.
2. **Traditional government service delivery involves in-person interactions**, typically by distinct departments situated in different physical locations. This conventional approach often relied on manual processes, including using paper forms and extensive paperwork.
3. Technology integration has revolutionized service provision in the modern digital landscape**.** Governments can now leverage digital platforms to disseminate information and deliver services to citizens remotely, anytime, anywhere. This transformation has shifted the paradigm from physical offices to virtual spaces, enabling seamless accessibility and interaction.
4. Digital government **services facilitate citizens' access to crucial information and essential services** through various platforms, such as **websites, mobile applications, and other digital interfaces.** This accessibility ensures inclusivity, catering to diverse demographics and preferences.
5. Furthermore, integrating technology in public service delivery **enhances convenience for citizens and streamlines administrative processes** within government agencies. It enables automation, data-driven decision-making, and more efficient resource allocation, improving service quality and responsiveness.
6. As technology continues to evolve, the **scope and efficiency of digital government services are expected to expand further**, **driving innovation and fostering greater connectivity** between governments and the public they serve.
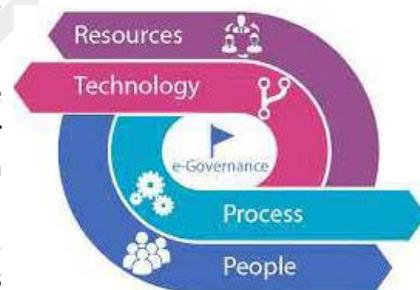
Importance of Technology in Service Delivery

1. **Enhances Convenience and Savings for Citizens:**
    a. Avoidance of travel and long queues for various government services allows citizens to handle tasks conveniently from anywhere.

   b. For instance, the e-Hastakshar service enables citizens to electronically sign documents, eliminating the need to visit government offices and saving time and effort.

2. **Boosts Government Department Efficiency:**
   a. Digital records ease sharing among departments, ensuring efficient workflows and easier referencing for future needs.
   b. For instance, The VAHAN platform consolidates vehicle data from diverse State Registers within the Ministry of Road Transport and Highways, facilitating streamlined data management and accessibility.

3. **Reduces Frauds and Leakages:**
   a. Digital records enable real-time monitoring, minimizing leakages in social welfare schemes and ensuring benefits reach genuine recipients.
   b. For instance, Aadhar card linkage with job cards in MGNREGA significantly reduced the presence of ghost beneficiaries, enhancing accuracy by allowing dynamic updates and easy tracing of discrepancies.

4. **Enhances Accountability and Reduces Corruption:**
   a. Traceability within systems assists in identifying the origin of transactions, fostering accountability, and deterring corruption.
   b. Transparent platforms provide citizens with comprehensive information, empowering them to comprehend regulations, report issues, and hold accountable any officials engaging in malpractice.

5. **Facilitates Informed Policy Design:**
   a. Aggregated data from diverse sources can be analyzed to design more effective public policies, leveraging insights for better governance and socioeconomic development.
   b. For instance, the Integration of PAN and Aadhar cards aids in gathering data on individuals with incomes surpassing a certain threshold, aiding authorities in curbing black money and enhancing tax collection.

E-Governance in India: Transformational Impact of Emerging Technology	
Healthcare Advancements:	• Leveraging AI for "**precision public health**" research, optimizing limited resources for targeted healthcare strategies. • Implementation of the **National Digital Health Mission** to establish a comprehensive national digital health ecosystem.
Policing and Security Initiatives:	• Various state governments such as Delhi, Punjab, Uttar Pradesh, and Maharashtra utilize **face recognition technology**, AI, and Machine Learning for crime control and **traffic monitoring**, among other security measures.
Financial Innovation:	• **India Stack**, the **world's largest open Application Programming Interface (API)**, enables government bodies, businesses, startups, and developers to address societal challenges through a presence-less, paperless, and cashless service delivery approach.
Education Reforms:	• **DIKSHA**, a national-level educational platform, facilitates student and teacher engagement, collaboration, and leveraging a unified platform for achieving educational objectives.
Land Record Management	• **SVAMITVA** employs drone technology for land parcel mapping, issuing legal ownership cards, and providing a 'Record of Rights' to village household owners.
Disaster Relief	• Disaster relief agencies like the National Disaster Management Authority (NDMA) and the **National Disaster Relief Force utilize drones in their operations.**

Agricultural usage	• **The National Agriculture Market (e-NAM)** was launched to create a transparent, competitive bidding system, supporting farmers in securing better prices for their produce.

Initiatives by the Indian Government for Establishing Technological Governance Framework	
Legislative Frameworks:	• **Digital Personal Data Protection Bill 2023**: Aims to regulate the collection, use, and processing of personal data by businesses, encompassing data localization, consent protocols, and penalties for infringements. • **Drone Rules, 2021**: Governs the usage and operations of drones within Indian airspace. • **Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules**, 2011 (Privacy Rules): Regulates the handling, storage, and transfer of sensitive personal data or information (SPDI). • **Information Technology Act, 2000**: Primary legislation governing technology usage in India. • **Aadhaar Act, 2016**: Utilizes biometric and demographic data to create a digital identity for diverse services.
Policy Framework:	• **National Cyber Security Policy**: Aims to foster a secure computing environment, instill trust in electronic transactions, and guide stakeholder actions to safeguard cyberspace. • **Code of Practice for Securing Consumer Internet of Things (IoT)**: Focuses on securing consumer IoT devices and ecosystems, and managing vulnerabilities. • **Strategy Papers for Emerging Technologies:** NITI Aayog's strategy documents for governing technologies like Artificial Intelligence and blockchain. • **Regulatory Sandboxes**: RBI and regulatory bodies such as IRDAI and TRAI have launched sandboxes for their respective sectors to facilitate innovation within a controlled environment.
Additional Efforts:	• **INDIAai (The National AI Portal of India)**: Joint initiative by MeitY, NeGD, and NASSCOM, preparing the nation for an AI-driven future. • **Open Government Data Platform (OGD) India:** Central repository providing access to datasets and apps in an open format published by ministries and departments.

Challenges in Technological Implementation for Service Delivery

1. **Digital Literacy Gap:**
   a. Many individuals still struggle with adapting to the digital realm, causing a significant digital divide where most lack familiarity with digital technologies and their applications.
   b. Insufficient digital literacy among a large segment of the population hampers the widespread adoption of digital services.
2. **Scarce Skilled Workforce:**
   a. Within governmental structures, a shortage of skilled personnel proficient in utilizing technology on a comprehensive scale exists.
   b. The lack of a skilled workforce poses a significant hurdle in effectively implementing and managing technological advancements in service delivery.

Internet penetration in India

State wise Internet penetration in India

Gender wise internet distribution India

Smartphone Penetration in India

NCCS wise internet distribution India
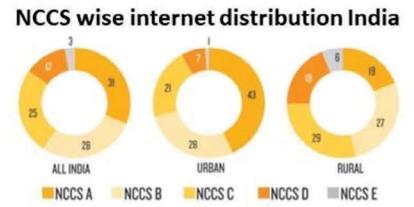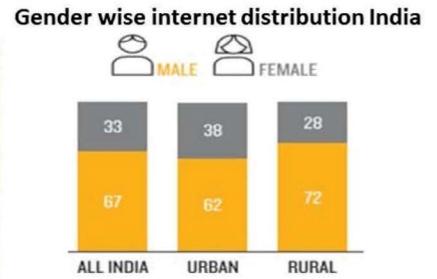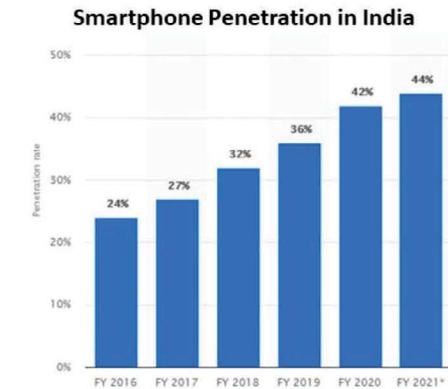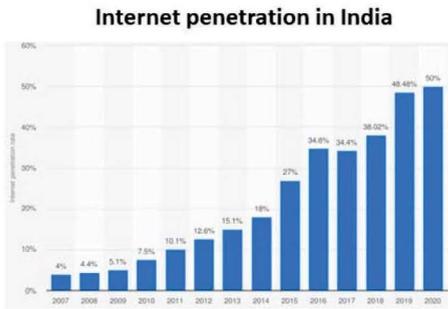
India Internet usage by connection

FIGURES IN %	URBAN	RURAL
2G	4	5
3G	13	13
4G	86	84
WI-FI	9	3

3. **Cybersecurity Vulnerabilities:**
   a. Critical government and public data storage and management within digital services raise concerns about cybersecurity threats.
   b. Ensuring robust cybersecurity measures is crucial to safeguarding sensitive information from potential cyber threats and breaches.

4. **Inadequate Digital Infrastructure:**
   a. Insufficiencies in digital infrastructure within various government establishments across the nation hinder the seamless deployment and utilization of technology for service delivery.
   b. The lack of a comprehensive digital framework limits the effective integration of technological advancements into service provision.

5. **Interoperability Limitations:**
   a. Services often operate in silos due to the lack of interoperability, preventing seamless collaboration and hindering their potential as a collective network.
   b. The absence of standardized systems and protocols impedes the smooth interaction and integration of different services, reducing their overall efficiency and effectiveness.

6. **Regulatory Unpreparedness:**
   a. Regulatory bodies often lack readiness for legal ramifications associated with transformative technologies.

7. **Social Media Regulation Gap:**
   a. In India, social media lacks a comprehensive legal framework, leading to instances of misinformation, hate speech, and cyberbullying due to insufficient regulations.

8. **Misuse and Adverse Effects:**
   a. Technologies can be misused, like AI-generated "deep fakes," causing misinformation and potential harm by distorting reality.

9. **Accountability Challenges:**
   a. Determining liability for outcomes of decisions made by autonomous systems, such as drone accidents or misdiagnoses by medical software, poses significant challenges.

10. **Privacy and Data Governance:**
    a. Inadequate data-sharing governance frameworks can exacerbate social inequalities and infringe upon marginalized groups' human rights.

11. Government Technological Capacities:

a. Regulatory agencies often lack resources and infrastructure to effectively create and enforce technological frameworks, especially in developing countries.

Ethical Quandaries in Emerging Technologies	
Constant Evolution of Ethical Challenges:	Using science and technology continually creates **new ethical dilemmas**. These encompass issues such as **biases ingrained in AI systems**, the **exacerbation of digital inequalities, threats to consumer privacy**, and the proliferation of **misinformation**, which collectively pose potential risks to the ethical framework of our society.
Threats to Human Rights:	Emerging technologies have the **capability to infringe upon fundamental human rights**. For instance, **genetic engineering holds promise for advancing human health by addressing detrimental genetic mutations**. However, the ethical concerns surrounding genome editing, including ethical boundaries and the potential for misuse, are substantial.
Privacy, Bias, and Discrimination:	Governance mechanisms must prioritize ethical considerations revolving around privacy infringements, the amplification of disparate impacts, and instances of discrimination stemming from the deployment of emerging technologies. Ensuring these aspects are addressed is pivotal in safeguarding societal values and equity within technological advancements.

Technologies and role in Sustainable Development Goal(SDGs) attainment

Technolgy	Role in Achieving SDGs	Corresponding SDGs
Artificial Intelligence (AI)	Enhancing healthcare delivery, optimizing agriculture, improving education accessibility	• SDG 3 (Good Health and Well-being), • SDG 2 (Zero Hunger), • SDG 4 (Quality Education)
Internet of Things (IoT)	Efficient resource management, smart cities development, agricultural monitoring	• SDG 9 (Industry, Innovation, and Infrastructure), • SDG 11 (Sustainable Cities and Communities),
Blockchain	Transparency, traceability, and security in supply chains, financial inclusion	• SDG 16 (Peace, Justice, and Strong Institutions), • SDG 1 (No Poverty), • SDG 8 (Decent Work and Economic Growth)
Biotechnology	Advancing healthcare, sustainable agriculture, environmental conservation	• SDG 3 (Good Health and Well-being), • SDG 2 (Zero Hunger), • SDG 15 (Life on Land)
Geospatial Technology	Disaster management, urban planning, natural resource management	• SDG 11 (Sustainable Cities and Communities), • SDG 15 (Life on Land), • SDG 13 (Climate Action)

Way Forward

1. Promoting Digital Literacy:

a. Empower the population by boosting digital literacy, emphasizing the societal benefits of technology adoption and usage.

9 Pillars of DIGITAL INDIA
1. Broadband Highways
2. Universal connectivity with mobile phones
3. Public Internet Access Program
4. E-Governance – Reforming government through Technology
5. eKranti – Electronic conveyance of administrations
6. Information for All
7. Electronics Manufacturing
8. IT for Jobs
9. Early Harvest Programs

Digital India Portal aim is provide digital services in all over india.

2. **Skill Development Initiatives:**
   a. Implement diverse skill development programs to cultivate a proficient workforce capable of meeting technological demands and advancements.

3. **Strengthening Data Protection Laws:**
   a. Establish a robust legal framework to bolster data protection within the country, ensuring comprehensive laws safeguard sensitive information effectively.

4. **Bolstering Cybersecurity Infrastructure:**
   a. Invest in and enhance the cybersecurity infrastructure at a national level to fortify defenses against potential cyber threats and breaches.

5. **Enhancing Digital Infrastructure and Interoperability:**
   a. Improve the nation's digital infrastructure to support seamless technological integration and amplify the services' scope.
   b. Foster interoperability among services by implementing standardized systems, enabling a more connected and efficient service delivery network.

6. **Foster a cadre of technologically skilled bureaucrats**:
   a. Restructure the Civil Services by creating avenues for increased participation of technocrats. This includes establishing a specialized civil service branch focusing on technology and allocating adequate resources to attract and retain young talent within the system.

7. **Utilize data for precise interventions**:
   a. Regulators now have unprecedented access to diverse data collection and analysis methods, including drones, smart sensors, wearables, the Internet of Things (IoT), and artificial intelligence.
   b. These advancements create opportunities for highly precise regulatory interventions, enabling real-time outcomes monitoring and facilitating timely evaluation and updates to regulatory rules.

8. **Utilize Business Influence:**
   a. Addressing Information Asymmetry: Businesses often possess superior capabilities to efficiently manage risks arising from technological innovations due to the information gap between industries and regulators.
   b. Industry-Driven Governance: Industry-led governance complements goal-based regulatory approaches, offering guidance to businesses on achieving desired outcomes effectively

9. **Cross-Institutional Collaboration:**
   a. Coordination to Prevent Regulatory Divergence: Collaborative efforts are crucial to avoid unnecessary regulatory disparities across different regions, ensuring ease of trade and alignment of mutual regulatory objectives.
   b. Emphasis on Interoperability: While regulations needn't mirror each other, they should be compatible and interoperable to facilitate smooth interaction between diverse regulatory frameworks

10. **International Collaboration:**
    a. Facilitating Collaborative Partnerships: International collaboration fosters the creation of more interoperable and efficient rules, exchange of best practices, knowledge sharing, cross-border research and development, and establishment of global standards and norms for technology governance.
    b. Example of Strategic Partnership: The United States and India, through initiatives like the Initiative on Critical and Emerging Technology (iCET), have elevated their strategic partnership for joint development and governance of emerging technologies.

11. **Focus on Digital Commons:**
    a. Advantages of Digital Commons: Leveraging digital commons aids in actively shaping shared democratic values within market structures and governance models driving current technological development.
    b. Path to an Inclusive Ecosystem: Promoting digital commons signifies a path forward toward an inclusive and sustainable ecosystem, fostering shared social benefits.

Conclusion

Technology integration in governance is vital for **India's progress towards inclusive, accountable, and transparent public services during the Amrit Kaal**. Leveraging technology empowers citizens, and ensures fairness, transparency, and accountability, accelerating India's path toward becoming a **developed nation by 2047.**

3. Special Leave Petition

Context

In October 2023, the **Supreme Court (SC) voiced apprehension about a Special Petition Leave (SPL)**, emphasizing its deficiency in essential details such as the age of the petitioner/accused in criminal cases.

Overview of Special Petition Leave (SPL)	
Definition and Scope	**Article 136** of the Constitution empowers the **Supreme Court to exercise discretionary power in granting a Special Leave Petition (SPL), enabling aggrieved parties to appeal against judgments, decrees, determinations, sentences, or orders from any court or tribunal**, excluding military or court martial orders. - Notably, **SPL allows challenges against interim or interlocutory orders**, not necessarily requiring the finality of the order being appealed.
Conditions and Time Limit	- SPL can be invoked in cases involving **substantial questions of law or instances of gross injustice**. - The petition must be filed within **90 days from the date of the High Court** (HC) judgment or within **60 days if the HC denies the certificate of fitness for appeal to the Supreme Court.**
Contents and Filing Procedure	An SPL must comprehensively **present all pertinent facts** essential for the Supreme Court to consider granting the **petition signed by an Advocate-on-Record (AoR).** **Advocate on Record:** He/She is an authorized advocate capable of representing a cause or pleading before the Supreme Court. Only these designated advocates can file any matter or document before the SC. The petitioner's statement must confirm that no other petition is filed in the High Court, and the SPL should include the judgment being appealed.
Filing and Review Process	- Following the filing, the Supreme Court hears the aggrieved party and allows the opposite party to present their side through a counter affidavit based on the case's merits. - Subsequently, the Court decides to either accept or reject the appeal based on the hearing's outcome.
Conversion of an SLP into an appeal	**If the SPL is granted, it transforms into an appeal**, empowering the Supreme Court to exercise its appellate jurisdiction, including the ability to reverse, modify, or uphold the lower court's judgment.
Case of an effective use of the SLP	- The Inter-State Water Disputes Act of 1956 and Article 262(2) of the Constitution seemingly bar the Supreme Court from adjudicating appeals against Inter-State Water Dispute (ISWD) Tribunal decisions. - Nevertheless, the expansive interpretation of "any Court or tribunal in the territory of India" in Article 136 indicates the potential for the ISWD Tribunals to fall under its purview. - Consequently, exploring constitutional avenues within Articles 32, 131, and 136 seems to provide an alternative route to bypass such restrictions.
Citizen's Entitlement	Special Leave Petition (SLP) is not a constitutional right bestowed upon the citizen but a privilege extended to the Supreme Court.

SLP for Fundamental Rights Infringement	● SLP cannot be pursued in cases of fundamental rights infringement. Instead, recourse should be sought through a writ petition under Article 32 of the Indian Constitution for addressing such violations.

Landmark Supreme Court judgments related to SLP

1. **Pritam Singh v. The State, 1950:**
   a. Established that the Supreme Court (SC) should refrain from intervening in High Court (HC) decisions unless exceptional circumstances exist.
   b. Once an appeal is admitted, the appellant retains the right to challenge every erroneous point of law the High Court considers.

2. **Smt. Tej Kumari v. CIT, 2000:**
   a. Clarified that when a special leave petition is dismissed, the court refrains from commenting on the correctness of the order for which appeal permission was sought.
   b. Highlighted that the merger doctrine doesn't apply to dismissing a special leave petition under Article 136.

3. **N. Suriyakala v A. Mohandoss&Ors, 2007:**
   a. Emphasized that Article 136 doesn't confer an automatic right to appeal for parties involved in litigation.
   b. Stressed that Article 136 grants discretionary power to the Supreme Court, exercised to serve the ends of justice.

4. **Jamshed Hormusji Wadia v. Board of Trustees, Port of Mumbai, 2005:**
   a. Defined that the SC must utilize its powers under Article 136 solely in extraordinary circumstances, specifically when a significant question of law of public importance arises.

Comparison between Special Leave Petition Review Petition and Curative Petition

Aspect	Special Leave Petition (SLP)	Review Petition	Curative Petition (a last Resort remedy)
Purpose	Appeals against judgments, orders, or decrees from any lower court or tribunal	Review of a judgment or order within theSupreme Court	Remedial measure for seeking relief in exceptional cases of perceived violation of the principles of natural justice.
Constitutional Provisions	Provided Under Article 136 of the Constitution	As per Article 137 of the Constitution, the Supreme The court has the power to review any of its judgments or orders.	Supreme Court of India Evolved it in Rupa Ashok Hurra vs. Ashok Hurra and another case (2002).
Grounds	Substantial question of law gross injustice	Errors in the judgment that warrant review	Gross violation of natural justice
Time Limit	90 days from HC judgment or 60 days against the refusal of HC's certificate	Within 30 days from the date of judgment or order	No specific time limit
Finality of Judgment	Can challenge interim or interlocutory orders	Review of the final judgment	exhausting remedies through appeal or review

4. Cash-For-Query Row

Context

In October 2023, the Lok Sabha's Ethics Committee commenced investigating the "Cash for Query" allegation against TMC MP Mahua Moitra.

Details of the Cash For Query case

- The case involves **allegations against Trinamool Congress MP Mahua Moitra,** who was accused of **exchanging her Parliament login ID and Password for gifts and monetary favors** from a businessman. This allowed the businessman to post questions directly in the House on her behalf.
- A formal complaint was lodged with the Lok Sabha Speaker against Mahua Moitra regarding her alleged involvement in the "cash for query" matter. Consequently, the Speaker referred the issue to the **Ethics Committee for investigation.**

Potential Outcomes of the Case

1. Upon substantiating the complaint, the **Ethics Committee may propose specific recommendations**. These could potentially lead to the suspension of the MP for a defined duration.
2. The final decision rests with the House, comprising all MPs, to either accept or reject the committee's suggestions and determine the severity and type of penalty, if warranted.
3. If the accused were to be expelled or face a potentially adverse decision, she could challenge it in court.
4. Grounds for legal challenges are restricted and typically center on assertions of unconstitutionality, severe illegality, or denying fundamental justice.

Historical Reference

1. **In 2005, the Lok Sabha and Rajya Sabha expelled 10 Lok Sabha MPs and one Rajya Sabha MP** for allegedly accepting bribes in exchange for posing questions in Parliament.
2. The Lok Sabha's decision was based on the **Bansal Committee's report**, a special committee appointed by the Speaker to investigate the matter.
3. Simultaneously, the Rajya Sabha referred the complaint to its House Ethics Committee for examination.
4. Following their expulsion, the ousted MPs requested the Bansal Committee's report to be forwarded to the Privileges Committee to enable them to defend themselves before Parliamentarians.

Parliamentary Mechnissm to Raise Questions in Parliament	
1. Question Hour:	This is a scheduled time during the parliamentary proceedings when MPs can ask questions from ministers regarding various aspects of governance, policy matters, and national or international affairs. Questions are categorized as starred (require an oral answer) or unstarred (require a written answer).
2. Zero Hour:	A time immediately following the Question Hour, where MPs can bring up issues of urgent public importance without any prior notice. It allows MPs to raise matters that require immediate attention or discussion.
3. Call Attention Notice:	MPs can submit a Call Attention Notice to bring attention to a specific matter and seek a response from the concerned minister. The notice highlights an issue and requests the minister to provide clarification.
4. Adjournment Motion:	This motion allows MPs to suspend the normal business of the House to discuss a specific urgent matter. If admitted, it leads to the setting aside of routine business for discussion on the proposed issue.
5. Point of Order:	MPs can raise a Point of Order to seek the Speaker's clarification or intervention if they feel that the proceedings or rules of the House are being violated.
6. Special Mentions:	MPs can submit Special Mentions to draw the attention of the House to specific issues or incidents. These are generally short statements MPs make and aren't open to debate.

7. Private Members' Business:	During Private Members' Business, MPs who are not part of the government can introduce bills, move resolutions, or discuss matters of public interest.

Difference Between Question Hour and Zero Hour:

Question Hour	Zero Hour
Takes place at the beginning of the Lok Sabha and Rajya Sabha proceedings.	Follows the Question Hour in the Indian Parliament's proceedings.
Duration is typically one hour.	Doesn't have a fixed duration; starts after the Question Hour and often lasts for 30-45 minutes.
MPs ask questions from ministers about policies, governance, and various national and international matters.	Allows MPs to raise issues of urgent public importance.
Questions and answers are a formal procedure governed by rules.	Usually involves non-official business. Members can raise matters without any pre-submission.
Helps ensure executive accountability and transparency.	Provides an opportunity to highlight emerging issues.

Different Types of Questions				
Type of Question	Description	Purpose	Answer Format	Color Code
Starred Question	These questions require oral answers and are distinguished by an asterisk (*). MPs who ask starred questions may ask supplementary questions based on the initial response given by the concerned Minister.	To elicit detailed information or explanations on specific issues from the government.	Oral	They are printed in green color.
Unstarred Question	These questions require written responses and do not allow for supplementary questions. They do not have an asterisk (*).	To seek specific information or details from the government on various matters.	Written	They are printed in white color.
Short Notice Question	These are questions of an urgent nature that require immediate attention and notice shorter than the usual period for raising questions.	To address pressing issues that cannot wait for the regular notice period.	Oral	They are printed in a light pink color

Private Member Question	A question may be addressed to a private Member.	They are asked when the subject matter pertains to any Bill, Resolution, or any matter relating to the Business of the House for which that MP is responsible.	Oral/Written	They are printed in yellow color.

Procedure for Raising Questions in the Indian Parliament

1. **Commencing the Questioning Process**: To pose a question during question hour, an MP must issue a notice directed to the Secretary-General of the house, indicating their intent to ask a question.

Functioning of Question Hour
% of time utilised out of time allotted to Question Hour
Source: PRS Legislative Research

2. **Methods of Notice Submission:** MPs can submit notices in two ways:
   a. Through the online 'Member's Portal,' use their designated ID and password.
   b. Through printed forms available at the Parliamentary Notice Office.

3. **Contents of the Notice**: Typically, the notice includes the question's text, the official position of the addressed Minister, the desired answer date, and the priority sequence if multiple notices are tabled for the same day by the MP.
   a. MPs can't submit more than five notices of questions (inclusive of oral and written answers) per day.
   b. If notices exceed five questions, they're considered for subsequent days within the session concerning that specific Minister.

4. **Scrutiny and Balloting of Notices:** Notices undergo scrutiny to ensure accurate details. A computerized ballot determines their priority, separately for Starred and Unstarred Questions.

5. **Speaker's Role in Admissibility:** The Lok Sabha Speaker reviews questions based on established rules to determine their admissibility.
   a. The question-raising process adheres to Rules 32 to 54 of the "**Rules of Procedure and Conduct of Business in Lok Sabha**" and Directions 10 to 18 of the "**Directions by the Speaker, Lok Sabha.**"

6. **Preparation and Transmission of Admitted Questions**: Accepted and edited questions are typed on standard forms and distributed in advance.

7. **Special Consideration for Short Notice Questions**: Short Notice Questions are initially referred to the concerned Ministry for information provision. If the Minister accepts and the Speaker deems the matter urgent, these questions are printed separately on pink paper for distinction from regular questions.

8. **Ministry Group Allotment for Answering Days**: Ministries are divided into five groups, with fixed days allotted for each group during the week for answering questions.
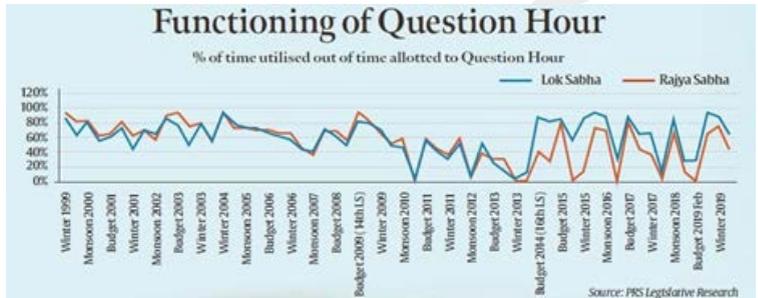
Criteria for Admitting Questions
1. **Word Limit:** Questions should not exceed 150 words in length.
2. **Content Restrictions**: Questions must avoid containing arguments, defamatory remarks, or references to an individual's character or conduct unless in their official or public capacity.
3. **Scope Limitation:** Queries should not address broader policy issues, as answering such questions within the confines of a response is unfeasible.
4. **Judicial or Committee Matters:** Questions related to ongoing cases before courts, tribunals, or parliamentary committees are inadmissible.
5. **National Unity and Integrity:** Questions seeking information on matters that might undermine the unity and integrity of the country are not allowed.

Importance of Raising Questions in Parliament

1. **Parliamentary Privilege:** Questioning is an innate and unhindered parliamentary privilege for MPs, enabling legislative oversight over executive decisions.
2. It is a **parliamentary device** to practice legislative control over executive actions.
3. **Functions of Inquiry:** Questioning empowers MPs
   a. to gather insights into government actions,
   b. assess policies,
   c. spotlight governmental deficiencies, and
   d. encourage ministers to undertake actions beneficial to the public.
4. **Government's Viewpoint:** From the government's standpoint,
   a. questions offer a glimpse into public opinions concerning policies and governance.
   b. They can trigger the establishment of parliamentary investigations, inquiries, or the drafting of new legislation based on public concerns.

Lok Sabha Ethics Committee	
Committee Composition	Comprising a maximum of 15 MPs nominated by the Speaker for a one-year term, the Ethics Committee emphasizes balanced representation in terms of age and gender.
Historical Evolution:	**1996:** A Presiding Officers' Conference in Delhi proposed the establishment of ethics panels for both the Lok Sabha and Rajya Sabha. **1997:** Vice President K R Narayanan, serving as the Rajya Sabha Chairman, formed the Upper House's Ethics Committee on March 4th. Its role encompassed overseeing members' moral conduct and investigating referred misconduct cases. **1997 (Lok Sabha):** A study group within the House Committee of Privileges recommended forming an Ethics Committee for the Lok Sabha. However, the Lok Sabha couldn't proceed with this recommendation then. **13th Lok Sabha:** The Committee of Privileges eventually proposed establishing an Ethics Committee. **2000:** Speaker G M C Balayogi established an ad hoc Ethics Committee in the Lok Sabha. However, it wasn't until 2015 that this committee attained permanency within the House's structure.
Objectives:	The committee's primary objectives are: - Overseeing the ethical conduct of Members of Parliament (MPs). - Examining referred cases concerning ethical and other misconduct among MPs.
Complaint Procedure:	Individuals can file a complaint against an MP through another Lok Sabha MP. The complaint must include evidence of alleged misconduct and an affidavit affirming its credibility unless the complainant is an MP. The committee does not entertain media-based or sub-judice matters.
Operational Process:	- Upon receiving a complaint, the committee initiates a preliminary inquiry. If a prima facie case is established, further investigation follows, culminating in a report with suggested actions submitted to the Speaker. - The committee may recommend penalties such as MP suspension for a specific period. The Speaker might choose to table the report before the House, potentially leading to a debate (not exceeding thirty minutes) and a decision by the House on the proposed actions. - In the case of severe actions like expulsion, the accused MP holds the right to challenge the decision in a court of law, focusing on constitutional breaches, substantial illegality, or violations of natural justice principles

Overlap with Privileges Committee:	● While allegations of corruption against an MP can be directed to either committee, more serious accusations typically get referred to the Privileges Committee. ● The Privileges Committee safeguards Parliament's "freedom, authority, and dignity." These privileges extend to individual Members and the House collectively. Both MPs and non-MPs can face scrutiny for Breach of Privilege, especially for actions undermining the authority and dignity of the House. ● The Ethics Committee's jurisdiction is limited to handling cases of misconduct specifically involving MPs.

5. CAPACITY BUILDING OF URBAN LOCAL BODIES (ULBS)

Context

In October 2023, National Workshop on Capacity Building of ULBsorganized by Capacity Building Commission (CBC) and MoHUA, to foster a unified approach to capacity building ULBs across India under Mission Karmayogi.

More on News

1. The Workshop marked the launch of three key initiatives, i.e
   - Annual Capacity Building Plan (ACBP) to enhance the capabilities of MoHUA.
   - ACBP for 6 pilot ULBs i.e. Ahmedabad, Bhubaneswar, Mysuru, Rajkot, Nagpur, and Pune.
   - Comprehensive Toolkit for preparing Capacity Building Plans for ULBs for providing valuable resources to facilitate the growth and development of ULBs.
2. Capacity building is one of the important components under Atal Mission for Rejuvenation and Urban Transformation (AMRUT), consisting of both individual and institutional capacity building.
3. The workshop is a crucial step towards realising the goals of Mission Karmayogi, and vision of a Naya Bharat. Ensuring that ULBs across the country are equipped to contribute effectively to national development and governance

Urban local bodies

1. 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.
   - 74th Constitutional Amendment Act, 1992, formally recognized urban local governments as the third tier of government.
2. The act added Part IX -A and consists of provisions from Articles 243-P to 243-ZG.
3. In addition, the act also added the 12th Schedule to the Constitution. It contains 18 functional items of Municipalities.
4. 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'.
5. Act also sought to empower state government to
   - Devolve certain functions in relation to 18 subjects.Collect revenue from these bodies
   - Ensure periodic elections for them compulsory (Article 243ZA)

Municipal Corporations
Municipal Councils
Nagar Panchayat

Need for capacity building for ULBs

1. Pace of Urbanization:Urban growth is expected to contribute to over 73% of the rise in the population.
   - The United Nations has projected that, by 2050, India will be 50% urbanized.
2. Contribution of Urban India in Economy:
   - Cities constitute only about 3% of the country's land, but contribute to over 70% of the Gross Domestic Product (GDP) indicating a high level of economic productivity that they offer.

3.   Diverse Regional Aspirations:
   •   To accommodate the regional aspirations of the different sections of the diverse country.
4.   Effective Administration and Service Delivery
   •   Efficient implementation of the government schemes like, SMART City, AMRUT etc.

Measures taken for capacity building of ULBs

1.   **Capacity Building Scheme for Urban Local Bodies (CBULB):**
   •   Strengthening urban local governments through capacity building and better financial management is identified as a key strategy for urban development in the 11th Plan.
2.   **World Bank-assisted Capacity Building for Urban Development (CBUD) Project:**
   •   It aims to build the capacity of selected ULBs, which are centers of economic growth, improve their skills for better urban management and reduce urban poverty.
3.   **National Urban Digital Mission:**
   •   Launched in 2021 by MoHUA, and focuses on citizen-centric digital revolution in ULBs in India.
   •   It aims to create a shared digital infrastructure working across three pillars of 'People, Processes and Platform' to provide a framework for digital governance in the country
4.   **Institutional Arrangement:**
   •   National Institute of Urban Affairs (NIUA) has been appointed to anchor this mission
      i.   Established in 1976, NIUA is a premier institute for research, training and information dissemination in urban development and management.
   •   Jawaharlal Nehru National Urban Renewal Mission (JNNURM):
      i.   Focuses on efficiency in urban infrastructure and service delivery mechanisms, community participation, and accountability of ULBs/ Parastatal agencies towards citizens.
   •   All India Institute of Local Self-Government:
      i.   Activities of the Institute focus on promotion and support in the area of research and training in municipal administration.
5.   **Financial:**
   •   Municipal Bonds: These are the financial instruments that municipal corporations and other associated bodies in India issue to raise funds.

Capacity Building Commission

•   Independent body under the Department of Personnel and Training.
•   One chairperson and two other members
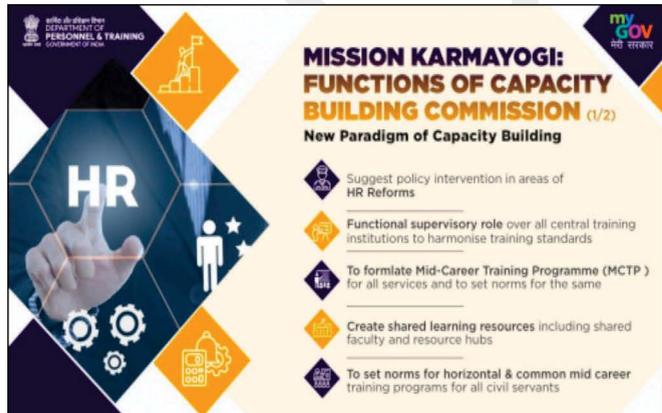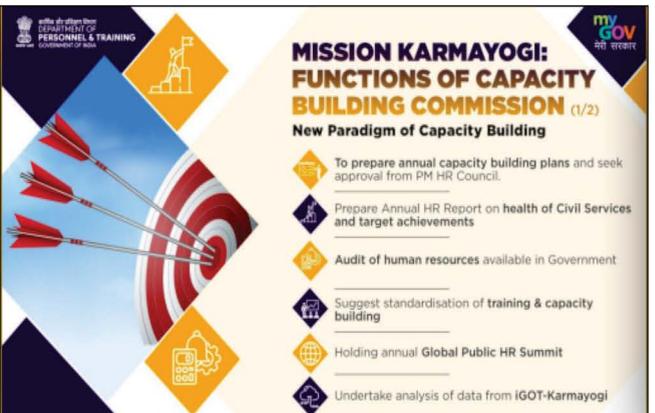
Challenges associated with the capacity building of the ULBs

1.   **Insufficient Institutional capacity and skill set:**India lacks town planning education in the country.
   •   There are only 26 institutes that provide this course and produce only 700 town planners each year.

- The personnel engaged in managing urban affairs and municipal services lacks specific skills, especially in areas like socioeconomic planning, sustainable urban planning, financial management, and e-governance.

2. **Training Curricula**: Training curricula are programme-centric or event-based, limiting their utility and further hampering thedevelopment of specific skills.

3. **Lack of awareness and participation**: The disconnect between citizens and ULBs hampers effective communication. This cutsthe feedback channel from the citizens, which could act as a key motivator for capacity building.

4. **Problem of 3F: Fund, Function and Functionaries:** The 73rd and 74th Amendment Act enlists the function of local governance bodies. However, in practice, there is a lack of devolution of financial authority resulting in local authorities having greaterresponsibilities without financial means to fulfil it.

5. **Climate change:**According to the World Bank, climate change may reduce India's GDP by 3 per cent and it may also reduce theliving standards of its citizen by 2050. Therefore, a proper structural engineering along with conservation should be madepriority.
    - **For example**, lakes in Bangalore can be converted into Bangkok-style ferries.

6. **Outdated planning practices:**The outdated planning services have made the land utilisation poor in the recognised towns andurban neighbourhoods.
    - **For example**, one-fourth land of Mumbai is open public spaces while half of it is underutilised spaces around buildings.

Way Forward

1. **Training and Academic Collabora2on**: Quality training material offering a mix of classroom-based training and on-field training.
    - Linking the academic institutions with the NIUA to bridge the shortage of capacity- building institutions.

2. **Professionalism and Lateral Hiring of Professionals**: Developing a cadre system and provide specific training to create a strongand efficient workforce in municipal departments.
    - *Example*: Engineering disciplines.

3. **Awareness genera2on and Social Audit**: Ensure active participation and generate awareness among the public by organisingcampaigns, engaging academic institutions, NGOs etc.
    - *Example:* Meghalaya

4. **Fiscal Decentralisation**: Urban local bodies should be providedwith the power to ensure the financial autonomy and self-sufficiency. This will enhance local institutions' ability to allocatefunds for training, and carry out developmental tasks effectively.

Quantitative & qualitative research	Project structuring	Strategic planning	Consensus building and moderation
Surveying & mapping	Critical thinking	Financial modelling	Leadership & team management
Policy development	Problem solving ability for multi-sectoral issues	GIS & Remote sensing	Project Evaluation & monitoring
Documentation and visual presentation	Multi-disciplinary awareness	Regulatory & legal frameworks	Communication & persuasion

Technical Skills ←→ Managerial Skills

Skills to be imparted to urban planners

5. **Best Practices:**
    - In the **US**, the garden city movement evolved intothe neighbourhood concept. It planned residential houses andstreets around community centres and schools.
    - **London** has a metropolitan green belt around the city tobalance pollution and congestion and maintain biodiversity.
    - Transit oriented development in **Paris.**
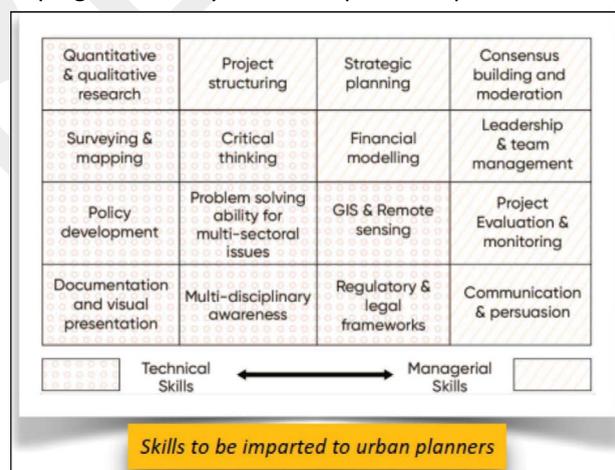
Conclusion

Revamping Urban Local Bodies (ULBs) is crucial for efficient urban governance and sustainable development. It requires addressing challenges like limited funds, weak institutions, political interference, and inefficient structures. Implementing proposed measures empowers ULBs, improves performance, and tackles 21st-century urban challenges. This builds vibrant, inclusive, and sustainable cities.

6. Consumer Protection in India

Context

Recent findings reveal a **declining trend in pendency in consumer commissions**, reducing from 5.55 lakhs in December 2022 to 5.45 lakhs in September 2023.

Understanding a Consumer

1. As per the **Consumer Protection Act (CPA) 2019**, a consumer is an individual who purchases goods or avails services for a consideration, paid, promised, or under deferred payment schemes.
2. The definition encompasses **both offline and online transactions**, including electronic means, teleshopping, direct selling, or multilevel marketing.
3. Notably, individuals obtaining goods or services for resale or commercial purposes fall outside the scope of CPA 2019.

Importance of Consumer Protection in India

1. **Informed Choice:** The market has seen a rise in duplicate/defective products. CPA facilitates information dissemination, empowering consumers to make informed choices.
2. **Checking Malpractices:** Consumer protection serves to prevent and combat unfair trade practices like black marketing, hoarding, and manipulation of market prices.
   - **Example:** Addressing high premiums on essential medicines and misuse of patent rights by some pharmaceutical companies.
3. **Misleading Advertising:** Businesses often deceive consumers through deceptive/false advertisements, violating the consumers' right to accurate information about products or services.
4. **Grievance Redressal:** Consumer protection mechanisms aim to provide effective redressal for complaints, especially in cases like the sale of adulterated products, holding businesses accountable.
5. **Economic Growth and Competitiveness:** Consumer protection contributes to dynamic and effective markets, fostering economic growth.
   - **Consumer demand,** driven by fair prices and quality, stimulates innovation, leading to overall economic development.

Central Consumer Protection Authority (CCPA)

- **Establishment of CCPA:** The Central Government is establishing the Central Consumer Protection Authority (CCPA).
- **Purpose and Regulation:** CCPA aims to promote, protect, and enforce consumer rights. It will regulate violations of consumer rights, unfair trade practices, and misleading advertisements.

Investigation Wing and Powers

- CCPA will have an investigation wing led by a Director General to inquire into violations.
- It is granted extensive powers, including suo-moto actions, product recalls, reimbursement orders, license cancellations, penalties, and class-action suits.

Functions of CCPA

- Inquire into consumer rights violations, investigate, and prosecute.
- Issue orders for recalling hazardous goods, reimbursing prices, discontinuing unfair practices, and providing safety notices.
- Impose penalties and issue safety notices against unsafe products.

CONSUMER PROTECTION ACT 1986	PROVISIONS	CONSUMER PROTECTION ACT 2019
No separate regulator	**Regulator**	Central Consumer Protection Authority (CCPA) to be formed
Complaint could be filed in a consumer court where the seller's (defendant) office is located	**Consumer court**	Complaint can be filed in a consumer court where the complainant resides or works
No provision. Consumer could approach a civil court but not consumer court	**Product liability**	Consumer can seek compensation for harm caused by a product or service
District: up to ₹20 lakh State: ₹20 lakh to ₹1 cr National: above ₹1 cr	**Pecuniary jurisdiction**	District: up to ₹1 cr State: ₹1 cr to ₹10 cr National: Above ₹10 cr
No provision	**E-commerce**	All rules of direct selling extended to e-commerce
No legal provision	**Mediation cells**	Court can refer settlement through mediation

Measures for Consumer Protection in India

1. **Consumer Protection Act (CPA) 2019:** The CPA 2019 establishes the **Central Consumer Protection Authority (CCPA)** to regulate issues related to **consumer rights violations** and **unfair trade practices**.

2. **Consumer Protection (Jurisdiction Rules) 2021:** Envisages a **3-tier quasi-judicial machinery** at the National, State, and District levels for simple, speedy, and cost-effective resolution of consumer disputes.

3. **ConfoNet Project:** Stands for **Computerization and Computer Networking of Consumer Fora**, implemented to enhance operational efficiency, coordination, and accessibility in judicial administration.
   - **Aims** to establish **Information Communication Technology (ICT) infrastructure** in **Consumer Redressal commissions** across India.

4. **Integrated Grievance Address Mechanism (INGRAM) Portal:** Developed under the **Department of Consumer Affairs** to raise awareness, provide advice, and address consumer grievances.
   - Serves as a central registry for lodging consumer complaints.

5. **E-Daakhil Portal:** Offers a **hassle-free and speedy facility for consumers** nationwide to approach relevant consumer forums without the need for physical presence or travel.

6. **Certification Markers:** Implemented to protect and inform consumers about quality standards.

Certification Marks in India

- **Certification** marks on commercial products signify that the manufacturer has tested and ensured the product meets specified quality standards.

- Governed by the **Bureau of Indian Standards (BIS)** under the **International Organisation for Standardisation (ISO standards)**, overseeing industrial standardization and product certifications in India.

Five New Consumer Rights

1. Right to File Complaint Anywhere
2. Right to Seek Compensation under Product Liability
3. Right to Protect Consumer as a Class
4. Right to Seek a Hearing through Video Conferencing
5. Right to Know Why a Complaint Was Rejected

Challenges associated with the Consumer Protection in India

1. **Pendency in Cases:** Despite a declining trend, a significant backlog of pending cases at state and national levels leads to prolonged waiting periods and dispute resolution delays.
2. **Vacancies in Institutions:** Inadequate infrastructure and manpower in consumer forums (e.g., Pune, Delhi) contribute to inefficiencies in handling consumer complaints.
3. **Clarity Issues with CCPA Roles and Powers:** Lack of clarity regarding the roles of the Central Consumer Protection Authority (CCPA), particularly in investigations, inquiries, and search and seizure functions.
    *   Uncertain scope of CCPA powers in matters such as investigation outcomes leading to product recall or penalties for manufacturers.
4. **Rights vs Duties Dilemma:** The Consumer Protection Act (CPA) lacks explicit provisions for consumer duties, hindering the development of conscious consumerism and shared responsibility for consumer protection.

Way Forward

1. **Advertising Regulation:** Collaborative efforts between governments, manufacturers, distributors, and consumer organizations to establish advertising codes and standards for regulating information provided in advertisements.
2. **Safety and Quality Standards:** Regular review of national standards and regulations for product safety and quality to align with international standards.
3. **Awareness Initiatives:** Government and NGO collaboration to publish periodicals, organize awareness campaigns, and provide education to empower consumers about their rights, legal reporting, and redressal measures (e.g., JagoGrahakJago).
4. **Clarifying CCPA Roles:** Clearly outlining CCPA roles in investigations, inquiries, and search and seizure operations, especially in matters such as product recalls and appeals.
5. **Enlisting Consumer Duties:** Explicitly mentioning consumer duties in regulations to guide responsible consumption and foster a balanced consumer ecosystem.
    *   Taking inspiration from examples like the Jamaican Government, which recognizes and publishes both consumer rights and duties on their official website.

Conclusion

India's consumer protection measures, driven by the CPA 2019, establish a resilient framework. These initiatives not only safeguard consumer rights and ensure dispute resolution efficiency but also promote fair business practices and quality standards. This collective approach cultivates a consumer-centric ecosystem, vital for sustainable economic growth.

7. Amendments to Cable Television Networks (Regulation) Act, 1995

Context

Ministry of Information and Broadcasting has issued amendments to the **Cable Television Networks Rules, 1994** in Oct 2023.These amendments outline the operational framework for implementing the recently decriminalized provisions of the **Cable Television Networks (Regulation) Act, 1995**.

Objective

1. The primary objective is **to enhance the business-friendliness** of the Cable Television Networks (Regulation) Act, 1995.
2. The amendments **aim to instil greater investor confidence** and facilitate an **environment conducive to ease of doing business**.

Re-examination and Decriminalization

1. Sections of the original act underwent re-examination and were subsequently decriminalized through the **Jan Vishwas (Amendment of Provision) Act, 2023**.

2. The amendments replace imprisonment provisions with **monetary penalties** and introduce **non-monetary measures** such as advisory warnings, among others.

Cable Television Network Act, 1995

1. **Regulatory Objective:** The Act focuses on regulating the content and operation of cable networks, aiming to control the 'haphazard mushrooming of cable television networks.'

2. **Key Provisions:**
   - **Section 2:** Designates district magistrates, sub-divisional magistrates, and police commissioners as 'authorized officers' to ensure compliance with the Programme Code.
   - **Section 3:** Requires cable operators to be registered to operate a cable television network.
   - **Section 4A:** Mandates cable operators to transmit programs through a digital addressable system when directed by the center.
   - **Section 16:** Specifies penalties for contravening Act provisions.
   - **Section 19:** Grants authorized officers the power to prohibit the transmission of certain programs in the public interest if they promote disharmony or ill-will.
   - **Section 20:** Empowers Parliament to prohibit the operation of cable television networks in the public interest.

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8. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition Of Forest Rights)

Context

In October,2023 States have reportedly rejected nearly **40% of the land claims under the Forest Right Act**, drawing recent attention.

Forest Right Act (FRA), 2006

1. **Recognition Gap Addressed:** Earlier acts failed to acknowledge the symbiotic relationship of Scheduled Tribes (STs) with forests and their dependence on them.

2. **Key Provision - Section 3(1)(a):**Recognizes the right of **Forest Dwelling Tribal Communities (FDSTs)** and **Other Traditional Forest Dwellers (OTFDs)** to inhabit or cultivate forest land for livelihood.

3. **Types of Rights Under Section 3:**
    *   **Individual Forest Rights (IFR):**Grants the right to hold and inhabit forest land individually or collectively for habitation or self-cultivation.
    *   **Community Forest Rights (CFR):**Aims to restore customary usufruct rights of forest-dwelling communities within traditional village boundaries.
    *   **Community Forest Resource Management Rights:**Bestows ownership rights and access to collect, use, and dispose of minor forest produce traditionally gathered within or outside village boundaries.

4. **Nodal Agency:** State Governments/UT Administrations are responsible for implementing the Act.

5. **Role of Gram Sabha:**Gram Sabha holds the authority to initiate processes determining individual or community forest rights.

6. **Land Titles:**The Act acknowledges individual, family, or community rights on the land, with a cap not exceeding four hectares.
    *   Land titles granted under the FRA are **legally recognized**.
    *   Land rights conferred by the Act are heritable**(Section 4(4) of FRA)** but **not transferable or alienable.**

7. **Diversion of Forest Land for Local Development:**Permits the diversion of forest land for local development projects like schools, dispensaries, hospitals, Anganwadi centers, etc.
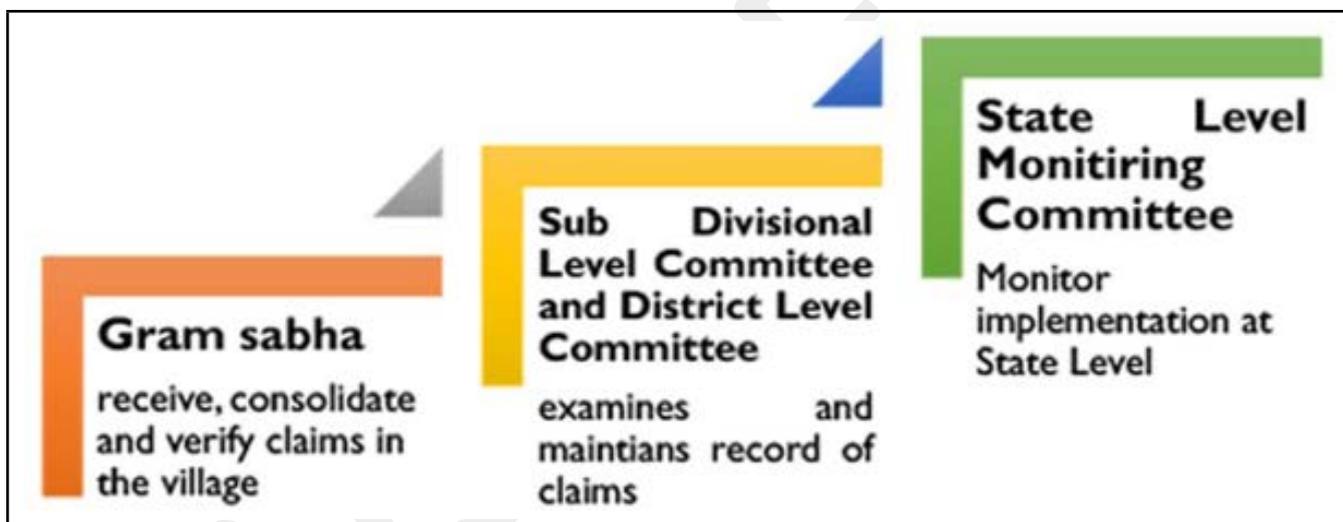
*   **DongriaKondh Adivasis** used FRA in 2013, to protect their sacred lands in the **Niyamgiri forests of Odisha** and rejected the **Vedanta's bauxite mining project**.
*   Earlier in **Orissa Mining Corporation vs Union of India (2013)**, SC directed that Gram Sabha of region will decide about the project.

Concerns Regarding Forest Rights Act Implementation

1. **Land Claims Issues:**
    *   **Document of Proof:** Many claims under the **Forest Rights Act (FRA)** face rejection due to insufficient documentary evidence of land use.
        o   **Example:** According to **Section 2(c) of FRA**, to qualify as **Forest Dwelling Scheduled Tribe (FDST)**, the applicant must belong to a Scheduled Tribe in the area, have resided in **forest land before 13-12-2005**, and depend on it for livelihood.

- **Inconsistency in Acreage:**A World Bank report notes inconsistencies in claimed and allocated acreage. In Narmada District (Gujarat), approximately 70% of claimants reported approval for less acreage.
- **Low Awareness:**Gram Sabha, responsible for verifying claims, lacks awareness in handling them.
  - **Analysis in Jammu & Kashmir** (Sept 2021 - May 2023) reveals that over **92.57% of rejected claims** were declined by Gram Sabha.
  - **Illiteracy and remote living conditions** contribute to **Forest Dwelling Scheduled Tribes (FDSTs)** lacking knowledge about the correct claims procedure.

2. **Other Concerns with the Act:**
- **Forest Land Encroachment:**Misuse of Gram Sabhafor approving ineligible claims and regularizing encroachments post 13.12.2005**(Cut-off date of recognition)**.
  - When rejections occur, appeals lead to prolonged cases, leaving the land encroached.
- **Violation of FRA Provisions:**Earlier titles were haphazardly issued in the name of **Joint Forest Management (JFM) committees** or panchayat bodies.
  - **Example:** CFR titles in **Deori taluk, Maharashtra**, were issued to villages in the name of the panchayat instead of the gram sabha.
- **Lack of Coordination:**The act mandates coordination among **State Level Committee (SLC), District Level Committee (DLC)**, and the **State Level Monitoring Committee**. However, coordination gaps hinder the act's objectives.
- **Destruction of Forests and Wildlife:**Environmentalists fear the act, emphasizing land rights and forest produce use, may harm forest biodiversity.
  - Instances exist where trees are felled on forest land, followed by FRA claims.

Way Forward

1. Issuing Directives to States:The Centre, under the FRA Act, can issue directives to states for a review exercise in cases of high claim rejection rates.
2. **Learning from State Government:**Odisha's Mo Jungle Jami Yojana (MJJY) provides land ownership and forest resource access to beneficiaries.
3. **Awareness Generation:**Improve awareness among gram sabhas, forest rights committees (FRCs), and claimants about FRA rules.
4. **Capacity Building of Gram Sabha:**Enhance the capacity of Gram Sabha through training and effective use of local bureaucracy, as it holds primary approval authority.
5. **Inclusive Approach:**Involve marginalized sections, enhance the role of Civil Society, etc. in FRA implementation.

9. Sarna Code

Context

In October,2023 Tribal communities across five states, including **Jharkhand**, **Odisha**, and **Assam**, are urging the Central Government to officially acknowledge their religion as **'Sarna'** and ensure its inclusion in the upcoming census.

About Sarna Religion:

1. Sarna followers, devoted to nature worship, disassociate themselves from Hinduism, advocating for a separate religious identity for many years.
2. Their belief system is alternatively known as **"Sarna Dharma"**, or **"Religion of the Holy Woods".**Sarnaists worship a village deity known as **Gaon khunt, Gram deoti, Singbonga**.
3. Additionally, followers venerate **Dhartiyao** or **Chalapachho Devi**, identified as the **mother goddess** representing earth or nature.
4. **Primary festival: Sarhul**, a celebration where devotees express reverence to their ancestors.

5. Previous census surveys categorized them as "others" in the religion column.Sarna believers reject idol worship and traditional concepts like the Varna system, heaven-hell, etc.
6. The core tenets of Sarna faith revolve around **"Jal (water), Jungle (forest), Zameen (land),"** with followers offering prayers to trees and hills.
7. They are concentrated primarily in tribal belt states such as Odisha, Jharkhand, Bihar, West Bengal, and Assam. The **highest number of followers**are in **Jharkhand**, followed by West Bengal.
8. In the 2011 census, reports suggested that over **50 lakh tribal individuals across the country** identified their religion as 'Sarna,' even though it lacked a specific code.

10. Centre Claims Aadhaar as the Most Trusted Digital ID in the World

Context

   In October,2023 The center rebuts assertions by an investor servicing agency, emphasizing the foolproof nature of Aadhaar.

About Aadhaar

1. Aadhaar, a **12-digit unique identification number**, is issued by the **Unique Identification Authority of India (UIDAI)**.
2. All collected data is securely stored in the **Central Identities Data Repository (CIDR)** managed by UIDAI.

8 MOST IMPORTANT AADHAAR CARD USES IN INDIA

1. Aadhaar serves as a proof of identity and address across India
2. Aadhaar empowers residents of Indiawith a unique identityand a digital platform to authenticate anytime, anywhere
3. Aadhaar is paperless online anytime-anywhere identity
4. Aadhaar is a random generated number that does not dependon caste, creed, religion and geography
5. Get to know about your Aadhaar card details online or using your phone
6. Avail benefits of various services if your carry your Aadhaar card
7. Aadhaar helps in proving identity during train travel
8. Aadhaar helps you to get mobile connection, LPG connection, opening a bank account, etc.

Key Features of Aadhaar

1. **Biometric Uniqueness:**The system employs biometric de-duplication to prevent the issuance of multiple cards for the same individual.
2. **Random Number Generation:**The generated Aadhaar number is random and devoid of personal details like caste, religion, or income.
3. **Scalable Architecture:**Aadhaar's architecture is open and scalable, with the current authentication service capable of handling 100 million authentications daily.

Measures taken to ensure safety of Aadhaar

1. **Two-Layered Fingerprint Authentication:**UIDAI has implemented a **two-layered securitymechanism** specifically for Aadhaar-based fingerprint authentication, enhancing overall security.
   - **Robust Privacy Protections:**In the legal framework governing Aadhaar, Parliament has established robust privacy protections.
2. **Section 32(3) of the Aadhaar Act 2016** explicitly prohibits UIDAI from exercising control, collecting, or maintaining any information related to the purpose of authentication.
3. **International Standards Certification:**Authentication systems undergo certification according to rigorous international standards, including **ISO 27001:2013** for **Information Security Management System** and **ISO 27701:2019** for Privacy Information Management System.

11. Online Registration of First Information Reports (FIR)

Context

In October,2023 The **282nd report**, titled **'Amendment in Section 154** of the **Code of Criminal Procedure, 1973** for **Enabling Online Registration of FIR,'** was submitted by the **22nd Law Commission** to the **Ministry of Law & Justice.**

Section 154 of the Code of Criminal Procedure, 1973, governs the recording of the first information about a cognizable offence.

Recommendations

1. **Phased Implementation of e-FIR:**Enable e-FIR registration gradually.
   - **Allow e-FIR** for all cognizable offences with unknown accused or offences punishable up to 3 years when the accused is known.
2. **State Empowerment:**States can expand the list of offences eligible for e-FIR.
3. **Privacy Assurance:**Ensure privacy for involved parties.
4. **Verification and False Information:**Verify informant/complainant details and impose penalties for false information.
5. **e-Complaint for Non-Cognizable Offences:**Allow e-complaints for all non-cognizable offences.
   - Complaint refers to any allegation made orally or in writing to a Magistrate to initiate action under this Code.
6. **Importance of Capacity Building:**Emphasize capacity building.

Significance

1. **Convenient Crime Reporting:**Citizens can conveniently and efficiently report crimes online.
2. **Online Complaint Status:**Complainants can check the real-time status of their complaints online.
3. **Reduced Footfall at Police Station:**It has helped reduce the physical footfall at police stations.

Law Commission of India

1. **Non-Statutory Body:**The Law Commission of India is a **non-statutory body** periodically constituted by the Government of India.
   - The inaugural Law Commission of independent India was **established in 1955** and initially served a **three-year term**.
   - The origin of the **firstLaw Commission** dates back to the **British Raj era in 1834**, initiated by the **Charter Act of 1833**, and was led by **Lord Macaulay**.

2. **Objectives:**
   • **Advisory Role:** The commission functions as an advisory body to the **Ministry of Law and Justice**.
   • It engages in legal research and reviews existing laws in India, proposing reforms and suggesting new legislations. References for this are made either by the Central Government or suo-motu.
3. **Composition:**
   • The commission is headed by a **full-time chairperson** and includes **four additional full-time members**, one of whom serves as the member-secretary.
   • **Ex-officio members** consist of **Law and Legislative Secretaries** in the Law Ministry.
   • Additionally, there can be **up to five part-time members**.
   • A **retired Supreme Court judge or Chief Justice of a High Court** leads the Commission.

12. INTER STATE RIVER DISPUTE

Context

In October 2023, 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**.

More on News

1. **KWDT-II** will distribute the Krishna water, allocated to 'undivided' Andhra Pradesh, between Telangana and Andhra Pradesh
   • Krishna is an **east-flowing river that originates at Mahabaleshwar in Maharashtra** and merges with the Bay of Bengal, **flowing through Maharashtra, Karnataka, Telangana and Andhra Pradesh**.
2. Also, the Supreme Court criticized the Punjab government for its **slow progress in constructing the Sutlej-Yamuna Link (SYL) canal.**
3. **Supreme Court also** asked the Centre to **conduct a survey of the land designated for the canal** to assess the work's status.

About Krishna Water Dispute

1. In 1969, **Krishna Water Disputes Tribunal-I (KWDT)** was set up under the **ISRWD Act, 1956**. It divided **2060 TMC (Thousand Million Cubic feet) of Krishna water at 75% dependability.**
   • 75% dependability of a catchment implies that 2060 TMC of water can be reliably extracted from a catchment area 75% of the time, considering the natural variability in wateravailability due to factors such as precipitation, evaporation, and infiltration.

> **About SYL canal and the associated issue**
> • SYL is a **214-km long canal for sharing waters of Ravi and Beas rivers** between Haryana and Punjab, of which 122 km was to be in Punjab and 92 km in Haryana.
>   • It was **planned in 1966 after Haryana was carved out of Punjab**.
> • Haryana completed its stretch of SYL Canal in 1980, while **Punjab kept citing Riparian Principles** and **non-availability of its water.**
>   • Riparian Principles states that owner of land adjacent to a water body has the right to use water.
> • Punjab argues that **many areas in state may go dry after 2029** due to over-exploitation of groundwater.
> • Haryana argues that its **southern parts of state are facing water problem due to depleted groundwater.** It claims that it has been **denied its rightful share in water**.

2. **KWDT-II, instituted in 2004**, made allocations of Krishna water at 65% dependability and for surplus flows
   • In **2014 after the creation of Telangana** as a separate state, Andhra Pradesh asked to include Telangana as a separate party at KWDT and that the allocation of Krishna waters be reworked among four states, instead of three.
   • However, **Maharashtra and Karnataka are now arguing** that Telangana was created following bifurcation of Andhra Pradesh. Therefore, the allocation of water should be from Andhra Pradesh's share which was approved by the tribunal.

Factors Responsible for Inter State Water Dispute

1. **Asymmetrical geographical access to water**: When a river flows across a boundary between the states, the upstream state is usually at an advantage. Creating an asymmetry between upstream and downstream states along the stream.

2. **Rising Water stress**: The total water demand in India is projected to increase by 22% and 32% in 2025 and 2050 respectively. The rising demand has put stress on limited water reserves further aggravating the Inter-State water dispute.

3. **Lack of clarity on Water usage Rights between the Union and State:** Under **Schedule VII** of the Indian Constitution, the power to use water for storage, electricity, irrigation etc. is mentioned under the **State list** and '*interstate water'* under the **Union list.**

   • However, these *powers are interconnected* and usage by one State affects usage by other States, thus creating ambiguity on water usage rights.

4. **Poor Water Governance Architecture**: Water governance architecture in India is based on a fragmented piecemeal approach. It relies on numerical measures such as arithmetic hydrology, surplus, deficit etc. ignoring the social, ecological, and cultural processes associated with water.

Tribunals setup under ISRWD Act, 1956

Ravi & Beas Water Tribunal
States Concerned
Punjab, Haryana and Rajasthan

Narmada Water Disputes Tribunal
States Concerned
Rajasthan, Madhya Pradesh, Gujarat and Maharashtra

Mahadayi Water Disputes Tribunal
States Concerned
Goa, Karnataka and Maharashtra

Krishna Water Disputes Tribunal-II
States Concerned
Karnataka, Andhra Pradesh and Maharashtra

Vansadhara Water Disputes Tribunal
States Concerned
Andhra Pradesh & Orissa

Godavari Water Disputes Tribunal
States Concerned
Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh & Orissa

Cauvery Water Disputes Tribunal
States Concerned
Kerala, Karnataka, Tamil Nadu and Puduchery

5. **Other Issues**

   • **Increase in secondary water demand**: MSPs of **rice and wheat led to a manifold increase in water demand**, thereby resulting in interstate water conflicts (e.g. Krishna, Cauvery, Teesta basins or SYL between Punjab and Haryana).

     o **Boundaries** of states in India have continued to **alter, based on cultural and political factors**.
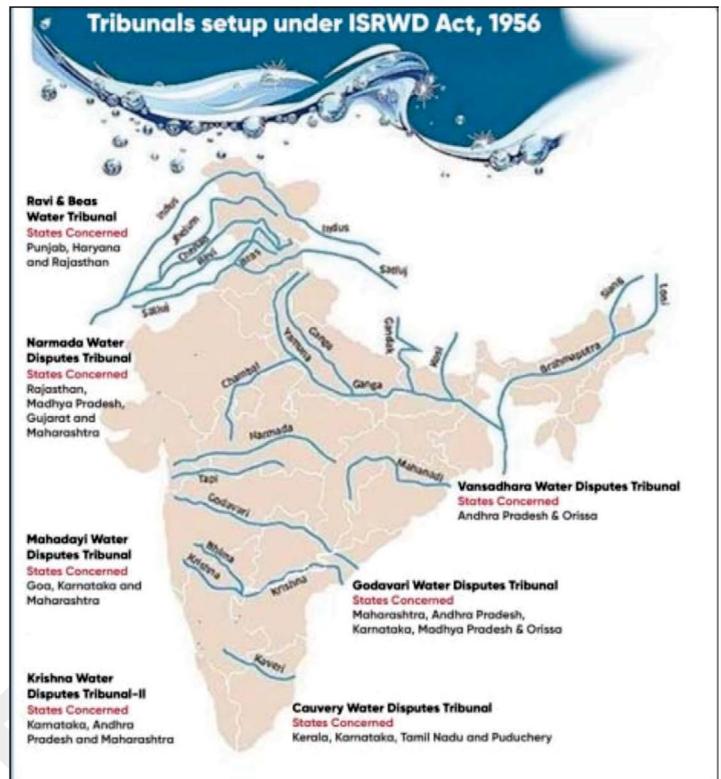
Mechanism to deal Inter State Water Disputes

1. **Under Seventh Schedule of Constitution**,

   • **Entry 17 of State List reads** "Water, that is to say water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provisions of entry 56 of List I (Union List)".

   • **Entry 56 of List I** provide that "Regulation and development of inter-State rivers and river valleys to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest".

2. **Article 262:** says that Parliament by law may provide for the adjudication of any dispute or complaint with respect to the use, distribution or control over the waters of, or in, any inter-state river or river valley.

   • In the exercise of the power conferred by Article 262 of the Constitution, Parliament has enacted two laws:

     o **Inter-State Water Disputes (ISWD) Act, 1956**: Under it, a State Government which has a water dispute with another State Government may request the Central Government to refer the dispute to a tribunal for adjudication.

     o **River Boards Act, 1956**: It was made for the setting up of River Boards by the central government for the regulation and development of inter-state rivers and river valleys.

3. **National Water Policy 2012**: It seeks to address issues such as scarcity of water, inequities in its distribution and the lack of a unified perspective in planning, management and use of water resources

Challenges associated with resolving Inter State Water Dispute

1. **Delayed Resolution**: There are prolonged proceedings and delays in the disposal of river water disputes.
   - *For example*, it took 11 years for the Godavari water dispute tribunal to give its decision.
2. **Ambiguity**: *Article 262 v/s Article 136*
   - **Article 262** deters the Supreme Court from adjudicating interstate river water disputes.
   - However, **Article 136** empowers the SC to hear appeals against the tribunal's orders, further causing ambiguity in the implementation of tribunal orders.
3. **Politicization of disputes**: Some political parties are using interstate water disputes as avenues for pursuing political goals.
4. **Lack of Multidisciplinary approach**: Tribunals in India primarily consists of members from the judiciary thus lack inputs from specialist such as ecologists hampering the quality of orders.

Way Forward

1. **Enabling Cooperation**:
   - Fundamental strategic shift, away from the current reliance on conflict resolution is required. Also, there is a need for deeper integration of states in deliberative processes, and strengthening cooperative federalism.
2. **Basin Approach**:
   - Focus on ecological restoration, conservation of river ecosystem, balancing of water supply and demand for human use and regional approach for effective management of river water.
3. **Multi-Disciplinary Approach**:
   - *Institutional structure of Water Management Board* should include experts from multiple disciplines such as environmentalists, geographers etc. This will enhance the efficacy of water boards in providing ecological and environmentally friendly solutions.
4. **Water Policy**: To resolve water disputes on reasonable and equitable lines, certain parameters must be made part of the water policy.
   - These parameters include the extent of the river basin drainage area in each State; Contribution of water to the river basin by each State; Climate and dependent population in the river basin; Extent of arid and semi-arid areas in each State etc.

Conclusion

Proactive steps are required to resolve inter-state water disputes, which are against the interests of the country, its people and *the Directive Principles of State Policy*, which seeks an equitable distribution of resources.

13. Criminalisation of Politics

Why in News?

- A report titled '**Analysis of Sitting MPs from Lok Sabha and Rajya Sabha of India 2023**' was recently published.
- The **Association for Democratic Reforms (ADR)** and **National Election Watch** were the entities responsible for its release.

Highlights of the Report:

- **40%** of Sitting MPs have **declared criminal cases** against themselves.
- **25%** of Sitting MPs have **declared serious criminal cases,** including offenses like murder and attempt to murder.
- States/UTs with the Highest Percentage of Sitting MPs with Criminal Cases: **Lakshadweep > Kerala > Bihar > Maharashtra**

Related News:

- A report by the Association for Democratic Reforms (ADR) and National Election Watch reveals that among current MPs and MLAs, **107 individuals (33 MPs and 74 MLAs)** have declared cases associated with **hate speech.**
- The **Law Commission's Report No. 267** of March 2017 highlights that "Hate Speech" has not been defined in any law in India.
- However, specific legal provisions within legislations such as Sections 153A, 153B and 295A of the Indian Penal Code (IPC) restrict certain forms of speech, serving as exceptions to the right to freedom of speech.

Contributing Factors to the Criminalization of Politics:

- **Nexus Between Criminals, Police, Bureaucracy and Politicians:** Collusion and cooperation among these groups allow criminals to infiltrate politics.
- **Lack of Political Integrity:** When individuals with criminal backgrounds or tendencies are not screened out or when political parties prioritize winning over ethical considerations, it can lead to the entry of criminals into politics
- **Muscle Power and Vote Buying:** Criminals use force and illegal tactics to influence elections and support candidates, facilitating vote buying and manipulation.
- **Higher Chance of Winning:** Candidates with criminal backgrounds often have better odds of winning elections, as indicated by research reports.
- **Weak Judicial Systems:** When legal systems are compromised or lack efficiency, criminals may exploit these weaknesses, using their political positions to shield themselves from legal consequences.
- **Weak Governance and Rule of Law:** Inadequate enforcement of laws and weak governance structures can embolden individuals with criminal backgrounds to engage in politics without fear of accountability.

Ramifications of the Criminalization of Politics:

- **Undermining Democracy:** It erodes trust in democratic processes when citizens lose faith in politicians due to their criminal associations.
- **Institutionalized Corruption:** When politics merges with criminal elements, corruption thrives, eroding public trust. India's 85th rank in the 2022 Corruption Perceptions Index exemplifies this erosion of trust.
- **Criminalized Political Parties:** Control by criminal elements disrupts inner-party democracy, allowing manipulation for personal gains.
- **Degradation of Governance:** It compromises the quality of governance, leading to policies that prioritize personal gain over public welfare.
- **Economic Impact:** It hampers economic growth by fostering an environment of uncertainty, discouraging investment and hindering development initiatives.
- **Impact on Investigation and Prosecution Agencies:** Nexus between criminals and politicians can influence investigation agencies, as highlighted by critiques of the Central Bureau of Investigation's independence.
- **Decline in Conviction Rate:** Pending cases against lawmakers lead to a lower conviction rate, undermining the justice system's effectiveness.
- **Disrupted Free and Fair Elections:** Use of money and muscle power by criminals disrupts fair elections. For instance, the enormous expenditure during the 2019 Lok Sabha elections highlights this issue.

Measures to check Criminalization of Politics:

- **Legislative Measures:**
  o **Representation of People Act, 1951:** Section 8(3) disqualifies lawmakers sentenced to at least two years in jail for six years post-release.
  o **Constitution of India - Articles 102(1) and 191(1)**: Enable disqualification of lawmakers under laws enacted by Parliament and similar provisions for states.

- **Judicial Pronouncements:**
  - o **Union of India vs. Association for Democratic Reforms (2002):** Supreme Court affirmed voters' right to know candidates' antecedents, derived from freedom of speech.
  - o **Peoples Union for Civil Liberties (PUCL) v Union of India (2004):** SC declared limiting candidate information solely to the Act as unconstitutional.
  - o **Lily Thomas v Union of India (2013):** SC ruled unconstitutional a provision allowing convicted lawmakers to continue if they appealed within three months.
  - o **Public Interest Foundation v. Union of India (2018):** SC mandated political parties to publish candidates' criminal records on websites, social media and newspapers.
  - o **Rambabu Singh Thakur v Sunil Arora (2020):** SC reiterated directives, instructing the Election Commission to report any political party non-compliance regarding disclosing candidates' criminal records.

Various Committees on Electoral reforms:

- **Vohra Committee (1993):** Suggested measures to sever ties between criminals and politicians, emphasizing the need to break this nexus for cleaner governance.
- **Goswami Committee (1990):** Recommended changes in electoral laws to improve the conduct of elections and combat malpractices.
- **Kelkar Committee (2010):** Focused on curbing the influence of money in elections, proposing measures to regulate election financing.
- **Sarkaria Commission (1983):** Alongside its main focus on center-state relations, made recommendations to improve anti-defection laws, impacting political party discipline.

Way Forward:

- Impose a **lifetime ban on convicts** from elections as proposed by the Election Commission.
- Explore a **hybrid electoral model** combining First Past the Post System and Proportional Representation to address excessive campaign spending.
- Strengthen penalties for false affidavits, recommending a minimum **2-year imprisonment**, as suggested by the Law Commission.
- Foster **Intra-party democracy** through dedicated legislation, as recommended in the NCRWC Report.
- Amend the Representation of The People Act to **disqualify** individuals facing severe criminal charges.
- Consider **broader reforms** like right to recall, state-funded elections and judicial process acceleration for an enhanced electoral system.

14. Parliamentary Privileges

Why in News?

- Recently, the Supreme Court established a seven-judge panel led by the Chief Justice of India to review its 1998 ruling by a five-judge Constitution bench in the P V Narasimha Rao case.

More about the News:

- The 1998 ruling in the P V Narasimha Rao vs. State case was influenced by the **1993 JMM (Jharkhand Mukti Morcha) bribery case**.
- According to the judgment, the legal protection provided to lawmakers under Articles 105(2) and 194(2) of the Constitution shields them from criminal prosecution concerning bribery charges related to any speech or vote in Parliament.
- Recently, the Supreme Court has chosen to reassess this established legal precedent.

What are the Parliamentary Privileges?

- Parliamentary privileges provide legal immunity to legislators, shielding them from civil or criminal liability for actions or statements during their legislative duties.

- Despite lacking specific legislation defining these privileges, they are derived from five sources: constitutional provisions, laws enacted by Parliament, rules governing both Houses, parliamentary conventions and judicial interpretations.
- The authority to determine breaches or contempt of the House resides exclusively with Parliament; courts do not possess this power.
- Members of the House can raise concerns about breaches of privilege, but only with the consent of the Chairman or Speaker.

What is Breach of Privilege?

- This occurs when an individual or authority disregards or undermines a parliamentary privilege of a member or the House, constituting a breach of privilege.

What is Contempt of the House?

- It is defined as any act or omission that obstructs or hampers either House of Parliament in its functions, impedes a member or officer of the House in their duties, or has the potential to generate such obstruction directly or indirectly.

What are the Punishments for Breach of Privilege or Contempt?

- Those found guilty may face reprimand, warnings or even imprisonment.
- However, the duration of imprisonment for contempt is limited to the session duration of the House.
- Additionally, if a member is found guilty, potential penalties include suspension from the House or expulsion.

Why Parliamentary Privileges are needed?

- To protect legislators' freedom of speech, ensuring they express views without legal repercussions.
- To safeguard the legislature's authority and dignity by shielding members from external influences.
- To enable independent functioning, fostering effective debate and decision-making.
- To encourage attendance at sessions by offering protections, promoting active participation without legal worries.

What are the provisions that grant legislators immunity from prosecution?

- **Articles 105 and 194:** These deal with the powers, privileges, and immunities of Parliament and State legislatures, respectively, and their members and committees.
- **Prohibition of Publication:** Article 105(2) and its equivalent in Article 194(2) state that no liability shall arise for the publication of reports, papers, or proceedings authorized by either House or the State Legislature.
- **Freedom of Speech in Parliament:** Article 105(2) safeguards members' freedom of speech in Parliament, protecting them from legal action for their statements or votes in Parliament or its committees.
- **Limitations on Discussion:** Article 121 restricts discussions on the conduct of judges of the Supreme Court and High Court.
- **Freedom from Arrest:** Members are shielded from arrest in civil cases 40 days before and after a house adjournment and during its sessions, as per the Code of Civil Procedure. However, this doesn't apply to criminal cases.
- **Privileges Based on Rules and Precedents:** Parliament is entitled to immediate information about a member's arrest, detention, conviction, or release on a criminal charge or offence.
- **Right to Exclude Strangers:** Members hold the authority to exclude non-members from house proceedings, ensuring open and fair discussions.
- **Protection of Proceedings:** Article 122 prohibits courts from scrutinizing the validity of Parliament's proceedings based on alleged procedural irregularities.

Why reforms in Parliamentary Privileges are needed?

- **Ambiguous Scope:** The extent and limitations of these privileges lack clarity, leading to instances where lawmakers are shielded from civil prosecution during session periods.

- **Abuse:** There have been cases of members misusing these rights, resulting in the violation of citizens' fundamental rights.
- **Lack of Oversight:** There's no clear mechanism to prevent members from using privileges for personal or official gain.
- **Procedural Void:** Parliament lacks established procedures to handle privilege breaches, causing uncertainty regarding hearings or the accused's right to legal representation.
- **Conflicting Interests:** The current privilege breach laws empower politicians to judge their own cases, conflicting with the principle of separating powers and fair trial standards.
- **Constitutional Violations:** Absence of codified privileges gives unchecked authority to the house in determining breach occurrences, potentially violating constitutional principles.

Way Forward:

- Moving ahead, it's vital to maintain parliamentary immunity while promptly codifying privileges, establishing breach resolution procedures, and enacting precise legislation to prevent the misuse of parliamentary privileges by members.

15. 'Unlawful Association' under UAPA, 1967

Context

The **'Jammu and Kashmir Democratic Freedom Party'** was officially declared an **'Unlawful Association'** in Oct 2023 by the **Ministry of Home Affairs** under the **Unlawful Activities (Prevention) Act (UAPA) 1967.**

Objective of UAPA: The UAPA was enacted to effectively prevent certain unlawful activities by individuals and associations. It specifically addresses terrorist activities and related matters.

Key Provisions of UAPA

1. **Cognizable Offences:** Offences are cognizable, allowing arrests without a warrant.

2. **Penalty:** Penalties **include death or life imprisonment**, along with fines, especially if the unlawful act results in someone's death.

3. **Unlawful Association:**
   - **Declaration Process:** An association is declared unlawful by the Centre through an official gazette notification, specifying grounds.
   - **Tribunal Referral:** Upon declaration, the notification must be referred to a Tribunal within 30 days, consisting of a High Court Judge.
   - **Additional Powers to Centre:** The Centre has the authority to prohibit the use of funds of an unlawful association and notify places used for its activities.

4. **Terrorist Act:**
   - Definition: Encompasses any act intended to threaten India's unity, integrity, security, sovereignty, or to strike terror among the people in India or abroad.
   - Forfeiture of Proceeds: Investigating officers, with prior approval from the designated authority, can forfeit the proceeds of terrorism.

Evolution of Prominent Anti-Terror Laws in India:

Year	Law
1967	The Unlawful Activities (Prevention) Act, 1967
1987	Terrorist and Disruptive Activities (Prevention) Act, 1987 (TADA)
1999	The Maharashtra Control of Organised Crime Act,1999 (MCOCA)
2002	Prevention of Terrorism Act (POTA), 2002
2008	The National Investigation Agency Act, 2008

B. INTERNATIONAL RELATIONS

1. CONFLICT: ISRAEL-HAMAS

Context

◆ In October, 2023 Israel declared war on Hamas militants following their unprecedented attack under "Operation Toofan Al-Aqsa (Al-Aqsa Flood)".

● This war broke out between Israel and Hamas almost exactly fifty years after the **Yom Kippur War.**

History of Conflict:

◆ The Israel-Hamas conflict is a deeply rooted dispute over **territory, identity, and sovereignty** in the Middle East.

1. **19th Century**: The Zionist movement emerged in Europe, advocating for the establishment of a Jewish homeland in Palestine, then part of the Ottoman Empire.

2. **1917:** The British government issued the Balfour Declaration during World War I, expressing support for "the establishment in Palestine of a national home for the Jewish people."

3. **1920:** The League of Nations granted Britain the mandate to govern Palestine. Jewish immigration to Palestine increases, leading to tensions with the Arab population followed with intensification of protests and violence against Jewish immigration.

4. **1947:** United Nations proposes a partition plan for Palestine, recommending that the land be divided into separate Jewish and Arab states, with Jerusalem designated as an international city.

5. **1948:** Israel declares independence followed with Arab Israeli War when **five Arab** nations **(Egypt, Lebanon, Syria, Jordan and Iraq)** invaded territory in the former Palestinian mandate.

6. **1964**: Palestine Liberation Organization (PLO) was founded, aiming to represent Palestinian interests which led to Six-Day War resulting into Israel occupying the West Bank, Gaza Strip, East Jerusalem, Sinai Peninsula, and Golan Heights.

7. **1987:** First Intifada, a Palestinian uprising in the West Bank and Gaza Strip aimed at ending Israel's occupation of Palestinian territories and establishing an independent Palestinian state.

● It came to an end in September 1993 with the signing of the first Oslo Accords, which laid the groundwork for future peace talks between Israel and the Palestinians.

8. **1993**: Oslo Accords led to limited Palestinian self-rule in parts of the West Bank and Gaza Strip under the Palestinian Authority.

9. **2000**: The Second Intifada erupted, marked by violent clashes and suicide bombings followed with Israel unilaterally withdrawing from the Gaza Strip, dismantling settlements.

10. **2014:** Israel launched Operation Protective Edge in the Gaza Strip; a Palestinian territory that has been governed by Hamas since 2007.

11. **2021**: A series of events, including clashes in East Jerusalem and Israeli air strikes in Gaza, escalated into an 11-day conflict, further strained the relations.

YOM KIPPUR WAR

1. Began on **6 October, 1973** was a conflict between Israel and a coalition of Arab states led by Egypt and Syria.

2. It emerged from longstanding Middle East tensions and territorial disputes. The war saw initial Arab successes but ended in an Israeli counteroffensive. International mediation led to a ceasefire on **25 October, 1973.**

3. The conflict had significant casualties and profound implications for regional diplomacy, culminating in peace agreements like the **Egypt-Israel Peace Treaty** in 1979.

ACCORDS

1. **Oslo Accords:** Under this, a part of the West Bank came under the control of the Palestinian Authority.

2. **Abraham Accords**: It is a series of agreements to normalize relations between Israel and several Arab states.

● The accords are named after the patriarch Abraham regarded as a prophet in Judaism and Islam.

● The accord has normalized the relations between many West Asian countries and Israel.

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12. With the increasing normalization of Israel-Arab relations post Abraham accords, Palestinians have come to believe that the historical Arab Israeli conflict has become more of an Israel- Palestinian issue.

13. **October 2023:** Hamas's Al-Qassam Brigades launched Operation Al-Aqsa Flood from the Gaza Strip attacking Israeli settlements and military bases in the Gaza envelope.

Major Geographical Locations in the Conflict	
A. **Golan Heights**	1. Bordered by Israel, Israel, Jordan, Syria and Lebanon. During the 1967 Six-Day War, Israel captured the Golan Heights from Syria. 2. Israel has maintained control of the region since then. Except US, International community does not recognize Israel's sovereignty over the Golan Heights.
B. **West Bank**	1. It is situated between the Jordan River to the east and the Green Line (the 1949 armistice line) to the west. 2. It shares borders with Israel to the west, north, and south, and with Jordan to the east. 3. It has been under Israeli military occupation since the 1967 Six-Day War.
C. **Gaza Strip**	1. It is located in the eastern part of the Mediterranean region, bordered by the Mediterranean Sea to the west, Israel to the east and north, and Egypt to the south. 2. Hamas has governed the Gaza Strip since 2007 when it took control in a violent conflict
D. **Sinai Peninsula**	1. It is a triangular-shaped region in northeastern Egypt, bordered by the **Mediterranean Sea** to the north, **the Gulf of Aqaba** and **the Red Sea** to the east, and **Israel and the Gaza Strip** to the northeast. 2. Egypt has had control and sovereignty over the Sinai Peninsula since the signing of the Camp David Accords in 1978 and the subsequent Egypt-Israel Peace Treaty of 1979
E. **Jerusalem**	1. It is home to some of the most sacred sites in Judaism, Christianity, and Islam. o These include the Western Wall (Wailing Wall), the Church of the Holy Sepulchre, Al-Aqsa Mosque, Dome of the Rock, located on the Temple Mount (known as Haram al-Sharif in Islam).

Key Stakeholders in Recent Conflict

1. **Israel** considers Hamas a security threat due to its rocket attacks, terrorism, and its stated goal of Israel's destruction.
2. **Palestinian Authority (PA):** Established in the mid-1990s following the Oslo Accords, it continues to grapple with its limited administrative powers in the West Bank and Gaza.
   - Its relationship with Hamas remains tense, with reconciliation attempts yielding minimal results.
3. **Hamas**: Founded in 1987 during the First Intifada, draws its ideological roots from the Muslim Brotherhood.
   - Its 1988 charter called for the establishment of an Islamic state in Palestine, covering the entirety of what is now Israel, the West Bank, and Gaza.
   - Many Western nations and organisations, including the US and EU, classify Hamas as a "terrorist" organisation due to its commitment to armed resistance.
4. **Hezbollah:** It is a Lebanese Shia Islamist political party and militant group which has vowed to escalate if Israel begins a ground invasion of the Gaza Strip.

Geostrategic Implications

1. **Regional Instability**: The conflict contributes to regional instability in the Middle East, impacting neighbouring countries and potentially escalating tensions in the region.
2. **Proxy Dynamics**: The conflict often involves regional and international powers supporting either Israel or Hamas, leading to a proxy war dimension.
3. **Security Concerns**: Ongoing conflict and periodic escalations can disrupt regional security, affecting trade routes, energy supplies, and the overall stability of the region.
4. **Humanitarian Crisis**: The conflict leads to humanitarian crises in the Gaza Strip, causing suffering for the local population and attracting international attention.
5. **Global Repercussions**: The conflict has global repercussions, with countries and international organizations getting involved in diplomatic efforts and humanitarian assistance.

Humanitarian Crisis

1. Because of Israel's blockade, approximately **95 percent of the population** lacks access to clean water, and more than half of all Gazans rely on international assistance for basic services.
2. Under international law, approximately **80% of Gaza's residents** are considered refugees, and Palestinians constitute the **world's largest stateless community**.
3. Although the Israeli military claims that it is only targeting weapons storage facilities and infrastructure used or occupied by Hamas militants, air strikes have allegedly destroyed neighbourhoods, schools, and mosques.
4. With food, fuel, and water supplies rapidly dwindling, UN and other international aid organizations are collaborating to establish "safe zones" within Gaza where civilians can receive immediate humanitarian assistance.

Impact on India

1. Given the evolving nature of the conflict, India which supports a two-state solution may have to modify its diplomatic stance.
2. India was forced to condemn the attack due to its nature, which targeted civilians.
3. Israel is a major supplier of defense equipment to India which is currently worth over Rs 74,000 crore.
4. The conflict could jeopardize India's future projects, such as the India-Middle East-Europe Mega economic corridor.

India's Current Stand

1. India always advocated for the resumption of direct negotiations towards establishing a sovereign, independent and viable state of Palestine, living within secure and recognised borders, side by side at peace with Israel.
2. India provides developmental and humanitarian assistance to Palestinians through various projects and aid programs.

Reasons for India's stand

1. **Choosing National interests:** There is a feeling that India's pro- Palestine stance over the years has not yielded dividends in terms of national interest.
   - In fact, Palestine has often offered unqualified support to Pakistan on the issue of Kashmir.

2. **India's strategic approach born out of necessity:** The 90 lakh-strong Indian community in the region and connectivity to West Asia and Europe.
   ◆ Crucially, more than 50% of India's energy imports are sourced from West Asia.
3. **'Formally' Unchanged position:** India supports the two-state solution, with Israel and Palestine living side by side by establish peaceful resolution.

> **OPERATION AJAY**
> 1. India launched this operation to facilitate the return of those Indians who wish to return home.
> 2. According to estimates, around 18,000 Indians are currently residing in Israel.

Way Ahead

1. The triumph of violent religious extremism and the weakening of moderate regimes will have security and political consequences for India. India must not conflate Israel with Netanyahu and must strengthen Palestinian Authority against Hamas.
2. Notable, strengthening moderates in Israel and Palestine, supporting reconciliation between them, and promoting a wider coalition of moderate states is critical for India's long-term prospects in the Middle East.

Conclusion

1. Mediation between Israel and Hamas may not fully address the conflict's root causes. Resolving issues such as Palestinian refugees and the status of Jerusalem is essential.
2. Success depends on both parties' willingness to engage in negotiations and the role of international actors, along with evolving regional dynamics.

2. 50th ANNIVERSARY OF INDIA SOUTH KOREA RELATIONS

Context

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

India South Korea relations

A. Civilisation Linkage

1. According to **"Samguk Yusa"** or The Heritage History of the Three Kingdoms, a 13th-century text, **Princess Suriratna from Ayodhya** married King Kim-Suro in the year 48 AD in Korea.
2. Buddhist Monk Hyecho (Hong Jiao) visited India from 723 to 729 AD and documented his journey in the travelogue "Pilgrimage to the five kingdoms of India," offering insights into Indian culture, politics, and society.
3. Rabindranath Tagore composed a poem in 1929 called 'Lamp of the East' that celebrated Korea's rich history and its bright future.

B. India's Role after World War II:

1. Leadership of the UN Commission for Korean elections in 1947.
2. Resolution sponsored by India led to the Korean War ceasefire in 1953.
3. India's chairmanship of the Neutral Nations Repatriation Commission (NNRC) after the armistice and contributed to resolving the humanitarian issues arising out of the War.

C. Diplomatic relation:

1. In 1973 both the countries established formal diplomatic relation which was upgraded to **'Strategic Partnership' in 2010** and **'Special Strategic Partnership' in 2015**.
   o India's 'Act East' policy has guided its cooperation toward South Korea and the 'New Southern Policy (NSP) has been South Korea's regional strategy toward India and ASEAN.
   o Both, the Act East Policy and NSP, align in terms of their regional priorities.

D. Economic and trade relations:

Both are signatories to the Comprehensive Economic Partnership Agreement (CEPA) since 2009. Bilateral trade between both reached US$ 27.8 billion in 2022.

'Korea Plus' initiative aims to promote and facilitate Korean Investments in India.

Korea increasingly sees India as a new economic partner due to their aim to reduce over-dependence on China and the US.

The two countries aspire to take commerce up to 50 billion USD by 2030.

E. **Strategic convergence**:
1. Both support a rules-based Indo-Pacific and share concerns about China's rise and North Korea's nuclearization.
   o In 2018, India endorsed the "Vancouver Dialogue" to prevent North Korean nuclear proliferation.
   o Korea's Indo-Pacific strategy includes India as a key member in the region.

F. **Defence and security cooperation**:
1. The Defense Policy Dialogue, initiated in 2013, was upgraded to a 2+2 Dialogue (i.e., Foreign and Defence level Ministerial Meetings) in 2019.
   o The defense partnership is expanding into joint research, production (like K9 Vajra artillery gun), and collaboration in areas like cyber, space, and intelligence-sharing.

G. **Cultural Relations**: Sarang, festival of India in Korea is organised every year, to showcase diverse Indian culture and art forms in various parts of South Korea.

H. **Indian diaspora:** Many Indian scholars pursue post-graduate and Ph.D. programs in Korea, and professionals in IT, shipping, and automobiles have also migrated to Korea.

Challenges in strengthening India-South Korea relations

1. **Geographical Gap**: Geographical distance has restricted their interactions, with both countries primarily concentrating on their nearby regions.

2. **Delayed strategic cooperation**: The rivalry of the Cold War limited their interactions in foreign policies. South Korea perceived India as aligned with the socialist bloc.
   o Nevertheless, India pursued a non-alignment policy, maintaining balanced relations with both North and South Korea in the Korean peninsula.

3. **Suboptimal cooperation**: Limited cooperation results from a lack of strong political intent on both sides. South Korea often aligning with major powers like the US, while India's regional policies are still developing.

4. **Untapped economic potential**: For example, the CEPA is said to be limited in scope. Intent to revise CEPA was declared in 2015 but it is yet to concluded.
   o **India is also facing trade deficit** (around $8 billion in 2021-22) due to technical trade barriers, higher import duties, etc

Way ahead

1. **Vision for systematic cooperation**: The bilateral relationship has historically emphasized economic projects, but it is now crucial to forge a more strategic relationship with a focus on the Indo-Pacific Strategy.
   o South Korea along with New Zealand and Vietnam have participated in Quad (alliance of Australia, India, Japan and the US).

      o   According to experts such cooperation should lead to **expansion of Quad as Quad Plus.**

2. **Deepening Economic and Technological Cooperation**: Since their core competencies in the economic domain are different, they could decide on a long-term, win-win framework of cooperation.
   - o   Korea's aging population and technology could combine with progressive youthful India and make a manufacturing hub.
   - o   Startups, technology-driven services, and digital trade, semiconductors, etc. have high potential for collaboration.

3. **Strengthening of maritime security:** Both countries can explore potential for joint HADR exercises, counter-piracy operations, and maritime domain awareness, enhanced interoperability, etc.

4. **Developing Regional Synergies**: The two Asian giants should also explore third-country cooperation with specific states in the IOR that need developmental intervention.
   - •   ASEAN and Indian Ocean Rim Association (IORA) are critical platforms that can facilitate both the countries to engage with a third country.
     - o   In ASEAN both nations are dialogue partners whereas IORA India is a founding member and South Korea has dialogue partner status.

5. **Multilateral cooperation**: Multilateral forums like IORA, ASEAN, and the **Indo-Pacific Economic Forum (IPEF)** offers more opportunities for collaboration including collaboration in third country.
   - o   Both can collaborate in supply chain resilience, infrastructure, clean energy, and decarbonization engagement in third-party countries located in Southeast Asia.

Conclusion

1. Both Countries are middle powers and growing economies that need regional stability, and for this, they must work together.
2. The strategy and partnership should move beyond the normative approach towards a robust and strengthened bilateral relationship.

3. INDIA OUT CAMPAIGN IN MALDIVES

Context

- • Recently, Front runner and Opposition candidate Mohamed Muizzu was elected President of the Maldives.
- • He defeated the India-friendly incumbent, Ibrahim Mohamed Solih, in a closely fought contest.

More in News

1. The **"India Out" campaign**, led by the Progressive Party of Maldives (PPM), played a pivotal role in its recent electoral victory against the incumbent MDP.
2. The campaign strongly opposed the Indian military's presence in the Maldives, expressing concerns that this presence might compromise the sovereignty of the Maldives.
3. It began in response to India's gift of two Dhruv Advanced Light Helicopters (ALH) in 2010 and 2015.
   - • These helicopters were provided for purposes like maritime weather surveillance and ocean search-and-rescue operations.
   - • Around 70 Indian military personnel maintain India-sponsored radar stations and surveillance aircraft. Indian warships help patrol Maldives Exclusive Economic Zone.

| Maldives's Importance for India			India's Importance for Maldives		
A.	Integral to India's Neighbourhood first policy	1. With strong cultural, economic and trade ties for centuries, Maldives is an important component of India's Neighbourhood first policy. • Also, Maldives is member of South Asian Association for Regional Cooperation (SAARC).	A.	Recognition of Maldives	1. India was among the first to recognize Maldives after its independence in 1965 and to establish diplomatic relations with the country.
B.	Strategic location	1. Maldives acts as a strategic link between major Indian Ocean chokepoints including Gulf of Aden, Strait of Hormuz and Strait of Malacca. 2. Location is significant for India whose 95% of trade by volume and 68% of trade by value come via Indian Ocean	B.	Amicable Relations	1. India's ties with the Maldives lack political disputes. The 1976 maritime boundary treaty resolved the dispute over Minicoy, with the Maldives recognizing Minicoy as an integral part of India.
C.	First line of defence	1. Due to its proximity to India, Maldives serves as the first line of defense against various maritime threats such as terrorism, piracy, drug trafficking, and other.	C.	First responder in crisis	1. India has been a first responder during various crises, including the (a) **1988**: military intervention (named Operation Cactus) to prevent a coup, (b) **2004**: assistance after the tsunami, (c) **2014**: aid during the water shortage, (d) **2020**: comprehensive help during the COVID-19 pandemic.
D.	Reducing influence of China in the IOR	1. Beyond diplomatic and trade partnerships, China has begun a consistent military presence in the India Ocean Region (IOR).	D.	Net Security Provider	1. As a major maritime power in South Asia, India has a duty to address security concerns in its maritime neighbourhood • Maldives views India as a "net security provider" and plays a significant role in India's **Security and Growth for all in the Region (SAGAR)** initiative
E. F.	Presence of diaspora	1. Indian expatriate community have a strong presence in the health and education sector.			

India-Maldives Cooperation areas

1. By 2021, bilateral trade reached $ 323.9 million, with India becoming Maldives' third-largest trade partner.

2. They have a 'Comprehensive Action Plan for Defence' and India meets about 70% of Maldives' defense training needs
   - India also supplies defense-related facilities and equipment.
   - India is building a new coast guard base at Uthuru Thilafalhu (UTF) atoll.
   - They engage in joint military exercise (Ekuverin), participate in joint Humanitarian Assistance & Disaster Relief exercises, and cooperate through the Colombo Security Conclave (CSC).
     o The CSC was initially created in 2011 as a trilateral maritime security grouping involving India, Sri Lanka, and Maldives and later extended to Mauritius.

3. India has established Indira Gandhi Memorial Hospital, Institute for Technical Education,
   - Faculty of Hospitality & Tourism Studies, National College for Police and Law Enforcement, etc.
   - India provides grant to Maldives for High Impact Community Development Projects (HICDPs).

4. India is supporting airport Redevelopment, roads and land reclamation, etc.
   - Greater Male Connectivity Project being developed by India is the Maldives' largest infrastructure project.
   - It will involve the construction of a 6.74 km bridge and causeway link connecting the capital, Male to three adjacent islands.

5. In 2023, India is the leading source market for Maldives.
   - Both the countries have an open skies arrangement and bilateral Agreement on the facilitation of Visa arrangements grants visa-free entry for tourism, medical and business purposes.
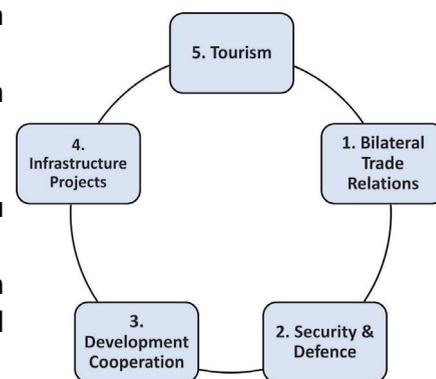
Challenges in relations

1. Maldives civil society is at nascent (emerging or new born) stage and it faces challenges like religious extremism, drug abuse, labour market issues, etc. which might affect India's goodwill efforts.

2. The **recently elected government** is considered to be **pro-China** and the President elect has expressed willingness to cancel various agreements with India that were made by the previous government.

3. Maldives has emerged as an important "pearl" in China's "String of Pearls" strategy.
   - China could seize opportunities amid domestic political changes to regain lost ground and strengthen its security and economic foothold, potentially posing a security threat to India.
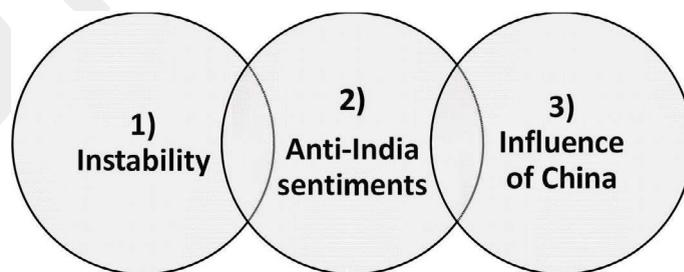
Way ahead

1. **Allaying anti-India notion**: India has to work on perception management in Maldives, and communicate to people that Indian assistance **(like vaccine Maitri)** will bring more benefits to people of Maldives.

2. **Youth employability and entrepreneurship**: More than 35% of Maldives' population are young people aged 15-35.
   - Future projects by India must be targeted at youth employability and entrepreneurship in Maldives.

3. **Engaging with the new government**: India should continue projects it initiated under the previous government, while working out a new approach to engage with current government.

4. **Focus on India's strengths**: India should provide appealing and substantial alternatives to China's investments that prioritize building strong **P2P (People-to-People)** connections and fostering the development of Maldives.

Conclusion

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

2. Change may occur to some extent due to the change in leadership in Maldives.

• However, it is unlikely to alter the fundamentals. India-Maldives shall cooperate in the spirit of 'Neighbourhood First' policy and 'SAGAR'.

4. 15 MEMBERS TO UNHRC

Context

1. In October, 2023 the General Assembly elected 15 Member States to the Human Rights Council (HRC) and declined Russia's bid to rejoin the same

Key facts

1. The 15 new members were elected by secret ballot according from different regions for the 2024-2026 term.

2. Countries need a minimum of 97 votes to get elected.

3. Russia was competing against Albania and Bulgaria for two seats representing the East European regional group.

   • Notable, Russia expelled from United Nations Human Rights Council (UNHRC) last year over Ukraine invasion.
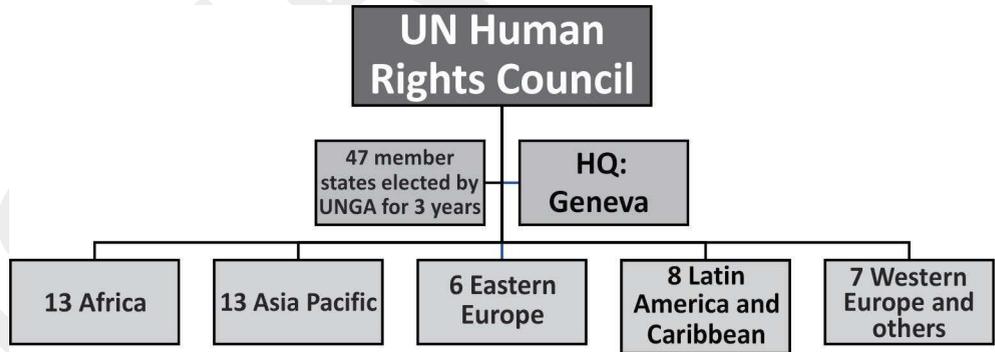
4. Other countries which got elected under other regional groups include China, Japan, Kuwait Burundi, France, Cuba, Brazil, etc.

UN Human Rights Council

47 member states elected by UNGA for 3 years

HQ: Geneva

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

Criticism of HRC

1. **Membership criteria:** Many of the Council seats have been held by countries with human rights concerns, such as Saudi Arabia, China, and Syria. Such members use their position to block scrutiny of themselves and others.

   • Suspension of the membership of States committing human rights violations is also a rare phenomenon.

2. **Selectivity and politicization**: For example, the focus on Israel, highlighted by a dedicated council item since 2007, raises questions about selectivity and politicization.

   • Also, country-specific mandates are declining and many states allege they unfairly target developing countries

3. **Accessibility barrier**: The substantial costs associated with attending HRC's sessions is a hurdle, particularly for civil society and human rights defenders in the Global South.
   - Concerns persist regarding inability to adequately address participation needs for specific groups, including children (victims/survivors).
4. **Participation of civil society:** Human rights defenders and NGOs representatives often face interruptions and reprisals.
   - Additionally, the UN NGO Committee is accused of not effectively following the accreditation process for civil society organizations. This affects the credibility of these organizations.
5. **Implementation Deficiencies:**
   (a) Non-binding recommendations: Countries with poor human rights records can easily dismiss recommendations from the UPR since they are non-binding.
   (b) Tendency to vote in blocs: The tendency for blocs, such as the Organization of the Islamic Conference and Africa, to vote collectively weakens the Council's ability to address each issue individually.

Way ahead

1. **Enhancing credibility**: There is a need for deeper scrutiny of candidate countries and of the human rights records of Council Members throughout their terms.
   - A Council Member State violating human rights should be given a set timeframe to comply with its membership obligations. Failure to do so may result in the suspension of their membership.
2. **Enhancing accessibility:** States should consider creating funds or offering technical assistance to civil society organizations, helping them actively participate in the Council.
   - Adopt a zero-tolerance policy on reprisals, harassment and intimidation against civil society and human rights defenders to make the Council a safe space for their engagement.
3. **Accreditation of civil society**: Revamp the UN NGO Committee's accreditation system by moving it from diplomats to qualified professional experts.
4. **Enhancing effectiveness in functioning:**
   (a) Proactive approach: Reduce the time between country visits and report presentations at the Council.
   - o If early signs of severe human rights violations are detected, expedite consideration through informal briefings or urgent debates to fulfil the Council's preventive mandate.
   (b) Cooperative approach: Make human rights standards central to the planning and delivery of all UN operations.
   - o Foster a closer relationship between the HRC, UN Security Council (UNSC) and regional human rights bodies.
5. **Enhancing visibility**: Better communicate Council mechanism, and outcomes to a wide range of stakeholders working at the local, national and regional levels.

5. SOUTH CHINA SEA

Context

o In September, 2023 A floating barrier installed by China, to prevent Filipino boats from fishing in a disputed area of the South China Sea (SCS), has been removed by Philippine authorities.

More about the news

1. Earlier China installed a floating barrier near a lagoon in the Scarborough Shoal claiming it as its territory while Philippines claims it to be a part of its **Exclusive Economic Zone (EEZ).**

South China Sea Dispute

1. The Philippines has accused Chinese coast guard vessels of **"intentionally"** colliding with its vessels on a resupply mission in a disputed part of the South China Sea.
2. **"Four Sha" (Four Sands archipelagos)** are the four island groups in the SCS region over which China claims it has "historical rights", named **Dongsha Qundao, Xisha Qundao, Zhongsha Qundao and Nansha Qundao.**
3. Internationally they are known as **Pratas Islands, Paracel Islands, the Macclesfield Bank area and the Spratly Islands**.
4. China stakes claim to 90% of the South China Sea, and this claim is based on the **U-shaped nine-dash line** etched on the map in the 1940s by a Chinese geographer.
5. The **Nine-dash line** has a Geopolitical significance.

Significance of South China Sea

1. **Maritime trade**: The region is one of the busiest sea routes of the world and more than 60% of the global trade passes through this sea.
2. **Natural Reserves:** The region is said to host vast reserves of Oil, Natural Gas, Coral Lime, high Silicate, Sand, quality Gem, natural pearls.
3. **Fishing grounds**: The sea is warm throughout the year and is considered as one of the major commercial fishing regions of the world.
4. **Freedom of Navigation**: Acknowledging the claims of China will affect the freedom of navigation in the region, which may set a wrong precedent for such claims in other parts of the world too.

Concerns for India

1. **Freedom of Navigation:** India's trade routes pass through the South China Sea, making freedom of navigation a priority.
    (a) Indian vessels need to cross them safe and secure to reach the Pacific nations.
    (b) Nearly 55% of India's trade with the Indo-Pacific region passes through these waters
2. **Economic Interests:** India has economic interests in the region's resources and fisheries.
    (a) **ONGC Videsh Limited (ONGC-VL)** along with Petro Vietnam is exploring for Oil reserves in the region, which could help to secure India's energy needs
3. **Regional Stability:** Tensions can affect the broader Indo-Pacific region.
4. **Strategic Partnerships:** India's alliances with affected nations make it invested in the issue.
5. **Rule of Law:** India supports resolving disputes based on international law.
6. **Act East Policy:** South China Sea is a part of India's regional engagement strategy.
7. **Bilateral Relationships:** India has partnerships with nations involved in the dispute.

Way Forward

1. **Diplomacy and Conflict Resolution**: Prioritize peaceful negotiations through bilateral and multilateral channel and engage in confidence-building measures to reduce tensions.
2. **International Arbitration**: Comply with the 2016 UNCLOS tribunal ruling, recognizing the Philippines' sovereign rights in certain areas and seek international arbitration to address specific disputes and uphold the rule of law.

3. **Regional Cooperation**: Collaborate with ASEAN to maintain a united front and pursue joint resolutions. Also, promote a freeze on provocative actions in the region, including militarization and land reclamation.

4. South China Sea dispute underscores the need for diplomatic solutions, adherence to international law, and cooperation among claimant states for regional stability and peace.

6. INDIAN NAVY PERSONNEL SENTENCED TO DEATH IN QATAR

Context

In October, 2023 Eight former Indian Navy personnel were sentenced to death by a court in Qatar in an alleged case of espionage.

Timeline of the Case
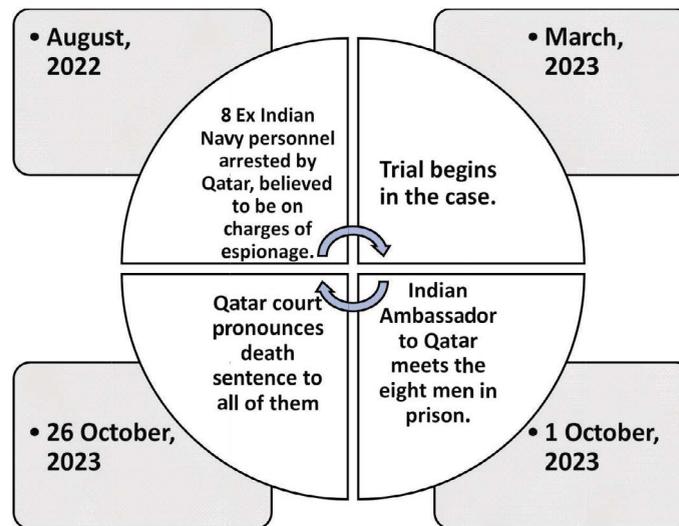
Options available for India

1. **Prisoners agreement:** One of the options could be the **transfer of prisoners agreement** that was signed in 2015 between India and Qatar.
    (a) Under this agreement, Indian prisoners convicted in Qatar can be brought to home to serve the remaining part of their sentence.
    (b) Similarly, Qatar citizens convicted in India can be sent to their home country to serve their sentence.
        o   This agreement would enable the sentenced persons to be near their families and would help in the process of their social rehabilitation.

2. **Resolve case diplomatically:** The government must waste no time in charting the next steps to ensure the Indians are given the best possible support in an appeal.
    (a) Apart from the legal appeals process and diplomatic channels to the Qatari leadership should be activated at the highest levels, including the Prime Minister if necessary.
    (b) A case must be made for clemency and commuting the sentences to jail terms that could even be served out in India if the men are indeed found guilty in the appeals process.

3. **Appeal on Humanitarian Grounds:** To appeal for clemency.
    (a) For example, in 2012 after India arrested 2 Italian marines (on board the Italian oil tanker, the Enrika Lexie) for the killing of Indian fishermen off the coast of Kerala, Italy mounted diplomatic pressure, including blocking India's membership in a Missile grouping **Missile Technology Control Regime (MTCR).**

(b) Eventually, India freed the Italian soldiers in 2016 on humanitarian grounds.

4. **Route of International Court of Justice:** As India did with the Kulbhushan Jadhav case in Pakistan.

5. **Vienna Convention on Consular Relations:** It came into force on 19 March, 1967.

   (a) It specifies consular officials' duties when citizens of their country face difficulties in a foreign nation.

   (b) Of particular interest for the right of individuals is article 36, providing for certain obligations for competent authorities in the case of an arrest or detention of a foreign national, in order to guarantee the inalienable right to counsel and due process through consular notification and effective access to consular protection.

India-Qatar Relations

1. **Political Relations**: There has been regular exchange of high-level bilateral visits.

2. **Commercial & Investment Relations**: India's bilateral trade with Qatar in 2022-23 was US$ 18.77 billion.

   (a) India's export to Qatar during 2022-23 was US$ 1.96 billion and India's import from Qatar was US$ 16.8 billion.

   (b) Qatar's key exports to India include LNG, LPG, chemicals and petrochemicals, plastics, and aluminium articles,

   (c) India's key exports to Qatar include cereals, copper articles, iron and steel articles, vegetables, fruits, spices, and processed food products etc.

3. **Defence cooperation**: India regularly participates in the **biennial** Doha International Maritime Defence Exhibition and Conference **(DIMDEX)** in Qatar.

4. **Cultural Relations**: There are regular cultural exchanges between the both sides, under the provisions of the Agreement on Cultural Cooperation signed between the two sides in 2012.

   (a) The year 2019 was celebrated as India-Qatar Year of Culture.

   (b) India was also one of the partner countries for **Qatar-MENASA year of culture 2022.**

Significance of the Relationship

1. **Indian Community Contribution**: Qatar's Indian community, diverse and accomplished, plays a vital role in fostering deep-rooted friendship and multi-faceted cooperation.

2. **Economic Interdependence**: India is a top export destination and import source for Qatar, with strong trade ties, especially in LNG and other products.

   o While the trade balance often favours Qatar, there has been substantial growth in India's exports to Qatar in recent years.

3. **Energy Partnership**: Qatar is the largest supplier of LNG to India, contributing over 48% of India's global LNG imports, making energy collaboration a pivotal aspect of their relationship.

   o Qatar's role in India's energy security becomes even more vital as geopolitical events, like the Russia-Ukraine conflict, disrupt energy supplies from other sources, leading to increased demand for Qatar's gas.

4. **Business Collaborations**: Indian companies are actively pursuing collaborations in various sectors within Qatar, including infrastructure, communications, energy, and more.

Challenges

1. **Media Campaign against Article 370 Abrogation**: Al Jazeera, financed by Qatar, launched an aggressive campaign against India in 2019, straining relations.
2. **Controversial Remarks and Gulf Response**: Controversial remarks about Prophet Mohammed by an Indian Politician of current ruling regime led to outrage from Gulf countries, with Qatar's condemnation being notably sharp.
3. **Legal Sentencing of Indian Nationals**: The Court of First Instance in Qatar sentenced eight Indian nationals to death, amplifying India's challenges in the region.
   o India expressed "deep shock" at the verdict and is actively exploring legal and diplomatic options to address the situation.

Way Forward

1. The recent verdict of the court in Qatar is the major crisis to hit the India-Qatar relationship, which has generally remained steady so far.
   o Given the importance of bilateral ties, it is hoped the two countries move with some urgency to resolve the issues at hand.
2. There is scope for the further development of the India-Qatar relationship, which has proven strong and resilient throughout the seemingly intractable diplomatic crisis.

7. NAGORNO-KARABAKH CONFLICT

Recently, Azerbaijan launched an "anti-terrorist" offensive in Nagorno-Karabakh and claimed to have regained full control over the region.

More about News

1. Earlier in December 2022, the Lachin Corridor was blockaded by Azerbaijan, causing severe shortages of essential goods including food, fuel and water in Nagorno-Karabakh.
   • Lachin Corridor is a 5 km long corridor connecting the conclave to Armenia.

Background

The region has seen conflicts of influence between regional powers since the medieval period — imperial Russia, the Ottoman Empire (modern-day Turkey) and the Persian Empire (Iran).

Nagorno-Karabakh
1. Nagorno-Karabakh is a mountainous region which is claimed by both Armenia and Azerbaijan.

1. **Era of Soviet Union:**
   (a) When Czarist Russia gave way to the Soviet Union in 1921, Nagorno-Karabakh was part of the Azerbaijan SSR (Soviet Socialist Republic).
   (b) In 1923, USSR established the Nagorno-Karabakh Autonomous Oblast (province) within the Azerbaijan Soviet Socialist Republic.
   (c) When the Soviet Union was dissolved in 1991 and Armenia and Azerbaijan achieved statehood, **Nagorno-Karabakh officially declared independence**.

Nagorno-Karabakh Geopolitical Construct

2. **War between Armenia and Azerbaijan:**
   (a) **First Wa**r: Tension started in 1988, with its regional legislature passing a resolution declaring its intention to join Armenia.
      o In 1994, Russia brokered a ceasefire known as the Bishkek Protocol.
      o This made Nagorno-Karabakh de facto independent with a self-proclaimed government in Stepanakert.
   (b) **Second War:** Started in 2020, this time Azerbaijan managed to wrest control of the territory around Nagorno-Karabakh.
      o Russia again brokered a deal but Azerbaijan wanted more concessions and no peace deal was inked.
3. **Initiatives to Maintain Peace in the region**
   (a) The Minsk Group, co-chaired by Russia, the U.S., and France, was created by the Organisation for Security and Cooperation in Europe (OSCE) in early 1990s to arrive at a peaceful resolution for Nagorno-Karabakh.
      o Madrid Principles by Minsk group suggested that giving control of seven Karabakh districts to Azerbaijan, Self-governance to the region, etc.
      o However, they were not accepted, even after another modifications in 2011.

India's Stand and interest in the Region

- **In 2020**, after the conflict broke out, India stated that any lasting resolution of the conflict can only be achieved peacefully through diplomatic negotiations.
  (a) **Connectivity:** Armenia is a crucial player in the planned International North-South Transportation (INST) Corridor.
  (b) **Geo-political interest**: In 2017, Turkey, Azerbaijan, and Pakistan, established security cooperation.
  (c) **Trade:** India's trade relation with Armenia is 134.1 USD million (2022-2023) and with Azerbaijan 1.882 USD billion in 2022.

Conclusion

1. Diplomatic negotiations can be an effective way to resolve conflicts.
2. The Minsk Group can learn from the **India-Bangladesh enclave exchange** of 2015, to suggest some concrete steps to solve the dispute and bring the peace permanently in the region.

8. INDIA-UAE SIGN RUPAY DCS AGREEMENT

1. **Context:** In October,2023 NPCI International Payments Limited (NIPL) and Al Etihad Payments (AEP) signed a strategic partnership agreement for implementation of **Domestic Card Scheme (DCS)** in the UAE.
   (a) NIPL is a wholly-owned subsidiary of National Payments Corporation of India (NPCI).
   (b) NIPL strives to assist other countries in establishing their own cost-efficient, and secure payment systems.
2. **About:** The partnership will seek to diversify payment options, reduce transaction costs, and enhance the UAE's global competitiveness in the payments industry.
   - UAE's DCS aims to accelerate the growth of e-commerce and digital transactions, advance financial inclusion, and align with the UAE's ambitious digitization agenda.

9. COMPREHENSIVE NUCLEAR TEST BAN TREATY

1. **Context:** In October, 2023 Russia indicated towards revoking its Ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT).
   (a) It says that withdrawal from ratification of nuclear weapons test ban treaty aims to place Russia on **'equal footing'** with the US, which has signed but not ratified the pact.
   (b) The US has not ratified the CTBT by citing the difficulty in verifying whether or not participant States meet the rules of the Treaty.

2. **About: a.** CTBT is a multilateral treaty which prohibits any nuclear weapon test explosion or any other nuclear explosion anywhere in the world.

   o It bans all nuclear explosions, whether for military or peaceful purposes.

   b. The treaty was opened for **signature in September 1996** and has been signed by 187 nations and ratified by 178.

   c. The treaty cannot formally enter into force until it is ratified by 44 specific nations, eight of which have yet to do so: China, **India**, Pakistan, North Korea, Israel, Iran, Egypt, and the United States.
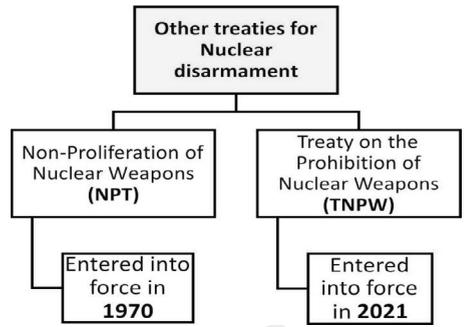
3. **Reasons for India not signing and ratifying:**
   (a) CTBT did not insist on a complete disarmament.
   (b) As a party to the CTBT, India cannot test and develop nuclear weapons whereas China would retain its arsenal as per the NPT.

10. INDIA RE-ELECTED AS PRESIDENT OF AIBD

1. **Context:** In October, 2023 India Re-elected as President of Asia-Pacific Institute for Broadcasting Development (AIBD) for a third successive term.

2. **About AIBD:** Established in 1977 under the auspices of United Nations Educational, Scientific and Cultural Organisation (UNESCO), headquartered in Kuala Lumpur (Malaysia).

   o It has 26 Government Members countries including India represented by their 48 broadcasting authorities.

3. **Function:** To establish inter-regional links and cooperation for media and communications development.

11. IORA's COUNCIL OF MINISTERS MEETING

1. **Context:** On 11 October, 2023 Indian Ocean Rim Association's (IORA) 23rd Council of Foreign Ministers (COM) meeting held in Colombo (Sri Lanka).

2. **Key highlights:**
   a. The theme of meeting was **'Strengthening Regional Architecture: Reinforcing Indian Ocean Identity'**.
   b. 'Colombo Communique and 'IORA Vision 2030 and Beyond' was adopted.
   c. Saudi Arabia was formally welcomed as 11th Dialogue Partner.
   d. IORA Chairship was transferred from Bangladesh to Sri Lanka for 2023-2025.
      o India will take Chairship during 2025-2027.
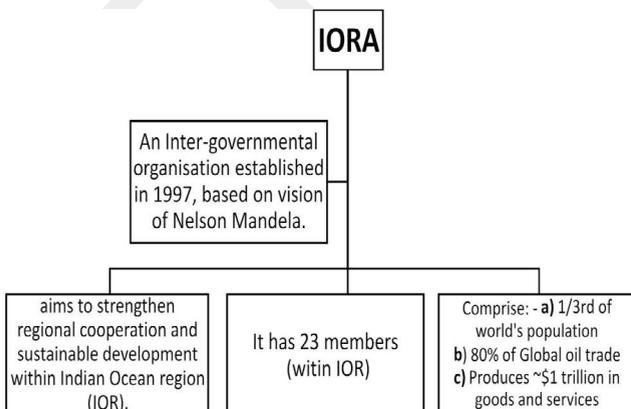
C. SECURITY

1. INDIA'S ANTI-TERRORISM APPROACH

Context

In October,2023 Union Home Minister emphasizes combating terrorism by dismantling its ecosystem and suggesting measures to dismantle its entire ecosystem during the Anti-Terror Conference organized by NIA.

India's approach to tackling terrorism

1. **Win the minds and hearts of people:** The government is implementing developmental initiatives like the Civic Action Programme and the Udaan scheme to mitigate the risk of radicalization in J&K.
2. **International and Regional Cooperation:** India holds leadership roles in regional and international organizations, such as the Global Counterterrorism Forum, where it promotes multilateral cooperation in counter-terrorism efforts.
   o In 1996, India initiated the draft Comprehensive Convention on International Terrorism to establish a comprehensive legal framework for terrorism prevention and control.
3. **Legislative framework:** The Unlawful Activities (Prevention) Act of 1967 and the National Security Act of 1980 are the primary laws used to combat terrorism.
4. **Dedicated Law enforcement agency:** The National Investigation Agency (NIA) serves as India's primary law enforcement organization for counterterrorism.
   o The agency is bolstered by various agencies such as the Research and Analysis Wing (RAW), Intelligence Bureau (IB), and State police services.
5. **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.
6. **Countering Violent Extremism (CVE):** The Ministry of Home Affairs serves as the primary agency responsible for CVE.

Factors highlighting the need to change the approach toward terrorism

1. **Lack of interagency cooperation:** Various Anti-Terrorist Agencies (ATAs) operate at the center and state levels, but their cooperation and data interchange are limited.
2. **Nexus with other organized crimes:** India is facing new concerns due to the interlinkage between counterfeit goods production, trade, flora and fauna crimes, drug trafficking, and terrorist activities.
   o India is facing new concerns due to the interlinkage between counterfeit goods production, trade, flora and fauna crimes, drug trafficking, and terrorist activities.
3. **Lack of definition at a global level:** The universally accepted definition of "terrorism" is lacking due to a discrepancy in its definition.
4. **New methods of Terrorism Financing:** Dedicated crowdfunding platforms or websites are being utilized for terror financing.
   o Detecting illicit activity is challenging due to the volume and variety of activities involved.
5. **Use of technology:** Terrorists are making extensive use of new information technologies, along with a coordinated cyber-attack exponentially increasing the risk of threat.
6. **Changing nature of weapons:** Terrorist groups are increasingly acquiring the ability to use chemical, biological, radiological, or nuclear (CBRN) materials.
7. **Lack of hierarchical structure in recent terrorist acts:** Terrorists are increasingly utilizing loose connections with similar groups from various countries, leading to an increase in lone wolf attacks.

Data Bank
o India is ranked 13th in the latest Global Terrorism Index (2023), and one of the worst-affected countries by terrorism activity

Way forward

1. **Key measures suggested in the conference**
   o All ATAs should enhance the effectiveness of multidimensional and artificial intelligence-based databases in combating terrorism.
   o The National Institute of Standards and Technology (NIA) should establish a model anti-terrorism structure for all states.
   o State ATAs should adopt a uniform hierarchy and standard operating procedures to enhance cooperation between central and state agencies.
   o The National Intelligence Agency (NIA), Anti-Terrorism Squad, and Special Task Force should devise innovative strategies to combat terrorism.
   o The initiative involves global collaboration at the grassroots level, involving various national states and international cooperation.
   o The goal is to establish a uniform training module for enhancing the effectiveness of terrorism combat methods.

2. **Other measures:**
   o The focus is on the connection between terrorism and other organized crimes, as demonstrated in the Operation Dhvast case where NIA and Punjab and Haryana Police successfully busted a nexus.
   o The Parliamentary Standing Committee on External Affairs has recommended the creation of a common counter-terror platform under the Neighborhood First policy.
   o The digital ecosystem's growing significance necessitates dedicated efforts to enhance its security and robustness.
   o Strengthening democratic institutions allows the government to gain the trust and cooperation of its citizens.

National Investigation Agency (NIA)

1. **About:**
   o The National Investigation Agency (NIA) was established in 2008 following the Mumbai terror attacks through the National Investigation Agency Act 2008.

2. **Aim:**
   o The goal is to establish high standards in counter-terrorism and national security investigations at the national level through an employee-oriented workforce.
   o The Ministry of Home Affairs has issued a written proclamation governing its operations.
   o It is empowered to deal with terror-related crimes across states without special permission from the states.
   o The National Investigation Agency (Amendment) Act, 2019 grants it the authority to investigate scheduled offenses committed outside India.

3. **Role of NIA in anti-terrorism efforts:**
   o The cooperation with states involves providing assistance to all states and other investigating agencies in the investigation of terrorist cases.
   o In 2022, the overall conviction rate was approximately 94%, indicating effective and speedy trial procedures.
   o The National Intelligence Agency (NIA) is tasked with creating a national database on seven key areas: narcotics, hawala transactions, arms smuggling, counterfeit currencies, bomb blasts, terror funding, and terrorism.
   o In-depth professional investigation is a method used to thoroughly investigate crimes where it is challenging to gather sufficient evidence.
   o The National Intelligence Agency (NIA) has registered numerous cases against over ground workers in Jammu and Kashmir, effectively destroying their sleeper cells.

Related news: FICCI released report 'Hidden Streams: Linkages between Illicit Markets, Financial Flows, Organized Crime and Terrorism'

o The report explores the intricate connections between organized crime actors and the illegal economy in 122 countries, revealing trade-based money laundering, counterfeiting, arms and drug trafficking, and terrorism and crime.

Key highlights of the report

o The United Nations estimates that the global amount of money laundered annually is between 2 and 5% of the global GDP.

India related findings

o The UN Office on Drugs and Crime estimates that India is involved in $159 billion worth of money laundering.

o The Directorate of Revenue Intelligence in India identified 437 instances of duty evasion in 2021-2022, a 40 percent increase from the previous year.

o In 2021, violence in India had an estimated economic impact of US $1.17 trillion, accounting for 6% of the country's GDP in terms of PPP.

Recommendations: Adopting 6 Cs as a policy playbook to negate the threats-

o The regulatory framework aims to combat terrorism and organized crime

o Evaluate illicit financial flows, create awareness

o Change consumer preferences

o Ccombat trade-based money laundering

o Promote international cooperation.

2. SEPARATISM

Context

In October,2023 The Indian External Affairs Minister has suggested a focus on the link between separatism and organized crime.

What is separatism?

1. The demand for separate statehood is a region's desire to establish an independent state or re-negotiate its relationship with the state.

2. Regional demands for reorganization of relations between regions are arising, which may take various forms as follows:

Insurgency	o This refers to an organized, armed resistance against the state or authority, with the ultimate goal of overthrowing the regime.
	o Insurgency movements often require support from a specific population to justify their existence and undermine the government's legitimacy, unlike terrorism.
	o Example: ideological or Maoist insurgency in central and eastern India.
Movement for separate statehood: These movements generally assume three forms:	
Statehood movement	o Seeking a separate state consisting of a region from one or more existing states
Autonomy movement	o Collective mobilization involves people in a region or across regions aiming to gain autonomy for managing their economic, social, cultural, and political affairs.
	o Bodoland, Karbis, and Dimasa Kacharis, along with other states, have recognized the autonomy within the state of Assam.
Secessionist movement	o Bodoland, Karbis, and Dimasa Kacharis, along with other states, have recognized the autonomy within the state of Assam.
	o For example, the demand for greater Nagalim

Factors responsible for the rise of separatist tendencies

1. **Regional imbalance in economic development: Eg.** Northeast India's regional aspirations were primarily hindered by its neglect in developmental terms after independence.

2. **Cultural identity:** The demand for Nagalim is primarily driven by the preservation of their distinct culture and social practices.

3. **Historical reasons:** Following independence, Mizoram's secession movement was fueled by some Mizos' belief that they were never part of British India and therefore not part of the Indian Union.

4. Lack of trust in the state: The loss of public confidence in the state's ability to protect life and property, such as the demand for separate states in West African states like Mali, Guinea, and Burkina Faso.

5. **Foreign policy:** Some Ukrainians advocate for the integration of Ukraine into the EU and NATO, while others favor close cooperation with Russia.
6. **International and financial support:** Secessionist movements often receive ideological and financial support from the international community.

Concern regarding the secessionist movement

1. **International and financial support:** The international community provides ideological and financial support, such as for the Nagalim movement.
2. **Link with organized crime:** The secessionist movement frequently utilized organized crime groups, such as the drug trade, to fund themselves, as seen in Kashmir.
3. **Effect on international relations:** The issue of Canada can serve as a significant obstacle in international diplomacy.
4. **Instability in the region:** These movements frequently involve the use of violence against the state and the people of the region.

India's approach to separatist movements and other regional aspirations

1. **Democratic negotiations:** India has embraced regional aspirations through democratic negotiations, such as the Mizo accord, rather than suppressing them, as demonstrated by its efforts to bring peace in Mizoram.
2. **Power sharing:** Regional groups and parties are granted a portion of power to influence their development.
3. **Backward areas development:** The Aspirational District Programme is focusing on sustainable development in areas with limited infrastructure and resources through careful planning and attention.
4. **Flexibility of the Constitution:** Some states and regions have special provisions for autonomy.
   - The Sixth Schedule of the Constitution grants tribes complete autonomy in preserving their customs and practices.
5. **Use of force:** The United Liberation Front of Assam is a group that is frequently targeted with force to maintain peace in the region.

3. NEW INDIAN AIR FORCE (IAF) ENSIGN

Context

In October,2023 The announcement was made during the 91st anniversary of the International Air Force (IAF).

New Indian Air Force (IAF) Ensign

More About News

1. The new ensign features the Air Force Crest in the top right corner.
   - The IAF Crest features the Ashoka lion as the national symbol, with the words "Satyamev Jayate" in Devanagari below it.
   - The Ashoka lion is surrounded by a Himalayan eagle, symbolizing the IAF's formidable fighting abilities.
   - A light blue ring encircles a Himalayan eagle with the words "Bhartiya Vayu Sena".
   - The Bhagavad Gita serves as the inspiration for IAF's motto, "Touching the sky with glory."

4. SONOBUOYS

Context

In October,2023 The Indian Navy planned to equip MQ-9B Sea Guardian Drones with Sonobuoys.

More About News

1. Sonobuoy is a compact underwater acoustic surveillance device.
2. The device is equipped with hydrophones that are specifically designed to detect underwater sounds, particularly those produced by submarines.
3. These devices, deployed from aircraft or ships, transmit real-time acoustic data to identify potential submarine threats.

5. SIMBEX EXERCISE

The annual bilateral naval exercise between the Indian Navy and the Republic of Singapore Navy is held annually.

D. Economy

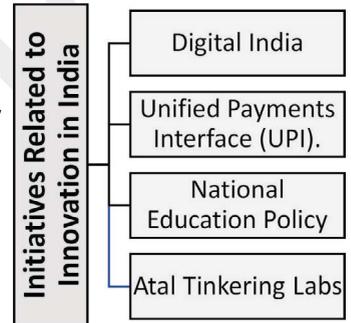## 1. GLOBAL INNOVATION INDEX (GII) 2023

Context

Recently, World Intellectual Property Organization (WIPO) released 16th Global Innovation Index (GII) 2023.

About

1. The GII is a reliable tool for governments across the world to assess the innovation-led social and economic changes in their respective countries
   o It is co-published annually by Cornell University, INSEAD Business School, and WIPO.
   o Criteria to measure innovation: Covers institutions, human capital and research, infrastructure, credit, investment, linkages, creation, absorption and diffusion of knowledge, and creative outputs

Key Findings

1. The 2023 edition reveals the ranking of this year's most innovative economies in the world amongst 132 economies and localizes the top 100 science and technology innovation clusters
2. For a 13th consecutive year, Switzerland ranks first in the GII.
3. Singapore has entered the top five, and has taken the leading position among South East Asia, East Asia and Oceania (SEAO) region economies.

Initiatives Related to Innovation in India: Digital India; Unified Payments Interface (UPI); National Education Policy; Atal Tinkering Labs

Status of Innovation in India

1. India maintains 40th rank out of 132 economies in GII 2023, showcasing a remarkable climb from the 81th spot in 2015.
2. India leads the lower middle-income group and is stable.
3. India continues as record holders by being innovation overperformers for a 13th consecutive year.
4. The ascent of India in terms of publication output (ranking 4th in 2022), overtaking the UK (5th) and Germany (3rd).
5. India has 4 technology clusters among the top 100 clusters: **Bengaluru, Delhi, Chennai and Mumbai.**

2. MULTILATERAL DEVELOPMENT BANKS (MDBS)

Context

Recently, G20 Expert Group released a Report titled **'Bigger, Bolder, Better' Multilateral Development Banks (MDBs).**

Key Points

1. The report was presented at the fourth G20 finance ministers and central bank governors meeting in Marrakech, Morocco.
2. The independent expert group submitted volume two of a series of reports,
3. This report focuses on reforms of MDBs on the theme of Bigger, Bolder, Better MDBs. Earlier submitted volume one, focused on tripling the annual lending levels of MDBs to $390 billion by 2030.
4. MDBs are a financial institution established by multiple member countries and governed by international law. e.g., Bretton Wood institutions, Asian Development Bank, etc.

Recommendations

Better MDBs	Bigger MDBs	Bolder MDBs
Address the largest external financing gaps in low- and middle-income countries	Catalyse private finance by shifting culture from risk avoidance to informed risk-taking.	**Adopt cascade principle**: refers to public sector banks refraining from financing what can be done by the private sector.
Focus on non-concessional lending in climate action.	More donor pledges for the International Development Association.	Empowering the Multilateral Investment Guarantee Agency (MIGA).
Scaling up national transformations by integrating with regional programs	Established a Global Challenges Funding Mechanism (GCFM) for investors seeking financial return while also supporting SDGs,	

3. PERIODIC LABOUR FORCE SURVEY (PLFS) REPORT 2022-2023

Context

In October, 2023 the Ministry of Statistics and Programme Implementation has released the results of the Periodic Labour Force Survey for the period July 2022 to June 2023.

- This is the sixth PLFS report and each tracks a 12-month period between July and June. The first report tracked data for the period July 2017- June 2018.

Objective

To estimate the key employment and unemployment indicators(viz. LFPR, WPR, UR) annually:

(a) in the short time interval of three months for theurban areas only in 'Current Weekly Status' (CWS)and

(b) in both 'Usual Status' and CWS in both rural andurban areas annually.

Significance Of the Findings

1. At first glance, PLFS 2022-23 throws up some positive trends: Unemployment rate continues to fall, LFPR and WPR see significant spikes.

2. It is encouraging to note that more and more women are joining the workforce.
   - This would suggest that asthe Indian economy recovers, more and more well-paying jobs are getting created.

3. However, the only jobs that are getting created are of the "self-employment" type.
   - When an economygrows, businesses employ people.
   - When an economy struggles, people lose their regular jobs, and become"self-employed".

4. Similarly, the trend for women across all metrics suggests that weak household finances have pushedwomen, who were outside the workforce in the past, to join in, often as "unpaidhelpers in householdenterprises".

Key findings of LFPS

Indicator		2017-18	2022-23	Trend
LFPR	Total	49.8 %	57.9 %	↑
	Rural	50.7 %	60.8 %	↑
	Urban	47.6 %	50.4 %	↑
	Male	75.8 %	78.5 %	↑
	Female	23.3 %	37.0 %	↑
WPR	Total	46.8 %	56.0 %	↑
UR	Total	6 %	3.2 %	↓

5. Similarly, sectorally, too, India seems to be moving backwards with the proportion of Indians employed inagriculture going up over the past year while those in manufacturing having fallen.

6. Lastly, a booming economy sees monthly incomes improve. However, that is not the case in India.

4. TRADE AND DEVELOPMENT REPORT 2023

Context

In October, 2023 Trade and Development Report 2023 released by United Nations Conference on Trade and Development (UNCTAD).

Key Findings

1. **Global Economic Outlook**
   (a) The world economic growth is projected to be 2.4% in 2023.
   (b) The entire global economy, except East and Central Asia, has slowed since 2022.
   (c) Worrying trends are poorer nations' indebtedness, slower growth in major regions, and inadequate multilateral response.

2. **India's Economic Projections**
   (a) India's economic growth is forecasted to be 6.6% (in 2023) and 6.2% (in 2024).
   (b) In India, the external sector alongside the private and government sectors has contributed to domestic growth.
   (c) Concerns highlighted for India are the unemployment rate of 8.5% in June 2023, and rising inequality.

Key Recommendations

A.	Financial Sustainability	• Central banks should strengthen international coordination with a focus on long-term financial sustainability for the private and public sectors.
B.	Social Protection	• Increase real wages and strengthen comprehensive social protection pro-grams.
C.	Energy Transition Agreements	• Agreements within the G20, the WTO, the IMF, and the World • Bank should be made to facilitate the energy transition, technology trans-fer, and reliable access to finance for climate adaptation.
D.	Trade regulation	• Internationally, a systemic approach to regulating commodity and food trading needs to be developed.
E.	Debt Servicing and Financial Architecture Reforms	• Reforms are needed in the rules and practices of the global financial archi-tecture to address the crushing burden of debt servicing.

5. BOND YIELD

Context

• In October, 2023 Reserve Bank of India (RBI) decision for Open Market Operation (OMO) sale of government securities (G-Sec) triggered a spike in bond yields to their highest level in FY 2023-24.
   o RBI uses OMOs in order to adjust the rupee liquidity conditions in the market on a durable basis.

About:

1. A bond is a debt instrument in which an investor loans money to an entity (typically corporate or government) which borrows the funds for a defined period of time at a variable or fixed interest rate.

2. Bonds are used by companies, municipalities,states and sovereign governments to raise moneyto finance a variety of projects and activities.

3. A G-Sec is a tradeable instrument issued by the Central Government or the State Governments.
   o It acknowledges the Government's debt obligation.

4. Such securities are short term (usually called treasury bills, with original maturities of less than one year) or long term (usually called Government bonds or dated securities with original maturity ofone year or more).

5. A bond's yield is the return an investor expects to receive each year over its term to maturity.
   o For the investor, the bond yield is a summary of the overall return that accounts for the remaining interest payments and principal they will receive, relative to the price of the bond.
   o The yield is also commonly referred to as an interest rate, or the "cost of borrowing" to anissuer.

Bond Prices and Yields

6. If market interest rate levels rise, the price of a bond falls. Conversely, if interest rates or market yields decline, the price of the bond rises.

7. The yield of a bond is inversely related to its price.When the price of a bond falls, yields rise.
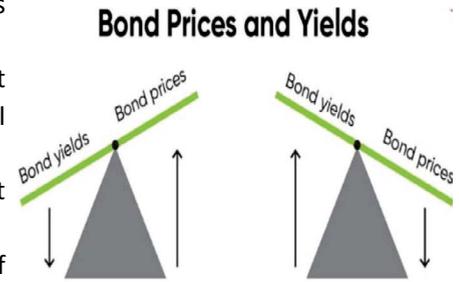
6. RBI (TREATMENT OF WILFUL DEFAULTERS AND LARGE DEFAULTERS) DIRECTIONS, 2023 RELEASED

Context

With these directions, RBI has expanded scope forregulated entities that can classify borrowers as wilfuldefaulters, broadened definition of wilful default, andrefined identification process.

Key Highlights

A.	Applicability	All regulated entities, including banks,NBFCs, Co-operative Banks, Regional RuralBanks, Local Area Banks, and All IndiaFinancial Institution (AIFI) including NABARD,SIDBI, EXIM Bank, NHB andNaBFID.
B.	Definition	A wilful defaulter is a borrower or aguarantor who has defaulted without beingconstrained to do and the outstandingamount is Rs 25 lakh and above. A large defaulter is one whose amount indefault is Rs 1 crore and above.
C.	Review and finalisationon wilfuldefault	Within six months of an account beingclassified as a non-performing asset (NPA). Earlier, there was no specific timeline.
D.	Identification Process	Identification Committee: Wilful defaulterclassification after examining evidence froman identification committee, which will thenissue a show-cause notice. Review Committee: Considers the proposalof the Identification Committee forclassification as a wilful defaulter.
E.	Other provisions	No additional credit facility can be grantedto a wilful defaulter and it remains in effectfor up to 1 year after removal from List ofWilful Defaulters. Lender will be able to proceed againstguarantor even without exhausting theremedies against principal debtor

7. CRITICAL AND STRATEGIC MINERALS

Context

1. In October, 2023 Union Cabinet approved Royalty Rates for Mining three Critical and Strategic Minerals- Lithium, Niobium, and Rare Earth Elements (REE).

About

2. Critical minerals are those minerals that are essential for economic development and national security, judged by two parameters: **economic importance, and supply risk.**

3. Such royalty rate approval will enable Central Government to auction blocks for these critical minerals for the first time in the country.

o Mineral Royalty is economic rent due to the sovereign owner (government) in exchange for the right to extract mineral substances.
o Second Schedule of Mines and Minerals (Development and Regulation) Act (MMDRA), 1957 deals with the royalty rates of minerals.

4. If not specified, the royalty rate for minerals is 12% of the Average Sale Price (ASP).
   o Now, approved royalty rates for **lithium, Niobium, and REE are 3%, 3 %, and 1%,** respectively.

5. Presently, India's mineral royalty rates are among the highest in the world, thus impacting the competitiveness of sector and putting the economic burden on mining companies.

Significance
- a) Aligning rates with global practices will boost mining sector investment.
- a) Lower royalty rates would encourage future mineral exploration in India.
- a) Assist in reducing import dependency, advancing self-reliance efforts, and minimizing supply chain disruptions.
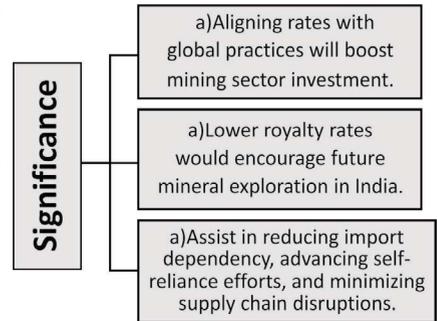
Initiatives

(a) Amendment to MMRDA in 2023 delisted six minerals.
(b) KhanijBidesh India Ltd., a government JV, to secure critical minerals.
(c) Auction of mining lease and composite license of 24 critical and strategic minerals

8. CARD-ON-FILE TOKENIZATION (COFT)

Context

1. In October, 2023 the Reserve Bank of India (RBI)proposed to introduce Card-on-File Tokenisation (CoFT).
   o The central bank has also decided to extend the Payments Infrastructure Development Fund (PIDF) Scheme, which was launched in January 2021

About

1. Given the growing acceptance and benefits of tokenisation of card data, it is now proposed to introduce Card-on-File Tokenisation (CoFT) creation facilities directly at the issuer bank level.
2. This measure will enhance convenience for cardholders to get tokens created and linked to their existing accounts with various e-commerce applications.
3. It allows secure online purchases without exposingsensitive details like card number, card verificationvalue (CVV), etc
   o It has been implemented since 2022 and at present, aCoFT token can only be created through merchant'sapplication or webpage.
4. The new step aims to eliminate the duplication oftokenization process at each app along with increasedtransaction security, resulting in reduced card-data-related frauds.

9. BIMA VAHAK GUIDELINES (BHG)

Context

In October, 2023 Insurance Regulatory and DevelopmentAuthority of India (IRDAI)Issued Bima Vahak Guidelines.

Aim

(a) **to establish women centricdistribution channel** that focuses on enhancinginsurance inclusion and awareness in every village.
(b) It also aims to improve the accessibility andavailability of insurance in every nook and cornerof the country.

Other Facts

(a) The scope of work of Bima Vahaks, besides creatingawareness of insurance in villages, is likely to rangefrom filling proposal forms, facilitating KYC process forcustomers, issuance of insurance policies, etc.
(b) It is a part of IRDAI's strategy to achieve its **'Insurancefor All goal'.**

Top 3 Smart Cities	Top 3 States	Top Union Territory
Indore, Surat and Agra	Madhya Pradesh, Tamil Nadu, Rajasthan	Chandigarh
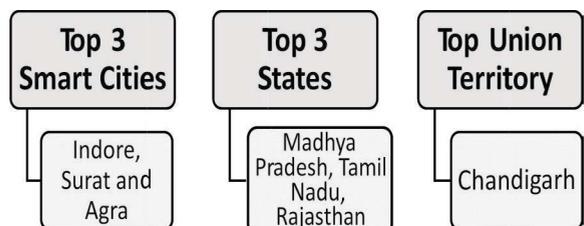
10. GST COUNCIL MEETING

Context

In October, 2023 52nd Goods and Services Tax Council Meeting Held.

Key recommendation

1. District Mineral Foundations Trusts areGovernmental Authorities and eligible for thesame exemptions from GST.

2. Reduction of GST rate from 28% to 5%, onmolasses.

   o It will facilitate faster payments to sugarcanefarmers from sugar mills.

3. Keep Extra Neutral Alcohol (ENA) used formanufacture of alcoholic liquor for humanconsumption outside GST.

4. ENA is highly concentrated alcohol and keyingredient for pharmaceuticals, perfumes,toiletries etc.

5. **Qualification of members of GSTAT**: Alignment ofprovisions of the CGST Act, 2017 with TribunalReforms Act, 2021 to ensure.

About GST Council		
Members	Union Minister of State, in-charge of Revenue	
	Minister in charge of finance or taxation or any other Minister nominated by each State Government.	
Status	It is a constitutional body under Article 279A (101 Constitution Amendment Act, 2016).	
Chair-person	Union Finance Minister	
Decision-making through voting	-Decision requires a 3/4th majority of members present and voting. -Centre's share is 33% of votes cast.	

6. Minimum age of President and Membershould be 50 years and their tenure should beup to age of 70 years and 67 yearsrespectively.
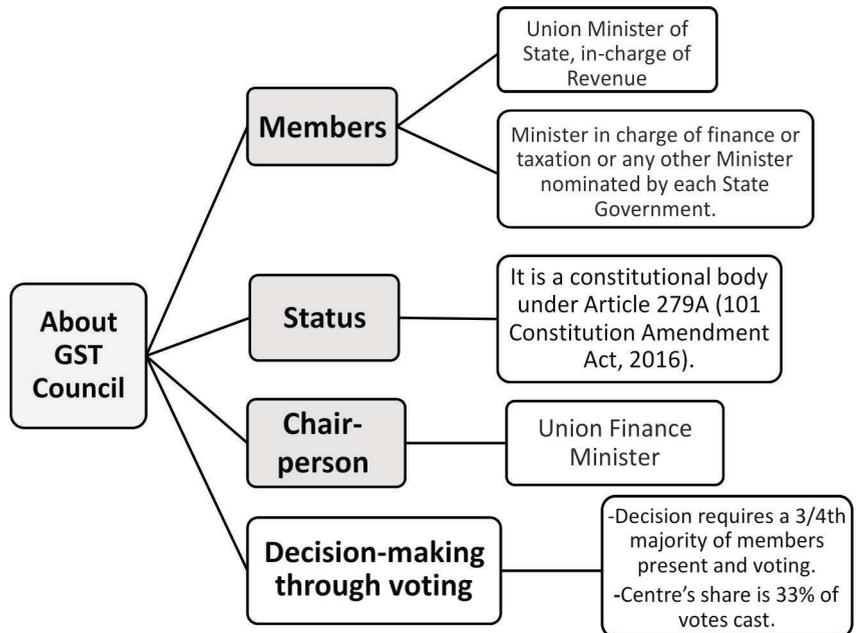
About GST Appellate Tribunals (GSTAT)

1. GSTAT is a statutory body under the Central GST Act,2017.

2. It is the forum of second appeal in GST laws and thefirst common forum of dispute resolution betweenCentre and States.
   - It is mandated to hear appeals against orderspassed by Appellate Authority or RevisionalAuthority.

11. BAN ON PUSA-44 CULTIVATION

Context

Recently, the Punjab government announced that the state will ban the cultivation of the PUSA-44 paddy varietyfrom next year onwards.

Reasons For the Ban

1. PUSA-44 is a long-duration variety, taking around 160 days to mature. This is around 35 to 40 days morethan other varieties, requiring 5-6 extra cycles of irrigation.

2. With Punjab facing severe groundwater depletion and the availability of short-duration paddy varieties, thegovernment aims to conserve one month of irrigation water by banning the variety.

3. Additionally, the area under paddy, a water-intensive crop to begin with, continues to grow in the state. Asmany as 102 of the state's 141 agricultural development blocks were declared 'dark zones.

PUSA-44

➤ It was developed in 1993 by the Delhi-based Indian Council of Agricultural Research (ICAR).

➤ By the end of 2010s, it had gained widespread popularity among farmers across Punjab, covering approximately 70 to 80% of the area under paddy cultivation.

➤ PUSA-44 yields nearly 34 to 40 quintals per acre, while other varieties' yield average is 28 to 30 quintals per acre.

➤ Currently, the Minimum Support Price (MSP) offered for paddy is Rs 2,205 per quintal, so if it yields farmers 7-10 quintals more than the other varieties, then it will add to their income by Rs 15,000 to 22,000 per acre.

4. In these dark zones the rate of groundwater depletion exceeded the rate of recharge, and the water wasavailable at depths of 200 to 300 feet or more – extractable only by using deep tube wells.

5. Moreover, this variety is also known to worsen the long-running issue of stubble burning in the state.

6. Due to its extended maturity period, PUSA-44 is harvested just before the sowing of wheat, typically at theend of October, while the ideal time for wheat sowing is November.

7. Ideally, farmers need 20 to 25 days between paddy harvesting and wheat sowing to manage stubble disposalproperly.
   • This limited timeframe makes it challenging to manage stubble leading to increased incidents ofstubble burning.

8. Additionally, PUSA varieties generate around 2% more stubble than short varieties.

12. GOA ROADMAP FOR TOURISM

Context

Recently G20's Delhi Declaration underlined the significance of 'Goa Roadmap for Tourism' asa vehicle to achieveSDGs.

Key Points

1. It identifies five priority areas in Tourism –**GreenTourism, Digitalization, Skills, Tourism MSMEs,and Destination Management.**

2. Delhi Declaration also noted the launch of **'Travel forLiFE' initiative**, which nudges tourists and touristbusinesses to take simple actions having tremendoussignificance for environment protection and climateaction.

3. Further, Ministry of Tourism and UN World TourismOrganization has launched **G20 Tourism and SDGDashboard** which will serve as a global repository,showcasing best practices and case studies ofsustainable tourism practices and policies from G20nations

13. SCHEME FOR RoDTEP

Context

Recently, Ministry of Commerce & Industry announcedextension of Remission of Duties and Taxes on Exported Products (RoDTEP) support till 30th June 2024.

Features of RoDTEP

1. RoDTEP was formed to replace the Merchandise Exportsfrom India (MEIS) Scheme. It became applicable fromJanuary 2021.

2. RoDTEP is based on the globally accepted principle thattaxes and duties should not be exported, and taxes andlevies borne on the exported products should be eitherexempted or remitted to exporters

3. Before the introduction of RoDTEP, GST taxes andimport/customs duties for inputs required to manufactureexported products were either exempted or refunded.

4. However, certain taxes/duties/levies are outside GST, andwere not refunded for exports, such as, VAT on fuel usedin transportation, Mandi tax, Duty on electricity usedduring manufacturing etc.

5. The RoDTEP scheme now covers these taxes/duties/levieswhich are refunded for exported products.

6. The rebate is issued as transferable electronic scrip by the Central Board of Indirect Taxes& Customs in anend- to-end IT environment. RoDTEP Committee operates within the Department of Revenue.

7. Moreover, a monitoring and audit mechanism, with an Information Technology based RiskManagementSystem (RMS), is used to physically verify the records of exporters.

8. Under the Scheme, a support of Rs. 27,018 crores have been extended till March 2023.
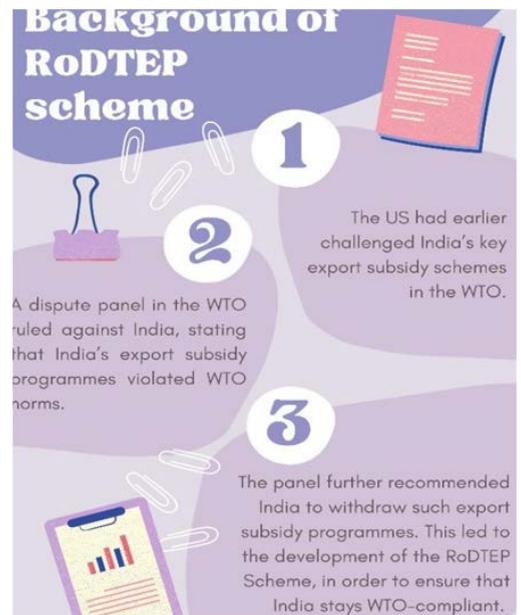
Benefits of RoDTEP

1. It helps the country to comply with WTO norms, while providing benefits to exporters.
2. By covering previously uncovered taxes/duties, the scheme leads to cost competitivenessof exportedproducts in international markets.
3. Creates better employment opportunities in export-oriented manufacturing industries.
4. The introduction of the digital platform helps clearance at a much faster rate and alsoincreases the accuracyof transaction processing.

14. INDIA'S FIRST MASS RAPID SYSTEM

Context

- On 20 October, 2023the Prime Minister inauguratedpriority section of Delhi-Ghaziabad-Meerut RRTS Corridor at Sahibabad RapidX Station in Ghaziabad.
- He also flagged off the Namo Bharat RapidX train connecting Sahibabad to Duhai Depot, marking the launch of the Regional Rapid Transit System (RRTS) in India.

About

- The RRTS is an integrated, masstransit network which aims toensure balanced and sustainableurban development throughbetter connectivity and accessacross the National CapitalRegion (NCR).
- NCR is spread across anestimated 55,000 square kilometres with a population of over 46 crores with a combined GDP of anestimated $370 billion.

Background

- The idea of this network lies in a study commissioned by the Indian Railways in 1998-99. The study identifiedthe possibility of an RRTS network to connect various locations in the NCR through fast commuter trains.
- The proposal was re-examined in the year 2006 with the extension of the Delhi Metro lines to some NCRtowns such as Gurgaon, Noida and Ghaziabad.
- It was soon taken up by the National Capital Region Planning Board (NCRPB) while developing its "FunctionalPlan on Transport for NCR-2032".
- The NCRPB identified and recommended eight RRTS corridors to connect NCR towns with high-speed rail-based commuter transit services.

15. AUTOMATIC 'STATUS HOLDER'CERTIFICATES

Context

Recently, Ministry of Commerce & Industry unveils system-basedautomatic **'Status Holder'**certificates under ForeignTrade Policy 2023.

Key Points

1. Now certificate will be provided by the IT systembased on available Directorate General of CommercialIntelligence and Statistics merchandise exportelectronic data and other risk parameters.
2. Status Holders are business leaders who haveexcelled in international trade and havesuccessfully contributed to the country's foreigntrade.
3. **Privileges of certificate**: -
   o Credibility to the Indianexporters in the internationalmarkets.
   o Priority custom clearancesand certain exemptions.

16. NOBEL PRIZE IN ECONOMIC SCIENCES 2023

Context

In October, 2023 Claudia Goldin, Professor of Economics at Harvard University, has won the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel for 2023 — popularlyreferred to as the Nobel prize inEconomics.

About

1. **Claudia Goldinbecame the third woman** to receive the NobelPrize in economics
2. She provided the first comprehensive account of women'searnings and labor market participation through thecenturies.
3. She has studied 200 years of women's participation inthe workplace, showing that despite continued economicgrowth, women's pay did not continuously catch up tomen's and a divide still exists despite women gaininghigher levels of education than men.

> **Important Fact**
>
> 1. The first prize in economic sciences was awarded to Ragnar Frisch and Jan Tinbergen in 1969.
> 2. It is awarded by the Royal Swedish Academy of Sciences, Stockholm, Sweden, according to the same principles as for the Nobel Prizes that have been awarded since 1901.
> 3. It has been awarded 55 times to 93 laureates between 1969 and 2023.
> 4. Last year's winners were former Federal Reserve Chair Ben Bernanke, Douglas W. Diamond and Philip Dybvig for their research into bank failures that helped shape America's aggressive response to the 2007-2008 financial crisis.

Pay Gap and Parenthood

1. Till the time men and women worked in factories, where the pay depended on the day's countable output,the pay gap was not too high. The gap became wider when monthly pay contracts started.
2. One factor significantly impacted how men were paid versus women — childbirth.
3. As women had to handle more of the parenting responsibilities once a child was born, they were alsopunished for this on the work front in terms of a slower rise on the pay scale.
4. Goldin demonstrated that initial earnings differences are small. However, as soon as the first child arrives,the trend changes.
5. Earnings immediately fall and do not increase at the same rate for women who have a child as they do formen, even if they have the same education and profession.

Measures taken for reducing gender gap in India

1. **Code on Social Security 2020:** Enhancement in paidmaternity leave to 26 weeks, mandatory crèchefacility in the establishments having 50 or moreemployees, permitting women workers in the nightshifts with adequate safety measures, etc.
2. **Code on Occupational Safety, Health and WorkingConditions (OSH), 2020:** Employment of women inthe aboveground mines including opencast workingsand in below ground working in technical, supervisoryand managerial work where continuous presence maynot be required.
3. **Code on Wages 2019:** No discrimination in anestablishment among employees on the ground ofgender.
4. **Training and skill development**:Training to womenthrough a network of Women Industrial Trraininginstitutes, National Vocational Training Institutes andRegional Vocational Training Institutes

Way forward

Reducing gender differences in the workforce

1. **Assessment:** Policymakers who want to affect thesedifferences must first understand why they exist.
2. **Collective action**: Collective, coordinated and bold actionby private- and public-sector leaders will be instrumentalin accelerating progress towards gender parity.

3. **Investment**: Investments in providing women equal access to information, education and healthcare reaps large dividend in terms of gender parity.
   - Brazil introduced the Emergency Aid cash transfer program early in the pandemic, which provided double the benefits to women-led households, decreasing poverty rate.

4. **Congenial environment**: Reforms to taxation, public spending, financial infrastructure and regulations, as well as labour markets that removes institutional barriers.
   - In Norway, the expansion of universal childcare increased the likelihood of mothers' employment by 32 percentage points.

5. **Tackling biases and social norms**: Gender-based discrimination in social institutions costs the world economy $6 trillion according to OECD.
   - Such costs can be reduced through social and legal actions such as curbing underage marriage, criminalizing domestic violence, and increasing the number of elected female officials.

6. **Access to microfinance**: An International Growth Centre (IGC) project in India found that greater access to microfinance loans led to a significant increase in female labour force participation – with the effect driven by self-employment and not by salaried jobs.

17. CONTRIBUTIONS OF M S SWAMINATHAN

Context

Mankombu Sambasivan Swaminathan (M.S. Swaminathan) the esteemed agricultural scientist, recently passed away.

About M.S. Swaminathan

1. Acknowledged as the **"Farmers' Scientist,"** he is regarded as the **father and key architect of India's Green Revolution**.
2. Renowned plant geneticist and recipient of the inaugural **World Food Prize** in 1987.
3. Honored with the **Padma Vibhushan, Ramon Magsaysay Award**, and various national and international accolades.

Scientific Contributions of M.S. Swaminathan

1. **Genetic Research:** Pioneered breeding programs for high-yield, pest-resistant crop varieties tailored to Indian conditions. Developed diverse crop varieties enhancing adaptability to the Indian climate.
2. **Rice Varieties:** At CRRI, Cuttack, led indica–japonica rice hybridization, yielding fertilizer-responsive, high-yield, and short-stature varieties like ADT27 and RASI.
   - (a) Engineered salinity-tolerance genes from mangrove species into rice, facilitating the Green Revolution.
   - (b) Initiated rice breeding for non-lodging plant types in basmati strains, resulting in the release of Pusa Basmati.
3. **Wheat Varieties:** Shifted focus to wheat, addressing issues with tall, lodging-prone varieties.
   - (a) Utilized Mexican wheat dwarfs with Norin Genes, identified for disease resistance and high yield.
   - (b) Collaborated with Norman Borlaug to develop 'Sonalika' and 'Kalyan Sona' wheat varieties.

4. **Potato Hybrid:** Introduced frost-resistant potato variety, 'Alaska Frostless.'
5. **Participatory Breeding:** Advocated 'participatory breeding,' empowering farmers to develop locally adapted varieties.
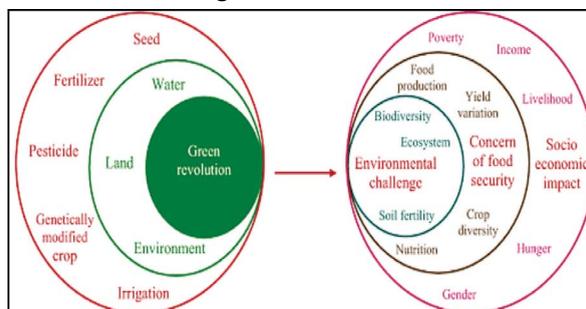
Contributions to Economic Ecology

1. The **United Nations Environment Programme** describes him as the **"Father of Economic Ecology"** due to his leadership in the ever-green revolution movement in agriculture.

2. **Evergreen Revolution:** He focused on an "evergreen" revolution, defining it as perpetual improvement in productivity without causing ecological harm.

3. **Comprehensive Approach:** He advocated a blend of different approaches such as organic farming, green agriculture, ecoagriculture, and agriculture based on effective micro-organisms.

   (a) He championed a "do-ecology" approach to ensure accessible ecologically sustainable farming technologies.

   (b) He proposed the idea of **4Cs -Conservation, Cultivation, Consumption, and Commercialization** - to reconcile conservation and development in farming.

Agriculture Revolution in India			
●	Black Revolution	🛢️	Petroleum
●	Blue Revolution	🐟	Fish
●	Brown Revolution		Leather
●	Golden Revolution	🍊	Fruit / Honey
●	Green Revolution		Food Grains
●	Grey Revolution		Fertilizer
●	Pink Revolution	🧅	Onion
●	Red Revolution		Meat / Tomato
●	Silver Revolution		Egg / Poultry
○	White Revolution		Milk / Dairy
●	Yellow Revolution		Oil Seeds
●	Evergreen Revolution		Overall Development

4. **Technological Integration:** He urged the harnessing of frontier technologies, blending them with our rich heritage of ecological prudence and promoted sustainable agriculture and rural development through innovative paradigms such as ecotechnology-based biovillages.

   • He supported the establishment of modern **Village Knowledge Centres (VKCs)** using information and communication technologies.

Policy and Institutional Contributions of M S Swaminathan

1. **National Commission on Farmers (NCF):** Swaminathan chaired the formation of NCF.

   (a) NCF recommended setting the Minimum Support Price (MSP) at least 50% more than the weighted average cost of production.

   (b) NCF advocated for the establishment of VKCs, conservation farming, soil testing labs, credit system expansion, and enhancement of the public distribution system.

2. **M.S. Swaminathan Research Foundation (MSSRF):** Swaminathan used funds from the World Food Prize to establish MSSRF in Chennai in 1988.

3. **Protection of Plant Varieties:** Swaminathan played a pivotal role in developing the **'Protection of Plant Varieties and Farmers' Right Act 2001'** as India's response to TRIPS obligations.

4. **Food Security:** Swaminathan suggested two steps for integrating nutrition in farming:

   (a) Introduced a genetic garden of biofortified plants to provide farmers with needed micronutrients and proteins.

   (b) Proposed community hunger fighters, well-versed in local malnutrition issues.

5. **Disaster Management:** Swaminathan advocated for adopting concepts like "drought code," "flood code," and "good weather code" for proactive measures.

6. **Research Institutions:** Swaminathan contributed to the establishment of institutions including ICRISAT, IBPGR (now Biodiversity International), ICRAF, and ICGEB.

7. **Five-year Plans:** Swaminathan played a key role in shaping the Sixth Five-Year Plan (1980–1985), introducing chapters on 'Women and development' and 'Environment and development.'

8. **UN Millennium Project:** Swaminathan co-chaired the UN Millennium Project, which developed clear targets and a practical plan for reducing poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women.

Conclusion

M.S. Swaminathan's advocacy for farmers and his scientific innovations continue to guide policymakers, fostering growth, sustainability, and prosperity in Indian agriculture. His legacy shapes a resilient, self-sufficient, and scientific agricultural ecosystem.

18. INDIA SKILLS 2023-24

Context

1. In October, 2023 Ministry of Skill Development and Entrepreneurship (MSDE) launches the India Skills 2023-24 and felicitates the World Skills 2022 Winners.

   o India has secured 11th position in theglobal competition, the best-everranking so far.

About

1. India Skills Competition is organised by National Skill Development Corporation (NSDC), an apex skill development organisation working under MSDE.

2. It is the country's biggest skillcompetition designed to demonstratethe highest standards of skilling andoffers a platform to young people toshowcase their talent at national andinternational levels.

3. India Skills is the precursor to the World Skills competition. Participantswho will excel in India Skills at thenational level will take part in the globalevent in Paris next year.

WorldSkills Competition is the largest skill competition in the world, **held once every two years. It is conducted by WorldSkills International, which has 86 member countries.**

These competitions provide both a benchmark for **high performance** and an objective way to assess vocational excellence.

WorldSkills competition 2022 was conducted across **Europe, North America, and East Asia** comprising over 1,000 competitors from **58 countries** in 61 skills. The competition was hosted by 15 countries in more than 20 cities.

India participated in 50 skills and secured 11th position with 2 Silver Medals, 3 Bronze Medals and 13 Medallions for Excellence at the WSC 2022.

Some of the competitors also participated in new-age skills like **Robot System Integration, Additive Manufacturing, Industry 4.0, Digital Construction, Mobile Application Development and Renewable Energy.**

19. IRCON AND RITES GRANTED NAVRATNA STATUS

Context

1. In October, 2023 Ircon International Limited (IRCON) and RITES Ltd. (RITES) both Central Public Sector Enterprise (CPSE) under the Ministry of Railways, have been announced as 15th and 16th Navratna respectively among CPSEs.

About

1. Founded in 1974, RITES Ltd was formerlyknown as Rail India Technical & Economic Service Limited.

2. It provides services in the diverse sectors of transportation, railways, export of rollingstock, highways, airports, metros, urbanengineering & sustainability, ports &waterways, and energy management.

3. Incorporated in 1976, IRCON covers the entirespectrum of construction activities andservices in the infrastructure sector.

4. IRCON has so far completed more than 3000infrastructure projects in India and more than100 projects across the globe in more than 21countries.

Eligibilty Criteria

Navratna status

The CPSEs which are Miniratna I, Schedule 'A' and have obtained excellent or very good MOU ratings in three of the last five years and have composite scores of 60 (out of a maximum score of 100) or above in the following six selected performance indicators:

Net profit to Net Worth

Manpower cost to Total cost of production or cost of services

Profit Before Depreciation Interest and Tax (PBDIT) to Capital employed

Profit Before Interest and Tax (PBIT) to Turnover

Earnings Per Share (EPS)

Inter sectoral performance

Benefits of Navratna Status

1. The Navratna companies are granted financial independence to invest up to ₹1,000 crore without seekingapproval from the central government.

2. Navratna companies are also allowed to invest up to 15% of their net worth on a single project, or 30% oftheir net worth in a given year, subject to a cap of ₹1,000 crore.

20. INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)

Context

Recently, International Research Conference on **'From research to impact: Towards Just and Resilient Agri-FoodSystems'**, hosted by the **Indian Council of Agricultural Research (ICAR)** and Consultative Group on InternationalAgricultural Research (CGIAR) GENDER Impact Platform was inaugurated.

ICAR's Contribution to Enhancing Agri-Food Systems

1. **Revolutionizing Crop Varieties**: ICAR has played a pioneering role in propelling the Green Revolution by innovating and developing new high-yielding varieties across various crops. Notable examples include:

   (a) **Rice Varieties:** Jaya (India's first rice variety), Swarna, and Pusa Basmati 1121 (world's longest basmati rice).

   (b) **Wheat Varieties**: ICAR's contributions extend to wheat varieties like HD 2967, DBW 187, HD 3086, among others.

   (c) **Fruit Varieties**: Amrapali and Pomegranate Bhagwa

2. **Seed Programs**: Recognizing the critical importance of preserving genetic diversity, ICAR has deposited seeds in the Svalbard Global Seed Vault, serving as safety duplicates to safeguard against potential losses.

3. **Advancements in Genomics**: ICAR has been instrumental in advancing genomics, notably contributing to the establishment of the National Gene Bank in New Delhi.

   (a) This gene bank stands as the second-largest in the world, housing over 450 thousand indigenous and exotic accessions of crop species. Furthermore, ICAR has developed a substantial cryopreservation bank.

   (b) ICAR has actively collaborated in the global genome sequencing of key crops such as rice, wheat, tomato, and potato. Independently, ICAR has sequenced the genomes of pigeonpea, jute, mango, and various fish species.

4. **Integrated Farming**: ICAR has championed Promoting Integrated Farming System (IFS), leveraging its benefits in waste recycling, climate resilience, and risk minimization.

   (a) Agro-forestry Models: ICAR has crafted models for agro-forestry, fostering agri-horti, agri-silvi, and silvipastoral systems, ultimately boosting farmers' income.

   (b) Indigenous Breeds Enhancement: Enhancing productivity of indigenous cattle breeds like Sahiwal cow, Tharparkar bull, Gir cattle, Banni buffalo, and Kankrej cow through field progeny testing and selection.

5. **Improved Poultry Farming**: Elevating productivity of desi birds like CARI Nirbheek, Kadaknath, Ankaleshwar in poultry farming.

6. **Health Impact:** ICAR's developed vaccines and diagnostics contribute to superior health management, enhancing livestock productivity.

   (a) Disease Eradication: Successful eradication of animal diseases such as Rinderpest, contagious bovine pleura-pneumonia, African horse sickness, and Dourine from the country.

7. **Climate Smart Farming**: Promoting climate-smart farming via rainwater harvesting, community ponds, and resilient crop varieties like Rati ML 365, Pigeonpea BRG 1, BRG 2, and BRG 5.

   (a) Adoption of hydroponic cropping techniques for sustainable agriculture.

   (b) Bio-technology Solutions: ICAR tackles malnutrition through crop biofortification. Examples include Solapur Lal (first biofortified pomegranate variety), Groundnut Girnar 4 and 5, Pusa Double Zero Mustard 31.

8. **Crop Residue Management**: Developed Pusa decomposer for in situ and ex situ crop residue decomposition, mitigating residue burning issues. Milestones like India's first cloned buffalo and Pratham, the world's first in-vitro fertilized buffalo calf.

9. **Blue Revolution**: ICAR promotes cage culture, a low volume high-density fish farming system, significantly boosting per-unit productivity.

   (a) **Ecosystem Health Index (EHI):** Introduced EHI for monitoring coastal ecosystems, identified bio-fence to counter ocean pollution effects, and intensified efforts in identifying invasive alien species.

   (b) Ongoing initiatives in developing the cold-water fisheries sector in all Himalayan states.

10. **Agricultural Mechanization:** ICAR plays a pivotal role in agricultural engineering, introducing technologies such as millet mill, drone remote sensing, and mulch laying machine to enhance efficiency in farming practices.

One CGIAR Global Initiative

This global initiative is focused on creating a cohesive strategy to transform food, land, and water systems in response to the challenges brought about by the climate crisis. The initiative collaborates with the CGIAR System Organisation and 12 research centres under the umbrella of One CGIAR.

1. **CGIAR Network**: CGIAR is a publicly-funded network dedicated to agrifood systems research, operating in more than 80 countries.

2. **Organizational Profile**: ICRISAT is a non-profit, non-political international research organization devoted to agricultural research for development in Asia and sub-Saharan Africa.

3. **Farmer-Centric Approach**: It aids farmers by offering enhanced crop varieties and hybrids, especially assisting smallholder farmers in arid regions in combating the effects of climate change.

4. **Research Focus**: ICRISAT conducts research on five highly nutritious and drought-tolerant crops: chickpea, pigeonpea, pearl millet, sorghum, and groundnut.

5. **Recognition and Impact:** The organization received the prestigious 2021 Africa Food Prize for its Tropical Legumes Project, contributing to improved food security across 13 sub-Saharan African countries.

6. **Headquarters and Hubs:** ICRISAT is headquartered in Hyderabad, India with additional regional hubs in Nairobi, Kenya, and Bamako, Mali.

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21. National Investment and Infrastructure Fund (NIIF)

Context

NIIF has partnered with **Japan Bank for International Cooperation (JBIC)** inSeptember,2023to introduce a **$600 million India-Japan Fund**.The fund's anchor investors will include JBIC and the Govt. of India.

Historical Background of NIIF

1. The **National Investment and Infrastructure Fund (NIIF)** were created as a platform to aggregate funds from diverse sources **for investing in the nation's infrastructure development**.

2. The need arose from **domestic banks' incapacityto provide extended capital** for infrastructure projects with prolonged gestation periods.

3. The **Department of Economic Affairs** approved the Fund, officially **registered under SEBI Category II Alternative Investment Fundrules** in 2015.

4. Oversight is provided by the **Governing Council**, led by the **Finance Minister**.

Objectives of National Investment and Infrastructure Fund

1. Raising funds through various instruments, including offshore credit-enhanced bonds.

2. Attracting anchor investors for partnership.

3. Ensuring proper servicing of investors and approving companies and projects for investments.

4. Investing in Asset Management Companies (AMCs) created for private equity.

5. Providing advisory services and preparing a shelf of infrastructure projects.

Structure and composition of the NIIF
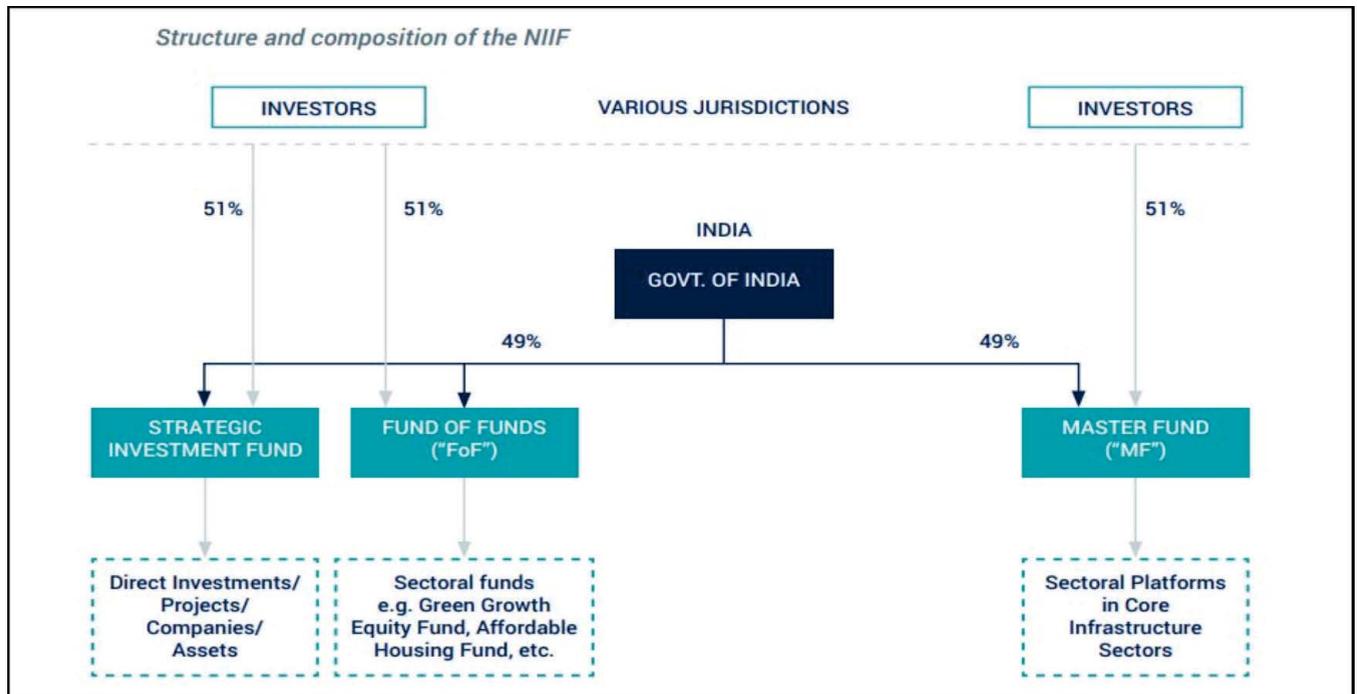
Different Types of NIIF Funds

1. **Investment Mandates**
   - NIIF funds invest in infrastructure assets and related businesses, covering areas like energy, transportation, housing, water, and waste management.
2. **Fund Mandates**
   - **Master Fund:** Invests in mature businesses in core infrastructure sectors, building a diversified portfolio.
   - **Fund of Funds:** Invests in infrastructure and related funds managed by experienced fund managers, emphasizing green infrastructure and other sectors.
   - **Strategic Investment Fund:** Focuses on growth and development-stage investments in large-scale projects.

Major Investors of NIIF

1. **International and Domestic Support:**
   - NIIF's first investment deal of $1 billion with ADIA marked the entry of international investors.
   - The **Indian Government holds a 49% share**, with domestic investors like HDFC Bank, Axis Bank, ICICI Bank, and Kotak Mahindra Life.
   - **Asian Infrastructure Investment Bank (AIIB)** committed to investing $200 million, with further investments planned.
2. **Investment Policy of NIIF**
   - NIIF, as the **largest infrastructure-focused fund**, addresses significant risks and issues confronting global investors.
   - Its **longer horizon and distinct investment objectives** set it apart, avoiding short-term approaches often seen in private equity firms.
   - NIIF operates as a **link between the government and the business sector** on policy concerns.

Role of NIIF in Economy Building

- NIIF plays a pivotal role in the economy by:
  o Catalyzing the realization of **Gati Shakti, the National Master Plan for Multi-modal Connectivity**.
  o Providing essential funds for the capital-constrained infrastructure sector.
  o Enhancing the liquidity of infrastructure projects.
  o Alleviating banks from the necessity to lend long-term funds, addressing the asset-liability mismatch in the banking sector.

Facts About National Investment and Infrastructure Fund (NIIF)

Particulars	Details
Established in	2015
Established under	SEBI Regulations
Controlling Ministry	Investment Division, Department of Economic Affairs
Types of Funds under NIIF	Master funds, Fund of funds, and strategic investment funds
Controlling Ministry	Ministry of Finance
Corpus	Six billion

22. Emerging-Market Bond Index (EMBI)

Context

JP Morgan Chase & Co. plans to incorporate India into its **Government Bond Index-Emerging Markets (GBI-EM) index** starting June 2024, anticipating substantial inflows and potential benefits for India's financial landscape.

About GBI-EM Index

1. **GBI-EM** is a prominent **benchmark index** tracking the performance of **locally denominated Sovereign Bonds** issued by emerging market countries.
   - **India's Eligibility:**JPMorgan has identified **23 Indian government bonds**, totalling**USD 330 billion**, as eligible for inclusion in the GBI-EM.
2. India's weight in the index is projected to reach **10% in the GBI-EM Global Diversified** and around **8.7% in the GBI-EM Global index**.

Significance of Inclusion:

1. **Enhanced Investment Attractiveness:**India's inclusion makes it an attractive investment destination, potentially drawing USD 45-50 billion in global funds over the next 12-15 months.
2. **Economic Stability and Financing Ease:**The inclusion alleviates financing constraints related to India's fiscal and current account deficits, providing an alternative funding source.
   - This, in turn, reduces risk premia and funding costs.
3. **Par with other Countries**: India is expected to **attain a maximum weightage of 10%** in the GBI-EM Global Diversified Index, aligning it with other nations like **China, Brazil, Indonesia**, and **Malaysia**.

Benefits and Risks Associated With **Emerging Markets Bond Index (EMBI) Investing**

Benefits
- Diversification
- Attractive Yields
- Exposure to Faster-Growing Economies
- Potential for Capital Appreciation

Risks
- Currency Risk
- Credit Risk
- Geopolitical Risk
- Liquidity Risk
- Sovereign Risk

Positive Impact on Various Sectors

1. **Corporate Sector:** The inclusion is expected to lower the entire Yield Curve, reducing corporate financing costs and stimulating investment and business growth.
2. **Banking Sector:** With reduced pressure to absorb government bonds, banks can allocate more resources for private sector lending, fostering economic expansion.
3. **Infrastructure Development:** Ongoing infrastructure initiatives in India receive a boost, as the inclusion ensures a sustainable source of long-term financing through government securities.

Currency Appreciation and Stability

1. **Impact on Rupee:** Inclusion is anticipated to result in the appreciation of the Indian rupee, driven by heightened investor confidence.
2. **Exchange Rate Stability:** A stabilized exchange rate amplifies the appeal of investing in India.

Market Development and Innovation

1. **Global Integration:** Integration into global markets, coupled with ongoing reforms and expanded market access, fosters market development and stimulates long-term capital inflows.
2. **Innovative Financial Products:** Paves the way for introducing innovative financial products.

Components of the **Emerging Markets Bond Index (EMBI)**

COMPONENT	DESCRIPTION
Eligible Countries	• Includes Bonds From Classified Emerging Markets Based on Gross Domestic Product (GDP), Market Size, and Openness • Examples: Brazil, Russia, India, China, South Africa, Turkey, Mexico
Bond Types and Currency	• Index Includes Sovereign, Quasi-Sovereign, Corporate Bonds Denominated in Local or Hard Currencies (USD, EUR)
Market Cap & Liquidity	• Bonds Meet Market Cap and Liquidity Criteria for Accurate Representation and Minimal Impact of Illiquid Securities on Index Performance • Market Cap: Total Value of Bonds • Liquidity: Ease of Buying and Selling Without Price Impact

Challenges of India's Inclusion in GBI-EM Index

1. **Market Fluctuations:** Inclusion may introduce volatility, necessitating effective market management by the Reserve Bank of India (RBI).
2. **Geopolitical Risks:** High foreign debt holding exposes India to geopolitical risks, emphasizing the need for careful economic management amidst global uncertainties.
3. **Currency Management:** Impact on the domestic currency necessitates adept management to ensure competitiveness for exports.
4. **Transparency and Fiscal Responsibility:** Increased scrutiny requires enhanced transparency and fiscal responsibility in managing the fiscal deficit.
5. **Taxation Challenges:** Unresolved tax treatment poses challenges, demanding clear and favorable tax policies to attract foreign investment.

Way Forward

1. **Operational Challenges:** Address operational challenges related to custody, settlement, and tax implications for seamless foreign investor participation.
2. **Regulatory Strengthening:** Strengthen the regulatory environment to uphold market integrity, transparency, and investor protection, encouraging sustained participation.
3. **Economic Fundamentals:** Fortify India's economic fundamentals to withstand global shifts, minimizing risks associated with external factors.

Conclusion

India's entry into the GBI-EM index opens a significant avenue for increased foreign investment in government bonds. A strategic approach, including gradual inclusion, robust capital flow management, and ongoing collaboration with global index providers, is key. Addressing investor concerns and bolstering market infrastructure are vital for sustained confidence and success in the global bond market.

E. SCIENCE & TECHNOLOGY

1. Bright Transient Survey Bot [BTS Bot]

Context

In **October 2023**, an AI system discovered a supernova without human intervention for the first time. The mission led by **Northwestern University**, an international team of scientists has created a high end AI tool known as the **Bright Transient Survey Bot (BTS bot)**.

What is this AI tool and how does it work?

1. The BTS Bot is a **machine-learning algorithm** which has been trained with the help of over**1.4 million images** from around **16,000 sources.**
2. It detected the newly **discovered supernova called "SN2023tyk"** with data from the Zwicky Transient Facility.
3. As per the Scientists, humans have spent **more than 2,2000 hours** over the past **six** years, visually inspecting and classifying supernova candidates. The development of this tool signifies that researchers can redirect this time to other responsibilities.
4. This automated AI software generates a **list of possible explosions** to scientists, who spend time to **verify** the probable supernova explosion and execute **spectroscopic observations.**
5. BTSbot initiated the process by requesting the potential supernova's spectrum from **PalomarObservatory**, California [USA].

Significance of AI in Astronomy

1. **Data Analysis and Processing:** AI algorithms, particularly machine learning techniques, can efficiently analyze and process this massive volume of data much faster than traditional methods.
2. **Automated Observation and Survey Planning**:AI algorithms can optimize telescope time usage by predicting the best times and locations for observations based on various factors such as weather conditions, celestial object visibility, and scientific priorities.
3. **Discovery of Exoplanets:** AI plays a crucial role in sifting through vast datasets to identify potential exoplanetary candidates.
4. **Gravitational Wave Detection:** AI algorithms, especially deep learning networks, are adept at identifying and characterizing these signals, aiding in the discovery of new gravitational wave events.

Conclusion

AI in astronomy is transforming the way researchers handle data, plan **observations**, make **discoveries**, and **understand** the universe, ultimately accelerating the **pace** of astronomical research and **expanding** our knowledge of the **cosmos**.

2. GERMICIDAL UV LIGHTS { UV-C LIGHTS }

Context

Researchers from the Massachusetts Institute of Technology (**MIT**) in **October** 2023 identified Germicidal ultraviolet (UV) light which is used to **reduce** the load of airborne pathogens in **viruses** has **potential** to produce **harmful** compounds, causing **indoorpollution**.
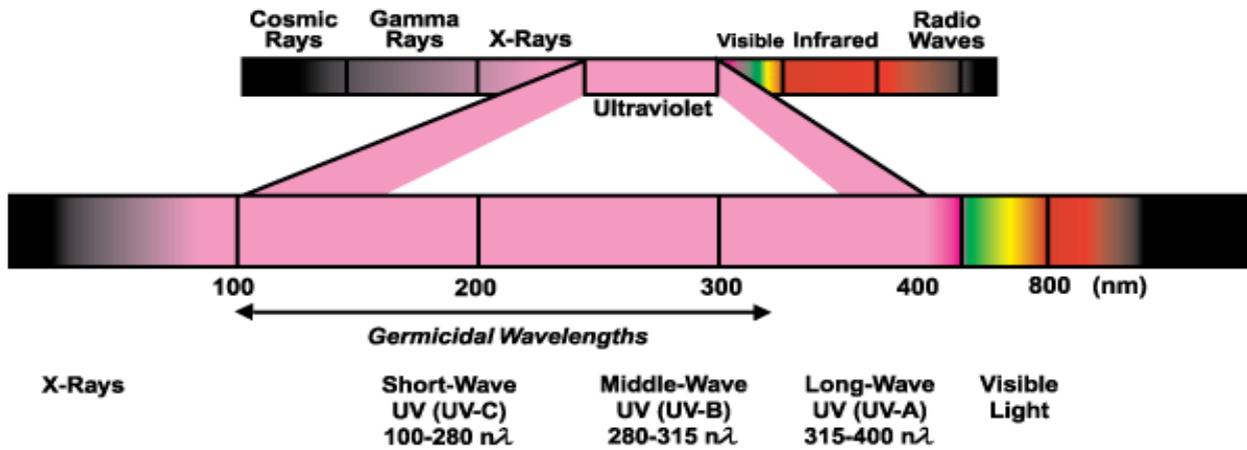
What is Germicidal UV Light and its uses?

1. Out of the 3 types, **UV-C light is germicidal** which means that it **deactivates** the **DNA** of virus, bacteria and other pathogens resulting in **destruction** of their ability to multiply and cause disease.

2. By forming **covalent** bonds between certain **adjacent bases** in the DNA, UV-C causes damage to the **nucleic acid** of the microorganisms.

3. The formation of such bonds **prevents** the DNA from being reproduced, and the organism is thus unable to replicate. Notably, when the organism tries to replicate, it gets **destroyed**.

Potential Challenges identified

1. When UV light comes in contact with **oxygen** it may form **ozone**, along with other oxidation reactions that can cause **harm** to humans.

2. The process involved may also lead to the formation of such **secondary** organic **aerosols**, which are **harmful** to inhale.

Drinking Water

- under sink installs & water vending machines
- boats & recreational vehicles
- watter wells & water cisterns
- swimming pool & hot tubs
- farmes, ranches & trailer parks
- schools & hotels
- aquarium, hatcheries and nurseries
- ice making

Medical

- pharmaceutical production
- laboratories, hospitals and clinics
- maternity labour and delivery areas
- pathology labs, kidney dialysis
- animal husbandry

Conclusion

It's important to properly **dispose** of UV-C sources at the end of their life cycle to prevent **environmental contamination**. By incorporating these **sustainable** practices, we can harness the **benefits** of germicidal UV-C lights while **minimizing** their **impact** on the **environment** and **life forms**.

3. Glucagon-Like-Peptide-1{GLP1} Hormone

Context

Recently in news, this hormone has become really significant in the treatment of **type 2 diabetes** and **obesity** [IIT Mandi Study]

What is GLP 1 Hormone and its functions?

1. GLP-1 is an **intestinal** hormone which is produced in the **gastrointestinal** tract, specifically in the **intestinal L cells** and released shortly after we intake food.

2. This helps to **reduce appetite** while **increasing** glucose's uptake into the muscle and fat cells and **reducing** blood glucose levels.

How GLP-1 hormone can help in treating lifestyle diseases?

1. **Blood Sugar Regulation**: GLP-1 **enhances** glucose-dependent **insulin secretion** from the pancreas, meaning it **stimulates** the release of insulin in response to elevated blood sugar levels.

2. **Appetite Control and Weight Management**: By **slowing** down gastric emptying and influencing the brain's appetite centers, GLP-1 can contribute to **weight loss** and help manage obesity.

3. **Cardiovascular Health**: It may have **positive** effects on blood vessel function, blood pressure regulation, and inflammation, which are important factors in preventing and managing cardiovascular diseases.

4. **Pancreatic Function**: This can be particularly beneficial for individuals with type **2** diabetes, as it helps maintain proper **pancreatic** function and insulin sensitivity over time.

5. **Neuroprotective Effects**: This is relevant in the context of lifestyle diseases such as **Alzheimer's** disease, where metabolic dysfunction and insulin resistance in the brain are implicated.
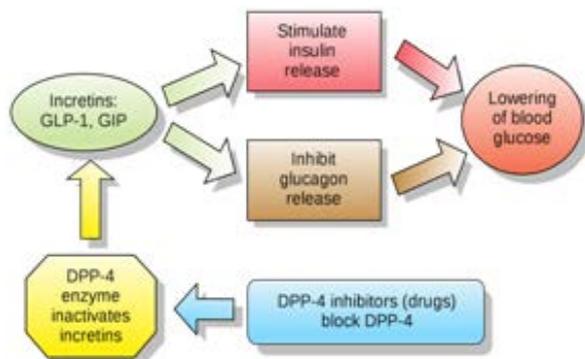
Associated Challenges

1. **Gastrointestinal Side Effects:** These may include nausea, vomiting, diarrhea, and abdominal discomfort.

2. **Injection-Related Issues:** Many GLP-1 drugs are administered via subcutaneous [under the skin] injection, which can be a challenge for some patients.

Way Forward

1. **Invest in Research**: Allocate **funding** for extensive biotechnological research to uncover new therapeutic targets, like GLP-1, and accelerate the development of **disease-curing** solutions.

2. **Foster Collaboration**: Facilitate **interdisciplinary** collaboration between scientists, clinicians, and industry experts to streamline the translation of biotechnological findings into **practical**, **effective** treatments.

3. **Regulatory Support**: Establish supportive regulatory frameworks that **balance safety** and **innovation**, expediting the approval process for groundbreaking biotechnological solutions like GLP-1-based therapies.

4. **Public Awareness:** Promote public awareness and **understanding of biotechnological advancements**, encouraging societal support for research initiatives and creating an informed environment for the development and acceptance of novel treatments.

Conclusion

It's important to note that **ongoing** research and development in the field of diabetes management aims to address these challenges and improve the overall **efficacy** and **tolerability** of GLP-1 drugs. As with any medication, the **benefits** and **drawbacks** should be considered on an individual basis, and healthcare providers work closely with patients to find the most **suitable** treatment options.

4. PACKAGING OF FOOD PRODUCTS

Context

Recently, under Food Safety and Standards (Packaging) Regulations, 2018 use of newspapers or similar materials for storing and wrapping food is strictly prohibited.

Reasons

(a) Newspapers are often subjected to various environmental conditions during distribution, making them susceptible to contamination by bacteria, viruses or other pathogens.

(b) The ink used in newspaper printing may cause cancer, liver failure, lung damages, etc. due to components such as Lead, Naphthylamines aromatic hydrocarbon, and Agonists for AhR (aryl hydrocarbon receptor).AhR is a protein that mediates toxicity.

The Indian packaging industry is growing at a rate of 10%. India, standing first in agricultural production volume and with an increasing shift in income bracket leading to the habit of eating away from home the need for food packaging to increase their shelf life and reduce wastage can be felt.

Challenges

1. **Raw material dependence:** Increasing **import dependence** for packaging material.
2. **Packaging technology:** Unlike developed countries, we still **lack packing techniques** to store the food products. Developing new packaging techniques requires innovation and huge investment in infrastructure and machinery.
3. **Packaging standards:** BIS standards used by Indian Packaging Industry are voluntary** and the need for mandatory standards is required for improving exports.
4. **Research:** Lack of innovation**, resulting in not much alternative packaging material that is being used in developed countries.
5. **No control over pricing:** With WTO commitments the industry which once had a domestic monopoly ended up as an oligopolistic market with little or no control over buyers who have access to the world market.
6. **Fragmentation:** As packaging is mostly in MSME there is a **lack of presence of large players** who can invest for adding greater value to the industry.

Steps taken by government

1. **Budgetary allocation**: Inorder to promote greater investments in packaging machinery, **budget** 2015-16 has reduced the excise duty on plant and machinery to 6% from 10%. Though it's significant, the industry needs greater investments.
2. **100% FDI:** Though govt. has allowed for **100% FDI in Food Processing through FIPB** (Foreign Investment Promotion Board) not much of the investment is flowing into the packaging industry.
3. **Review on packing standards:** Union Commerce Ministry has constituted an expert committee with importers and packaging players to formulate new mandatory food packaging standards as against the current voluntary BIS.
4. **Specific focus on exports:** Specific products with export value as spices have been identified for upgrading their packing standards to meet the international standards. But still efforts are needed to be made in that direction.
5. Initiatives under **Make In India, Start up and Stand Up schemes, Zero Defect Zero Effect** helps to improve the indigenousness in quality packaging. Eg: Isotropic Polyester Film; use of Nanotechnology in Packaging.
6. Indian Institute of Packaging to set up **new mandatory standards** to match import standards of developed markets. But abiding to the standards requires greater efforts towards technology upgradation.

Conclusion

Though advances such as Isotropic polyester film packing, modified atmospheric packing and use of nanotechnology are noteworthy, addressing the challenges would not only boost the sunrise industry but also provide huge employment as well as provide affordable packing.

5. Quantum engine and Quantum dots

Context

In October,2023 Researchers have made a breakthrough by developing a quantum engine known as a Pauli engine.

Quantum engine

1. Based on the unique properties of **bosons** and **fermions**.
2. Can convert the energy difference between two quantum states of a group of atoms into useful work.
3. Contains lithium gas-6 atoms held in an optical and magnetic trap.
4. The behavior of this gas resembles the nature of bosons or fermions by controlling the strength of the surrounding magnetic field.
5. This adaptation causes atoms to split into individual fermion atoms depending on their ability to form pairs, molecular boson formation, or magnetic field strength.
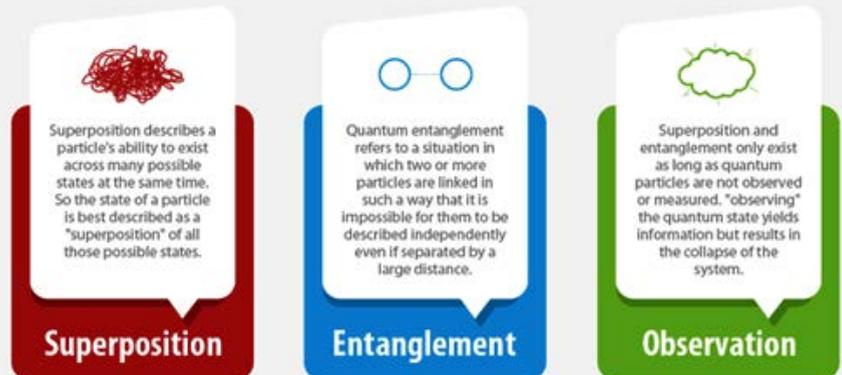
6. Opens new avenues for the study of quantum thermodynamics and its potential applications in various fields of physics.

FERMIONS VERSUS BOSONS

FERMIONS	BOSONS
Have half- integer spin	Have integral spin
Obey the Pauli exclusion principles	Do not obey the Pauli exclusion principle
Examples include Quarks (charm), leptons (electron)	Examples include HO, Graviton, photon, gluon, Z
Properties are described are described Fermi- Dirac statistics	Properties are described by the Bose- Einstein statistics
Electron, muon, and tau are electrically charged leptons	Elementary bosons carry no electric charge
Contain an odd number of nucleons	Contain an even number of nucleons

Quantum state

1. Refers to the state of a quantum system described by a mathematical entity called a wave function.

2. The **wave function** contains information about the probability of different outcomes when measurements are made on the system.

Strange principles often underlie quantum information science

Superposition
Superposition describes a particle's ability to exist across many possible states at the same time. So the state of a particle is best described as a "superposition" of all those possible states.

Entanglement
Quantum entanglement refers to a situation in which two or more particles are linked in such a way that it is impossible for them to be described independently even if separated by a large distance.

Observation
Superposition and entanglement only exist as long as quantum particles are not observed or measured. "observing" the quantum state yields information but results in the collapse of the system.

3. A system can show properties such as **superposition**, where it can be in several states at the same time related to the state of two or more particles and **entanglement**, where the states of two or more particles become correlated.

4. The study of quantum states is important for understanding quantum mechanics and its applications in various fields such as quantum computing and quantum communication.

Quantum dots

In October,2023 The 2023 **Nobel Prize in Chemistry** was awarded to three scientists for the discovery and synthesis of quantum dots.

- 3 scientists MoungiBawendi, Louis E. Bruce and Alexey Ekimov.

What are quantum dots?

1. The properties of any element depend on how many electrons it has. However, if the substance is small, its properties depend on its size.

2. The **smaller the particle, the more electrons are compressed and this affects its properties.** Such particles whose size determines their behavior are called quantum dots.

3. Usually made of materials such as cadmium selenide, lead sulfide, or indium arsenide.

4. Quantum dots are particles a few nanometers wide.

5. They exhibit unique optical properties due to their small physical size.

Scholars and their respective contributions

1. In the early 1980s, **Dr. Ekimov** was able to create size-dependent quantum effects on colored glass. He found that different methods of preparing glass cause light to be absorbed differently. This is because they have crystals of different sizes.

2. In 1983, **Dr. Bruce** and his colleagues went a step further and prepared similar crystals in a liquid solution instead of glass.

3. Finally, in 1993, **Dr. Bawendi** developed a method to create this unique crystal, that is, quantum dots of well-defined size and high optical quality.

Applications of quantum dots

1. **Quantum Dot TV** : This is used in display technology such as QLED (Quantum Dot Light Emitting Diode) displays to improve color reproduction and brightness.

2. **Biomedical and biotechnology** : Quantum dots are used to label and track molecules, cells and tissues in biological and medical research. It provides advantages in terms of brightness, photostability and reproduction capabilities.

3. **Solar energy** : By incorporating quantum dots into the design of solar cells, researchers aim to capture a wide range of light wavelengths that lead to light absorption and energy conversion.

4. **Medical Imaging** : It serves as a valuable contrast agent in medical imaging techniques such as fluorescence imaging and MRI.

5. **Security tokens :**quantum dots can be used as security tokens as an anti-counterfeit measure in currency and documents.

6. Asteroids

Context

In September 2023**NASA's OSIRIS-REx mission** successfully returned to earthwith a sample from the **carbon-rich asteroid Bennu**.
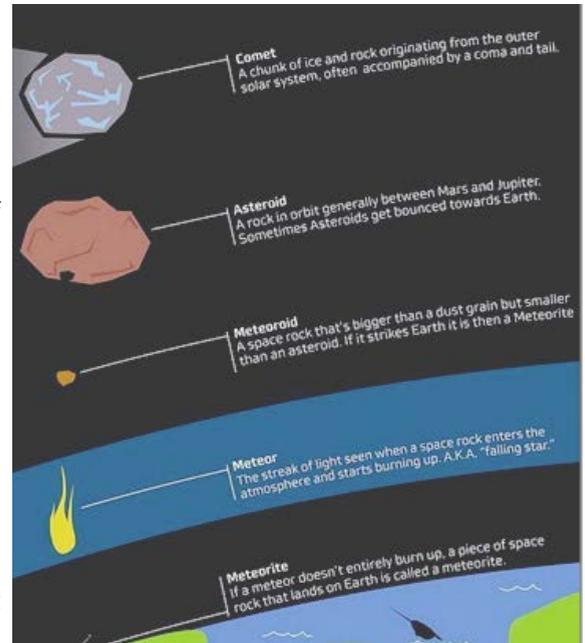
About OSIRIS-REx's Mission

1. **OSIRIS-REx** stands for **Origins, Spectral Interpretation, Resource Identification, and Security - Regolith Explorer**.

2. **Mission goal:** Collect samples from asteroid Bennu and deliver them to Earth.

3. **Timeline of the Mission:**
   • **2016:** Spacecraft launched.
   • **2020:** Collected rocks and dust from Bennu's surface.
   • **2021:** After studying Bennu, the spacecraft began its return to Earth with the sample.
   • **2023:** Achieved the milestone of being the first U.S. mission to deliver an asteroid sample to Earth.

4. **New Journey:** Post-sample delivery, OSIRIS-REx embarked on a new mission to **asteroid Apophis**, renamed as **OSIRIS-APEX (OSIRIS-Apophis Explorer)**.

About Asteroids

1. **Asteroids**, also known as **minor planets**, are rocky objects orbiting the Sun and are smaller than planets.

2. **Classified into three categories based on location:**
   - **Main Asteroid Belt:** Found **between Mars and Jupiter**, estimated to contain **1.1-1.9 million asteroids**.Total mass of all asteroids in the main belt is less than Earth's Moon.
   - **Trojans:** Share orbits with larger planets without colliding. Presence reported around Jupiter, Neptune, Mars, and even Earth.
   - **Near-Earth Asteroids:** Orbits close to Earth, with some crossing Earth's orbit, referred to as **Earth-crossers**.

Contributions of Asteroid Exploration to Astronomy

1. **Insights on Solar System Formation:** Asteroids like **Bennu** are remnants of the solar system's formation. Analysing samples aids understanding of conditions and materials during that period.

2. **Origin of Life:** Samples offer insights into **chemical and organic compounds** related to Earth's origin of life.
   - Bennu sample studies reveal **high carbon content and water**, indicating potential building blocks of life.

3. **Planetary Défense:**Understanding **asteroid composition**, exemplified by Bennu, is crucial for future planetary defence efforts.
   - Information helps develop **strategies to mitigate threats** from near-Earth objects.

4. **Space Exploration Technology:**The mission showcases **advanced spacecraft design**, navigation, and sample collection technologies.
   - Upcoming missions like **JAXA's MMX** and **NASA's** multi-mission campaign leverage these advancements.

5. **Resource Utilization:**Analysing Bennu's composition assesses **potential resource utilization**.This includes exploring the **possibility of mining asteroids** for valuable minerals or water.

6. **International Collaboration:**Highlights the importance of global collaboration in space exploration.
   - Emphasizes the scientific community's ability to work together on ambitious projects, including asteroid exploration.

Missions which have gathered samples from the space	Missions for Exploration of Asteroids
• NASA's Apollo 11 (1969): Successfully collected and returned the first space samples from the Moon. • NASA's Genesis spacecraft (2004): Gathered samples of the solar wind. • NASA's Stardust mission (2006): First mission to collect comet samples and deliver them to Earth. • JAXA's Hayabusa2 mission (2020): Successfully delivered samples from the asteroid Ryugu.	• **NASA's Galileo mission (1991):** Pioneered the first spacecraft to fly past an asteroid, Gaspara. • **Japanese spacecraft Hayabusa (2005):** Landed on the near-Earth asteroid Itokawa, attempting to collect samples. • **NASA's Dawn spacecraft (2007):** Launched to explore the asteroid Vesta.

Conclusion

The recent success of sample return missions is a pivotal event in space exploration, promising to expand our knowledge of the universe and positively impact future space endeavors.

7. Traditional Medicine on World Health Organisation's List

Context

The **Ministry of Ayush**, in October 2023, has proposed the **inclusion of Ayurveda** and related systems in the 11th revision of the **International Classification of Diseases (ICD-11)** as Module-2 within a supplementary chapter on traditional medicine conditions.

Module-2 of ICD

1. **Aim:** To elevate the Indian system of medicine globally and establish a standardized language for its practice.
2. The development of Module-2 relies on knowledge from the **National Ayush Morbidity and Standardized Terminologies Electronic (NAMSTE) portal** and **Ayush Health Information Management System (AHIMS)**.
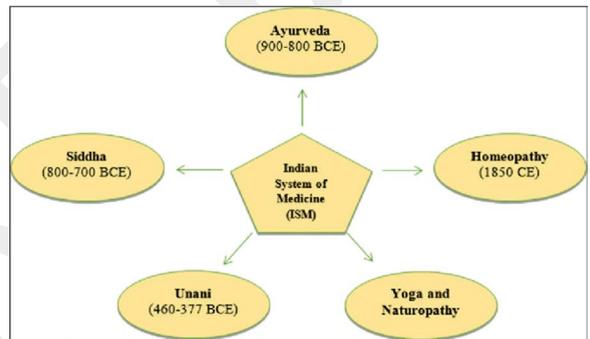
Traditional Medicine

• Encompasses the collective knowledge, skills, and practices various cultures have employed over time to maintain health and diagnose and treat physical and mental illnesses.

NAMASTE Portal

• National Ayush Morbidity and Standardized Terminologies Electronic (NAMASTE) portal offers standardized terminologies and national morbidity codes for Ayurveda, Siddha, and Unani Systems of Medicine, aligning with WHO-ICD-10 and ICD-11.

Ayush Health Information Management System (A-HIMS)

• A-HIMS, a citizen-centric service, manages health care delivery and patient care in Ayush facilities.
• Offers Electronic Health Record and Personal Health Record facilities to recipients of Ayush Health Services.

International Classification of Diseases (ICD)

1. **ICD** serves as the **global standard** for systematic recording, reporting, analysis, interpretation, and comparison of mortality and morbidity data.
2. **ICD-11**, effective from January 2022, initially included **Module-1** covering traditional medicine conditions originating in ancient China, now widely used in Japan, Korea, etc.

Significance of ICD-11

1. Provides a **standardized list of diagnostic categories** to collect and report traditional medicine conditions internationally.

2. Links traditional medicine practices with global conventional medicine norms, facilitating integration into insurance coverage and reimbursement systems, aligning with WHO's universal health coverage objectives.

8. Ayushman Bhav Campaign

Context

In September 2023, the President of India launched the **Ayushman Bhav campaign** and the **Ayushman Bhava portal**as a step towards achieving **Universal Health Coverage (UHC)** and ensuring **healthcare for all**.

- **Initiative:** Launched by the Ministry of Health and Family Welfare.
- **Objective:** To provide comprehensive health care coverage to every village and town.

Components of the Ayushman Bhav Campaign

1. **Ayushman Apke Dwar 3.0:** Aims to provide Ayushman cards to eligible beneficiaries enrolled under the PM-JAY scheme.
2. **Ayushman Melas:** Facilitates the creation of Health IDs and issuance of Ayushman Bharat Cards.
3. **Ayushman Sabhas:**Focuses on raising awareness about crucial health schemes and disease conditions.

Ayushman Gram Panchayats

1. Gram Panchayats meeting healthcare objectives will attain the status of Ayushman Gram Panchayats.
2. Encourages local participation and dedication.
   - **Partnerships:** Engages NGOs, SHGs, PRIs, Youth groups, Primary cooperative societies, Indian Medical Association, and companies utilizing CSR funds in the campaign.

Recent Government Initiatives Related to Healthcare

1. National Health Mission
2. Ayushman Bharat
3. Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)
4. National Medical Commission
5. PM National Dialysis Programme
6. Janani Shishu Suraksha Karyakram (JSSK)
7. Rashtriya Bal Swasthya Karyakram (RBSK)

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9. Indian Pharmacopoeia Commission (IPC) Becomes a Member ofPharmacopeial Discussion Group (PDG)

Context

IPC, in Oct 2023, joined the PDG to enhance global pharmaceutical standards, regulatory compliance, and international recognition of Indian pharmaceutical products.After a year-long pilot phase, IPC's inclusion as a permanent PDG member was confirmed in September 2023.

Indian Pharmacopoeia Commission (IPC)

1. **IPC**, an **Autonomous Institution** under the **Ministry of Health and Family Welfare**, established in 2009.
2. Publishes the **Indian Pharmacopoeia (IP)** to improve medicine quality and the **National Formulary of India** to promote rational use of generic medicines.

3. Prescribes standards for the identity, purity, and strength of drugs for human and animal healthcare.
4. Provides **IP Reference Substances (IPRS)** as fingerprints for identifying and ensuring the purity of tested articles as per IP.

Role of Pharmacopoeia

1. **Pharmacopoeia** refers to a government or recognized organization's **book/monograph** that sets **standards for therapeutic drugs**.
2. IP standards align with the **Second Schedule to the Drugs and Cosmetics Act, 1940**, and **Rules 1945**.

Pharmacopeial Discussion Group (PDG)

1. Formed in 1989 by the US, EU, and Japan; joined by the World Health Organization as an observer in 2001.
2. Aims to harmonize pharmacopeial standards globally, reducing the burden on manufacturers to comply with varying standards across regions.

Benefits to IPC by Joining PDG:

1. IPC's standards **gain international recognition**, potentially boosting **global acceptance of Indian pharmaceutical products**.
2. **Positions IPC as a forward-looking body** setting drug quality standards aligned with global benchmarks.
3. **Enables collaboration and harmonization** with major regulatory bodies for global pharmaceutical quality and safety.
4. **Aligns IPC's processes with global standards**, easing compliance for Indian pharmaceutical companies.
5. **Facilitates increased exports** of Indian pharmaceutical products to member countries, reducing trade barriers.

10. Monoclonal Antibody

Context

The Union Government, in Sept 2023, has opted to acquire doses of **Monoclonal Antibody** from **Australia**. Monoclonal antibody, previously used experimentally during the **2018 Nipah outbreak in Kerala**, is now being imported for treating infected patients.

About Nipah Virus

*   It is aZoonotic disease primarily transmitted between animals and humans.
*   **Transmission:** Spread from animals (bats or pigs) to humans, or through contaminated foods.Direct human-to-human transmission is also possible.
*   **Symptoms:** Include fever, headache, cough, sore throat, difficulty in breathing, and vomiting.
*   **Treatment:** No specific treatment currently available for the Nipah virus.
*   **WHO Statement:** No drugs or vaccines specific to Nipah are currently available, as per the World Health Organization (WHO).

Monoclonal Antibodies (mAbs)

1. **mAbs** are artificial antibodies replicating our immune system's activity.
2. Produced by **extracting specific antibodies from human blood and cloning** them, mAbs are clones of a single antibody binding to one antigen.
3. **Homogeneous hybrid cells (B cells)** from the same parent cell create mAbs, distinguishing them from **Polyclonal Antibodies (PAbs)** that originate from different B cell lineages.
4. mAbs have been successful in treating various conditions, including **cancers, Ebola**, and **HIV**.
5. The antibody, used against Nipah, successfully passed phase-one trials and was administered to 14 individuals globally, with none succumbing to the virus.
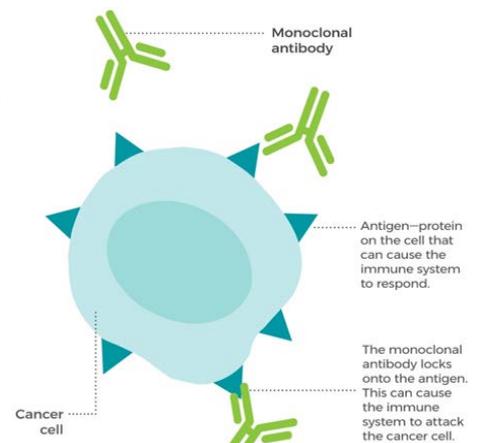
Types of Monoclonal Antibodies

1. **Murine (Mouse-Derived) Antibodies**
   - Entirely derived from mice.
   - Limited clinical use due to potential immune responses in humans.

2. **Chimeric Antibodies**
   - Combine mouse-derived antigen-binding regions with human constant regions.
   - Reduced immunogenicity compared to murine antibodies.

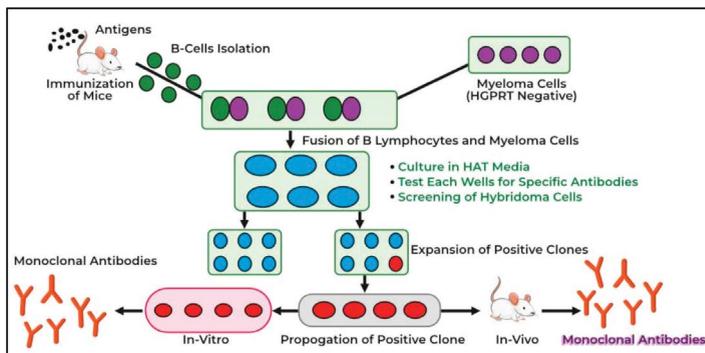3. **Humanized Antibodies**
   - Majority of structure from human components, with only the antigen-binding region from mice.
   - Addresses immunogenic concerns associated with murine antibodies.

4. **Fully Human Antibodies**
   - Entirely derived from human sources.
   - Minimal immunogenicity, suitable for therapeutic use.

Applications of Monoclonal Antibodies

1. **Cancer Therapy:** Targeted cancer therapies utilizing antibodies designed to recognize specific antigens on cancer cells.
   - Hinders cancer cell growth, signals the immune system, or delivers toxic payloads.

2. **Autoimmune Diseases:** Modulates the immune system's response to reduce inflammation and protect healthy tissues.

3. **Infectious Diseases:** Treats viral and bacterial infections by neutralizing pathogens or inhibiting their entry into host cells.

4. **Neurological Disorders:** Explored as potential treatments for neurological diseases like Alzheimer's and multiple sclerosis.

Effectiveness of mAbs

1. mAbs efficiently bind to the viral envelope, neutralizing the part that facilitates the virus's entry into human cells.
2. This neutralization process effectively counters the virus.

Concerns Associated with mAbs

1. **Immunogenicity:** Some mAbs, particularly those with non-human components, can trigger immune responses in patients. This may reduce their effectiveness or lead to adverse reactions.

2. **High Production Costs:** The development and production of mAbs can be expensive. This limits accessibility, particularly in resource-constrained healthcare systems.

3. **Limited Tissue Penetration:** Monoclonal antibodies may face challenges penetrating specific tissues or crossing the blood-brain barrier. This limitation affects their efficacy in treating diseases impacting these areas.

Future Trends and Developments

1. **Advancements in Antibody Engineering**
   - Ongoing research aims to refine antibody engineering techniques.
   - Focus on enhancing specificity and reducing immunogenicity.

2. **Personalized Medicine**
   - The use of mAbs aligns with the concept of personalized medicine.
   - Treatments are tailored to individual patients based on their unique biology.

3. **New Therapeutic Targets**
   - Improved understanding of disease mechanisms leads to the identification of novel therapeutic targets.
   - mAbs are expected to play a critical role in these evolving treatments.

11. R21/MATRIX-M (Malaria Vaccine)

Context

The **World Health Organization (WHO)** has endorsed the R21/Matrix-M malaria vaccine for children, following its recommendation for the RTS,S/AS01 vaccine in 2021.

Licensed Usage

1. The R21/Matrix-M vaccine has received licensing for use in **Ghana, Nigeria**, and **BurkinaFaso**.

2. Developed collaboratively by the **Jenner Institute at Oxford University** and the **Serum Institute of India**.
   - **Key Features:** Recognized for being cost-effective, demonstrating high efficacy, and proving safe in clinical trials.
   - **Malaria Transmission:** Malaria is caused by Plasmodium parasites, transmitted to people through bites of infected female Anopheles mosquitoes.
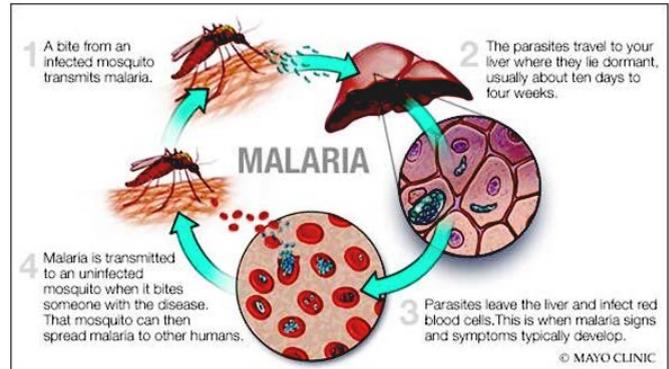
Malaria Overview

- Caused by the **Plasmodium parasite** transmitted through infected **female Anopheles mosquitoes**.Five Plasmodium species cause malaria in humans, with P. falciparum and P. vivax posing the greatest threat.
- Symptoms range from mild (fever, chills, headache) to severe (fatigue, confusion, seizures, difficulty breathing).

Malaria Prevalence

- WHO's World Malaria report 2022 recorded 247 million cases in 2021, slightly higher than 2020.
- Predominant in tropical countries, with Nigeria, Democratic Republic of the Congo, United Republic of Tanzania, and Niger accounting for over half of all malaria deaths worldwide.
- **Vaccine Recommendations:**WHO recommends the use of the R21/Matrix-M vaccine and broad use of the RTS,S/AS01 malaria vaccine among children in regions with moderate to high P. falciparum malaria transmission.

Elimination Strategies

- **Global:**WHO's Global Technical Strategy for Malaria 2016–2030 sets ambitious targets, including reducing malaria case incidence and mortality rates by at least 90% by 2030.Aims to eliminate malaria in at least 35 countries by 2030 and prevent resurgence in malaria-free countries.
- **India:**Follows the National Framework for Malaria Elimination (2016-2030) and Malaria Elimination Research Alliance-India (MERA-India).

12. Gravity Battery

In October 2023, **Energy Vault**introduced a solution to address the need for utility-scale energy storage. Their technology, including proprietary gravity-based storage, aims to fill this gap in the energy sector.

- **Gravity Battery:** It is an **electricity storage device** that operates by lifting (charging) and lowering (discharging) a heavy weight.

Working Principle

1. **Stores energy as gravitational potential energy** based on the height of an object relative to the Earth's surface.

2. **Utilizes excess energy** from sustainable sources to elevate a mass (e.g., water or a heavy object) to a higher elevation, converting electrical energy into gravitational potential energy.

3. When electricity is needed, the elevated mass is lowered, converting stored potential energy back into electrical energy using an electric generator.
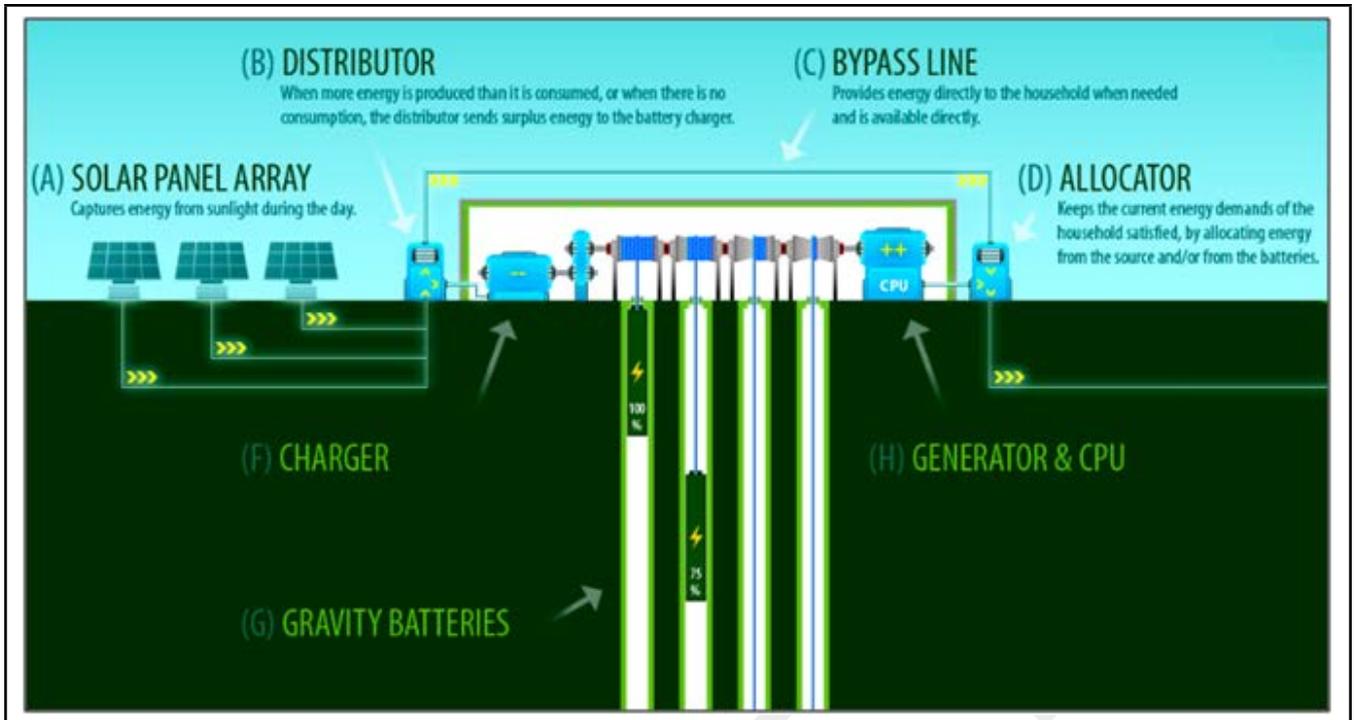
Common Types

1. Most common type is **pumped-storage hydroelectricity (PSH).**Water is pumped to higher elevations during energy surplus and released through turbines to generate electricity during peak demand.
2. Another type involves lowering a mass, like a concrete block, to generate electricity.

Global Capacity and Significance

1. As of 2019, global pumped-storage hydroelectricity (PSH) capacity reached 168 GW.
2. The United States had a PSH capacity of 23 GW, constituting nearly 2% of the country's energy supply and representing 95% of utility-scale energy storage.
3. Gravity-based pumped-storage electricity stands as the largest form of grid energy storage worldwide, playing a pivotal role in grid stabilization and managing energy fluctuations.

Working of the 'EVx' Platform

- Utilizes gravity and a mechanical elevator system to stack 35-tonne blocks made of composite material. During low electricity demand, surplus electricity raises and stacks the blocks.
- Blocks are lowered during high demand, releasing kinetic energy to power a generator for electricity production fed back into the grid.

Advantages of the 'EVx' Platform

1. **Grid Balancing:** Balances the variability of renewable energy, ensuring a reliable power supply.
2. **Storage for Non-Sunny or Windy Periods:** Stores energy generated during sunny or windy periods for use in their absence.
3. **Circular Economy:** Supports the transition to a circular economy by efficiently storing and utilizing energy resources.
4. **Clean Energy Transition:** Facilitates the shift to clean energy sources by effectively storing and utilizing renewable energy.
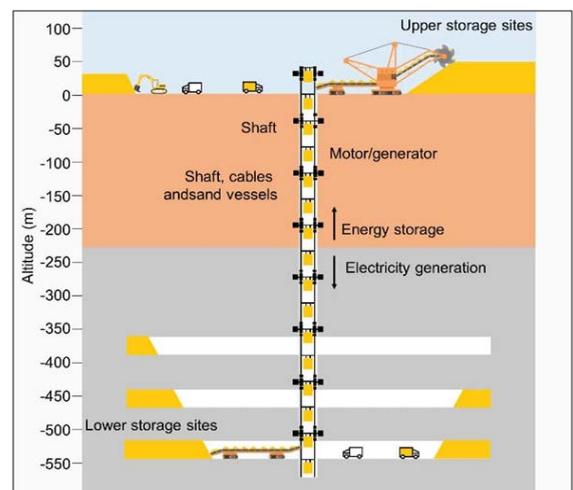
13. Nobel Prize in Physics 2023

- **Prize Awarded for:** Experimental methods generating attosecond pulses of light to study electron dynamics in matter.
- **Awardees:** Pierre Agostini, Ferenc Krausz, and Anne L'Huillier.

About Electron Dynamics

1. **Electron dynamics** involve the behaviour and movement of electrons within atoms and molecules.
2. **Atoms** consist of a nucleus of protons and neutrons, with electrons negatively charged and orbiting the nucleus.
3. Atoms operate on a remarkably short timescale, **measured in femtoseconds (10^-15 seconds)**, where they move and turn rapidly.

Overtones have several cycles for each cycle in the fundamental tone. Overtones work the same way in light waves.
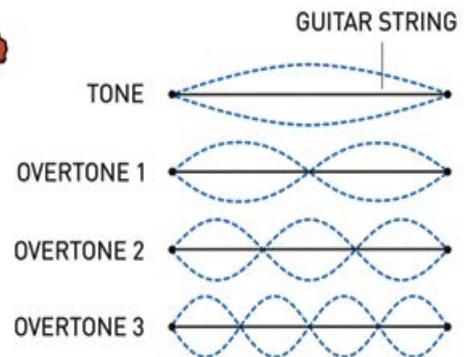
Challenge in Studying Electron Dynamics:

1. **Electrons** move or change at the magnitude of attoseconds, posing a challenge for study.
2. **Femtoseconds** were traditionally considered the shortest achievable duration for light pulses, making electron study difficult.

Discovery Overcoming the Challenge: Generation of Attosecond Pulses of Light (Anne L'Huillier):

1. **In 1987, Anne L'Huillier** and colleagues transmitted an infrared laser beam through a noble gas, producing multiple overtones.
   - **Constructive interference** occurs when the peak of one overtone merges with another, producing a larger peak.
   - **Destructive interference** happens when the peak of one overtone merges with the trough of another, canceling themselves out.

2. **By combining numerous overtones**, physicists fine-tune a setup to generate light pulses lasting a few hundred attoseconds.

ATTOSECOND
1/1,000,000,000,000,000,000 SECOND

HEARTBEAT
1 SECOND

AGE OF THE UNIVERSE
1,000,000,000,000,000,000 SECONDS

Electrons' movements in atoms and molecules are so rapid that they are measured in attoseconds. An attosecond is to one second as one second is to the age of the universe.
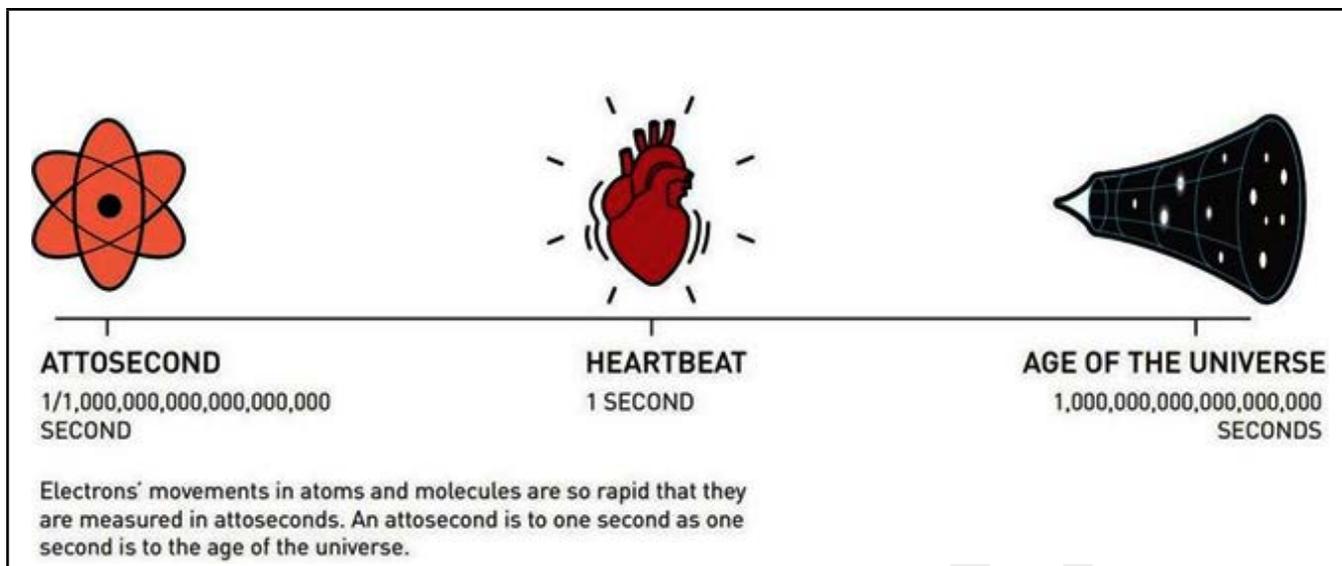
Production of Pulse Train (Pierre Agostini and Ferenc Krausz)

1. **In 2001, Pierre Agostini and Ferenc Krausz** successfully generated attosecond pulses arranged in a **'train'—a pulse followed by a gap**, and so forth.By 2017, experts achieved a pulse as short as 43 attoseconds.
2. **Attosecond Pulse Experiments:**These experiments resulted in **attosecond pulses of light**.These pulses enable imaging of processes inside atoms and molecules, revealing electron dynamics.

Stopwatch	Fastest camera shutter	Chemical reactions	Fast electronics	Molecular vibrations	Photosynthesis	Electron motion in atoms and molecules
1 second	10^{-3} millisecond	10^{-6} microsecond	10^{-9} nanosecond	10^{-12} picosecond	10^{-15} femtosecond	10^{-18} attosecond

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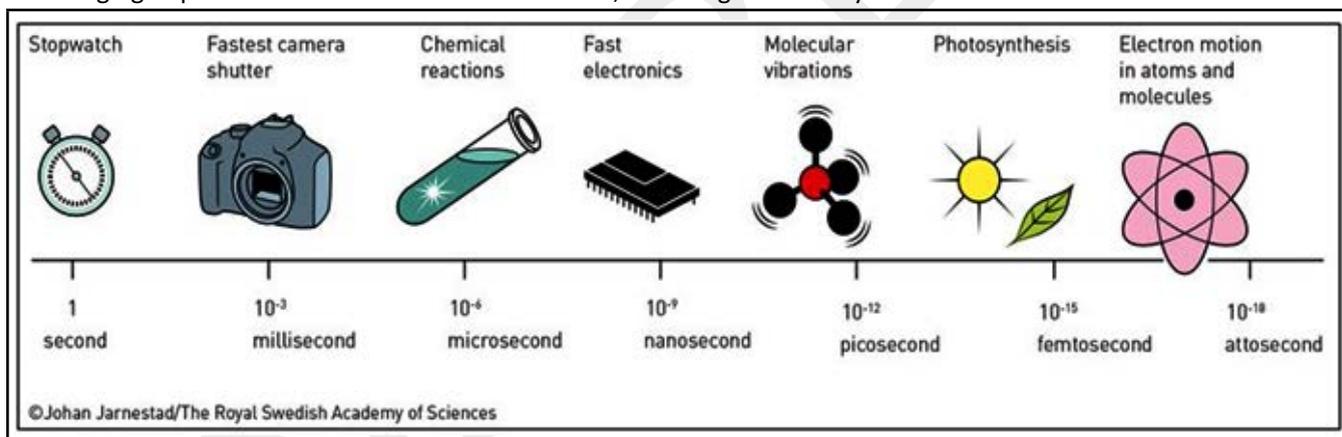
Applications of Attosecond Physics

1. **Medical Diagnostics:**Used to detect the presence of specific molecules.
    *   **Example:** Studying molecular-level changes in blood for disease identification.
2. **Development of Ultrafast Electronics:**Applied to create faster electronic devices.
    *   **Aims to enhance telecommunications**, imaging, and spectroscopy.
3. **Precision Control of Electrons:**Explores short-lived atomic and molecular processes in materials science, electronics, and catalysis.

Application of Attosecond pulses	Description	Examples
Atomic and Molecular Imaging	Attosecond pulses enable capturing ultrafast processes within atoms and molecules, providing insights into their dynamics.	Studying electron movement within molecules.

Materials Science	Attosecond spectroscopy aids in understanding and manipulating materials at the quantum level, essential for advanced materials.	Investigating properties of nanoscale materials.
Electronics	Attosecond pulses can be used to develop faster electronic devices by examining electron behavior on extremely short timescales.	Enhancing the speed of microprocessors.
Catalysis	Studying ultrafast chemical reactions with attosecond precision contributes to improving catalytic processes in chemistry.	Investigating catalysts for cleaner energy production.
Medical Diagnostics	Attosecond pulses can identify molecules based on their fleeting signatures, potentially advancing medical diagnostic techniques.	Detecting specific biomolecules in medical tests.
Telecommunications	Attosecond technology can lead to better telecommunications systems, enhancing data transfer rates and network efficiency.	Improving data transmission in fiber optic networks.
Spectroscopy	Attosecond spectroscopy allows for a detailed examination of molecular spectra, aiding in the study of complex molecules.	Analyzing the electronic structure of organic compounds.

Recent Nobel Laureates in Physics: A Glimpse into Achievements

2017: LIGO Detector and Gravitational Waves

- **Rainer Weiss, Barry C. Barish**, and **Kip S. Thorne** awarded for decisive contributions to the LIGO detector and the observation of gravitational waves.

2018: Groundbreaking Inventions in Laser Physics

- **Arthur Ashkin** awarded for optical tweezers and their application to biological systems.
- **Gérard Mourou** and **Donna Strickland** acknowledged for their method of generating high-intensity, ultra-short optical pulses.

2019: Evolution of the Universe and Exoplanet Discovery

- **James Peebles** honored for theoretical discoveries in physical cosmology.
- **Michel Mayor** and **Didier Queloz** recognized for discovering an exoplanet orbiting a solar-type star.

2020: Black Hole Formation and Galactic Discoveries

- **Roger Penrose** acknowledged for the discovery that black hole formation is a robust prediction of the general theory of relativity.
- **Reinhard Genzel** and **Andrea Ghez** awarded for discovering a supermassive compact object at the center of our galaxy.

2021: Understanding Complex Systems and Climate Modeling

- **Syukuro Manabe** and **Klaus Hasselmann** recognized for contributions to understanding complex systems and physical modeling of Earth's climate, predicting global warming.
- **Giorgio Parisi** honored for discovering the interplay of disorder and fluctuations in physical systems across various scales.

2022: Entangled Photons and Quantum Information Science

- **Alain Aspect, John F. Clauser**, and **Anton Zeilinger** awarded for experiments with entangled photons, establishing the violation of Bell inequalities, and pioneering quantum information science.

Context

In October 2023, the **Nobel Prize in Chemistry** was conferred by the **Royal Swedish Academy of Sciences** to **Moungi G Bawendi, Louis E Brus**, and **Alexei I Ekimov**. They were recognized for their pioneering work in the **discovery and synthesis of quantum dots**.

Figure 2. A quantum dot is a crystal that often consists of just a few thousand atoms. In terms of size, it has the same relationship to a football as a football has to the size of the Earth.

© Johan Jarnestad/The Royal Swedish Academy of Sciences
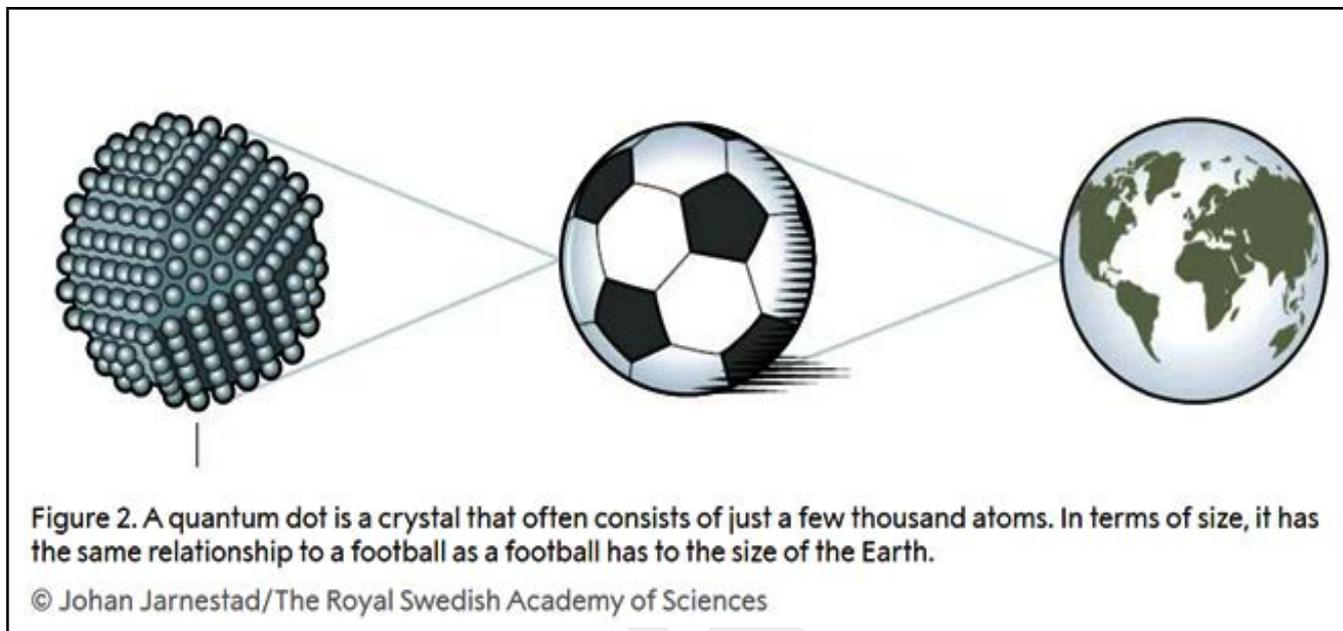
About Quantum Dots (QDs)

1. **Man-made semiconductor particles**, typically under **10 nanometers** in size.
2. Composed of various atoms like **cadmium, selenium**, etc.
3. Sometimes referred to as **metal quantum dots** due to similar behaviour in some metals.
4. Also known as **artificial atoms** or **zero-dimensional electron systems**.

> **Quantum confinement**
>
> • Quantum confinement is a quantum mechanical effect that occurs in small physical systems, such as nanostructured materials. It happens when the motion of particles is restricted in at least one dimension. This restriction alters the properties of particles, such as electrons.

Properties of QDs

1. **Quantum Confinement:** Exhibits unique optical and transport properties due to quantum confinement.
2. **Fluorescence:** When stimulated by external sources, QDs emit photons of a specific wavelength.
3. **Tunable Emission:** QDs can emit light of various colours based on their size, utilized in display technologies and bioimaging.
4. **Photostability:** Resistant to photobleaching, making them suitable for long-term imaging applications.
5. **Material Variety:** QDs can be made from diverse semiconductor materials, each with unique properties.
6. **Biocompatibility:** Some QDs are biocompatible, allowing use in biological applications without harm to living cells. It is advantageous in bioimaging and drug delivery.
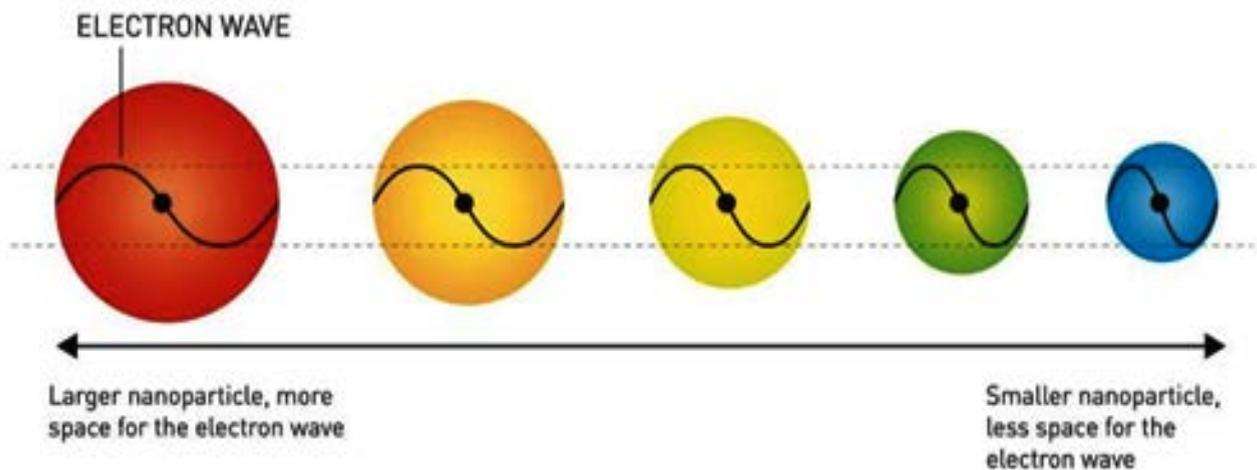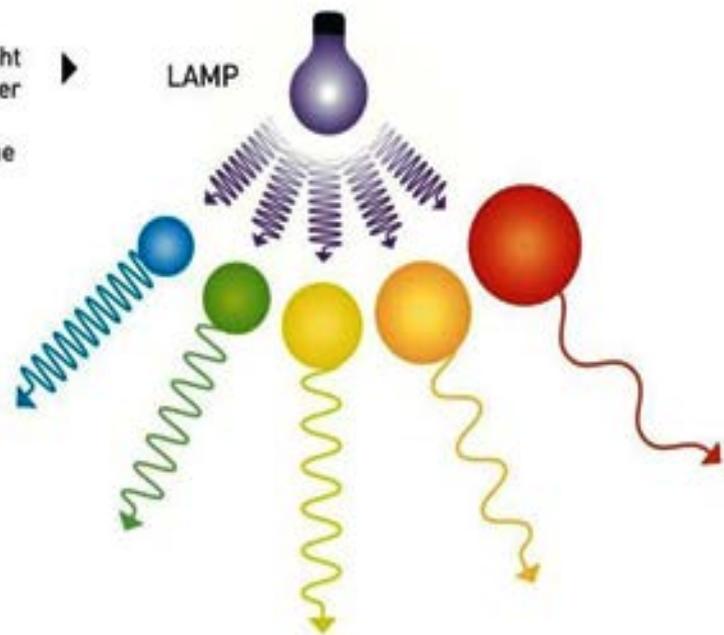
Innovative Nobel-Winning Research on Quantum Dots

1. **Alexei Ekimov's Pioneering Work (Early 1980s):**Successfully created size-dependent quantum effects in colored glass.
    *   Demonstrated how particle size influences glass color through quantum effects.
2. **Louis Brus's Breakthrough (Later 1980s):**First scientist to prove size-dependent quantum effects in particles freely floating in a fluid.
3. **MoungiBawendi's Technique Development (1993):**Developed a technique for creating quantum dots with well-defined sizes and high optical quality.
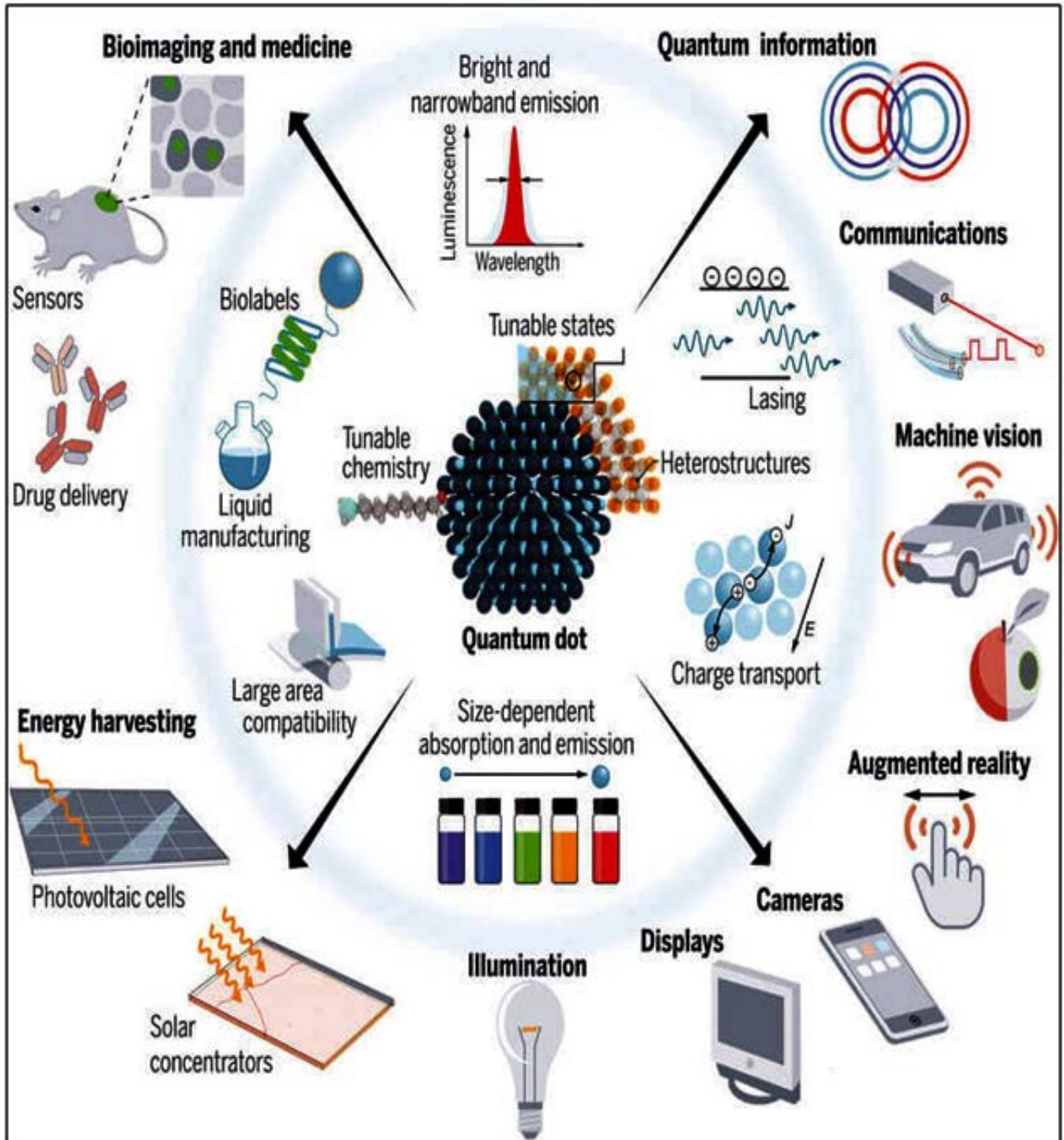
Applications of Quantum Dots

1. **Electronics:** Used in television screens employing QLED technology and LED lamps.
2. **Advanced Surgery:** Applied in cancer treatment for targeted drug delivery.
    *   Utilized in nanomedicine, helping biochemists and doctors map biological tissues.
3. **Anti-counterfeit Measures:** Employed as security markers on currency and documents.
4. **Other Potential Uses:** In quantum computing, contributing to thinner solar cells, flexible electronics, tiny sensors, and encrypted quantum communication.

How Moungi Bawendi produced quantum dots

STABILISING GAS

1 Bawendi injected substances that can form cadmium selenide into hot solvent. The volume was enough to saturate the solvent around the needle.

THERMOMETER
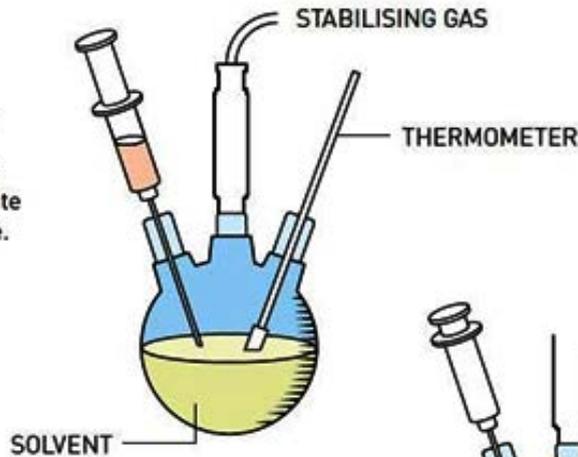
SOLVENT

2 Small crystals of cadmium selenide immediately formed, but because the injection cooled the solvent the crystals stopped forming.
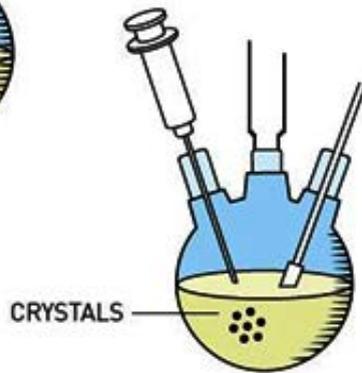
CRYSTALS

3 When Bawendi increased the temperature of the solvent, the crystals once again started to grow. The longer this continued, the larger the crystals became.

TIME
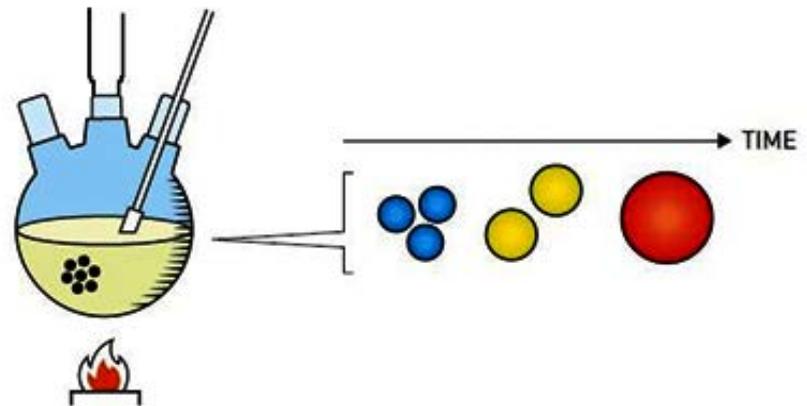
15. Nobel Prize in Physiology or Medicine 2023

Context

In October 2023, the **Nobel Prize in Medicine or Physiology** was conferred upon Katalin Karikó and **Drew Weissman** for their pioneering contributions to the **modification of messenger Ribonucleic Acid (mRNA)** through nucleoside base alterations.

Their work proved instrumental in the **development of highly effective mRNA vaccines against Covid-19**, addressing the challenges posed by the global pandemic that emerged in early 2020.

Vaccination

Weakened or inactivated virus

Immune response

Recombinant protein

Viral vector
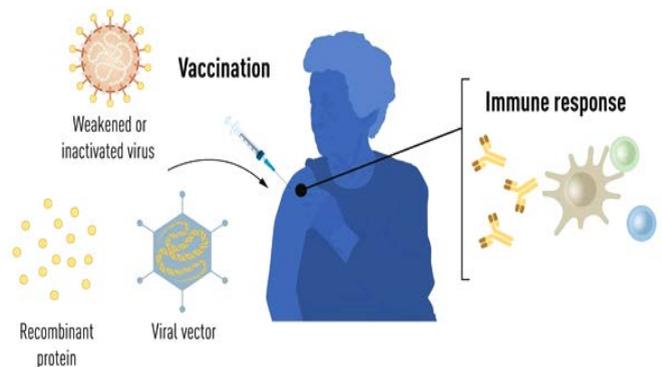
About Vaccination and COVID-19

1. Vaccination **stimulates the formation of an immune response** to combat a specific pathogen.

2. **Traditional vaccines**, using killed or weakened viruses, have long existed (e.g., polio, measles, yellow fever).

3. **Advancements introduced DNA-based vaccines**, but their large-scale development requires time-consuming cell culture.

4. **DNA vaccines** involve translating genetic code particles from viruses or bacteria into proteins, eliciting an immune response.

5. **mRNA Technology's Crucial Role:** During the urgent COVID-19 outbreak, mRNA technology proved essential due to its quicker development process.

6. The work of the Nobel Laureates addressed and overcame significant challenges associated with the development of mRNA vaccines.
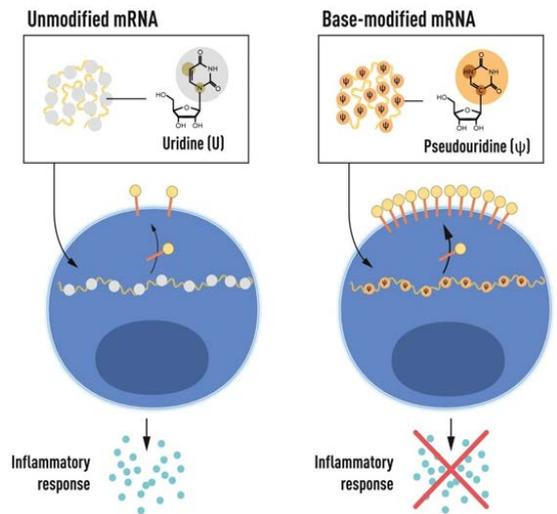
About mRNA (messenger Ribonucleic Acid)

- mRNA carries genetic information similar to a blueprint, translating into proteins.
- RNA contains 4 nucleoside bases (A, U, G, C), corresponding to DNA's genetic code letters (A, T, G, C).

Working of mRNA Vaccines

- mRNA vaccines use laboratory-created mRNA to instruct cells to produce a protein or a part, triggering an immune response.
- In vitro transcribed mRNA or synthetic mRNA, created outside a living cell, is utilized in mRNA-based vaccines.
- This immune response, generating antibodies, provides immediate protection and creates future immunity by remembering associated pathogens.
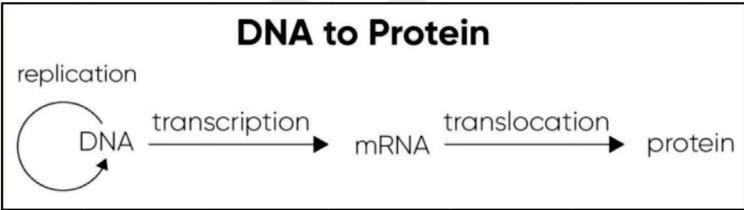
Nobel Laureates' Work on mRNA Vaccine Concerns and Breakthrough

1. **Understanding Concerns with mRNA Vaccines:**
   - **Issues with In vitro Transcribed mRNA Vaccines**
     - o **Instability:**Considered unstable, requiring sophisticated delivery systems.
     - o **Inflammatory Reactions:**Cells recognize them as foreign, activating inflammatory signalling.
     - o **Inefficient Protein Production in Cells and Tissues:**Challenges in protein production efficiency.
   - **Questioning the Synthetic mRNA's Foreign Nature:**
     - o **Reason for Different Reaction:**Synthetic mRNA remains unchanged, unlike mammalian mRNA.
   - **Realization:** Some critical properties distinguish synthetic mRNA from mammalian cells mRNA.
2. **Breakthrough by Nobel Laureates:**
   - **Understanding the Role of Nucleoside Bases in RNA:**
     - o **Knowledge:**Karikó and Weissman understood that nucleoside bases in RNA from mammalian cells undergo frequent chemical modifications.
   - **Hypothesis and Testing:**
     - o **Hypothesis:**Absence of altered bases in in vitro transcribed RNA could explain inflammatory reactions.
     - o **Testing:**Produced different mRNA variants with unique chemical alterations and delivered them to cells.
   - **Significant Result:**
     - o **Outcome:**Inflammatory response almost abolished when base modifications were included in the mRNA.

Revolutionizing Medicine: Applications of mRNA Discovery

1. **Covid-19 Vaccination:** In response to the Covid-19 pandemic, base-modified mRNA vaccines encoding the SARS-CoV-2 surface protein were swiftly developed.
   - Notable examples include Pfizer/BioNTech and Moderna mRNA vaccines.
2. **Rapid Vaccine Development:** mRNA vaccines demonstrate remarkable flexibility and speed, opening avenues for swift development against various infectious diseases.
3. **Broad Applicability:** Beyond vaccines, the technology holds promise for delivering therapeutic proteins and treating specific cancer types.
4. **Global Health Impact:** mRNA vaccines stand to enhance global health by addressing a spectrum of infectious diseases, potentially mitigating the severity and spread of epidemics and pandemics.

16. Protein Binders

Context

In October 2023,FSSAI explicitly prohibits the addition of protein binders in milk and milk products.Additives not specified in the Food Safety and Standards (Food Products Standards and Food Additives) Regulation, 2011, are not permitted.

Role of Protein Binders in Food Texture

1. Protein binders are utilized to **modify the texture and consistency of various foods**, including dairy products like curd, enhancing the overall eating experience.
2. They find applications in diverse food types, especially in semi-solid or solid products where texture significantly influences consumer acceptance.

Impact on Digestibility and Nutrition

1. The addition of protein binders can **affect the digestibility of proteins in food**, influencing the biological and nutritive value of the product.
2. Protein binders also **impact the bioavailability of bioactive compounds**, such as vitamins and minerals, potentially altering how these compounds are absorbed and utilized by the body.

Importance of Ingredient Selection

1. The choice of protein binders is crucial, as different proteins can have varying effects on texture, digestibility, and bioavailability.
2. Selection depends on achieving the desired characteristics of the final product.

About Protein binders

- **Protein binders**, also known as **binding proteins**, are essential components in biological processes, exhibiting high specificity in interactions with other molecules.
- They are typically **complex biomolecules** with specific **three-dimensional structures**.

Functions within Biological Systems

- Protein binders have diverse functions within biological systems, including transport, signalling, immune response, enzyme regulation, gene expression, and structural support.
- They can be categorized based on their functions, such as enzymes, antibodies, receptors, transport proteins, binding proteins, transcription factors, chaperones, and RNA-binding proteins.

Applications of Protein Binders

- Protein binders have wide-ranging applications in biotechnology, pharmaceuticals, diagnostics, biological research, and drug development.
- They are crucial tools for techniques like Western blotting, ELISA, protein purification, and play a vital role in therapies for cancer, autoimmune diseases, and infectious diseases.
- In agriculture, protein binders contribute to developing genetically modified crops and enhancing crop resistance to pests or environmental conditions.

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17. Neanderthals

Context

Researchers have discovered that modern humans carry DNA remnants from ancient Neanderthals.

About Neanderthals

1. **Neanderthals**, known as **Homo neanderthalensis**, were a distinct species of humans.
2. **Theyinhabited Europe**, southwest, and central Asia during the middle to **latePleistocene Epoch**, approximately **400,000 to 40,000 years ago**.
3. **Physical Appearance:**Neanderthals had distinctive physical features, including a long, low skull (compared to modern humans), a prominent brow ridge above their eyes, and relatively short, stocky bodies adapted to cold environments.
4. **Toolmaking Expertise:**They were **skilled toolmakers**, using the **Mousterian culture technology** to create various stone tools like scrapers, points, and hand axes.
5. **Coexistence with Modern Humans:**Neanderthals are recognized as the closest extinct human relatives to modern humans.
6. **Sophisticated Lifestyle:** They demonstrated a sophisticated lifestyle, using diverse tools, controlling fire, living in shelters, creating clothing, hunting large animals, consuming plant foods, and occasionally crafting symbolic or ornamental objects.
7. **Burial practices:** Evidence also suggests intentional burial practices and occasional grave offerings, such as flowers, indicating a level of symbolic behaviour.

Neanderthal sites of Europe and the Middle East Late Pleistocene Age (126,000–11,800 years ago)
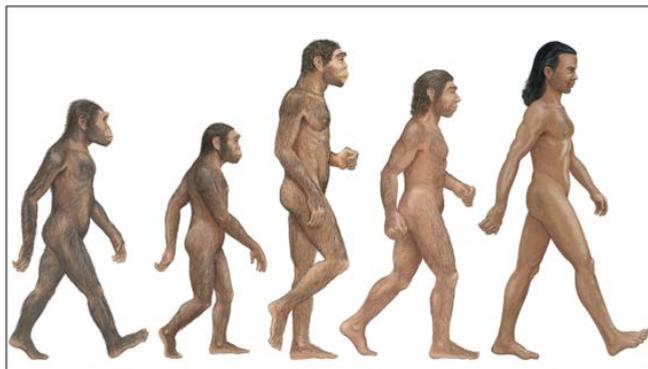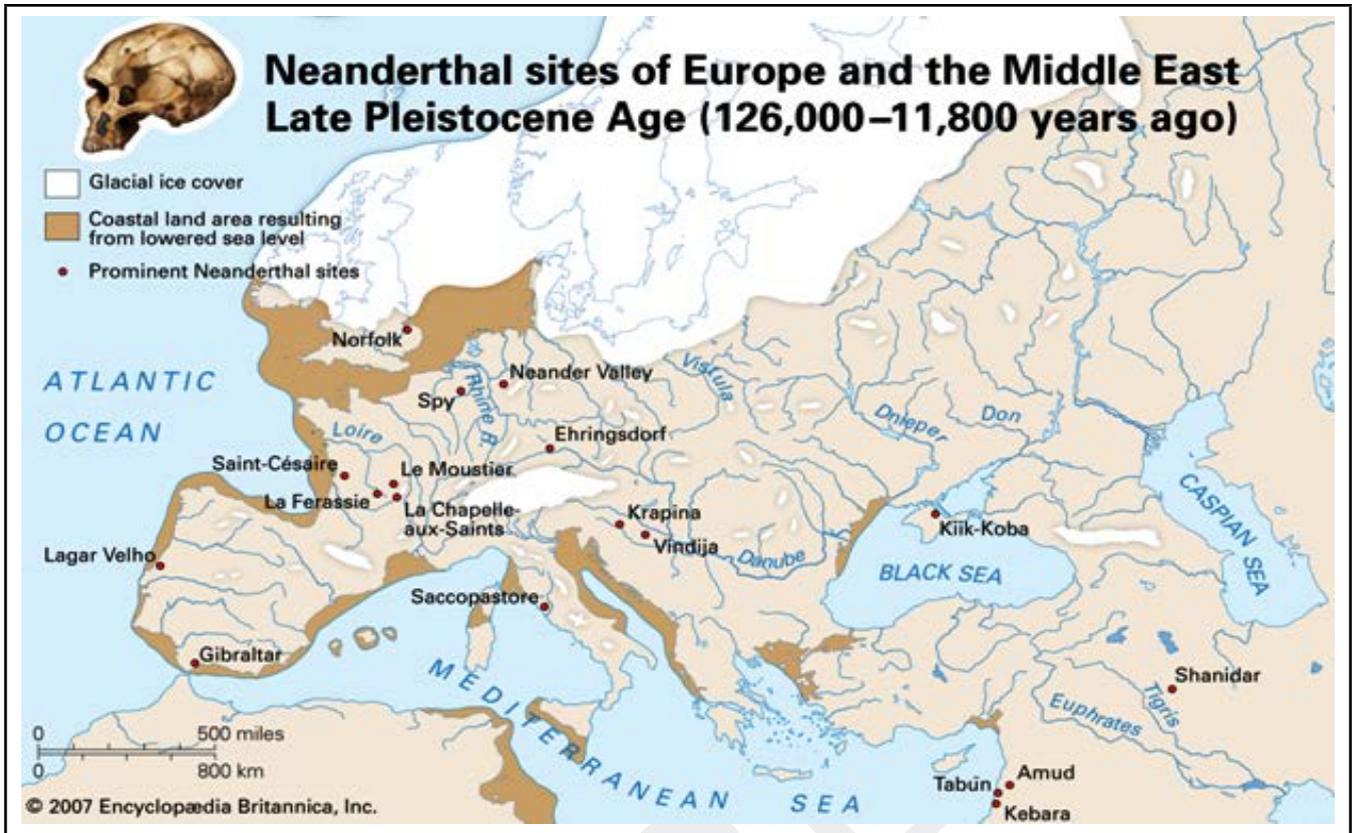
Distinctive Features

1. Neanderthal skulls exhibited unique features, including a large middle part of the face, angled cheekbones, and a large nose adapted for humidifying and warming cold, dry air.
2. Their bodies were shorter and more robust than modern humans, adapted for cold environments, yet their brains were comparable in size or even larger.
3. Despite being extremely muscular and strong, their bones revealed a life marked by frequent injuries.

18. National Mission on Interdisciplinary Cyber Physical System (NM-ICPS)

Context

C3iHub, a Cyber-Security Technology Innovation Hub (TIH) at IIT Kanpur, hosted the 3rd National Workshop on Technology Innovation in Cyber Physical Systems (TIPS) in October 2023.

Understanding Cyber Physical Systems

1. **Defining Cyber-Physical Systems:** A cyber-physical system is a fusion of digital and physical components collaborating to achieve specific objectives.
2. **Examples of Applications:** Cyber-physical systems find applications in various domains, including autonomous vehicles, smart buildings, industrial control systems, and medical devices.
3. **Key Components:** These systems comprise sensors, communication networks, computing resources, data analytics, and control mechanisms.
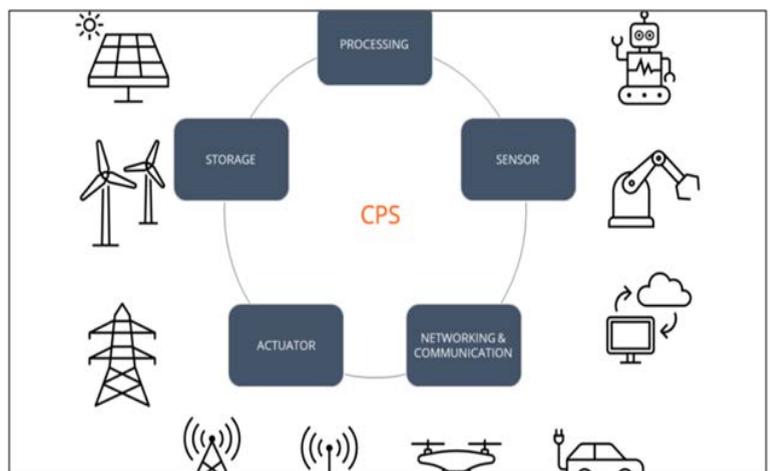
4. **Functionalities:** Cyber-physical systems facilitate real-time data collection, processing, and sharing, supporting informed decision-making and control actions.

5. **Interconnected Components:** The elements of a cyber-physical system are interconnected through a network, enabling seamless data exchange and collaborative functioning.

6. **Wide-ranging Impact:** Cyber-physical systems hold the potential to revolutionize industries, enhancing efficiency, productivity, and safety.

NM-ICPS Launch

1. NM-ICPS was initiated in 2018 by the **Department of Science & Technology**.

2. **Vision:**The mission envisions positioning India as a leading player in Cyber Physical System technologies.

3. **Objective:**The primary objective is to promote translational research in CPS and associated technologies.

National Mission on Inter-Disciplinary Cyber Physical Systems

- Address **increasing technological requirements of society** according to international trends
- **15 Technology & 6 Application Innovation Hubs, 4 Technology translation Research Hubs** to be set up
- Outlay of ₹**3,660 crores for a period of 5 years**
- To accelerate **entrepreneurship & start-up ecosystem**

19. DNA and Face Matching Systems At Police Stations

Context

In October,2023 Over a year after Parliament passed the **Criminal Procedure Identification Act (CrPI), 2022**; Central Government has decided to introduce **'DNA and Face Matching' systems** in 1,300 police stations nationwide, despite the Act's provisions not yet being fully implemented.

About 'DNA and Face Matching Systems' Under CrPI Act, 2022

Introduction to the Act and Rules	• The Indian Parliament passed the CrPI Act in 2022, granting police and central investigating agencies the power to collect, store, and analyze physical and biological samples of arrested individuals.
	• The legislative move aimed to improve law enforcement capabilities and introduce a new era in criminal identification and data management.
Rollout of the Act and Rules	• The **National Crime Records Bureau (NCRB)** was tasked with implementing the Act and creating the Standard Operating Procedure for the measurement collection process.
	• The NCRB played a crucial role in guiding police officials on the appropriate protocol for recording these measurements.
Expanding Measures and Committees for Implementation	• The NCRB plans to implement DNA sample collection and face matching procedures in discussions with State police officials, though the Act and rules do not explicitly mention these measures.
	• The **Ministry of Home Affairs** has established a Domain Committee, consisting of State police and central law enforcement representatives, to record DNA data.

About DNA and Face Matching Systems' Technology

1. **DNA Matching Systems:**
   - DNA matching systems, also known as DNA profiling or DNA fingerprinting, are methods used to compare and identify individuals based on their distinctive genetic traits.
   - These systems analyze specific DNA regions, which are highly variable among individuals, to create a unique genetic profile for each individual.

- DNA matching is a crucial tool in criminal investigations, linking suspects to crime scenes or victims by comparing DNA profiles of potential suspects.

2. **Face Matching System:**
   - The Face Matching System is an algorithm-based technology that creates a digital map of an individual's face by identifying and mapping their facial features.
   - Automated Facial Recognition System (AFRS) utilizes a vast database of photos and videos of individuals to match and identify them.
   - CCTV footage of an unidentified person is analyzed using Artificial Intelligence technology for pattern-finding and matching, comparing it to the existing database.

Advantages DNA and Face Matching Systems' Technology and Changes in Act:

1. **Improved Investigative Tools:** Law enforcement now employs DNA and face-matching techniques for identifying suspects and solving crimes, providing a more efficient alternative to traditional methods like fingerprinting.

2. **Enhanced Data Integration:** The Act's integration with National Automated Fingerprint Identification System (NAFIS) enhances a centralized database of criminal and suspect information, enhancing law enforcement's understanding of illegal activities and expediting investigations.

> **National Automated Fingerprint Identification System (NAFIS)**
> 1. NAFIS is developed by the **National Crime Records Bureau (NCRB)** at the Central Fingerprint Bureau (CFPB) in New Delhi.
> 2. The project is a country-wide searchable database of crime- and criminal-related fingerprints.
> 3. In April this year, **Madhya Pradesh** became the first state in the country to identify a deceased person through NAFIS.

3. **Greater Range of Identification Techniques:** The Act expands identification beyond footprints, photos, and fingerprints by examining biological and physical samples like retina and iris scans, enabling identification of charged and uncharged individuals.

4. **National-Level Repository:** Home Ministry has established a central organization to ensure data accessibility and uniformity, facilitating inter-agency and inter-state investigations.

5. **Modernization of Law Enforcement:** The Act enhances law enforcement's ability to identify individuals involved in illegal activities through advanced biometric technology, including facial and DNA matching.

Your face as a map

Capturing
The foremost requirement is to capture the image and that can be done by scanning existing images or using cameras

Extracting
Unique facial data is then extracted from the sample

Comparing
The data is then compared with the database

Matching
IDENTIFIED The software then decides whether the sample matches any picture in the databse or not

Challenges for implementation

1. **Lack of proper data:** The absence of adequate data security legislation can lead to data breaches, which can then be exploited for terrorism and other unlawful activities.

2. **Unequal distribution of infrastructure:** India's infrastructure disparity hinders widespread technology adoption due to inadequate internet penetration in remote areas, limiting access to technology provided by law enforcement.

3. **Budget constraints:** Many police stations nationwide face financial challenges due to budget constraints, making the deployment of new equipment impractical.

4. **Lack of tools**: Many agencies lack the necessary mobile or software tools to improve interagency collaboration or maintain community officers.

5. **Inadequate training:** Indian law enforcement authorities face a significant technological gap due to inadequate training and access to advanced technology.

Way Forward

1. **Robust Safeguards against Misuse**
   - The NCRB emphasizes the need for technological, legal, and security measures to prevent database misuse, requiring authorized access and advanced, legally compliant tools and technology.

2. **Ensuring Data Security**
   - Robust protocols for data usage, storage, and security, including real-time access for designated officials and strong encryption, are crucial for gaining confidence in personal data protection.

3. **Balancing Privacy and Law Enforcement**
   - India must balance law enforcement power with protecting citizens' civil liberties and privacy, requiring adequate oversight to prevent excessive encroachment on individual freedoms during system implementation.

Conclusion

The Act and technology have significantly modernized India's criminal justice and law enforcement systems, enhancing the collection and utilization of biometric data for investigations. The Act, approved by Parliament, faces challenges like connection and logistical issues that hinder its full implementation.

20. UNLOCKING INDIA'S SPACETECH POTENTIAL

Context

In October,2023 The Indian Space Association, Nasscom, and Deloitte India jointly launched a report at the Indian Space Conclave 2023, exploring opportunities for Indian downstream spacetech.

The paradigm shift in India's Space journey

1. **Advent of Private Sector:** Space is shifting from government control to a collaborative effort between public and private sectors due to its strategic and economic importance.

2. **Diversification:** Space technology's primary contribution has been from the upstream value chain, primarily through satellite manufacturing and launch.
   - India's 2023 space policy has facilitated the use of space technology in the downstream sector.

3. **Beginning:**The Indian Space journey began with the establishment of INCOSPAR in 1962, ISRO in 1969, and the Department of Space in 1972.

4. **Government was the only player:** Since then, the space sector has been largely controlled by the government, with minimal private sector involvement.

CABINET DECISIONS: 24 JUNE, 2020

MAKING INDIA SELF-RELIANT IN SPACE SECTOR

Private Sector Participation in Space Activities Approved

- Reforms to help India leapfrog to next stages of space activities; to become a **Global technology powerhouse**
- To enhance socio-economic use of space assets & activities; **Large-scale employment opportunity in technology sector**
- **IN-SPACe*** to provide level playing field for private companies to use Indian space infrastructure
  *Indian National Space Promotion and Authorization Centre
- **NSIL**** to reorient space activity models from 'supply driven' to a 'demand driven'
  **New Space India Limited
- Allow ISRO to focus more on R&D activities, exploration missions & human spaceflight programme

Potential areas for the Indian downstream space sector

1. **Remote sensing/Earth Observation (EO):**This includes services for satellite data storage, data analysis, and application development in sectors like:
   - **Urban Planning and Development:**Master plan development, Urban heat island prediction and monitoring etc.
   - **Agriculture:** This includes crop identification, soil mapping, weather monitoring, and irrigation management.
   - **Disaster Management:** The text focuses on the topic of disaster prediction and post-disaster management.
   - **Blue Economy:**Fish Detection & forecasts, Potential Fishing zones etc.

2. **Satellite Communications (SatCom):**Focuses on products and services that use communication satellites for services like broadcasting, communication, and internet connectivity.
   - The focus is on enhancing connectivity for bank branches in remote areas.
   - Enhancing health, education, and governance delivery.
   - Enhancing sectors like tourism, payments, trade, and digital commerce.

3. **Positioning, Navigation & Timing services (PNT):** This includes services for asset tracking and navigation on air, land, and sea.
    *   **Guidance:** Drones are being utilized for various purposes such as navigation for enterprises, toll collection, and railways.
    *   **Civil Aviation:** This text focuses on commercial aviation and airport operations.
    *   **Time Synchronization:**The topics covered include telecom, energy, finance, and more.
4. **Space for Strategic Purposes:** Space, categorized as the fourth operational domain, has always been a dual-purpose sector that serves both national security and strategic interests.
    *   The integrated command and control center ensures secure communication.
    *   The text focuses on intelligence, surveillance, and reconnaissance, including strategic surveillance, asset and marine domain awareness, among other areas.
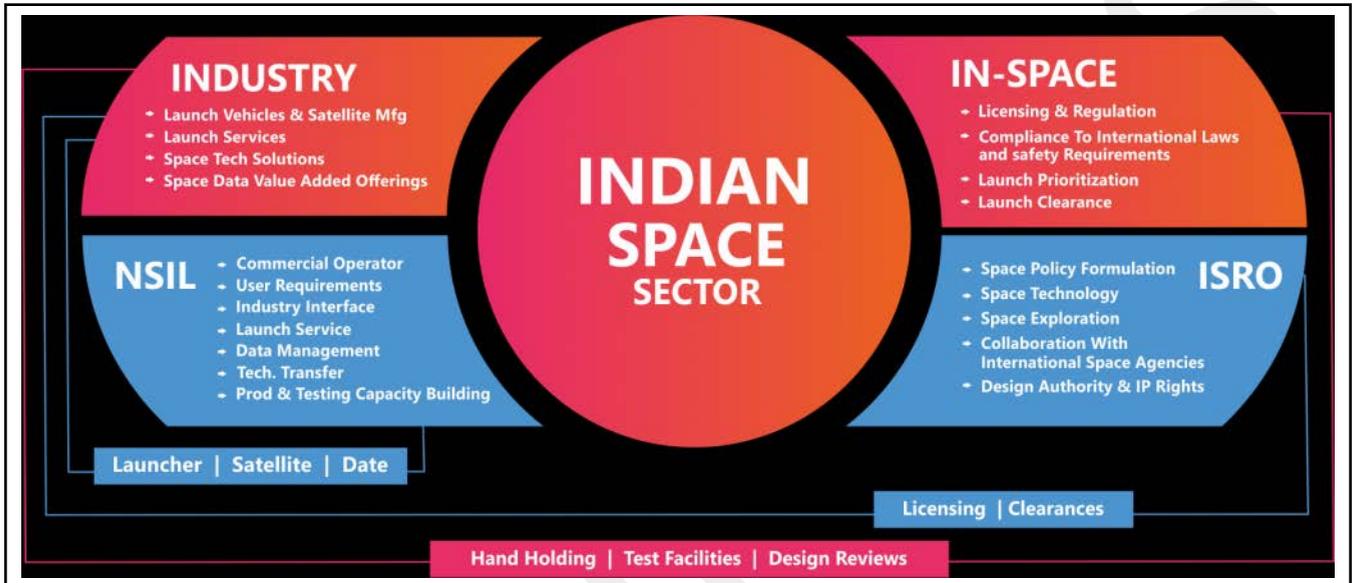
Challenges

1. **Access to Capital:**Major funding is allocated to industries related to upstream activities, while downstream companies receive smaller amounts.
2. **Supply Chain Disruption:** Global instability and geopolitical conflicts are disrupting supply chains, limiting access to crucial equipment for the private sector.
3. **International Competition:** Indian companies must identify their niche and differentiate themselves in the highly competitive global space industry to effectively compete.
4. **Other concerns:**
    *   The Indian space tech market is characterized by a lack of comprehensive data aggregation and analytics capabilities.
    *   The space sector faces challenges in achieving Return on Investment (ROI) due to the high cost of space resources.

Way ahead

1. **Public-Private Partnerships:** The initiative promotes collaborations to expand satellite communication services, aiming to make space-based services more affordable.
2. **Global Collaboration:** The initiative aims to strengthen international partnerships with the Indian Space Industry through initiatives like Satellite Services and NISAR (India-US).
3. **Streamlined Regulatory Framework:** The goal is to streamline and expedite regulatory processes, guaranteeing transparency and predictability in approvals.
4. **Active role of Government:** Governments play a crucial role in the expanding space sector by enabling and consuming Earth observation-based services, which can help nurture the growing ecosystem.

F. Geography & Environment

1. Kamlang Tiger Reserve [KTR]

Context :

In October this year, the state cabinet of **Arunachal Pradesh** approved the constitution of Special Tiger Protection Force (**STPF**) as per the guidelines of the National Tiger Conservation Authority (**NTCA**) for **3** tiger reserves – **Kamlang,Namdapha and Pakke.**

About KTR:

1. The Kamlang Tiger Reserve which was established in **1989** became the **50th** Tiger reserve in India in **2017**.

2. **Popular River** : The tiger reserve is named after the River **Kamlang** which flows through it. River **Lang** forms its **northern** border whereas **Namdapha** National Park forms its **southern** border.

National Tiger Conservation Authority (NTCA)

The National Tiger Conservation Authority (NTCA) is a statutory body under the Ministry of Environment, Forests and Climate Change constituted under enabling provisions of the Wildlife (Protection) Act, 1972, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it under the said Act.

NTCA has been fulfilling its mandate within the ambit of the Wildlife (Protection) Act, 1972 for strengthening tiger conservation in the country by retaining an oversight through advisories/normative guidelines, based on appraisal of tiger status, ongoing conservation initiatives and recommendations of specially constituted Committees.

The 'Project Tiger' is a Centrally Sponsored Scheme (CSS) of the Ministry of Environment, Forests and Climate Change, providing funding support to tiger range States for in-situ conservation of tigers in designated tiger reserves, and has put the endangered tiger on an assured path of recovery by saving it from extinction, as revealed by the recent findings of the All India tiger estimation using the refined methodology.

3. **Demographic dynamics** : Tribals in and around the reserve : **Mishmi, Miju Mishmi and Digaro Mishmi**.

4. **Notable fauna** : it houses **4 big** cat species of India- **leopard, clouded leopard , tiger** and **snow leopard.** Also found **;** Marbled cat, Wild boar, **Barking deer**, Asian Elephant, Black Giant Squirrel, Eastern hoolock gibbon etc.

5. **Notable Flora**: Canarium resiniferum, Gmelina arborea, Terminalia chebula and Amoora wallichii

6. **Climatic zone :** It is located in the tropical and subtropical climatic zones.

7. **Picturesque sites** : **Glow Lake** and the "**Parshuram Kund**", a native pilgrimage place.

8. **Type of Forest** : Tropical wet evergreen and Alpine vegetation

Need for STPF in the reserve ?

1. **Poaching Threat**: STPF is crucial to combat the **persistent** threat of poaching, safeguarding India's tiger population from **illegal** hunting for their body parts.

2. **Habitat Encroachment:** Rapid **urbanization** and **encroachment** demand a specialized force to **prevent** habitat destruction, ensuring a secure environment for tigers to thrive.

3. **Human-Wildlife Conflict:** STPF can **address** escalating human-wildlife **conflicts** by employing strategic measures to **minimize** clashes and promote **coexistence** in tiger-inhabited areas.

4. **Smuggling Networks:** A dedicated force is **essential** to dismantle smuggling networks involved in the illegal trade of tiger parts, **disrupting** the demand and supply chain.

5. **Law Enforcement**: STPF enhances law enforcement **capabilities**, ensuring stricter implementation of wildlife protection laws and acting as a **deterrent** against potential threats to tiger populations.

Establishing and **empowering** STPF units nationwide, enhancing their **training**, **technology**, and **collaboration** with **local** communities to create a **comprehensive** approach for effective **tiger conservation**.

2. Pink Bollworm

Context:

In October 2023, Cotton farmers in Punjab and Haryana, two northern states, are facing difficulties due to pink bollworm (PBW) infestation.

About pink bollworm:

1.   It is among the most damaging bugs to cotton.
2.   **Scientific name: Pectinophora gossypiella**
3.   Distribution: Though **it originated in India**, it is now found in almost every nation that grows cotton.
4.   Description:
     a)   The adult moths are little, measuring 3/8 of an inch in length, and have dark brown wings with markings on them.
     b)   The damaging and recognizable stage is the **larval stage**.
     c)   Before they pupate, the larvae can grow to a length of ½ inch and have distinct pink bands.
     d)   Although adults only live **for two weeks**, females can deposit up to **200 eggs.**
5.   **Ecological Threat:**
     a)   Adults deposit their eggs on **cotton bolls**, where the larvae eat the seeds and break down the cotton's fibres, decreasing the **quantity and quality of** the crop.
     b)   In certain parts of India pink bollworm has developed resistance to **first-generation transge**nic Bt cotton (Bollgard cotton), which expresses only one Bt gene (Cry1Ac).
     c)   It has also been known to attack **hollyhock, okra, and hibiscus plants.**

3. STATE OF GLOBAL WATER RESOURCES 2022

Context

In October, 2023 World Meteorological Organization (WMO) released State of Global Water Resources report 2022.

Components of the Report

It contains information on important hydrological factors like;

1. Groundwater
2. Streamflow
3. Terrestrial water storage
4. Evaporation
5. Soil moisture
6. Cryosphere (also known as frozen water)
7. Hydrological disasters
8. Inflows to reservoirs

It collaborates field observations, numerical modeling simulations and satellite-based remote sensing data to assess water resources on the global scale.

Key Findings of Report;

• The **hydrological cycle**, which is one of the most essential for existence of all life forms, is becoming **out of balance** due to climate change and human activities, which gives an extensive assessment of global water resources.
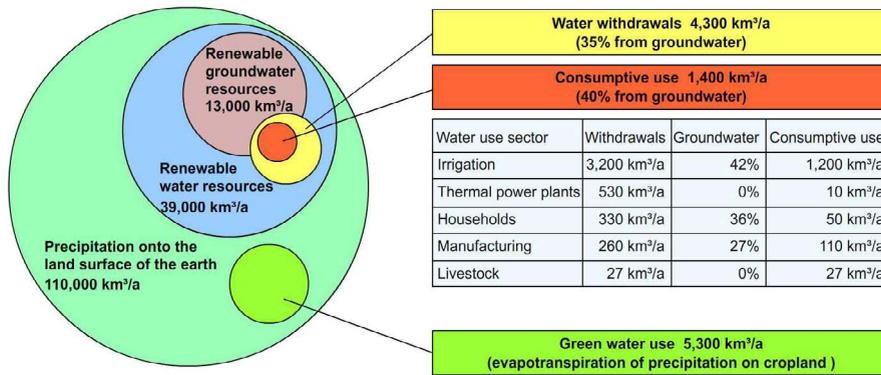
Figure; represents use of global water resources

1. **Lack of availability and sharing of in-situ observations** due to which precise information for research is not available.

2. **River Discharge & Reservoir Inflow Patterns**: Over **50%** of global catchment areas and reservoirs displayed **deviations** from typically normal conditions, of which a majority were drier than usual. Also 2022 was a **La Nina** year, **El Nino** started in 2023.

3. **Anomalies in terrestrial water storage, Soil Moisture & Evapotranspiration:** This shows hotspots of decline in **Ground Water levels**. Throughout the year in 2022, anomalies in soil moisture and evapotranspiration showed the deviations in river discharge conditions, **e.g**. Europe has experienced **increased Evapotranspiration** and **decreased Soil Moisture** during summer, conditioned by a major heat wave and drought.

4. **Major Recommendation - Early Warnings for All (EW4All)**: Measuring and assessing the status of hydrological systems and water resources is a critical prerequisite for the Early Warning System (EWS). Therefore, reporting key events raises public awareness and provides the foundation for **EW4All**.

5. **Snow cover and glaciers**: it was found that from **2000 to 2018**, total glacier mass in Asian Water Tower (AWT) region depreciated by almost **4.3%**. This AWT region includes **Tibetan Plateau, Himalayas, Hindu Kush, the Pamirs, Karakoram and Tien Shan Mountains**, which are in unison known as the **Third Pole of Earth**, after the North Pole and South Pole.
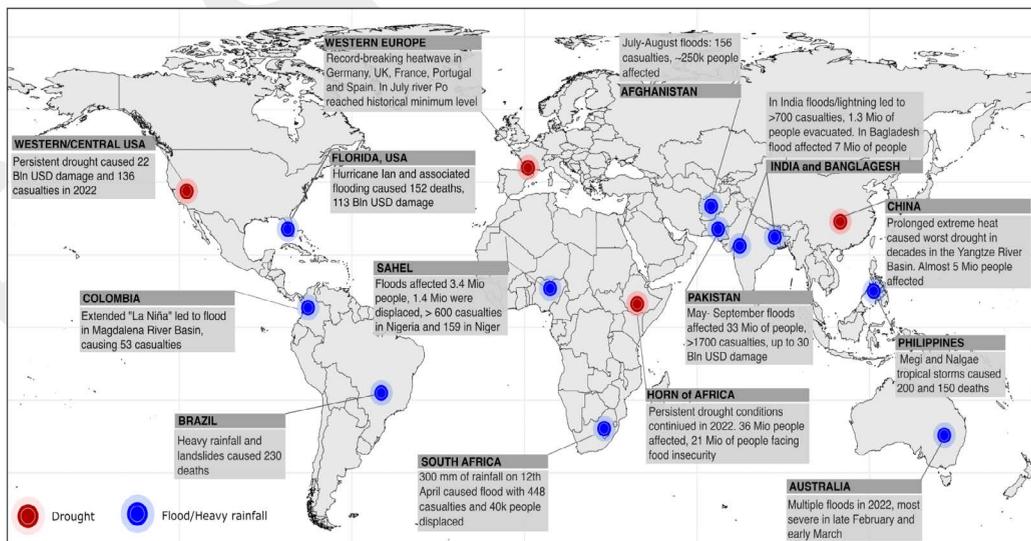
Figure: Recent occurrences of water related disasters around the world

Important facts

1. The **Yangtze** River Basin in **China** faced a severe drought
2. **Pakistan's Indus** River Basin witnessed extreme floods.
3. Experience of several flood events: **Winnipeg** basin in **Canada** and East **Australia's Murray-Darling** River basin.
4. **Europe's** drought posed challenges in rivers like the **Danube** and **Rhine** which disrupted nuclear based electricity production in regions of **France** due the lack of cooling water.

Learnings for India

1. **Water Scarcity and Stress:** Understand the global water scarcity situation and identify regions facing water stress.
   o This can help India in benchmarking its own water situation and adopting sustainable water management practices.
2. **Climate Change Impacts:** Assess how climate change is affecting global water resources.
   o This information can be crucial for India to anticipate and plan for potential changes in precipitation patterns, extreme weather events, and overall water availability.
3. **Water Quality**: Explore the global water quality status to gauge the importance of water quality management.
   o Ensuring safe and clean water sources is crucial for public health, agriculture, and various industries in India.
4. **Groundwater Depletion**: India heavily relies on groundwater for agricultural and domestic purposes, so understanding global scenarios can provide insights into sustainable groundwater management practices.

4. India is running out of phosphorus

Context:

In October 2023 an editorial was published in The Hindu on increasing **shortage of phosphorus fertilizers.**

About phosphorus:

1. Phosphorus is found in the **macromolecules** of living organisms, including DNA.
2. It is an essential nutrient that supports components of **our bones.**
3. It is required by plants for various activities, including the **Photosynthesis process**, energy transfer, and nutrient movement within the plant.
4. Phosphorus **does not exist** as a free element on earth because of its high reactivity.
5. The primary source of phosphorus is the earth's crust, which is found in **phosphate** form.

India's current status:

1. India is the world's **biggest importer** of phosphorus, primarily from West African countries like morocco.
2. **Rajasthan and Madhya Pradesh** are major producing states.
3. A few deposits are also found in the Cuddapah basin (Andhra Pradesh), Lalitpur (Uttar Pradesh), and the Mussoorie syncline in the central region of the Indian peninsula.

Issues with phosphorus availability:

1. A small number of nations, including China, Algeria, Morocco, and the Western Sahara, possess the majority of the world's phosphorus reserves, which is a significant **geopolitical** worry.
2. Large sources of phosphorous are found in existence with cadmium, and the process of removing cadmium is also expensive.
3. Majority of Phosphorus-free of cadmium is **found in just six nations,** where a lot of EU nations no longer purchase from Russia, and China restricted exports in 2020. So, the safe phosphorus market has suddenly exploded.

Adverse phosphorus effects:

1. When consumed, **the heavy metal cadmium** can build up in the kidneys of both humans and animals. These bioaccumulations in human bodies can accelerate heart disease.

2. A significant amount of phosphorus is lost to water bodies directly through sewage and agricultural runoff, which promotes the establishment of **hazardous algal blooms.**

Ways to reduce phosphorus paucity
- Reduce use of chemical fertilizers through **precision agriculture.**
- Adoption of low input **agro-ecological approaches.**
- **Mining urban sewage** to produce phosphorus.

Possible solution for phosphorus paucity:

1. One solution is to reduce the use of chemical fertilizers through precision agriculture.

2. Low-input agro-ecological approaches.

3. Mining and recycling urban sewage and other nutrient-rich wastewater to produce high quality phosphorus.

5. Net Zero Roadmap

Context:

In October 2023, The **International Energy Agency (IEA)** unveiled a report titled '**A Global Strategy for Achieving the 1.5 °C Target**' outlining a **Net Zero Roadmap**.

Key findings of the Report:

1. The challenge of limiting global warming to 1.5 °C is growing, yet a small timeframe remains due to the substantial growth of clean energy infrastructure worldwide.

2. According to the outlined pathway, technologies such as solar power and electric vehicles collectively contribute to approximately one-third of the necessary emissions reductions between now and 2030.

Notable recommendations from the report:

1. include proposals to triple renewable energy capacity by the decade's end

2. incorporate Carbon Capture, Utilization, and Storage (CCUS) methods.

About Net Zero

1. **Net Zero Concept:** Refers to balancing greenhouse gas emissions entering and being removed from the atmosphere, effectively stabilizing overall greenhouse gas levels. This equilibrium is crucial in mitigating global warming and combating climate change.

2. **Paris Agreement Emphasis:** The Paris agreement mandates nations to attain a balance between human-induced emissions and their removal from the atmosphere by the latter half of this century, highlighting the necessity of Net Zero.

3. **Significance of 'Net' in Net Zero**: Acknowledges the difficulty in eliminating all emissions entirely, especially in challenging sectors like aviation or agriculture. Alongside emission reductions, there's a critical need to amplify removal efforts.

HOW TO CALCULATE EMISSIONS TO DETERMINE NET-ZERO

GENERATED EMISSIONS
- Naturally-occuring GHG emissions
- Man-made GHG emissions

+

EMISSIONS REMOVED
- Natural processes that remove GHG emissions
- Man-made processes that remove GHG emissions

=

TOTAL EMISSIONS

Net-zero is when generated emissions and removed emissions equal zero
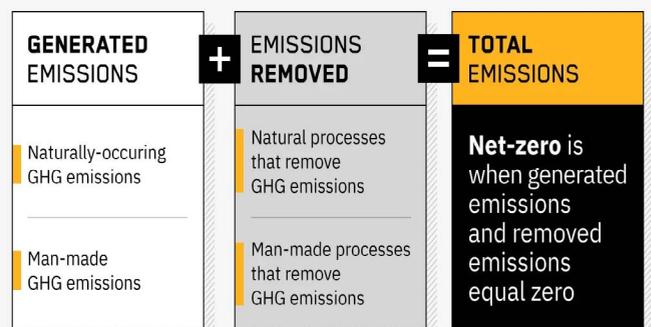
4. **Importance of Permanence:** For Net Zero to be impactful, it's essential that the removed greenhouse gases remain permanently outside the atmosphere without the risk of re-entering over time due to factors like deforestation or inadequate carbon storage.

5. **Carbon Budget Connection:** Net Zero is closely tied to the available carbon budget for specific temperature targets (e.g., 1.5°C or 2.0°C). As this budget diminishes, the urgency to achieve Net Zero amplifies, forming a critical part of climate change mitigation strategies.

WHAT IS THE CARBON BUDGET?

The carbon budget is the estimated amount of carbon dioxide the world can emit while still having a likely chance of limiting global temperature rise to 2°C above pre-industrial levels. The international scientific community estimates this budget to be 1 trillion tonnes of carbon (1,000 PgC).*

2°C
The 2°C target has been adopted by the countries within the United Nations Framework Convention on Climate Change (UNFCCC).

1,000 PgC
515 PgC
2011
We've already burned through 52 percent of the budget, emitting 515 PgC since the Industrial Revolution (1861–1880).

1,000 PgC
2045
The world has only 485 PgC left in the budget. We'll exceed this amount before the end of 2045 if emissions rates continue unabated.

India's Net Zero Strategy

During the 27th Conference of Parties (COP27) in Sharm el-Sheikh, Egypt, India presented its Long-Term Low Emission Development Strategy to the United Nations Framework Convention on Climate Change (UNFCCC).

India's road to 'net zero'

At COP-27, India announced its long-term strategy to transition to a 'low emissions' pathway to become carbon neutral by 2070

KEY MILESTONES

- The National Hydrogen Mission, launched in 2021, aims to make India a green hydrogen hub
- At least a three-fold increase in nuclear capacity by 2032
- Achieving an ethanol blending target of 20% by 2025
- Maximising the use of electric vehicles, increase public transport
- Increased climate finance to be provided by developed nations
- The long-term strategy aims at keeping global temperatures well below 2 degrees Celsius and, ambitiously, 1.5 degrees Celsius by the century-end

Environment Minister Bhupender Yadav at the COP-27 summit in Egypt on Monday.
REUTERS
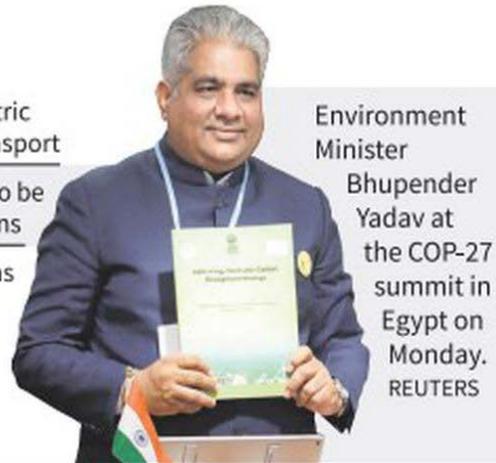
Understanding Long-Term Low Emissions Development Strategy (LT-LEDS):

The LT-LEDS is a crucial requirement stemming from the 2015 Paris Agreement, aimed at elucidating how countries plan to transition their economies beyond short-term Nationally Determined Contributions (NDCs) and work toward the broader climate goal of reducing emissions by 45% by 2030, ultimately achieving net zero emissions by approximately 2050.

Key Components of India's LT-LEDS:

1. **Basis: India's strategy for long-term low-carbon development hinges on four fundamental considerations:**

a. Low Contribution to Global Warming:

    i. Southern Asia, including India, accounts for just 4% of global emissions despite having nearly 24% of the global population.

North America — 23%
Europe — 16%
Eastern Asia — 12%
Latin America and Caribbean — 11%
Eastern Europe and West-Central Asia — 10%
South-East Asia and Pacific — 8%
Africa — 7%
Australia, Japan and New Zealand — 4%
Southern Asia — 4%
Middle East — 2%
International shipping and aviation — 2%

Fossil fuel and industry (CO_2FFI)
Net CO_2 from land use, land use change, forestry (CO_2LULUCF)
Other GHG emissions

0   200   400   600
CO_2 emissions (GtCO$_2$)

    ii. Developed regions like North America andEurope, with only ~13% of the population, contributed nearly ten times more (~40%)to global emissions.

    iii. India advocates early net-zero targets for developed countries before 2050, emphasizing the need for substantialclimate finance and technology transfer.

b. Energy Needs for Development:

    i. Energy is pivotal for addressing India's developmental gaps, supporting demographic shifts, job creation, and infrastructure development.

    ii. India's per capita primary energy consumption is relatively lower than both developed and developing peers, emphasizing active promotion of energy efficiency for low-carbon development.

Source: UNFCCC

c. Commitment to Tailored Low-Carbon Strategies:

    i. India's mitigation efforts are integrated into itsbroader development objectives, ensuring access to household energy and addressing sectoral energy needs while pursuing low-carbon pathways.

    ii. Stressing the importance of a low-carbon transition aligned with national circumstances without compromising future development necessitating substantial climate finance.

d. Building Climate Resilience:

i. India's diverse geography, encompassing various ecosystems, requires adaptation measures and resilience-building to protect developmental gains and ensure sustained progress towards sustainable development goals.

2. Alignment with LiFE Vision:

The LT-LEDS is influenced by the LiFE vision, which advocates a global shift from thoughtless and damaging consumption to conscious and purposeful utilization of resources.
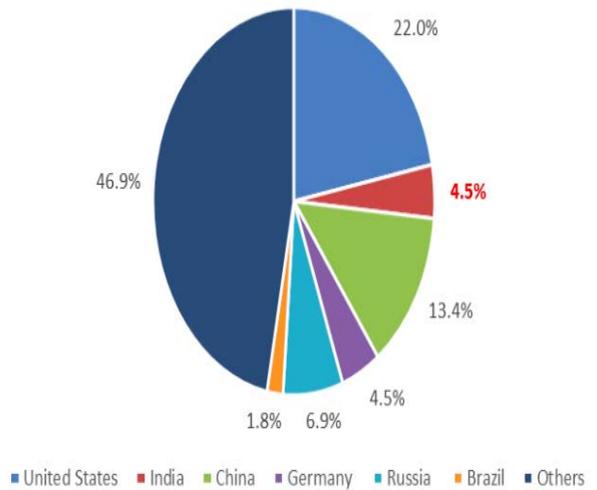
Lifestyle for the Environment (LiFE) Movement

Overview

- LiFE, introduced by India at COP26 in 2021, advocates for an environmentally conscious lifestyle centered on "mindful and deliberate utilization" rather than wasteful consumption.
- It aims to shift from a disposable economy driven by mindless consumption to a circular economy based on conscious and intentional consumption.

Objective

- The mission aims to utilize social networks to influence climate-related social norms.
- It intends to establish a global community called 'Pro-Planet People' (P3) committed to embracing and advocating for eco-friendly lifestyles.
- Through the P3 network, the mission strives to create a self-sustaining ecosystem that encourages and supports environmentally responsible behaviors.

Features of the LT-LEDS:

1. **Sectoral Transformations:**

    a. Prioritization of six strategic sectors — electricity, transportation, urban design, industry, carbon dioxide removal, and forests.

    b. Emphasis on renewable power in electricity, cleaner fuels in transportation, sustainable urbanization, energy efficiency, and decarbonization in industry, along with forest conservation as a carbon sink.

2. **Finance and Investments:**
   a. The projected financial requirement of $10 trillion by 2070 for achieving net-zero targets.
   b. Comprehensive assessment and strategies for obtaining climate finance from various national and international sources.

3. **Investment in Research and Innovation:**
   a. Recognition of the essential role of research and innovation in technological advancements for climate action, focusing on energy, industry, and business model innovations.

4. **Adaptation and Resilience:**
   a. Focus on understanding risks, enhancing livelihoods, improving governance, and securing resources for adaptation, including addressing loss and damage, ensuring equity, and inclusivity.

5. **Changes to Lifestyle for the Environment (LiFE):**
   a. Advocacy for an environmentally conscious lifestyle, urging individuals, industries, and policymakers to make sustainable choices, and promoting supportive government policies.

6. **International Cooperation:**
   a. Adherence to UNFCCC principles, emphasizing equity and differentiated responsibilities.
   b. Participation in global initiatives and partnerships like the International Solar Alliance (ISA) and seeking international collaboration, especially in financial assistance, technology transfer, and capacity building to facilitate a low-carbon transition.

Shortcomings in India's Strategy for Net Zero:

1. **Absence of Carbon Pricing Emphasis:**
   • Lack of inclusion of carbon pricing, such as an emission-trading scheme, which is already planned by the Union Government but not explicitly mentioned in the LTS document.

2. **Inadequate Measurement and Reporting Mechanisms:**
   • Failure to outline a comprehensive approach for measuring and reporting progress toward intermediate goals within the strategy. If required, the strategy lacks provisions for necessary course corrections, deviating from the standard reporting framework suggested by the Paris Climate Agreement.

3. **Neglect of Agriculture Sector Emissions:**
   • Omission of strategies addressing methane emissions from the agriculture sector, despite its significant contribution to methane, a potent greenhouse gas, thereby neglecting a critical aspect of greenhouse gas reduction efforts.

4. **Lack of Legal or Institutional Framework:**
   • A deficiency in the mention of a legal or institutional framework supporting the long-term strategies highlights the need for a structured framework to implement policies aligned with India's long-term net-zero goals, as observed in the case of several other submitted long-term strategies globally.

Conclusion:

India's Net Zero Strategy reflects its commitment to combat climate change while advancing development goals. Leading by example in domestic climate action, India urges developed nations to fulfill climate finance promises and enable green tech transfer. Collaboration is pivotal to hasten the shift to a low-carbon economy, curbing climate change impact. The collective commitment of all nations is crucial to mitigate this impending crisis effectively.

6. Climate Change and its Effect on Amphibians

Context:

In October 2023, the **Nature journal** released a study titled '**Continued Decreases in Global Amphibian Populations Amid Emerging Threats,**' underscoring the substantial perils confronting amphibians worldwide, primarily due to Climate Change.

1. The study stems from the **second global amphibian assessment** led by the **Amphibian Red List Authority**, part of the Amphibian Specialist Group under the International Union for Conservation of Nature (IUCN) Species Survival Commission.

2. The assessment scrutinized **over 8,000 amphibian species globally, with 2,286 species undergoing their initial evaluation for extinction risk**.

Key Highlights of the study	
Extinction Risk:	• 40% of amphibian species face the threat of extinction, marking the highest proportion among all species. In comparison, mammals, reptiles, and birds face extinction risks of 26.5%, 21.4%, and 12.9%, respectively. • Between 2004 and 2022, over 300 amphibian species moved closer to extinction, with 39% primarily threatened by climate change. • Amphibians are especially susceptible to environmental changes, rendering them highly vulnerable to the impacts of climate change.
Amphibians Gone Extinct:	• Since 2004, four amphibian species, including the Chiriquí harlequin toad from Costa Rica, the sharp-snouted day frog from Australia, and two species from Guatemala (Craugastor myllomyllon and the Jalpa false brook salamander), have been documented as extinct.
Concentration (Hotspots) of Threatened Amphibians:	• Concentrated threats to amphibians are prevalent in regions such as the Caribbean islands, Mexico, Central America, the tropical Andes, India's Western Ghats, Sri Lanka, Cameroon, Nigeria, and Madagascar.
Human Impact:	• Habitat destruction due to activities like agriculture, infrastructure development, and industrial operations remains the primary threat, affecting 93% of threatened amphibian species.
Disease and Overexploitation:	• Diseases like the chytrid fungus and overexploitation continue to contribute significantly to amphibian population declines. • Between 1980 and 2004, diseases and habitat loss were responsible for 91% of population deterioration. Climate change effects have grown in concern, contributing to 39% of the declines since 2004, followed by habitat loss at 37%.
Salamander Threat:	• Three out of every five salamander species face extinction, primarily due to habitat destruction and climate change, identifying salamanders as the most threatened amphibian group.
Amphibian Classification:	• Salamanders and newts face a 60% threat of extinction, followed by frogs and toads at 39%, and limbless caecilians at 16%.
Conservation Action:	• Conservationists aim to utilize the study's findings to formulate a comprehensive global conservation plan, prioritize conservation efforts, acquire additional resources, and advocate for policies that counteract the negative trajectory facing amphibians.

The International Union for Conservation of Nature(IUCN)

1. **IUCN Composition:** The International Union for Conservation of Nature (IUCN) is a distinctive membership union comprising both governmental and civil society organizations.

2. **Establishment and Authority:** Founded in 1948, the IUCN serves as the global authority responsible for assessing the condition of the natural world and formulating essential measures to protect it. The organization's headquarters are based in Switzerland.

3. **IUCN Red List Significance**: The IUCN Red List of Threatened Species stands as the most comprehensive global inventory detailing the conservation status of plant and animal species. It utilizes a precise set of quantitative criteria applicable to a wide range of species across all regions worldwide.

4. **Extinction Risk Assessment:** The IUCN Red List Categories classify species' extinction risk, spanning nine categories from NE (Not Evaluated) to EX (Extinct). Species categorized as Critically Endangered (CR), Endangered (EN), and Vulnerable (VU) are deemed at severe risk of extinction.

5. **Authority on Biodiversity Status:** Recognized as the foremost authoritative source on biological diversity, the IUCN Red List plays a pivotal role in assessing the state of biodiversity globally.

6. **Role in Global Objectives:** The IUCN Red List is a crucial indicator for monitoring progress towards meeting Sustainable Development Goals (**SDGs**) and **Aichi Target**s, crucial benchmarks for global conservation and sustainability efforts.

About Amphibians:

1. **Taxonomy**: Amphibians belong to the Chordata phylum within the Animalia kingdom, encompassing various species such as frogs, toads, salamanders, newts, and caecilians.

2. **Habitat**: These creatures are multicellular vertebrates capable of living in both aquatic and terrestrial environments.

3. **Evolutionary Milestone:** Amphibians represent the earliest cold-blooded animals that transitioned to living on land from water habitats.

4. **Cold-Blooded Nature**: They are classified as cold-blooded animals due to their inability to internally regulate body temperature according to external environmental changes.

5. **Respiration**: Amphibians respire through their lungs and skin, enabling them to extract oxygen from water and air.

6. **Cardiovascular System:** Their hearts typically consist of three chambers, a distinctive feature of their circulatory system.

Significance of the Amphibians

1. **Ecosystem Health Indicators:** Amphibians act as early indicators of environmental health. Their presence or absence often signals problems like pollution, habitat loss, or climate change.
   - For instance, declining frog populations in a region might indicate deteriorating water quality due to pollution.

2. **Insect Population Control**: Frogs and toads, among other amphibians, serve as natural pest controllers by preying on insects. Their voracious appetite helps control insect populations, which could otherwise grow rapidly and disrupt ecosystems.
   - For example, a single frog can consume many mosquitoes at night, helping manage mosquito populations in a given area.

3. **Nutrient Cycling:** Both tadpoles and adult amphibians contribute to nutrient transfer between aquatic and terrestrial ecosystems. They play a crucial role in nutrient cycling, aiding plants' growth.
   - For instance, tadpoles feed on organic matter in water bodies and excrete nutrients on land, enriching the soil and promoting plant growth.

4. **Diverse Diets and Population Control:** Amphibians possess diverse diets, consuming various organisms like algae, insects, and other invertebrates. This diverse diet helps prevent the overpopulation of specific organisms, maintaining balance within ecosystems.
   - For instance, salamanders consuming excessive numbers of snails help regulate snail populations in their habitats.

5. **Prey for Other Species**: Amphibians serve as an essential food source for various predators, including birds, reptiles, and mammals. Their role as prey contributes to the food web's balance and sustains the populations of many predators, aiding in maintaining biodiversity.

6. **Scientific and Medical Research:** Particularly frogs have been vital in scientific and medical research. Their unique biological characteristics, such as skin permeability and the ability to regenerate limbs, have contributed to advancements in fields like medicine, pharmaceuticals, and genetics.

7. **Cultural Significance**: Amphibians hold cultural and symbolic significance in diverse cultures globally. They feature prominently in folklore, art, stories, and traditions, often symbolizing different concepts such as transformation or healing. Their cultural importance can influence local identities and traditions, playing significant roles in cultural heritage and storytelling.

7. MANIS MYSTERIA (NEWLY DISCOVERED SPECIES OF PANGOLIN)

Context:

In October 2023, Adding to the eight known species of pangolins, scientists recently discovered a ninth variety, tentatively named "Manis Mysteria."

About Manis Mysteria:

1. It is a newly discovered Pangolin species.
2. The newly identified pangolin species emerged from a detailed study of scales seized in China's Yunnan province in 2015 and 2019.
3. This new species is believed to have diverged from its Philippine and Malayan relatives, approximately five million years ago.

About Pangolins:

1. **Unique Scale-Covered Mammals:**
   a. Pangolins are the only mammals entirely covered in protective scales made of keratin, resembling armor.
   b. These scales shield pangolins from predators and are their primary defense mechanism against environmental threats.

2. **African and Asian Species Diversity:**
   a. **African pangolin** species include the Black-bellied, White-bellied, Giant Ground, and Temminck's Ground pangolins, each adapted to diverse habitats across the continent.
   b. **Asian pangolins** comprise the Indian, Philippine, Sunda, and Chinese species, each with specific geographic distributions and ecological niches in Asia.

3. **Conservation Status:**
   a. **The Chinese, Philippine, and Sunda pangolins are classified as Critically Endangered** on the IUCN Red List, signifying a severe survival threat due to habitat loss and illegal trade.
   b. The **Indian Pangolin is listed in Schedule I of India's Wildlife (Protection) Act, 1972,** indicating legal protection, and it's also classified as **Endangered on the IUCN Red List** due to population declines.

PANGOLIN SPECIES

Asia

Sunda pangolin
Manis javanica
Also found in Singapore!
Critically Endangered

Chinese pangolin
Manis pentadactyla
Critically Endangered

Indian pangolin
Manis crassicaudata
Endangered

Philippine pangolin
Manis culionensis
Critically Endangered

Africa

Black-bellied pangolin
Phataginus tetradactyla
Vulnerable

White-bellied pangolin
Phataginus tricuspis
Endangered

Giant Ground pangolin
Smutsia gigantea
Endangered

Temminck's Ground pangolin
Smutsia temminckii
Vulnerable

8. UNIFIED REGISTRATION PORTAL FOR GOBARDHAN

1. Portal seeks to streamline the registration of Compressed Bio-Gas (CBG) and biogas plants nationwide.
    *   CBG/Biogas plants registered in the portal are eligible for assistance of Rs. 1500/MT under the Market Development Assistance (MDA) scheme of the Ministry of Chemicals & Fertilizers.
2. **GOBARdhan** (Galvanizing Organic Bio-Agro Resources Dhan) Scheme under the Ministry of Jal Shakti.
3. **Aim:** To generate wealth and energy by converting cattle dung, agricultural residue, and other organic waste into Biogas, CBG and biofertilizers.

9. Conocarpus Tree

Context :

Recently in **October** 2023, various concerns over the **mismanagement** of the **Conocarpus species** (**invasive**) of trees have led **Gujarat** to ban their use.

What are Invasive species of trees ?

Invasive alien species which are also known as **non-native species,** refer to **organisms** which have been **introduced** to the ecosystems **outside** of their native ranges and have **established** *self-sustaining* **colonies**. These organisms often **outcompete** native species and **disturb** the **balance** of the ecosystem, leading to a **variety** of **harmful** impacts.

INVASIVE EXOTICS
*   **Ahmedabad** has over **1 lakh** Conocarpus trees
*   They have been planted in **Surat, Rajkot, Vadodara and Kutch**
*   If they have been planted on a **large area**, a **JCB machine** is needed to uproot them
*   If the **roots remain in the ground**, the tree can **regrow rapidly**

What are the threats associated with them ?

1. **Biodiversity Disruption**: **Eucalyptus**, introduced for timber, often forms monocultures, reducing biodiversity and **altering soil composition**.
2. **Water Depletion:** Some invasive trees, like **Prosopis juliflora [Vilayti Kikar]**, consume excessive water, leading to **reduced groundwater** levels. This poses a threat to local water resources and affects the livelihoods of communities dependent on agriculture.
3. **Fire Hazard**: Certain invasive species, such as **Acacia mearnsii**, are highly **flammable**, increasing the risk

INVASIVE ALIEN SPECIES can have devastating impacts on biodiversity

for the native species | for assemblages on islands | for mainland assemblages | for assemblages in other settings with high proportions of endemic species

source: IPBES #GlobalAssessment   ipbes

of **wildfires**. These fires can devastate natural habitats, destroy native vegetation, and impact wildlife.
4. **Altered Soil Chemistry:** Invasive trees can **alter soil nutrient** levels, impacting the growth of native plants. **Lantana camara**, for example, releases chemicals that inhibit the germination and growth of surrounding vegetation, affecting the composition of the forest floor.
5. **Economic Impact**: Invasive species can have **economic repercussions** by affecting agriculture and forestry. For instance, the widespread invasion of the invasive weed **Parthenium hysterophorus** has led to significant **losses in crop yield** and poses a threat to livestock health.

Why is there a rise in such exotic species ?

1. **Global Trade and Transportation**: Increased global trade has facilitated the unintentional introduction of invasive tree species through **cargo shipments** and **transportation** networks.

2. **Agricultural Practices**: Modern agricultural practices and **afforestation** projects sometimes introduce non-native tree species without considering their potential invasiveness.

3. **Climate Change:** Shifting climatic conditions may create **more favorable** habitats for certain invasive tree species, allowing them to thrive and outcompete native vegetation.

How to manage this menace ?

1. **Early Detection and Rapid Response**: Implement **vigilant monitoring** systems to identify invasive tree species early, enabling prompt containment and eradication measures.

2. **Public Awareness and Education**: Conduct outreach programs to educate communities about the ecological threats posed by invasive trees, fostering public participation in eradication efforts. Eg ; Campaign against **Vilayati Kikar** in Delhi.

3. **Legislation and Regulation**: Strengthen and **enforce policies** that regulate the import, sale, and cultivation of potentially invasive tree species to prevent their introduction and spread.

4. **Research and Development**: Invest in scientific research to **understand the biology** and behavior of invasive trees, facilitating the development of **effective control method**s and strategies.

5. **Collaborative International Efforts**: Engage in cross-border collaborations to share information, resources, and expertise, creating a unified front against the transboundary spread of invasive tree species in India. **Eg** ; under the **2022 Kunming-Montreal Global Biodiversity Framework** , the member governments have committed to reduce the introduction and establishment of all exotic alien species by at least **50% by 2030.**

Therefore, by developing a **comprehensive national strategy, incorporating scientific insights**, **community engagement**, and **stringent regulations**, we can mitigate the spread of invasive tree species and **protect** India's diverse ecosystems.
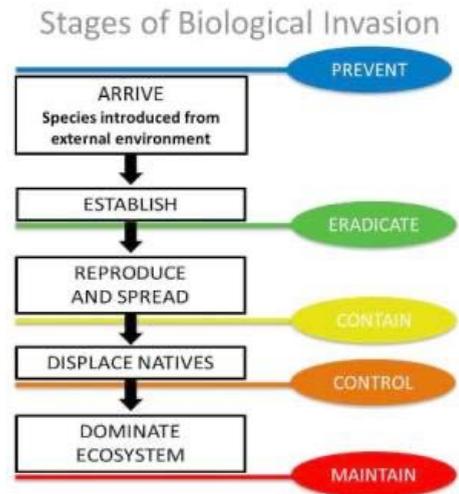
10. PETROLEUM COKE OR PET COKE

Context:

In October 2023, the Supreme Court has asked the Commission for Air Quality Management (CAQM) to examine matters concerning the distribution of extremely pollutant petroleum coke (pet coke).

About Petroleum Coke:

1. Pet coke is a **carbon-rich solid material** derived from the **final cracking process of crude oil refining**, emerging as a **spongy residue** akin to coal, suitable for use as a fuel replacement.

2. Recognized for its **higher calorific value** compared to coal, petcoke is utilized as a replacement fuel in various industries due to its energy efficiency.

3. This **hydrophobic substance is less volatile** and produces **low ash residue**, making it an appealing alternative fuel source.

4. Widely used in **cement manufacturing, lime kilns, industrial boilers, and in the production of aluminum anodes**, petcoke serves as a versatile resource across multiple industrial applications.

5. Despite its utility, the combustion of petcoke releases **hazardous gases such as carbon dioxide, nitrous oxide, mercury, arsenic, chromium, nickel, and hydrogen chloride.**

6. Its prevalence in diverse industries underscores its importance as a versatile resource despite environmental concerns related to its combustion byproducts.

7. **Tax Advantage:** Indian environmental taxes heavily favor petcoke over coal, making it a more cost-effective option despite its sulfur content and environmental concerns.

Measures Taken and Proposed:

1. **Regulatory Response:** The Supreme Court banned petcoke use in New Delhi and nearby regions, except for cement companies, which were granted an exemption due to sulfur removal during production.

2. **Government Plans:** There are discussions about implementing a nationwide ban on petcoke usage as fuel and halting imports, which currently constitute 40% of the supply.

3. **Way Forward:** Suggestions include aligning environmental taxes on petcoke with those on coal to discourage its use.

11. AMAZON RIVER BASIN

Context:

In October 2023, the **Amazon River** experienced a severe drought, resulting in the depletion of **Lake Puraquequara**. Consequently, the **floating villages** in Brazil have transformed into **mud flats** due to the receding water levels.

Factors Contributing to Drought in the Amazon Rainforest:

1. **El Niño Phenomenon:**
   a. Abnormal warming of the Pacific Ocean surface disrupts rainfall patterns.
   b. Leads to reduced humidity and rainfall, worsening drought conditions in the Amazon.

2. **High Water Temperatures in Northern Tropical Atlantic Ocean:**
   a. Elevated ocean temperatures cause heated air to rise, hindering cloud formation.
   b. Reduced cloud cover results in sharp drops in rainfall within the Amazon.

3. **Anthropogenic Climate Change:**
   a. Human-induced activities like deforestation, agriculture, and logging exacerbate the Amazon's inability to regulate climate and retain moisture.
   b. Destruction of vegetation escalates temperatures, intensifying severe drought cycles.

4. **Mining Activity:**
   a. Unregulated mining creates barriers impeding river navigation and releases pollutants and greenhouse gases, affecting the climate.
   b. Alters aquatic and terrestrial ecosystems, compounding environmental impact.

5. **Hydroelectric Dams:**
   a. Construction and operation, especially on the Madeira River, disrupt natural river flows, affecting ecosystems and releasing methane gas.
   b. Reservoir creation alters natural river courses, impacting climate and ecosystems.

6. **Transportation Infrastructure:**
   a. The construction of highways contributes to increased deforestation, disrupting conserved areas and intensifying climate disruptions in the Amazon.

Amazon River Basin:

1. The most expansive drainage basin globally, encompassing approximately 34% of South America's landmass.

2. Houses around 60% of the world's rainforests and shelters an estimated 10% of the planet's documented biodiversity.

3. Countries within its expanse include Brazil (intersected by both the equator and Tropic of Capricorn), Bolivia, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela.

Amazon Rainforests:

1. The world's largest tropical rainforests, situated within the Amazon River basin and its tributaries in the northern South America.

2. As of 2021, approximately 74% of the Amazon's the area is covered by tropical rainforests, with 9% comprising other natural vegetation types.

3. Housing nearly a fifth of the world's terrestrial species, the Amazon Rainforests provide habitats for over 45 million people.

4. Home to 400–500 indigenous Amerindian tribes, contributing to the rich cultural diversity of the region.

5. The rainforests serve as the origin of 20% of the planet's oxygen supply, crucial for global air quality and sustainability.

6. Classified as a tropical forest, this closed-canopy ecosystems thrive within 28 degrees north or South of the equator.

7. Exhibiting high precipitation levels, typically surpassing 200 cm annually, either seasonally or throughout the year.

8. Consistently warm temperatures prevail, ranging from 20°C to 35°C, creating a uniformly hot climate throughout the region.

Significance of Amazon Rainforests in the Basin Countries:

1. **Rich Biodiversity Source:**
   a. Houses unparalleled biodiversity with a vast array of flora and fauna, estimated to encompass up to 30% of all known species worldwide.
   b. The Amazon rainforest supports more diverse life forms than any other terrestrial ecosystem globally.

2. **Precipitation and Climate Influence:**
   a. Generates 50 to 75% of the world's precipitation through transpiration.
   b. Impacts rainfall patterns in the Western United States and Central America by contributing moisture to the atmosphere.
   c. Vital for hydrological cycles, regulating temperature, humidity, and influencing regional climate patterns.

3. **Carbon Sink and Air Purification:**
   a. Approximately 350 billion trees in the Amazon sequester massive amounts of carbon.
   b. Stores over 85 billion tonnes of carbon, exceeding a third of tropical forests' global carbon storage.
   c. Acts as a natural air purifier, mitigating greenhouse gases and playing a crucial role in climate stabilization.

4. **Local and Regional Benefits:**
   a. Sustains millions of people in the Amazon Basin by providing essential services and resources such as logging and non-timber forest products.

5. **Medicinal Value and Food Security:**
   a. Holds medicinal properties, with 70% of plants possessing effectiveness against cancer cells.
   b. Contributes significantly to global food sources, as 80% of various food types originate from the diverse ecosystem of the Amazon rainforest.

12. Mukundra Hill Tiger Reserve [MHTR]

Context :

In early October 2023, The forest department in Jaipur launched jungle safaris at the Mukundra Hills Tiger Reserve.

About the MHTR:

1. It is situated in [**Bundi, Kota, Jhalawar & Chittorgarh**] Rajasthan and comprises **three** wildlife sanctuaries: **Darrah, Chambal and Jawahar Sagar Wildlife Sanctuary.**
2. These hills form part of the **Vindhya** range and extend from river **Chambal** to **Kalisindh**.
3. MHTR was **declared** a tiger reserve in **2013**.
4. It is one of the **5** of its kind in Rajasthan after **Ranthambore,Sariska**, **Ramgarh vishdhari** and **Dholpur-Karauli** Tiger Reserves
5. The River **Chambal**, which flows through it, is a **lifeline** for the region and supports the **Gharial**, the **Ganges** River **dolphin** and **Red-crowned roof turtle** among others.
6. The hill terrain is characterized by water ravines, **deep** valleys, and a **dense** forest patch , which provides a **suitable** ecosystem for tigers and other wildlife.
7. It is home to diverse species including **tigers**, **sloth bears, leopards** and also Indian **wolves**.
8. The forests fall under the category "**Dry Deciduous Fores**t" ; **Kala Dhok** or Kaladhi is the predominant species alongwith **Khair.**
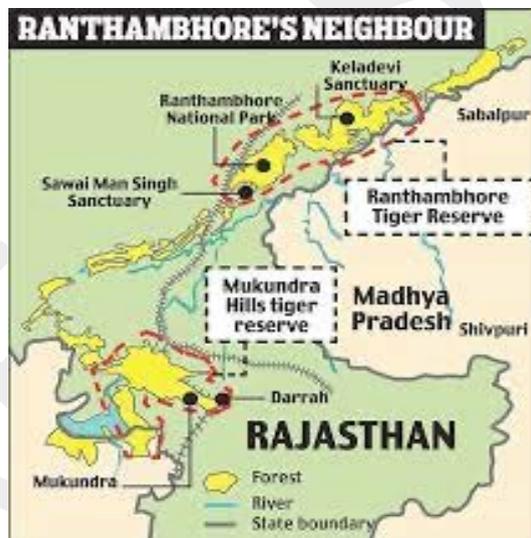
Significance in Conserving Biodiversity:

1. By providing a protected habitat for endangered species like the Bengal tiger, the reserve contributes to the **maintenance** of a **balanced ecosystem**.
2. The conservation efforts extend **beyond** tigers to benefit the entire **food web** and **ecosystem** dynamics.
3. Additionally, the reserve serves as a **living laboratory** for researchers and conservationists, offering **insights** into wildlife behavior, habitat dynamics, and the impacts of **conservation** strategies.

Furthermore, recent steps like opening up the reserve for safari would promote **ecotourism**, raising **awareness** about the **importance** of biodiversity conservation. It serves as a **model** for sustainable development, demonstrating how human activities can **coexist** harmoniously with nature.

13. Melghat Tiger Reserve [MTR]

Context :

In the **end** of **October** 2023, this tiger reserve located in **Maharashtra** caught the **attention** when a **tiger** was **poached** in the **Gadchiroli** forest division and another was **found dead** within a span of **2 days.**

About Melghat Tiger Reserve [MTR]

1. It is located in **Melghat** Forests of **Amravati** district of **Maharashtra** bordering **Madhya Pradesh** in the **Northern** and **Eastern** side.

2. It forms a part of the **Satpura**-**Maikal** landscape region.

3. This Tiger Reserve is **among the first nine** in the country to be designated as tiger reserves.

4. It is also the **first** Tiger Reserve of the **state** of **Maharashtra**.

5. It has few **protected** areas as follows: **Gugamal National Park, Wan, Narnala** and **Ambawarba** sanctuaries.

6. **Notable Features**:

   a. It is **part** of the **Deccan** trap and underlying **rock** is **basaltic** in nature.

   b. **Fauna** : Tiger, Leopard, Gaur, Sloth bear etc.

   c. These forests are **deciduous** in nature and have been classified as '**dry deciduous forests**'.

   d. Most **prominent** tree species is **Teak**.

   e. It forms a very notable **catchment** area to the **Tapi river** system.

   f. The **Korku** tribe resides in and around this tiger reserve.
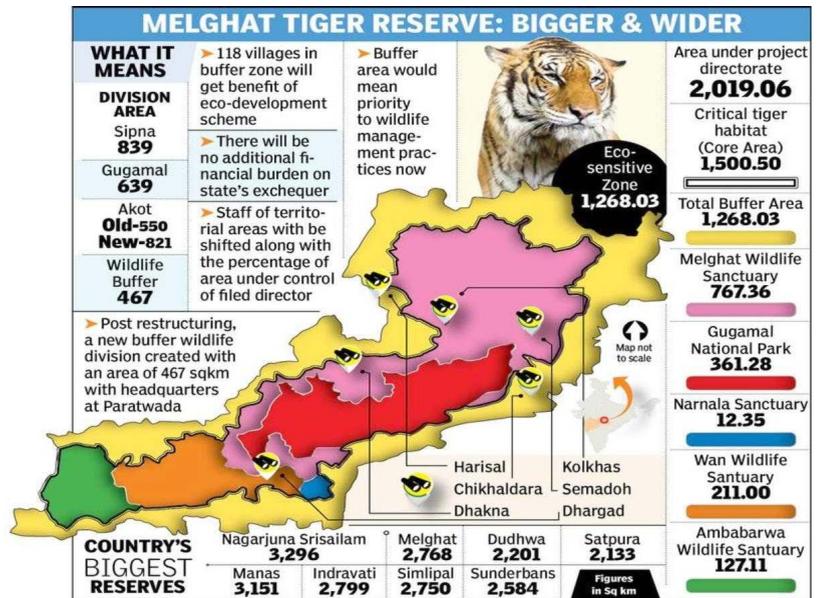
Preserving wildlife in the Melghat Tiger Reserve :

1. **Habitat Protection**: This includes preventing deforestation, controlling human encroachment, and maintaining ecological corridors to ensure the uninterrupted movement of wildlife. Eg - **Revamped Project Tiger.**

2. **Community Engagement**: Foster community participation through education and awareness programs.

3. **Anti-Poaching Measures**: Strengthen anti-poaching initiatives by deploying trained personnel, employing modern surveillance technology, and establishing intelligence networks.

Therefore , along with Implementing **stringent** l**egal measures** and **penalties** to deter poaching activities, there is also a need to address the **root causes** such as **non availability of wider home ranges** for big cats and other life forms to thrive without any unwanted human disturbances.

14. CLIMATE IMPACT, LOSS & DAMAGE IN SUNDARBANS

Context

Experts from India and Bangladesh believe that the loss and damage caused by **climate change** in the **Sundarbans** should be seen as a "**global common**".

   o This is because the region is **significantly affected** despite contributing minimally to carbon emissions

Concepts

Global commons refers to areas and their potential economic resources that lie outside national jurisdiction (high seas, atmosphere, Antarctica and outer space) and to which all nations have access.

Conventions and treaties for governance of Global Commons include the United Nations Convention on the Law of

the Sea **(UNCLOS) 1982**, the **Antarctic Treaty** System, the **Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space.**

Facts

The **Sundarbans** are a group of low-lying islands in the Bay of Bengal, spanning across **India (40%) and Bangladesh (60%).**

1. It is situated on the **delta of Ganges, Brahmaputra and Meghna rivers**. It is the largest area of **Mangrove** forest in the world.

2. It has been designated as a **UNESCO World Heritage Site.**

3. It was given the status of Heritage Site and **'Wetland of International Importance'** under the Ramsar Convention.

   o **Fauna**: Estuarine Crocodile, Royal Bengal Tiger, Water Monitor Lizard, Ganga Dolphin, Olive Ridley Turtle etc.

   o **Threats**: Vulnerable to floods, earthquakes, cyclones, sea level rise and coastal erosion.

What is "loss and damage"?

The phrase refers to costs already being incurred from climate-fuelled weather extremes or impacts, like rising sea levels

■ Climate funding so far has focused on cutting CO2 emissions, while a third of it went towards helping communities adapt to future impacts

■ Loss and damage funding is expected to cover the cost of damage that countries cannot avoid or adapt to

■ A report by 55 vulnerable countries estimated that their combined climate-linked losses in the last two decades totalled

$525 billion, or 20% of their collective GDP. This could go upto $580 billion per year by 2030

■ Vulnerable countries and campaigners argue that rich countries that caused the bulk of climate change with their historical greenhouse gas emissions should pay

Source: Reuters

15. 15-MINUTE CITIES

Context

Recently, Conspiracy theories have emerged online, falsely depicting 15-Minute Cities as a dystopian plot to restrict people's movement and conspiracy theorists have associated 15-minute cities with totalitarian agendas and international organizations like the World Economic Forum.

Concept

The **idea** behind the concept is to build cities in such a way that **most daily necessities and services are located within a 15-minute walk or bike ride**. It is a **spatial development model** to help foster a more local, healthy, equitable and sustainable way of life.

Carlo Moreno, urbanist and professor at the Sorbonne University in Paris first came up with the idea in 2016. He wanted everyone to have easy access to shops, schools, doctors, the gym, parks, restaurants and cultural institutions.

And that doesn't mean they have to be demolished and rebuilt, but that **already existing public space needs to be rearranged.**

Need

As recently as a two decades ago, more people lived in the countryside than in urban areas. But that has since changed. Around **56% of the global population are now at home in cities**, and the trend continues to rise. According to the United Nations, two thirds of the roughly 10 billion people that will inhabit planet earth by the year 2050 will live in built-up areas.

The 15-minute city also offers a **mobility concept**: fewer cars and more space for cyclists and pedestrians, safe paths for children, people with disabilities or the elderly and places for social interaction.
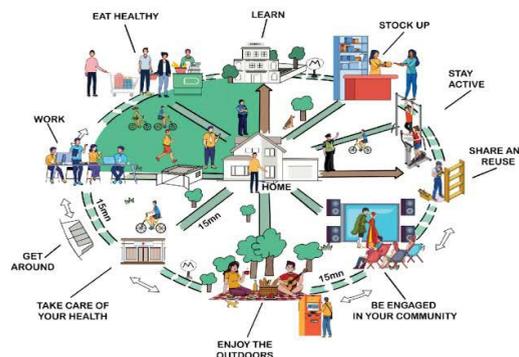
16. Sustainable finance

Context

In October, UNESCAP published a paper on sustainable finance titled "Sustainable Finance: Bridging the Gap in Asia and the Pacific."

About sustainable finance

It refers to the investment choices that consider a project's or activity's environmental, social, and governance (ESG) factors.

1. **Environment factors** include utilization of sustainable resources or mitigating the climate catastrophe.
2. **Social factors** include employment procedures that are diverse, consumer protection, and the rights of humans and animals.
3. **Governance factors** encompass the administration, labour relations, and remuneration policies of both public and private establishments.

Key findings

1. Enough capital and liquidity exist to bridge the global funding gap in sustainable finance.
2. The Asia-Pacific area is not on course to achieve the SDGs by 2030.
3. Out of among the 51 Asia-Pacific parties to the UNFCCC, only 17 have evaluated and disclosed their budgetary requirements to achieve their nationally determined contribution (NDCs).
4. By 2100, climate change with high emissions might cause India's GDP to decline by 35%.

Recommendations of the Committee

1. commitments to achieve net zero by 2050 with credible transition routes that include 2030 targets
2. The development of capacities and coordination in policy across major government ministries
3. minimizing the disparities between capital and investment demands on a sectoral and regional level
4. local currency funding for net-zero investments, green technology, and energy transition initiatives.
5. Risk-sharing and concessional funding from bilateral and multilateral development banks, among others.

> **United Nations Economic and Social Commission for Asia and the Pacific**
>
> 1. **About:** It is one of the five regional commissions of the United Nations (other belongs to Africa, west Asia, Europe, Latin America and Caribbean).
> 2. **Membe**r: **India** is one of the nine associate members from the Asia-Pacific region, along with 53-member states.
> 3. **Established**: **1947**
> 4. **Headquarters**: **Bangkok,** Thailand
> 5. **Objective**: To provide member states with capacity building, technical assistance, and results-oriented programs in order to help them tackle some of the biggest challenges facing the area.
> 6. **Report**s: SDG progress assessment report, Asia-Pacific disaster report.

Challenges to the sustainable finance

1. **Inadequate funding**: In spite of international promises and commitments to assist sustainable development projects, the real sum of money does not meet the objectives. This includes pledges made in international accords like SDGs and Paris deal.
2. **Lack of Predictability**: It can be challenging for nations and organizations to plan and carry out long-term projects since funding for sustainable development efforts is frequently unexpected.
3. **Regional discrepancies**: While low- and middle-income countries, notably those in the Global South, struggle to obtain sufficient financial resources, there are funding discrepancies across different regions. Wealthier nations or specific regions receive a disproportionate amount of monies.
4. **Inadequate Execution**: Despite the availability of funding, there is a possibility of inefficiencies or delays in the real allocation and application of those funds due to the ineffective systems, bureaucratic procedures, and administrative bottlenecks.

5. **Limited Private Sector Engagement**: It can be difficult to mobilize private sector investment for sustainable development because of perceived risks and insufficient benefits, especially in low- and middle-income nations.

Way ahead

1. **Concrete Action Plans**: Participating nations and stakeholders should formulate concrete action plans and make pledges as a result of the summit. To close the gap between commitments and real funding, these action plans ought to specify precise actions, deadlines, and roles.

2. **Accountability and Implementation**: Ensuring that the action plans are implemented effectively and holding stakeholders responsible for their promises are essential. Establishing routine reporting, monitoring, and evaluation procedures can help to keep tabs on developments and pinpoint areas that require further work.

3. **Strengthening International Cooperation**: Increasing international cooperation and collaboration is the way forward. In order to take use of their different networks, resources, and skills, governments, international organizations, civil society, and the commercial sector should be encouraged to form partnerships

4. **Empowering Developing Countries:** Developing countries, especially those in the Global South, need to be empowered if we have to go forward. In order to help these nations efficiently access and use financial resources, technical support, capacity building, and knowledge transfer can be provided.

Conclusion

The goal of sustainable finance is to match financial procedures with environmental, social, and governance (ESG) objectives. However, there are still many challenges that need to be addressed, such as **Inadequate funding and regional disparities.** Notwithstanding these challenges, the expansion of sustainable finance is a good thing for the environment and the financial sector**.**

17. Polyethylene Terephthalate [PET 46]

Context :

In **October** 2023, a study involving scientists from **Kiel** University showed for the **first** time, a new **deep-sea enzyme** which breaks down PET plastic.

What's NEW about this enzyme ?

1. **Structurally**, this enzyme **differs enormously** from ones previously discovered. For instance, it has the capacity to degrade both ; **very long-chain** PET molecules [**polymers**] and **short-chain** PET molecules [oligomers], which signifies that degradation can be **continuous**.

2. PET46 also uses a **completely varied** mechanism for s**ubstrate binding**.

3. It has an **unusual 'lid'** of **45 amino acids** above the enzyme's **active center** which is crucial for binding.

4. In other PET enzymes, the **aromatic amino acids** which are close to the active site are **complex**.

5. If observed at the molecular level, it is found to be very similar to another enzyme, **Ferulic Acid Esterase**.

> **Know More : Ferulic Acid Esterase** : degrades the natural polymer **lignin** in plant's cell walls to release sugars from woody plant parts.

6. When compared to the other best-characterized PET-degrading enzymes [**PETase** and **MHETase**] from bacteria and composting plants, PET46 is far more **efficient** at similar temperatures.

Significance in Biotechnology related applications :

1. **Waste Recycle** : By breaking down PET into its building blocks, it becomes possible to reuse these **monomers** for the production of **new** plastics, reducing the environmental impact of plastic waste.

2. **Eco Friendly waste management** : Enzymatic degradation of PET reduces the dependence on traditional, often less environmentally friendly, **methods of plastic disposal,** such as **landfilling** or **incineration**.

3. **Bioremediation** : This approach harnesses the **natural** capabilities of microorganisms and enzymes to break down pollutants, offering a more environmentally friendly alternative to traditional cleanup methods.

4. **Industrial Application** : Enzymatic degradation of PET can be integrated into **manufacturing** processes to facilitate the recycling of plastic materials within industries. This approach aligns with the growing emphasis on sustainable and **circular economy** practices.

5. **Biotechnological innovations** : This innovation serves as an example of how biotechnological approaches, such as **enzyme engineering**, can contribute to sustainable solutions for pressing issues like plastic pollution.

PET-eating enzymes offer a promising avenue for addressing plastic pollution, promoting sustainable practices in waste management, and contributing to the development of environmentally friendly industrial processes.

18. GLOBAL INFRASTRUCTURE RESILIENCE

Context: In October 2023, The **Coalition for Disaster Resilient Infrastructure (CDRI**) has published its **inaugural biennial report** focusing on global infrastructure, named **"Global Infrastructure Resilience: Harnessing the Benefits of Resilience."**

Report Overview:

1. Focuses on investing in resilience across economic, financial, and political perspectives, using the CDRI's Global Infrastructure Risk Model and Resilience Index (GIRI).

2. GIRI represents the inaugural probabilistic risk assessment, evaluating risks from major natural disasters and resilience levels in critical infrastructure sectors

Coalition for Disaster Resilient Infrastructure (CDRI)
1. CDRI represents a **global alliance** comprising **national governments, United Nations agencies, multilateral development banks, private sector entities, and academic, and research institutions**.
2. The primary objective is to enhance the **resilience of infrastructure** systems against climate and disaster risks, promoting sustainable development.
3. **Launched in 2019** during the **United Nations Climate Action Summit in New York**.
4. It is the Government of India's subsequent major global initiative following the International Solar Alliance, showcasing India's leadership in addressing climate change and disaster resilience matters.

Key Findings:

1. Anticipates a global average annual loss (AAL) in infrastructure sectors of approximately 14% of GDP due to climate change.

2. Low or middle-income countries (LMICs) are projected to bear 50% of this anticipated burden.

3. India's urban infrastructure relies heavily on government financing (over 75%) due to limited private investment.

Defining Infrastructure Resilience

1. I**nfrastructure:** Refers to the physical structures, networks, facilities, and assets providing essential services crucial for the social and economic functioning of a community or society, according to the United Nations.

2. **Resilience:** Denotes the capacity to proactively prevent, withstand, absorb, adapt to, respond to, and recuperate from a diverse array of risks, all while maintaining an acceptable level of operational functionality.

Resistance: Preventing damage or disruption by providing the strength or protection to resist the hazard or its primary impact.

Reliability: Designing infrastructure components to operate under a range of conditions, mitigating the possibility of damage or loss from an event.

Infrastructure Resilience

Redundancy: Available capacity and back up installations to enable operations to be switched or diverted to alternative parts of the network ensuring the continuity of services.

Response and Recovery: Enabling a fast and effective response to facilitate recovery from disruptive events.

3. **Key Dimensions:**
   a. **Resilient Infrastructure**: This signifies infrastructure capable of withstanding, responding to, and recovering from various hazard events and shocks.
   b. **Infrastructure for Resilience:** Refers to infrastructure that bolsters broader social, economic, or systemic resilience without generating or accumulating new systemic risks.

Global Infrastructure Risks and the Imperative for Infrastructure Resilience:

1. **Infrastructure Obsolescence:** Numerous nations, especially those that underwent industrialization before World War II, face a critical need to replace outdated infrastructure assets.
   ○ The aging infrastructure poses challenges in meeting modern demands and hinders progress in vital sectors.
2. **Weak Infrastructure Governance:** Lower-income countries grapple with extensive infrastructure deficits exacerbated by ineffective governance practices.
   ○ This includes deficient planning, poor design, inadequate standards, ineffective regulation, compliance issues, and insufficient investment.
   ○ These deficiencies hamper socio-economic progress and limit infrastructure development crucial for sustainable growth.
3. **Systemic Risks:** Existential threats like climate change and biodiversity loss imperil the global ecosystem. International agreements targeting climate change mitigation necessitate an urgent transition from carbon-intensive infrastructure to environmentally sustainable alternatives.
○ This transition aims to mitigate environmental risks and promote a more resilient infrastructure framework.
4. **Developmental Benefits:** Investing in reinforcing infrastructure resilience holds the promise of directing countries towards a developmental trajectory characterized by improved and reliable essential services, decreased damage to infrastructure assets, reduced systemic risks, and aligned sustainable development goals.
   ○ Strengthening infrastructure resilience not only safeguards against immediate risks but also fosters long-term sustainability and growth.
5. **Disproportionate Impact:** Low- and Middle-Income Countries (LMICs)) face a significant disparity in the resources needed for infrastructure resilience compared to the current level of investment.
   ○ Bridging this gap is crucial to ensure these countries can develop robust and resilient infrastructure systems, despite the financial challenges.
6. **Infrastructure Finance Challenge:** Current estimations suggest an annual investment requirement of $9.2 trillion to address infrastructure deficits, meet Sustainable Development Goals (SDGs), and achieve net-zero emissions by 2050.
   ○ Projections indicate that just four countries (China, India, Japan, and the USA) are expected to contribute 50% of the total global infrastructure investment in the foreseeable future. Addressing this financial challenge is pivotal to achieving global infrastructure goals and ensuring sustainable development worldwide.
7. **Resource Efficiency & Circular Economy:** Embracing resource efficiency and circular economy principles in infrastructure development mitigates risks by reducing waste and maximizing resource use, fostering more sustainable projects.
8. **Social Inclusivity & Equity:** Prioritizing inclusivity in infrastructure initiatives ensures equal access and addresses the needs of marginalized communities, fostering stronger, more resilient societies.

Nature-Based Infrastructure Solutions(NBIS)

Nature-Based Infrastructure Solutions(NBIS) encompasses practices that concurrently protect and provide infrastructure, adapt to climate change, uphold environmental integrity, promote biodiversity, and enhance social well-being. If widely embraced, these solutions could significantly bolster resilience.

Key Points:

1. **Enhancing Traditional Infrastructure**:
   o NBIS can complement, substitute, or safeguard traditional 'grey' infrastructure, signaling a shift towards constructing infrastructure in harmony with nature.
2. **Cost Efficiency:**
   o NBIS projects typically cost only 51% of what traditional grey infrastructure projects require, making them a more economical alternative.
3. **Carbon Emission Reduction**:
   o NBIS initiatives also reduce carbon emissions throughout infrastructure lifecycles. This reduction aids in preventing land use changes and extending the lifespan of infrastructure.
4. **Socio-economic Advantages:**
   o NBIS fosters increased participation of women in decision-making and governance, especially in rural areas. It holds the potential to generate an estimated 59 million jobs by 2030 and can significantly influence the attainment of Sustainable Development Goals (SDGs) upon widespread adoption.
5. **Ecological Restoration**:
   o NBIS supports ecological restoration by integrating natural elements into projects, reviving degraded ecosystems, and enhancing biodiversity and essential services like water purification and flood control.
6. **Community Resilience:**
   o NBIS involvement fosters community resilience by engaging locals in project planning and management. This engagement builds social ties, shares local knowledge, and promotes shared responsibility for natural resources, bolstering long-term resilience.

Functional Categories of NBIS

Functional category	Use case
Direct Provision of Infrastructure Services	Wetlands, roadsides, and ponds, as part of NbIS, function as natural filtration systems, lessening the need for engineered assets by absorbing pollutants and offering water treatment capabilities.
Enhanced Infrastructure Operations:	Incorporating elements like riparian vegetation enhances efficiency, stabilizes soil, and reduces maintenance needs by curbing sedimentation.
Asset Protection and Resilience:	NBIS shields infrastructure from climate impacts and prevents landslides through practices like agroforestry, ensuring infrastructure integrity.
Workforce Health and Productivity:	NbIS initiatives prioritize worker well-being, fostering healthier and more productive work environments.
Diverse Social and Environmental Benefits:	Contributes to SDGs and the Net Zero target, fostering inclusive decision-making and offering benefits like biodiversity conservation.
Community Engagement and Resilience:	NBIS empowers communities through education and participation, fostering resilience and a sense of ownership.
Climate Mitigation and Adaptation:	NBIS aids in mitigating climate change effects by sequestering carbon, reducing emissions, and enhancing ecosystem resilience.
Cultural Value and Aesthetics:	NBIS, such as green spaces and natural landscapes, enrich communities aesthetically and culturally, improving quality of life.
Long-term Cost Efficiency:	NBIS reduces maintenance costs, providing a sustainable and cost-effective solution over infrastructure lifecycles.

Challenges in Integrating NBIS:

1. **Knowledge Gap:** Implementing NBIS demands interdisciplinary knowledge and skills beyond traditional engineering and architecture expertise.
2. **Insufficient Research:** Scarcity of research that quantifies ecosystem services, integrates nature-based values into models, and supports the design of NBIS.
3. **Lack of Risk Assessment**: The absence of a robust risk identification process hampers the identification of resilience benefits associated with NBIS.
4. **Political Disincentives:** NBIS might face political resistance as it can reduce opportunities for privatized profits, potentially making it less politically attractive.
5. **Long Gestation Period:** NBIS solutions often take longer to implement, contrasting with the urgent need for quick infrastructure actions in many scenarios.
6. **Funding Limitations:** Limited financial backing and investment for NBIS projects hinder their implementation due to perceived higher initial costs and inadequate financial mechanisms.
7. **Regulatory Hurdles:** Existing regulations and policies may not favor or incentivize the adoption of NBIS, leading to bureaucratic barriers and outdated frameworks impeding their implementation and scalability.

Ways to Integrate NBIS

1. **Research & Knowledge:** Accessible, updated, and multilingual research, design standards, and case studies are crucial. Establishing national centers of excellence in NbIS, especially in LMICs, becomes imperative.
2. **Outcome-Linked Monitoring:** Associating NbIS monitoring with achieving Sustainable Development Goals (SDGs) and global common objectives could encourage wider adoption.
3. **Regulatory Support:** Effective legislation protecting ecosystems incentivizes increased investment in NbIS.
4. **Rating Systems:** Utilizing rating tools as market indicators for resilience or sustainability, exemplified by initiatives like India's GRIHA (Green Rating for Integrated Habitat Assessment), showcases best practices.
5. **Global Standards:** Prescriptive global standards for NbIS could streamline project financing and implementation.
6. **Financial Incentives**: Integrating NbIS into established grey infrastructure delivery systems can scale up projects, minimize asset damage, and prevent biodiversity loss.
7. **Public Awareness:** Educating the public about NbIS benefits encourages community support and involvement.
8. **Capacity Building:** Training programs for stakeholders enhance their ability to plan and execute NbIS projects effectively.

Suggestions in the CDRI Report for Infrastructure Resilience:

1. **Increased Private Investment:** Encourage greater private investment in infrastructure development.
2. **Resilient Infrastructure Standards:** Establish certifications and standards for resilient infrastructure.
3. **Incorporate NbIS into Planning**: Integrate nature-based infrastructure solutions into national and local-level planning processes.
4. **Utilize SAPCC for NbIS Integration**: Leverage India's State Action Plans for Climate Change (SAPCC) to target the integration of NbIS.
    o **SAPCC Framework:** SAPCCs provide a blueprint for responding to climate change effects at the state level in India.

Conclusion:

The extended design lifespans of various infrastructure assets will be pivotal in creating resilient investments and shaping future development paths. Concurrently, fortifying infrastructure resilience is paramount in mitigating existential threats from catastrophic climate change and biodiversity loss. Emphasizing long-term resilience strategies is essential for sustainable and secure infrastructure development.

19. DECARBONISATION OF THE CEMENT INDUSTRY

Context: Recently, the prioritization of decarbonizing the cement industry has surged in importance as a crucial step toward combating global warming and curtailing greenhouse gas emissions.

Process in the Cement industry:

1. **Pyro-processing** in the cement industry encompasses exposing limestone and clay to temperatures surpassing 1,400°C within a kiln
2. **Calcination** involves the heating of calcium carbonate (CaCO3).
3. These processes significantly contribute to carbon emissions.
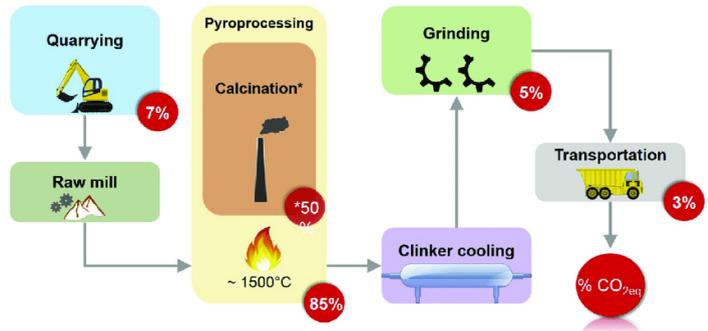
The need for decarbonization in the cement industry:

1. The industry is the second-largest industrial emitter globally, trailing behind only the iron and steel sector, indicating its substantial contribution to emissions.
2. Contributes approximately **7% of the total global carbon dioxide (CO2) emissions**, underscoring its significant impact on greenhouse gas levels.
3. Vital for meeting the objectives of achieving **"net zero" emissions by 2050**, aligning with global targets, or as per specific national commitments (such as India's pledge for net zero emissions by 2070).
4. **High Energy Consumption:** The cement industry is energy-intensive and reliant on fossil fuels, contributing significantly to its carbon footprint.
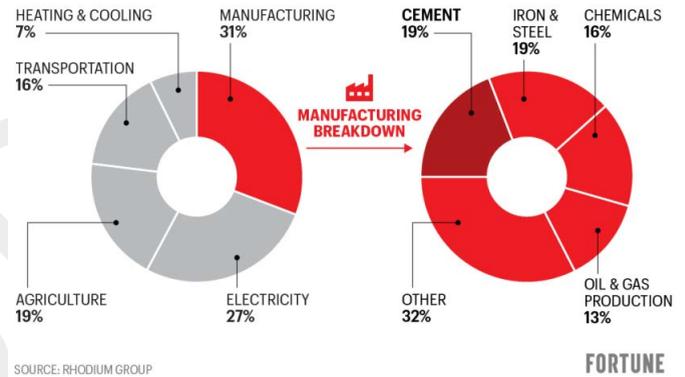
Decarbonization:

1. It refers to the process of reducing or eliminating carbon dioxide (CO2) emissions and other greenhouse gas emissions from various sectors of the economy, such as energy, transportation, industry, and agriculture.
2. Decarbonization aims to mitigate climate change and limit global warming by transitioning to low-carbon or carbon-neutral technologies and practices.

Challenges in India's Cement Industry:

1. **Rapid Urbanization and Infrastructure Growth:** India is experiencing rapid urbanization, leading to a housing and infrastructure development surge. This heightened construction activity significantly boosts the demand for cement, intensifying the industry's environmental impact due to increased production.
2. **Limited Alternatives for Pyro-processing and Calcination**: The lack of viable alternatives for Pyro-processing (heating limestone and clay) and calcination (heating calcium carbonate) poses a challenge. The industry heavily relies on these processes, which presently lack widely available, economically viable substitutes, hindering progress towards lower emissions.
3. **Insufficient Initiatives for Energy Efficiency:** There's a dearth of substantial initiatives and economic measures to promote energy efficiency within the sector. Limited efforts to enhance energy efficiency standards and adopt eco-friendly practices restrain the industry's ability to reduce its carbon footprint effectively.

Measures to Reduce Carbon Footprint in the Cement Industry:

1. **Promotion of Blended Cement:** Encourage the adoption of blended cement, aiming to minimize limestone usage by incorporating alternative substitutes. This measure seeks to reduce the reliance on limestone, a primary source of carbon emissions in cement production.

○ Blended cement is a mixture of traditional cement and other materials to enhance its properties and reduce environmental impact

2. **Integration of Recycled Materials**: Increase the incorporation of recycled materials in the production process. Utilizing recycled materials mitigates the need for extracting virgin resources, thereby reducing the environmental impact and fostering a more sustainable approach to cement manufacturing.

3. **Expansion of Alternative Fuels:** Enhance the utilization of alternative fuels such as refuse-derived fuel (RDF), industrial waste, and biomass. Diversifying fuel sources minimizes reliance on fossil fuels, lowering carbon emissions during the production phase.

4. **Adoption of Innovative Technologies:** Implement innovative technologies like carbon capture, utilization, and storage (CCUS) to capture and store carbon emissions produced during cement manufacturing. This approach aims to mitigate the release of greenhouse gases, contributing to overall emission reduction efforts.

Carbon Capture, Utilization, and Storage (CCUS):

1. **Capture of CO2 Emissions:** Involves the extraction of carbon dioxide (CO_2) emissions from industrial operations or power generation processes.

2. **Diverse CO2 Applications:** Utilizes captured CO_2 for various purposes and applications, minimizing its release into the atmosphere.

3. **Safe Underground Storage:** Securely stores the surplus CO_2 underground, preventing its emission into the atmosphere and mitigating environmental impact.

4. **Mitigation of Greenhouse Gas Emissions:** Helps in reducing greenhouse gas emissions by preventing substantial amounts of CO_2 from reaching the atmosphere, thereby aiding climate change mitigation efforts.

Refuse-Derived Fuel (RDF):

1. **Origin of Refuse-Derived Fuel (RDF):**
   a. Derived from various non-recyclable and non-biodegradable waste materials commonly present in municipal solid waste (MSW).
   b. Materials like plastics, paper, cardboard, and specific industrial/commercial waste are processed to eliminate impurities and subsequently compressed or shredded to form a fuel product.

2. **Utility as an Energy Source:**
   a. RDF is an energy source employed in waste-to-energy facilities, industrial boilers, or cement kilns.
   b. It is burned in these facilities to produce heat or electricity, leveraging the energy content obtained from these processed waste materials.

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20. Report on Targeted Methane Mitigation

Context: In October 2023, the collaborative release of the report "**The Imperative of Cutting Methane from Fossil Fuels**" by the **International Energy Agency(IEA)**, the **United Nations Environment Programme (UNEP)**, and the **UNEP-led Climate and Clean Air Coalition(CCAC)** highlights the crucial need for specific methane reduction strategies in the fight against global warming.

Key Findings from the Report	
Methane Emissions and Global Warming:	• Mitigating methane emissions is crucial to limit global warming to 1.5°C above pre-industrial levels. • Methane, a highly potent greenhouse gas, has contributed to around 30% of global warming since the Industrial Revolution. • Reducing methane emissions could prevent roughly 0.1°C of warming by 2050.
Current Methane Emission Scenario:	• Approximately 580 million tonnes of methane are emitted globally each year. • Human activities account for 60% of these emissions. • Fossil fuel operations alone emitted about 120 million tonnes of methane in 2022. • If current trends continue, anthropogenic methane emissions might increase by up to 13% between 2020 and 2030.
Need for Targeted Methane Mitigation:	• Failing to address methane emissions could push global temperatures beyond 1.6°C by 2050, even with substantial reductions in fossil fuel use. • Specific methane mitigation measures are essential and should complement decarbonization efforts. • Available technologies can help avoid over 80 million tonnes of annual methane emissions from fossil fuels by 2030, often at a low or negative cost. • The Net Zero scenario in the oil and gas sector requires around USD 75 billion by 2030 for methane reduction measures.
Regulatory Frameworks and Financing:	• Appropriate regulatory frameworks are vital for effective methane reduction, particularly in actions such as eliminating routine venting and flaring and repairing leaks in the energy sector. • While most measures can be financed by the industry, low- and middle-income countries may face barriers to accessing capital for some interventions without concessional financing.
Economic and Health Benefits:	• Methane mitigation efforts could prevent nearly one million premature deaths through 2050, equivalent to the population of Amsterdam, Netherlands. • Achieving methane reduction targets will prevent 95 million tonnes of crop losses for wheat, rice, soy, and maize, equivalent to roughly 60% of Africa's 2021 production volume. • These savings will provide direct economic benefits valued at more than USD 260 billion between 2020 and 2050 by avoiding losses in crops, labor, and forestry.

About Methane

1. **Characteristics:**

   a. Methane, represented by the chemical formula CH_4, is the most basic hydrocarbon, comprising one carbon atom bonded to four hydrogen atoms.

   b. Widely utilized as a fuel globally,

   c. methane is highly flammable.

2. **Greenhouse Gas Impact:**

   a. Methane is a potent greenhouse gas (GHG) with an atmospheric lifespan of roughly a decade, exerting a lasting impact on the climate for hundreds of years.

   b. In its initial 20 years within the atmosphere, methane possesses more than 80 times the warming potential of carbon dioxide.

Methane is a major contributor to global warming

Contribution to warming in degrees Celsius
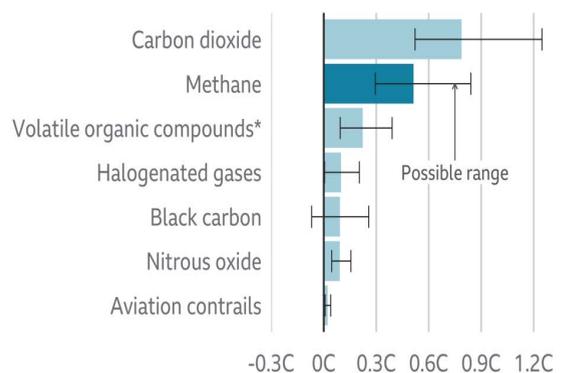
Figures are for contributions to 2010-2019 warming relative to 1850-1900
*Volatile organic compounds and carbon monoxide

3. Sources of Methane

a. Livestock Rearing:

i. Ruminant animals like cows, sheep, goats, and buffaloes possess a unique digestive system enabling the breakdown of food non-ruminant species cannot process.

ii. Emissions from livestock, including manure and gastroenteric releases, contribute approximately 32% to human-caused methane emissions.

b. Natural Gas Systems:

i. Methane leaks from natural gas systems during extraction, production, and transportation constitute a a significant source of methane emissions.

c. Waste Disposal:

i. Methane emissions arise from landfills and waste generated by residential and commercial sectors, especially through the decomposition of organic matter.

Estimated annual methane emissions by region and sector
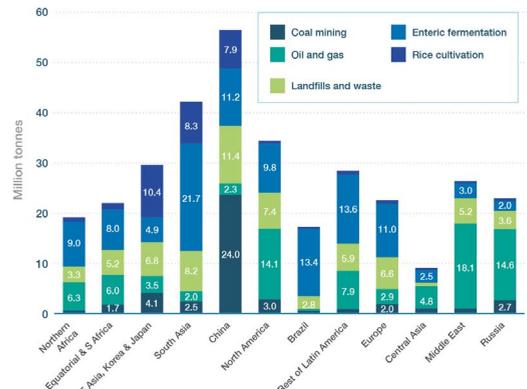
Source: Saunois et al. (2020)   CCAC. All rights reserved

d. Agricultural Activities:

i. Agriculture stands as the predominant source of human-caused methane emissions, encompassing livestock rearing and other practices.

e. Paddy Rice Cultivation:

i. Flooded fields in paddy rice cultivation create an environment devoid of oxygen in the soil, fostering ideal conditions for methane-emitting bacteria. This accounts for approximately 8% of human-linked methane emissions globally.

f. Human-Caused Contributions:

i. Overall, 50 to 65% of the total methane emissions worldwide stem from human activities, notably agriculture, natural gas systems, waste disposal, and specific agricultural practices like rice cultivation.

International Energy Agency (IEA):

1. **Establishment**: Founded in 1974, the IEA is an autonomous Intergovernmental Organization based in Paris, France.

2. **Focus Areas:** Primarily centered on energy policies, the IEA's key concerns encompass economic development, energy security, and environmental preservation.

3. **Mission Statement:** The IEA's mission is to ensure the provision of reliable, affordable, and clean energy, extending this commitment not only to its member nations but also globally.

4. **Key Reports:** Noteworthy reports published by the IEA include the World Energy Outlook Report, World Energy Investment Report, and India Energy Outlook Report.

5. **India's Membership**: India became a member of the IEA in 2017, aligning itself with the agency's objectives and participating in global energy discussions and strategies.

United Nations Environment Programme (UNEP):

1. **Establishment**: Formed on June 5, 1972, the UNEP is a prominent global environmental authority.

2. **Agenda Setting and Advocacy:** The UNEP takes the lead in shaping the global environmental agenda, advocating for sustainable development across the United Nations system, and championing worldwide environmental protection efforts.

3. **Key Publications:** Notable reports published by the UNEP include the Emission Gap Report, Adaptation Gap Report, Global Environment Outlook, Frontiers, and Invest into Healthy Planet.

4. **Prominent Campaigns:** The UNEP spearheads influential campaigns such as Beat Pollution, UN75, World Environment Day, and Wild for Life.

5. **Headquarters Location:** The UNEP operates from its headquarters in Nairobi, Kenya.

6. **Support for Sustainable Development Goals:** UNEP supports its 193 Member States in achieving the Sustainable Development Goals and fostering a harmonious coexistence with nature.

7. **Membership of India:** India holds membership in the UNEP, participating in its initiatives and contributing to global environmental conservation and sustainable development efforts.

UNEP-Convened Climate and Clean Air Coalition:

1. **Formation and Membership**: Established in 2012, the coalition comprises over 160 voluntary members, including governments, intergovernmental bodies, and non-governmental organizations.

2. **Focus and Unique Role:** The coalition is the sole international entity to mitigate potent yet short-lived climate pollutants (SLCPs) such as methane, black carbon, hydrofluorocarbons (HFCs), and tropospheric ozone.

3. **India's Participation:** India joined the CCAC as a partner in 2019, engaging in collaborative efforts to address these critical climate pollutants.

21. CORAL REEF BREAKTHROUGH

Context

In October,2023 the **Global Fund for Coral Reefs (GFCR)** and the **High-Level Climate Champions (HLCC)** have partnered with the **International Coral Reef Initiative (ICRI)** to launch **Coral Reef Breakthrough** initiative.

Target

By 2030, it seeks to safeguard the future of at **least 125,000 km2** of **shallow-water tropical** coral reefs with investments of at **least USD 12 billion**.

Action plan to achieve this target

Its foundation consists of **four action** points:

1. **Stop drivers of loss - mitigate** the impact of **local loss** causes like as overfishing, damaging coastal development, and land-based sources of pollution.
2. **Double the area of coral reef under actively protection**- Encourage **resilience-based** efforts to save coral reefs by aligning with them and exceeding global coastal preservation targets including **30by30.**
3. **Accelerate restoration**- contribute to the creation and implementation of innovative solutions at large scale and climate-smart designs that promote coral adaptability in order to **impact 30% of degraded reefs by 2030**.
4. **Securing investment**- By 2030, raise funds from **both public and private sources** totalling at least **USD 12 billion** to conserve and restore these vital ecosystems.

About coral reef

1. The tiny **individual c**orals, known as polyps, are grouped together **in colonies** of hundreds to thousands to build coral reefs.
2. Hard **calcium carbonate exoskeletons** cover the bodies of these marine invertebrate species.
3. Coral reefs can be found in the Andaman and Nicobar Islands, the Gulf of Mannar, the Gulf of Kutch, and the Lakshadweep Islands in India.

International Coral Reef Initiative (ICRI)
1. It is an **international collaboration** between countries and organizations that aims to protect coral reefs and associated ecosystems globally.
2. The announcement was made during the 1994 First Conference of the Parties to **the Convention on Biological Diversity.**
3. ICRI has **101 members, including India (though India was not the founding member).**
Global Fund for Coral Reefs (GFCR)
1. It is a **mixed finance instrument** that mobilizes resources and action to save and rebuild coral reef ecosystems.
2. It offers grant funding as well as private capital in order to **assist long-term initiative**s that safeguard coral reefs and the communities that depend on them.
30by30
1. By 2030, the goal of this global initiative is to safeguard **at least 30% of the planet's** land and ocean areas.
2. It was originated at the **15th Conference of Parties to the UNCCD**.
High-Level Climate Champions (HLCC)
They have been appointed by the UN to promote and facilitate the involvement of non-state players, including companies, towns, regions, and investors, in advancing the objectives of the climate change accord in Paris.

22. FISH MINT

About Fish Mint

1. **Description**
   a. **Plant Profile:** Fish Mint is an herbal plant renowned for its medicinal qualities, characterized by broad leaves and grown on the ground.
   b. **Scientific Identity**: Known scientifically as **Houttuynia cordata**
   c. **Other names**: **Bishop's Weed, Chinese Lizard Tail, Fish Wort, Fish Leaf, Rainbow Plant, and Chameleon Plant.**
      i. In Meghalaya, it is called **ja mardoh**.
      ii. In Manipur, it is called **tokning-khok.**
   d. **Misleading Name**: Despite its name associating it with mint, Fish Mint doesn't belong to the mint family. Nevertheless, it shares the vigorous spreading trait akin to mint.

2. **Historical Medicinal Significance**
   a. **Ancient Medicinal Roots**: Fish Mint's medicinal properties and benefits have historical documentation in traditional **Chinese and Japanese medicine,** as well as **Ayurveda** and **Siddha** practices.

3. **Habitat**
   a. **Natural Habitat:** Fish Mint's native habitat spans the Himalayan foothills, extending through Southeast Asia, China, Korea, and Japan.
   b. **Preferred Conditions**: Thriving in wet locales, it exhibits resilience even when partially submerged in water.

4. **Distinct Characteristics**:
   a. This herb boasts stunning **white flowers and broad, heart-shaped leaves**, contradicting its fish-like taste and aroma that inspired its name.

5. **Physical Attributes and Growth Patterns**
   a. **Appearance**: Growing up to 2 to 3 feet in height with a spread of 3 feet, it features climbing tender vines, with stems ranging from medium to light green and dark to medium green leaves.
   b. **Invasive Nature:** Regenerating from fragile underground rhizomes, Fish Mint is considered invasive, easily giving rise to new plants when disturbed.

6. **Medicinal and Culinary Uses**
   a. **Medicinal Applications**: Valued for its medicinal properties, Fish Mint treats **digestive issues, insect bites, fevers, coughs, influenza, kidney ailments, and various other health conditions**.
   b. **Culinary Significance:** Its leaves are an **essential ingredient in many Asian cuisines, used as a fresh herb or vegetable**, while even the root of Fish Mint finds culinary utility.

23. DANCING FROGS

Context:

In October 2023, the **second Global Amphibian Assessment Report** was published by **IUCN**, identifying the dancing frogs of the Western Ghats as one of the most endangered amphibian genera.

About Dancing frogs

1. **Overview of Dancing Frogs:**
a. **Endemic to the Western Ghats**, these frogs belong to the Micrixalus genus and are considered the fifth-most threatened genus globally, with 92% of their species classified as threatened.

2. **Scientific name: Micrixalus kottigeharensis**

3. **Habitat Preference**:

   a. Found in habitats with dense canopy cover ranging from 70-80%.

4. **Behavior and Mating Ritual:**

   a. **Unique Mating Display:** Near streams, male dancing frogs exhibit a distinct mating behavior is known as "foot flagging." They raise one hind leg at a time, rapidly waving their webbed toes in the air, resembling a dance. This behavior attracts mates and deters competitors due to the masking of their mating calls by the stream's noise.

5. **Ecological Significance and Threats:**

   a. **Ecological Importance**: Frogs, including dancing frogs, play a vital role in the food chain and offer diverse ecological services.

   b. **Threats Faced:** These species confront multiple threats:

   i. invasive species like the mosquito fish,

   ii. land-use alterations,

   iii. fluctuations in temperature and humidity,

   iv. extreme weather events (e.g., floods, excess rainfall),

   v. infectious diseases,

   vi. water and light pollution, and

   vii. impacts from infrastructure projects.

6. **IUCN Listing:**

   a. The **Nilgiri Dancing Frog** is categorized as **Vulnerable**

   b. **White-Cheeked Dancing Frog** is listed as **Endangered** on the IUCN Red List.

The Global Amphibian Assessment (GAA):

1. **About:**

   a. The GAA is a recurring initiative to assess all known amphibian species for the IUCN Red List of Threatened Species (IUCN Red List).

   b. It relies on contributions from numerous herpetologists globally, spanning over 100 countries.

2. **GAA2 and Extensive Research:**

   a. GAA2, the second iteration of this assessment, consolidated over a decade of research involving more than 1,000 experts to evaluate the extinction risk of 8,011 amphibian species worldwide.

   b. The first GAA, completed in 2004, highlighted the ongoing amphibian extinction crisis and established a reference point for monitoring trends and evaluating conservation efforts.

3. **Current Status Revealed by GAA2:**

   a. The recent GAA2 findings indicate a continued deterioration in the conservation status of the world's amphibians, reflecting an ongoing decline.

4. **Significance of GAA:**

   a. The Global Amphibian Assessment is a noteworthy illustration of international collaboration and a shared dedication to comprehending the conservation status of various species.

G. SOCIAL AND CULTURE

1. CHILD SEXUAL ABUSE MATERIAL (CSAM)

Context

In October 2023, the Ministry of Electronics and Information Technology (MeitY) has directed social media platforms like Telegram, X (formerly Twitter), and YouTube to remove Child Sexual Abuse Material (CSAM) from their platforms in India.

More on news

1. 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.
2. MeitY has issued a warning to social media intermediaries that any delay in complying with notices could lead to the withdrawal of their safe harbor protection.
3. Safe harbour protection, under Section 79 of the IT Act 2000, provides immunity against legal liability for third-party content.

What is Child Sexual Abuse Material (CSAM)?

1. Child sexual abuse material (CSAM) refers to any content that depicts sexually explicit activities involving a child.
2. CSAM is a form of Online Child Sexual Abuse and Exploitation (OCSAE), involving activities like child luring, production, distribution, and live streaming of sexual assault.
3. As of May 2023, India reported approximately 4.5 lakh cases of CSAM spread.
4. Around 1 billion children aged 2-17 years globally have experienced physical, sexual, or emotional violence.

What's Behind Children's Silences on Sexual Violence?

1. Too much exposure to children who have experienced sexual violence.
2. Denial.
3. Self-blame & shame.
4. Respect for elders.
5. Loyalty to family.
6. Concern for the perpetrator.
7. Mistrust of authorities.
8. Fear of bullying & mocking.
9. To protect the family from conflict with the community.
10. Fear of not being believed.
11. Other forms of abuse are sometimes more hurtful.

Impact of Child Sexual Abuse Material (CSAM) on Survivors

1. **Guilt, shame, and blame:** Survivors may experience guilt or self-blame for not being able to stop the abuse.
2. **Mental Health:** CSAM exposure can lead to psychological stress, including anxiety, depression, and PTSD, which can decrease academic motivation and self-harm tendencies.
3. **Social isolation:** Online sexual abuse in childhood can lead to decreased self-esteem, damaged interpersonal relationships, hindered trust-building, and increased isolation and loneliness in survivors.

4. **Substance and alcohol abuse:** Childhood sexual abuse survivors often resort to alcohol and substances in adolescence to cope with the trauma and continue this pattern into adulthood.

5. **Disease burden:** CSAM is linked to various communicable and non-communicable diseases, including sexually transmitted infections like HIV, unintended pregnancies, and induced abortion.

Measures taken to curb CSAM

1. **Information Technology (IT) Act, 2000:** Sections 66E, 67, 67A, and 67B of the IT Act impose severe penalties and fines for online transmission of obscene or pornographic content, including CSAM.

2. **IT Rules 2021:** It aims to curb the circulation of CSAM on social media platforms.

a. Platforms are required to make reasonable efforts to prevent users from posting content that is paedophilic or harmful to children, as per Rule 3(1) (b).

b. Rule 4(4) mandates large Indian social media platforms with over 50 lakh users to implement technology-based measures, including automated tools, to proactively detect child sexual abuse content.

3. **Protection of Children against Sexual Offences (POCSO) Act, 2012:** The law safeguards children under 18 from sexual assault, harassment, and pornography offences, offering severe punishments based on the severity of the offence.

4. **Online Child Sexual Abuse and Exploitation (OCSAE) Prevention/Investigation Unit:** The CBI established a unit to investigate offences under the IPC, POCSO Act, and IT Act, along with other relevant laws. The **Nirbhaya Fund** is used by the government to implement the 'Cyber Crime Prevention against Women and Children (CCPWC)' project for raising awareness.

5. **Digital Personal Data Protection Act, of 2023:** Places three conditions on data processing entities for children's data:

   a. Obtaining "verifiable parental consent".

   b. Not causing harm to children.

   c. Not tracking or monitoring children or targeting ads at them.

6. **Initiatives by Social Platforms:** YouTube employs an automated tool called Child Sexual Abuse Imagery (CSAI) Match to proactively eliminate Child Sexual Abuse Material (CSAM).

What can you do as an adult?

1. Protect the child's identity.
2. Report inappropriate images.
3. Be mindful of privacy settings.
4. Use a secure internet connection.

Challenges in Countering Child Sexual Abuse Material (CSAM)

1. **Lack of awareness:** India's CSAM reporting platforms are underutilized due to limited knowledge and access, resulting in a low number of self-reported crimes. In 2020, the National Cybercrime Reporting Portal (NCRP) reported 1,102 cybercrimes involving children. In 2020, NCRB received approximately 2.7 lakh reports of OCSAE from the National Centre for Missing and Exploited Children (NCMEC).

2. **Balancing Privacy and Safety of Children:** Social media platforms must breach encryption to trace child sexual abuse content, compromising online communications security and violating the Right to Privacy under Article 21.

3. **Anonymity:** Offenders exploit young children's vulnerabilities on social networking sites and chat spaces, making it challenging to identify sexual abusers, facilitate abuse, and prosecute viewers of child abuse content.

4. **Digital age:** The rise in social media usage, widespread online classes, and the use of educational apps can potentially have a detrimental effect on children. From 2019-2020, cybercrimes against children surged by 400% due to COVID-19 and online services, with 90% of these crimes involving the publication or transmission of CSAM.

Way forward

1. **Regulation:** Social media companies can prevent future dissemination of harmful content by implementing proactive measures like content moderation algorithms and reporting mechanisms. The National Framework for Child Online Safety is needed to ensure the safety of children and young people in both physical and online environments.

2. **Target online grooming and preparatory behaviour:** The objective is to identify and combat activities such as online grooming for child sexual exploitation and abuse. Online grooming refers to the methods used by abusers to sexually exploit children through the internet.

3. **Awareness**: A mass media awareness campaign can effectively raise public awareness about child sexual abuse. The integration of OCSAE modules into computer science and sex education curricula at schools should be taken.

4. **Collaboration**: India should adopt a proactive approach and explore potential bilateral or multilateral partnerships to enhance child safety online**.** Strategic partnerships with countries with robust mechanisms to address OCSAE, such as Australia, can be explored.

5. **A specialised approach for children:** Enhanced safety measures can be implemented to safeguard children, especially from peers or adults engaging in harmful sexual activities with them.

2. SPORTS IN INDIA

Context

In October 2023, India achieved a new record at the 19th Asian Games by winning 107 medals, including 28 gold, 38 silver, and 41 bronze.

More on News

1. India has been placed fourth in the global rankings.
2. India's performance at the 18th Asian Games exceeded its previous best of 70 medals.
3. China dominated the medals list with 383, followed by Japan and the Republic of Korea.

Factors behind Improved Performance

1. **Sports Governance:** The National Sports Development Code of India was implemented by the Ministry of Youth Affairs and Sports in 2011. The initiative seeks to enhance transparency and accountability in the operations of National Sports Federations (NSFs) and promote effective governance practices in national sports management.

2. **Infrastructure and Training:** The Sports Authority of India has significantly contributed to the enhancement of infrastructure by constructing stadiums across the country. The organization is actively seeking to recruit top-tier coaches, sports doctors, and trainers from various foreign countries.

3. **Funding:** Budget allocation for Sports has increased over the year. The Ministry of Youth Affairs and Sports' budget allocation increased by 11% in FY 2023-24 compared to FY 2022-23.

4. **Role of States:** Uttar Pradesh has initiated the One District, One Sport (ODOS) scheme.

5. **Role of Corporates:** Corporations have utilized their Corporate Social Responsibility (CSR) to promote sports.

6. **Community-Based Sports:** They organize sports leagues, fitness classes, and community events centred around physical activities and sports.

7. **Recognition in Society:** Earlier, only sportspersons from a few sports received recognition. But in recent times, athletes from various fields have been recognized in society.

8. **Hosting International Events:** Indian athletes have gained increased international competitive exposure through home-hosted world-class tournaments like the Indian Open Badminton tournament.

Importance of Sports

1. Improve physical and mental health.
2. International Recognition and Soft Power.
3. Promote traditional culture.
4. Promote unity and equality.
5. Empower youth.
6. Generating revenue and employment opportunities.

Challenges Faced in Promoting Sports

1. **Sports hierarchy:** The sports sector lacks a clear hierarchy from the grassroots to the national level.
2. **Poor Governance:** The current governance model in Indian sports is characterized by a lack of accountability and transparency, fostering a conducive environment for widespread corruption. Sports federations are frequently dominated by political figures with limited sports expertise. These are alleged with nepotism, fiefdom etc.
3. **Changing nature of society and social activity:** Urbanization and digitization have diminished children's interest and opportunities in physical activities and sports.
4. **Lack of remuneration and job security:** Parents often hesitate to consider sports as a profession for their children, instead prioritizing academic excellence.
5. **Poor Funding:** India's sports budget is around Rs 24 per capita per year, significantly lower than the European Union's Rs 8,000 per capita sports budget.
6. **Psychological Support:** In India, sports-oriented training is prevalent, with minimal emphasis on the psychological resilience of athletes.
7. **Other:** Regionalism in selection and facilities, sexual harassment, and excessive cricket importance are issues affecting the sport.

Measures Required to Further Improve Sports Performance

1. **Sports education as part of the National Curriculum Framework (NCF):** The sports curriculum framework must be drafted, piloted, tested in schools, ratified with industry expert suggestions, and implemented nationwide.
2. **Oversight:** Sports associations should be established at block and district levels, supervising respective sports academies at that level.
3. **Sports professionals in sports administration:** This would lead to more informed and effective policies based on knowledge.
4. **Bridging Regional disparity:** Adequate funds for infrastructure and facilities should be provided to all States and UTs to reduce the rural-urban and rich-poor divide.
5. **Funding:** Increased budgetary allocation for sports development and private participation are needed to create world-class infrastructure, training equipment, conditioning camps, and overseas exposure.
6. **Employment:** Government enterprises and the private sector should be encouraged to hire sportspeople for specific vacancies, and tax rebates should be incentivised to encourage this hiring.
7. **Recognition and changing mindset:** Increased coverage of all sports on TV and other mediums.

Sports in India

1. Sports in India are listed in **Entry 33, List II** of the constitution and are necessarily under the domain of the federal states.
2. **Current Sports Governance Model in India:**
   a. The Ministry of Youth Affairs & Sports (MYAS) has institutions like the Sports Authority of India (SAI) and other institutions working towards promoting sports training under SAI.
   b. The Indian Olympic Association (IOA) has State Olympic Associations (SOAs) and National and State Sports Federations (NSFs and SFs).
   c. For non-Olympic sports (cricket), federations like the Board of Control for Cricket in India (BCCI) are directly affiliated with their respective international boards.

Initiatives Taken to Promote Sports

1. **TOPS (Target Olympic Podium Scheme):** The organization has provided tailored support to a core group of athletes, including foreign exposure, coaching, training, and competition abroad. It is supported by the National Sports Development Fund (NSDF).

2. **Khelo India Scheme:** The Scheme aims to establish a national platform for athletes to showcase their talents, identify them for further grooming, and receive financial support. Khelo India is implementing a program to develop State Centres of Excellence in all states.

3. **Fit India Movement:** The organization promotes physical fitness and sports culture among Indians, encouraging individuals of all ages to adopt an active and healthy lifestyle.

4. **National Sports University:** India's first dedicated National Sports University has been set up in Manipur.

3. GUIDELINES TO PREVENT SUICIDE AMONG STUDENTS

Context

In October 2023, the Ministry of Education released draft guidelines titled UMMEED (Understand, Motivate, Manage, Empathise, Empower, Develop), which aim to enhance sensitivity, understanding, and support in schools regarding self-harm incidents.

Key Points

1. The guidelines for preventing suicide are based on the belief that 'Every Child Matters'.

2. Suicide is a multifaceted issue influenced by personal and social factors, often not triggered by a single event or circumstance.

3. The Mental Healthcare Act 2017, decriminalized suicide in India.

4. **Factors influencing suicides:**

   a) **Individual:** Adverse childhood experiences, addiction to social media and substance use, and internal pressure to perform well are all contributing factors to this issue.

   b) **School:** The lack of positive relationships with peers and teachers, bullying, humiliation, isolation, absence of school-family connections, and academic pressure from school are significant issues.

   c) **Family:** Conflict, instability, parental neglect, and pressure to prepare students for competitive exams can lead to financial hardships and other issues.

   d) **Community and Society:** The stigma surrounding mental illness and sensationalized and insensitive reporting of suicide cases in media are significant issues.

Actions towards prevention of suicide

1. Setting up of School Wellness Team under the leadership of the School Principal.

2. Building capacity for different stakeholders.

3. Promoting a Positive School Environment by integrating mental well-being into school functioning.

4. Responding immediately and supporting students at risk.

5.

4. CHILDREN AND SOCIAL MEDIA

Context

A recent survey reveals that 60% of urban kids spend 3 hours daily on social media and other online platforms.

Role of different stakeholders in increasing children's access to the Internet

1. **Parents:** In modern society, especially in urban societies where both parents work, inadequate parental attention often leads to the "iPad kid" phenomenon. The text describes a young child who is constantly fixated on their iPad or other smart device. Parents expose children to social media by sharing sonogram pictures, pregnancy experiences, and newborn photos, among other activities.

2. **Digital companies (like YouTube or Instagram):** Utilizing data mining and analysis, content can be tailored to children's interests to effectively engage them. Screen stimuli, such as color, sound, and stories, can rapidly change, potentially leading to sensory overload and releasing happiness hormones in children.

3. **Schools:** The pandemic expedited the adoption of digital learning platforms without raising awareness about the potential negative effects. Parents are under pressure to provide technological devices due to the majority of online work post-pandemic.

4. **Children:** The digital world offers a distraction from real-life challenges and stressors, while also attracting individuals due to peer pressure to use the latest technology and games.

5. **Government:** Lack of separate regulation for adults and children.

Stakeholders and their concerns

1. **Government and public authorities:** about enacting laws to protect against online abuse.
2. **Parents and caregivers:** about protecting their children from online dangers.
3. **Schools:** about digital literacy.
4. **Children:** about their right to use of internet.
5. **Private sector:** about creating a safe platform for children.

Positive and Negative Effects of social media on Children

Positive	Negative
1. Cognitive Skills: Social media applications, including games, can effectively aid in learning skills such as reading, writing, and counting.	1. **Cyberbullying and Online Harassment:** Children may experience bullying, harassment, or exclusion on social media, leading to emotional distress, anxiety, and depression.
2. Universal Values: Teaching children to respect others' perspectives and pay more attention to universal morals and values can foster a more harmonious and respectful global society.	2. **Fake news:** Social media is a powerful tool for spreading false, harmful, and offensive information about others.
3. Social Skills: Social media offers a vast array of conveniences for communication and interaction with various individuals.	3. **Defective social relationships:** Children may experience stress due to face-to-face interactions and develop an addiction to social media for communication.
4. Increased Access to Information: social media offers a vast array of information on various subjects.	4. **Distorted Senescence of reality**: Children have limited abilities to differentiate between online reality and real reality.
5. Creativity: Children showcase their creativity, ideas, and talents through art, writing, and video content.	5. **Facebook Depression:** Children may experience anxiety due to insufficient likes and perceived loss of online support.
	6. **Excessive Screen Time:** This can result in decreased physical activity, poor sleep patterns, and other health-related issues.

Way forward

1. **Parental controls:** Parents can set up parental control settings to restrict or allow certain websites to be accessed on the internet.
2. **Empowering children:** Empowerment techniques involve teaching individuals about legal boundaries in age-appropriate language, and discussing cultural, moral, and ethical norms and expectations within their communities.
3. **Using technology:** The aim is to reduce data collection by updating children's devices with the latest software and privacy settings.
4. **Regulation:** Governments have the power to create and enforce laws and regulations that protect children's online privacy and prevent cyberbullying.
5. **Role of Internet provider:** Child centres can prevent and respond to online child sexual exploitation and abuse through effective reporting and feedback mechanisms.
6. **Schools:** They can educate students on the safe and effective use of the Internet.
7. **Encouraging Physical Activities:** Promoting initiatives like the "Fit India Movement" can foster physical activity, discipline, and teamwork in children.
8. **The International Telecommunication Union (ITU) Guideline on Child Online Protection (2020):** These can be adapted and utilized by various countries and stakeholders in a manner that aligns with national and local customs and laws.

5. CIRCULAR MIGRATION

Context

In October 2023, Experts suggested that India's internal migration is primarily circular, with seasonal migration from rural areas to urban cities.

What is a circular migration?

1. **Circular migration** refers to repeated migration experiences involving multiple emigrations and returns, although there is no standard definition.
2. People move when work is available, rather than permanently or temporarily migrating to another location for contract-based labour.
3. This phenomenon is primarily observed among low-income individuals who migrate to secure seasonal jobs in another country, city, or other location.

Factors facilitating circular migration in recent times

1. Modern forms of quick and easy transport and communication.
2. Uneven development following liberalization.
3. Cyclicality associated with agrarian rural economics.
4. Increased Social networks attracting youth to urban centres.
5. Job growth in the manufacturing, construction and services sectors.

Benefits of circular migration

1. Balances the demands of individual economic development with those of the states or cities.
2. Reduces brain drain by promoting the movement of expertise and know-how **("brain circulation")** and enabling demand-based internal migration.
3. Reduce the rate of permanent population increase while addressing labour market shortages.
4. Reduces the risk of income instability by spreading it between village and city income opportunities.

5. Reduces the constraints brought on by permanent immigration, including illegal migration, resource competition, and cultural difficulties.

6. Remittances from circular migrants are typically higher than those from migrants who do not want to return home.

7. Promotes cultural exchange by introducing individuals to various cultures, ideas, and practices.

Challenges with Circular Migration in India

1. **Exploitation by employers:** The issue of unhygienic and unsafe working conditions, lack of social security, and violations of labour norms such as minimum wages are prevalent issues.

2. Subsistence-level employment is prevalent, with limited opportunities for savings or asset creation.

3. The government is providing limited policy support due to a lack of data and under-reporting of its extent.

4. The term **"exclusion"** refers to the exclusion from political processes in certain areas.

5. Circular migrants, primarily from disadvantaged groups and poor educational backgrounds, are driven primarily by distress and vulnerability.

6. **Other issues:** Social isolation, Language barriers, Job uncertainty, anti-migrant sentiments in host states etc.

Way forward

1. The **Periodic Labour Force Survey (PLFS)** is a tool used to collect comprehensive data on circular migrant workers at national and regional levels.

2. The organization offers affordable insurance policies, occupational safety programs, and skill enhancement schemes as a safety net.

3. The creation of an interstate migration council aims to ensure coordination and coherence between the Centre and State governments in regulating labour laws.

4. The government is implementing policies to integrate the migrant labour force into the formal economic framework.

5. Robust protection of migrant rights to address exploitation and abuse.

Measures for internal migrants in India

1. **Inter-state Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979 (subsumed in the Occupational Safety, Health and the Working Conditions (OSH) Code):** Provides for decent working conditions, minimum wages, grievance redressal mechanisms, protection from abuse and exploitation, enhancement of skills and social security etc. for Inter-State migrants.

2. **Social security and welfare schemes:**
   a) **Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY):** Provide for life and disability cover due to natural or accidental death.
   b) **Pradhan Mantri Shram Yogi Man Dhan Pension Scheme (PM-SYM):** Provides for old age social security in the form of a monthly pension.

Periodic Labour Force Survey (PLFS)

1. Considering the importance of the availability of labour force data at more frequent time intervals, the National Statistical Office (NSO) launched the Periodic Labour Force Survey (PLFS) in April 2017.

2. **The objective of PLFS is primarily two fold:**
   a) To estimate the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate) in the short time interval of three months for the urban areas only in the CWS.
   b) To estimate employment and unemployment indicators in both usual Status and CWS in both rural and urban areas annually.

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6. LAW COMMISSION REPORT ON AGE OF CONSENT

Context

In October 2023, the **22nd Law Commission's 283rd report** emphasized that the consent age should not be reduced from 18 to 16 years.

More on news

1. The **Law Commission** has been referred to consider reducing **the age of consent from 18 to 16 under the Protection of Children from Sexual Offenses (POCSO) Act, 2012**.

2. The POCSO Act 2012 was enacted to safeguard children from sexual assault, harassment, and pornography offences.

3. The Act establishes Special Courts for the trial of such offences.

What is the Age of Consent?

1. The **age of consent** refers to the legal age at which an individual is considered legally competent to consent for sexual activity.

2. The POCSO Act fixed the age of being categorised as a child at 18 years, thus making it the default "age of consent'.

Law Commission
1. It is a **non-statutory body** and is constituted by a notification of the Ministry of Law & Justice.
2. **Vision:** Reforming the laws for maximizing justice in society and promoting good governance under the rule of law.
3. In 1955, the Central Government established the First Law Commission, chaired by then Attorney-General of India, Mr. M. C. Setalvad.
4. Since then, twenty-two Law Commissions have been appointed, each with a three-year term and a definite term of reference.
5. The first Law Commission in India was established in 1834, following the Charter of 1833, before India gained independence.

Arguments for Reducing the Age of Consent vs Arguments against Reducing the Age of Consent

Arguments for Reducing the Age of Consent	Arguments against Reducing the Age of Consent

1. Rising Criminal Cases under the POCSO Act: The POCSO Act has seen a rise in the registration of criminal cases in recent times.
  a) Girls' parents request police to file charges under the POCSO Act for elopement or consensual sexual activity in romantic cases.
  b) This will prevent the unfair treatment of adolescent boys as criminals.
2. Children get Mature Early: social media and internet connectivity have led to early puberty for all individuals, allowing them to make informed decisions at a mature age.
3. Recognition of sexual autonomy: Sexual autonomy is the right to engage in desired sexual activity and to be protected from unwanted sexual aggression. Recognizing both aspects of adolescents' rights is crucial for fully respecting human sexual dignity.
4. Adopting Global Practices: Globally, the consent age ranges from l3 to 18 years, with 14 years in Germany, Austria, Hungary, Italy, and Portugal. In England and Wales, it is 16 years.
	1. **Lacks emotional or psychological maturity:** They are unable to make informed decisions about sexual activity due to this.
	2. **Convergence with Age of Marriage:** The age of consent and marriage should not be confused in theory, as they are intrinsically linked in a country's social milieu.
	3. **Child exploitation and trafficking:** Reducing the consent age can lead to minor girls being coerced into subjugation, marital rape, and other forms of abuse, including trafficking.
	4. **Promotes child marriage:** The age of consent could potentially undermine the fight against child marriage by allowing parents to marry off minor girls.
	5. **Encourage child/teenage pregnancy:** Lowering the consent age could have severe consequences for the health and well-being of children forced into early marriages and their potential offspring.

Recommendations of Law Commission

1. **Guided judicial discretion:** The court can impose a lesser sentence on an accused if the relationship between the accused and the child is intimate, as per the Act's minimum sentence.

    a) The accused and the child's age difference should not exceed three years.

    b) The recommendation is to use discretion if tactical approval is granted, the accused has no criminal history, and the accused exhibits good conduct after the offence.

2. **Amendments to the Juvenile Justice (Care and Protection of Children) Act 2015:** The Juvenile Justice Board can handle cases under the POCSO Act involving parties aged 16-18 years, rather than relying on criminal courts.

    a) The Commission suggests changes to **Section 18** of the Juvenile Justice Act empowering the Juvenile Justice Board to dispose of such cases by awarding sentences other than imprisonment such as - admonishment, community service, counselling, and release on probation on condition to maintain good conduct.

3. **Awareness:** The campaign aims to raise awareness about early sex, its consequences, contraception, safe sexual behaviour, and the POCSO Act.

Age of consent in IPC

1. The Criminal Law Amendment Act, 2013 amended Section 375 of the Indian Penal Code to increase the age of consent to sexual intercourse to 18.

2. The statute book maintained an exception for a man under 15 years old engaging in intercourse with his wife.

3. This is contradictory to the POCSO Act as **Section 42A of the POCSO Act,** which gives it an overriding effect over other laws, was inserted by the same 2013 Amendment Act.

4. **Independent Thought vs Union of India case:** the Supreme Court read down the exception in the IPC that exempted sexual intercourse between a man and his wife being a girl between 15 and 18 years of age from being considered rape.

Protection of Children from Sexual Offenses (POCSO) Act, 2012

1. POCSO Act came into effect on 14th November 2012 which was enacted in consequence to India's ratification of the UN Convention on the Rights of the Child in 1992.

2. The aim of this special law is to address offences of sexual exploitation and sexual abuse of children, which were either not specifically defined or in adequately penalised.

3. The Act defines a child as any person below the age of 18 years. The Act provides punishment as per the gravity of offence.

4. The Act was further reviewed and amended in 2019 to Introduce more stringent punishment including the death penalty for Committing sexual crimes on children, with a view to deter the perpetrators & prevent such crimes against children.

5. The Government of India has also notified the POCSO Rules, 2020.

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7. RIGHTS OF THE UNBORN CHILD

Context

In October 2023, the Supreme Court dismissed a married woman's request to abort her 26-week-old third pregnancy.

More on News

1. The case was filed due to the petitioner's emotional, financial, and physical inability to raise a third child due to post-partum psychosis.

2. The court ruled that allowing the petitioner to continue with pregnancy termination would violate the Medical Termination of Pregnancy (MTP) Act, 2021, as the pregnancy had reached 24 weeks.

3. The court ruled that there was no immediate threat to the mother and that the case was not a foetal abnormality.
4. The MTP Act allows for only two exceptions to terminate a pregnancy beyond the outer limit of 24 weeks.
5. The Chief Justice of India's three-judge Bench ruled that the Court's recognition of a woman's autonomy cannot override the ''rights of the unborn child''.
6. The judgment has sparked the **Pro-life vs. Pro-Choice debate** in India regarding women's reproductive rights.

Pro-Life vs. Pro-Choice debate

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.	The pro-choice stance believes that women have the basic human right to decide when and whether to have children.
Arguments of Pro-Life	Arguments of Pro-Choice
1. Sanctity of Human Life: Abortion, which is considered murder due to its promotion of a culture where human life is disposable, begins at conception.	1. **Reproductive Rights:** Abortion bans often lead to the denial of women's bodily autonomy and reproductive rights.
2. Sex-selective abortions: Allowing abortions may give way to sex-selective abortions as part of Planned Parenthood.	2. **Quality of Life:** Forced pregnancy can negatively affect the mental health of parents and can negatively affect the child's upbringing.
3. Support for Pregnant Women: The solution to parents' mental health issues should be based on social and familial support, rather than resorting to abortions.	3. **Exceptions for Special Cases:** Pro-choice advocates emphasize the significance of exceptions in cases involving rape, incest, or situations posing a risk to the mother's life.
4. Religious and Moral Beliefs: Pro-life advocates often base their stance on religious or moral beliefs, which view abortion as morally unacceptable.	4. **Overpopulation:** Enabling women to make informed decisions about their childbirth schedule can enhance family planning.
5. Advancements in Foetal Development Understanding: Advancements in medical technology have significantly improved foetal viability during pregnancy.	5. **Social Impact:** Unwanted pregnancies can lead to broken homes due to financial hardships and poverty.

Pro-Life vs. Pro-Choice Debate in India

1. The MTP Act of 1971 in India grants abortion as a qualified right, but it cannot be solely based on a woman's request.
2. The judiciary, within the legislative framework, carefully and compassionately considered women's autonomy while ensuring the welfare of the unborn child.
3. The Supreme Court has emphasized that registered medical practitioners should not impose extra-legal conditions on women seeking to terminate their pregnancy.

Way Forward

1. **Sex education:** Children and adolescents should receive age-appropriate sex education, including relationship and fertility awareness education. This measure aims to prevent unwanted pregnancies and sexual violence incidents, including marital rape, in society.
2. **Reproductive healthcare:** The goal is to establish and expand reproductive healthcare to guarantee the safety and dignity of every child, birth, and woman.

Global status of abortion laws
1. Over the past 30 years, over 60 countries have liberalized their abortion laws, as per the Centre for Reproductive Rights (CPR).
2. The legality of abortion has been reversed in only four countries: **the US, Nicaragua, El Salvador, and Poland.**
3. There are 24 countries in the world where abortion is completely prohibited.

The plan should focus on improving the quality and options of family planning services and enhancing midwifery initiatives.

3. **Adoption:** Removing adoption stigma and streamlining the adoption process can improve child care for parents struggling with raising their child.

4. **Workplace:** Equal pay, better parental leave, and subsidized childcare can help reduce abortion cases,

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Do you know?

1. The Indian Supreme Court in 2022 ruled that the MTP Act's definition of rape must encompass marital rape for its sole purpose.

2. The Supreme Court has extended the right to safe and legal abortion to unmarried and single women for up to 24 weeks.

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regardless of gender. The organization needs to establish a robust gap management structure to effectively manage maternity breaks. e.g., Zomato provides a unique support system of assigning an employee to assist new mothers, so that they are not always required to be physically present at the workplace.

Medical Termination of Pregnancy (MTP) (Amendment) Act, 2021

1. **It allows termination of pregnancy in the following cases:**

a) **Up to 20 weeks:** Available to all on the advice of a single medical practitioner (MP).

b) **Between 20 and 24 weeks:** The policy is only applicable in specific cases, such as those involving the risk of life for pregnant women or substantial risk of child abnormalities, and requires the advice of two MPs.

c) **Beyond 24 weeks:** Available only on grounds of substantial foetal abnormalities on the advice of a medical board.

2. Abortion in India is illegal under sections 312 and 313 of the Indian Penal code unless it is performed in accordance with the MTP Act.

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8. HAKKI PIKKI TRIBE

Context

In October 2023, 114 tribal people from the Hakki Pikki tribal community in Karnataka obtained title deeds to their land, which they have been cultivating for approximately a century.

About Hakki Pikki Tribe

1. They are a semi-nomadic tribal group from Karnataka.
2. The community is known as the 'bird catcher,' which is their traditional occupation.
3. The word 'Hakki' stands for 'bird' and 'Pikki' stands for the verb 'to catch'.
4. The 1970s saw the rehabilitation of the birds after their trade of bird hunting was outlawed.
5. The group is referred to as a matriarchal group.
6. They communicate using the language 'Vaagri'.
7. UNESCO has listed 'Vaagri' as one of the endangered languages.
8. The individuals are known for their unique and effective indigenous medicines.
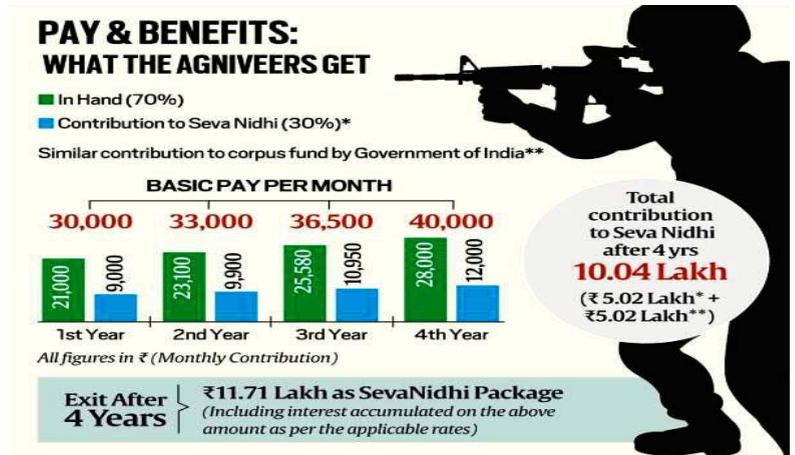
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9. AGNIPATH SCHEME

Context

In October 2023, when an Agniveer died while performing their duties at the Siachen glacier, there was controversy over who should get pensions and compensation for the Agniveer's family.

Why Was the Agnipath Scheme Brought?

1. **To ensure a youthful profile for the armed forces:** By bringing down the average age of serving soldiers, it would help transform the armed forces into a "tech-savvy and modern fighting force.

2. **Empowered civil society:** It would ensure the availability of disciplined and skilled youth from a range of backgrounds in civil society after their retirement at the end of four years.

3. To reduce the burgeoning defence pension bills.

PAY & BENEFITS: WHAT THE AGNIVEERS GET

- In Hand (70%)
- Contribution to Seva Nidhi (30%)*

Similar contribution to corpus fund by Government of India**

BASIC PAY PER MONTH

	1st Year	2nd Year	3rd Year	4th Year
Basic Pay	30,000	33,000	36,500	40,000
In Hand	21,000	23,100	25,580	28,000
Contribution	9,000	9,900	10,950	12,000

All figures in ₹ (Monthly Contribution)

Total contribution to Seva Nidhi after 4 yrs **10.04 Lakh** (₹ 5.02 Lakh* + ₹5.02 Lakh**)

Exit After 4 Years | ₹11.71 Lakh as SevaNidhi Package (*Including interest accumulated on the above amount as per the applicable rates*)

What Compensation is Promised After the Demise of an Agniveer?

1. **Seva Nidhi:** A non-contributory insurance amount of Rs 48 lakh, compensation of Rs 44 lakh, and 30% of Seva Nidhi, which the Agniveer donated together with a government matching contribution, are among the several forms of compensation that are available to the family of an Agniveer. Additionally, interest accrues on these amounts.

2. **Armed Forces Battle Casualty Fund:** Along with a payment of over Rs 13 lakh for the remaining time from the date of death, the family also receives a contribution of Rs 8 lakh from the Armed Forces Battle Casualty Fund.

3. **Army Wives Welfare Association:** The Army Wives Welfare Association offers Rs 30,000 to the next of kin as immediate financial assistance.

What is the Agnipath Scheme?

1. **About:**
   a) It enables determined and patriotic youths to join the armed forces for a four-year term. The army will be permitted to recruit youths for a short period of time.
   b) Most of the 45,000 to 50,000 soldiers who will be recruited under the new scheme will leave the service in just four years.

2. **Eligibility Criteria:**
   a) It is only for personnel below officer ranks (those who do not join the forces as commissioned officers).
   b) The highest-ranking officers in the army are commissioned officers.
   c) In the Indian armed forces, commissioned officers hold an exclusive rank. They are formally tasked with protecting the nation and frequently hold a commission under the president's sovereign authority.
   d) Applicants may apply if they are between the ages of 17.5 and 21.

3. **Objectives:**
   a) It aims to give determined and patriotic young people with "Josh" and "Jazba" an opportunity to join in the armed forces.
   b) It is anticipated to bring down the average age profile of the Indian Armed Forces by about 4 to 5 years.
   c) According to the scheme, the average age in the forces is 32 years today, which will go down to 26 in six to seven years.

4. **Benefits for Agniveers:**
   a) The Agniveers will receive a one-time "Seva Nidhi" gift worth Rs 11.71 lakhs upon the completion of their 4-year service commitment, which will also include their accrued interest.

b) They will also receive a four-year, Rs. 48 lakh life insurance policy.

c) In the event of a death, the compensation will exceed one crore rupees and cover the unexpired portion of the tenure.

d) After four years, the government would assist in the rehabilitation of troops who leave the army.

Concerns Related to Agniveers

1. **Difficult to Find Another Job:**
   a) About 45,000 people are expected to join the Army, Navy, and Air Force as a result of the 'Agnipath' project in its inaugural year.
   b) These recruits will, however, be on a four-year temporary contract. Upon the fulfilment of their contract, 25% of them will be retained, while the remaining will exit the armed forces.

2. **No Pension Benefit:**
   a) When their four-year term comes to an end, those engaged under the 'Agnipath' initiative will receive a lump sum payment of slightly more than Rs 11 lakh.
   b) They do not, however, get any pension benefits. Most people find that getting a second job is necessary to sustain their family and themselves.

3. **Training May Remain Unutilized:**
   a) The armed forces will lose experienced soldiers.
   b) To enable them to assist in continuing operations, the jawans enlisting in the Army, Navy, and Air Force will receive technological training.
   c) Under this scheme, women have not yet been inducted.

Way Forward

1. To encourage more Agniveers to invest in starting a business unit, the government might consider about relaxing the mandatory licensing requirements for them.

2. It will have the dual benefits of fostering economic growth and opening doors for entrepreneurs.

3. Agniveers should receive competitive interest rates on their deposits as this will encourage saves and help banks.

4. A loosening of the entrance requirements (cut off points, etc.) will be a big draw for those Agniveers who choose to pursue further education.

5. Highly skilled and well-behaved Agniveers will be able to seize every opportunity that presents itself.

10. SUPREME COURT JUDGMENT ON LGBTQIA+ RIGHTS

Context

In October 2023, the Supreme Court's 5-judge constitution bench in the Supriyo @ Supriya Chakraborty vs Union of India case unanimously rejected legal recognition for same-sex marriages.

More on News

1. Petitioners have contested the Special Marriage Act 1954, Hindu Marriage Act 1955, and Foreign Marriage Act 1969, arguing they do not acknowledge non-heterosexual marriages.

2. The court, citing policy matters, left the issue of marriage to the legislature and executive for decision-making.

3. Five judges acknowledged the need to eliminate discrimination against same-sex couples, but disagreed on granting queer couples the legal recognition of a "civil union."

4. Three judges ruled that legal recognition of a union should only be achieved through enacted legislation.

LGBTQIA+ rights: Petitioner's arguments and court verdict

Issues	Petition	Court Verdict	Dissenting opinion
The right of transgender persons to marry	The Constitution guarantees the fundamental right to marry one's choice, and the court is obligated to address any denial of this right. If the court deems this as a fundamental right, it would impose an obligation on the state to safeguard this right.	The unanimous decision stated that there is no fundamental right to marry in India. Transgender persons have a right to marry under the current framework.	
Right to enter a Civil Union for queer couple	Recognition of a civil union for queer couples.	The court is unable to dictate the choice of civil unions for queer couples. The government is not obligated to acknowledge the rights that arise from a Union.	The goal was to ensure queer couples could receive material benefits from their marriages through the recognition of civil unions. Article 19 encompasses the right to form intimate associations. Right enter a union cannot be restricted on the basis of sexual orientation.
Interpretation of Special Marriage Act (SMA)	Replacement of gender-specific terms such as "husband" and "wife" with the more inclusive terms "party" or "spouse." SMA violates Articles 14, 15, 19, 21 and 25 by not allowing marriage between same sex.	The Court declined to invalidate or interpret the SMA in a gender-neutral manner, stating that such actions would encroach upon the legislative domain and could have a"cascading" effect on other laws.	SMA violated the equality provisions of the Constitution. The SMA, intended to facilitate heterosexual marriage among persons of different faiths, was not unconstitutional for violating Articles 14 and 15 at the time of its passage
Adoption rights for non-heterosexual couples	The Central Adoption Resource Authority's (CARA) guidelines discriminate against unmarried couples who cannot legally marry, preventing joint adoption of children.	Upheld the restriction imposed by the CARA on queer couples from adopting. Observe that striking down the rules may have deleterious, "disastrous" and "anomalous outcomes" that "only the legislature and executive could remedy.	The regulation was discriminating against the queer community and hence was violating Article 15 of the Constitution. Exclude the word "marital" so that it includes both married and unmarried couples as well as queer couples so that they too can jointly adopt a child.

Other Key Highlights of the Judgment

1. **Courts limit the question to secular laws:** The bench stated during the hearings that it would focus solely on the Special Marriage Act and not personal laws. The court must consider the rights related to adoption, guardianship, and inheritance available to heterosexual couples if HMA is interpreted to include LGBTQIA+ marriages.

2. **Judicial restraint:** Judgement is a judicial restraint by the Supreme Court, preventing it from assuming the legislature's role in developing, guaranteeing, and enforcing fundamental rights. The Legislature is responsible for enacting marriage laws under Articles 245 and 246 and Entry 5 of the concurrent list.

3. **Dissenting opinion and observations:** The judgment's observations could pave the way for future discussions on the rights of the LGBTQIA+ community. For example, 'Queerness or homosexuality is not an urban, elite conception or expression'.

4. **Prevention of violence and discrimination against queer persons:** The Supreme Court has issued directives to the government and police to prevent discrimination against the queer community. The directives aim to promote non-discrimination, public awareness, a queer community helpline, safe houses, and protection of intersex children. The police are given specific directions to avoid harassment, protect their freedom of choice, and ensure protection against violence, as well as conduct preliminary investigations.

Conclusion

The Union Government's assurance to form a committee under Cabinet Secretary's chairmanship, despite the setback for LGBTQIA+ rights in marriage and adoption, offers hope for equality.

Legal Milestones in LGBTQIA+ Rights

1. **2014: NALSA vs. UoI:** Recognition of non-binary gender identities.
2. **2018: Navtej Singh Johar vs. UoI:** Decriminalization of Section 377 of the IPC.
3. **2017: Justice KS Puttaswamy (Retd.) vs. UoI:** Right to Exercise Sexual Orientation.
4. **2019: Transgender Persons (Protection of Rights) Act.**

LGBTQIA+ rights across the world

1. Currently, there are more than 130 countries that have decriminalized homosexuality.
2. The Netherlands was the first country to legalise same-sex marriages in 2001.
3. Since then, more than 30 countries around the world have legalized same-sex marriages.

Key term

a) **Civil Union:** It is a legal recognition, originally created for same-sex couples in jurisdictions where they are not legally allowed to marry.
5. It is basically a halfway approach between non-recognition and full recognition of homosexual marriages.
6. It grants rights similar to those of marriages and was first legalized in 1999 in the state of Vermont in the US.

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11. CASTE CENSUS

Context

In October 2023, the Bihar state government released a report on the caste survey conducted in the state following a resolution passed by the legislature.

More on News

1. The Bihar State government referred to the exercise as a **"social survey"** rather than a full-scale census.
2. Following the release of caste survey data by the Bihar government, several states like Rajasthan, Odisha, Maharashtra, and Karnataka are planning or conducting caste surveys.

History of Caste census in India

1. The British colonial administration introduced caste-wise population enumeration in 1881 and continued until the 1931 census.

2. In 1941, caste-based data was collected but not published.

3. After India's independence, the government abandoned full caste enumeration due to concerns it could strengthen caste divisions and perpetuate the caste system.

4. The census in independent India only publishes data on Scheduled Castes and Scheduled Tribes (STs), no other castes.

5. **In 2011, the Socio-Economic and Caste Census (SECC) was conducted through a comprehensive programme involving:**

   a) The Ministry of Rural Development, Housing and Urban Poverty Alleviation, the Office of the Registrar General and Census Commissioner, India, and State Governments/UT Administrations are involved.

   b) In 2016, the SECC data, excluding caste data, was finalized and published.

   c) The Central Government submitted an affidavit to the Supreme Court in 2021, stating that caste/tribe data from SECC 2011 is deemed "defective" and unsuitable for use.

Arguments for caste census	Arguments against caste census
1. Constitutional mandate: Article 340 mandates the appointment of a commission to investigate the conditions of socially and educationally backward classes and provide recommendations for government actions.	1. **Constitutional provisions:** Constitutions speak of backward classes and not backward castes. The word caste is used in the constitution only in relation to 'scheduled castes.
2. Social justice and reforms in reservation policy: The government will use this to determine the inclusion of new castes into existing categories or the graduation of advanced castes (creamy layer) from these categories.	2. **Difficulties in data enumeration:** The collection and interpretation of caste data in India, a country with thousands of castes and sub-castes, is a complex task.
a) Census caste data can improve the distribution of reservation benefits by enabling the creation of a 'quota-within-quota'(sub-categorization) system.	i. The process of enumeration can be influenced by various groups' mobilization and counter-mobilization, leading to the generation of bogus or biased data.
3. Policymaking: The caste census data will aid in the development of more informed and evidence-based policies that cater to the needs and demands of the underprivileged and marginalized.	ii. The challenges arise from the empirical complications of inter-caste marriages, hypergamy, and migration, which have resulted in multiple caste affiliations over time.
4. Promoting diversity and inclusivity: The tool can effectively monitor the representation of diverse castes in elected bodies, civil services, and other institutions, thereby fostering diversity and inclusivity.	3. **Potential for Political Misuse:** Caste data is under scrutiny for potential political misuse, including vote bank politics and identity-based mobilization.
5. Judicial requirement: In the Indra Sawhney case, the Supreme Court held that the States must conclude the "backwardness" of a particular class of people only after proper assessment and objective evaluation. The SC also held that such a conclusion must be subject to periodic review by a permanent body of experts.	4. **Rise in demand for reservations:** Critics argue that a caste-based census could increase the demand for more community-based job and educational reservation.
6. Annihilation of caste: Experts argue that eradicating caste-derived privileges is crucial, and the state must first map castes and their socio-economic status privileges/deprivations.	5. **Risk of Resentment:** Focusing on caste-based statistics may exacerbate inter-caste tensions and hinder efforts towards a more inclusive and harmonious society by causing resentment among different groups.

Way Forward

1. **Create political consensus:** The decision to address socio-political issues should be made through a broad political consensus.

2. **Inclusive Consultations:** The caste census should involve a diverse group of stakeholders, including community leaders, activists, and experts, in its planning and execution. social scientists and research institutions can be involved in the process of enumeration of caste data to ensure that the process remains unbiased.

3. **Identify caste and subcaste:** A preliminary socio-anthropological study can be conducted at the state and district levels to identify all sects and sub-castes within the population.

4. **Use of technology:** Emerging technologies like Artificial Intelligence and Big Data Analytics can effectively analyze and assess caste-based data, providing valuable insights and conclusions.

5. **Periodic Review and Updating:** Recognize that social structures evolve over time, and caste identities may change. Create the census with the adaptability to these changes in mind, and schedule regular reviews to ensure the data is up to date and relevant.

Caste system in India

1. Caste is an institution uniquely associated with the Indian sub-continent.

2. Caste is by definition a closed social system whose membership is acquired by virtue of birth.

3. Many of the scriptural rules of caste are designed to prevent the mixing of castes – rules ranging from marriage, food sharing and social interaction to occupation.

4. Although it is an institution characteristic of Hindu society, caste has spread to the major non-Hindu communities of the Indian subcontinent.

5. This is especially true of Muslims, Christians, and Sikhs.

Census in India

1. Census is a Union subject (entry 69 of the union list under Schedule VII) under Article 246 of the constitution.

2. The Census Act, 1948 provides a plan for conducting population census along with the duties and responsibilities of census officers.

3. Registrar General and Census Commissioner of India, under the Ministry of Home Affairs, is entrusted with the responsibility to conduct decadal census.

4. Later, this office was also entrusted with the task of implementation of the Birth and Death Registration Act, 1969.

Do you know?

3. The Second Backward Classes Commission (Mandal Commission, 1980) estimated the Other Backward Classes (OBCs) population at 52%.

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12. Mera Yuva Bharat (MY Bharat)

Context

In October 2023, the Union Cabinet approved the establishment of an autonomous body Mera Yuva Bharat (MY Bharat).

About Mera Yuva Bharat

1. It is an **autonomous body** that will benefit the youth in the age group of 15-29 years, in line with the definition of 'Youth' in the National Youth Policy.

2. The beneficiaries of program components intended exclusively for adolescents will fall within the age range of 10 to 19 years.

3. It will assist in directing the government's attention on youth-led development and transforming youngsters into **"active drivers"** of development as opposed to "passive recipients."

4. On National Unity Day, October 31, 2023, it will be officially unveiled.

Objectives

1. **Leadership Development in the Youth:** Through programmatic skills and experiential learning, MY Bharat aims to enhance the leadership abilities of youth. This entails providing relevant, hands-on experiences to foster leadership qualities.

2. **Social Innovation:** The program aims to provide youth with greater support in order to develop them into leaders and social innovators in their communities, who can promote growth and positive change.

3. **Alignment with Youth Aspirations:** It seeks to match young ambitions with government priorities. Development activities can be more successful if they take into account and fulfill the desires of young people.

4. **Efficiency through Convergence:** In order to improve the efficiency with which young people can obtain the opportunities and resources they require; MY Bharat will consolidate and streamline currently offered youth-related programs and services.

5. **Centralized Youth Database:** A consolidated youth database will be produced by the program, which will be used for targeted program delivery, policymaking, and research.

6. **Enhanced Communication:** It encourages better two-way contact between youth, the government, and other parties involved in youth outreach. This guarantees that young people may offer comments and are aware of government activities.

7. **Phygital Ecosystem:** The initiative places a strong emphasis on building **a "phygital"** ecosystem—a hybrid of digital and physical components—in order to interact with youth. This method makes use of both traditional and digital instruments to enable increased accessibility and diversity.

Significance

1. The younger generation in India is a crucial group that will be essential to the country's future. MY Bharat seeks to enable them to take an active role in the development of their country.

2. The program acknowledges the need for a framework that brings together young people from different backgrounds—rural, urban, and suburban—to collaborate on shared objectives.

3. MY Bharat recognizes the significance of leveraging technology to effectively and efficiently communicate with the youth in a society that is changing quickly due to technology.

4. MY Bharat aims to increase outreach and engagement by making government programs and initiatives accessible to young people through the creation of a phygital ecosystem.

Challenges Faced by Youth of India

1. **Poor Education System:** The issues of low education quality, limited vocational education, lack of access to higher education, and high dropout rates are significant issues.

2. **High Unemployment:** India's youth unemployment rate, estimated at 23.22 per cent in 2022, is significantly higher than that of most developed and developing countries.

3. **Exploitative Workplace:** The issue encompasses low wages, long hours, harassment, particularly towards women, and lack of social security or legal protection.

4. **Social Issue:** The issues of substance abuse, violence, crime, radicalization, communalism, and gender discrimination significantly impact individuals' moral values, civic sense, social responsibility, and national integration.

5. **Psychological Issues:** Low confidence and self-belief can lead to depression and even suicide, as seen in recent cases in Kota's education hub.

6. **Cultural and Social Expectations:** Traditional cultural norms and societal expectations can sometimes limit young people's choices and aspirations, especially in terms of education, career, and marriage.

7. **Social media addiction in youth:** It is marked by excessive use, impacting mental health, relationships, and productivity.

Initiatives Promoting the Role of Youth

1. **Education:**
   a) Smagra Shiksha (An integrated School Education), 2018.
   b) New Education Policy, 2020.

2. **Health and Wellness:**

a. **Ayushman Bharat:**
   i.   Health and Wellness Centres (HWCs).
   ii. Pradhan Mantri Jan Arogya Yojana (PM-JAY).

3. **Entrepreneurship:**
   a) Start-up and Stand-up India.

4. **Science:**
   a) Science cities/centres and Innovation Hubs.
   b) IMPacting Research INnovation and Technology (IMPRINT-2).

5. **Infrastructure:**
   a) Smart Cities Mission.
   b) Atal Mission for Rejuvenation and Urban Transformation (AMRUT).
   c) PM Gati Shakti.

6. **Skill Development:**
   a) Pradhan Mantri Kaushal Vikas Yojana.
   b) Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP).

7. **Innovation:**
   a) Atal Tinkering Lab (ATL) program.

Conclusion

Mera Yuva Bharat (MY Bharat) is a progressive program that seeks to enable India's youth by giving them the tools, chances, and assistance they require in order to develop into leaders, inventors, and engaged citizens. It acknowledges that the young population is changing, that technology plays a significant role, and that engaging children from a variety of backgrounds requires a cohesive strategy.

13. INDIA AGEING REPORT 2023

Context

In October 2023, **UNFPA (United Nations Population Fund) India**, in collaboration with the **International Institute for Population Sciences (IIPS)**, unveiled the highly anticipated **"India Ageing Report 2023."**

Key Findings of the Report

1. The enhancement of geriatric care to cater to the unique healthcare needs of seniors.

2. A multitude of government schemes and policies addressing the health, financial empowerment, and capacity-building needs of the elderly population.

3. Community-based organizations actively engaged in digital empowerment through computer and internet usage sessions.

4. Ministerial committees dedicated to shaping policies for elderly welfare.

5. Corporate efforts for joyful ageing, social assistance, old age homes, and elder abuse awareness campaigns.

Significant inter-state variation in absolute levels and growth of the elderly population

1. In 2021, the majority of the southern states and a few northern states, like Himachal Pradesh and Punjab, reported having a larger proportion of old people than the national average.

2. By 2036, this difference is anticipated to grow.

3. Between 2021 and 2036, states with higher fertility rates and slower demographic transition, like Bihar and Uttar Pradesh, anticipate seeing a rise in the proportion of the senior population.

4. According to the ageing index, the central and northeastern areas of India have the younger group of States compared to the southern and western regions.

Challenging Trends of Ageing Population in India

1. **Feminization:** Compared to men, women often have a longer life expectancy between the ages of 60 and 80.

2. **Ruralization:** Approximately 71% of older people live in rural areas in India, according to the 2011 Census.

3. **Ageing of the population:** From 2000 to 2022, the country's population as a whole increased by 34%, while the population aged 60 and older increased by 103% and those aged 80 and older increased by 128%.

4. **Economic Burden:** The productivity of the nation will fall along with labour force shortages, public dissaving, and oldage income insecurity.

5. **Healthcare and Long-Term Care:** The elderly often require more extensive healthcare services and long-term care, which can strain the healthcare system.

6. **Psychological Issues:** The Longitudinal Ageing Study in India (LASI) survey finds that the Incidence of depression was seen to be rising with increasing age and was higher among elderly women than men.

Recommendations by the Report

1. increasing cooperation between several ministries and strengthening the National Policy on Older Persons (NPOP) to ensure successful implementation.

2. Senior citizen programmes should regularly get feedback and audits to increase their relevance and impact.

3. mobilising resources, such as those from corporate social responsibility (CSR), to aid in the growth of community-based organisations (CBOs) that provide services to the elderly.

4. fostering links between generations and highlighting the accomplishments of the elderly through promoting intergenerational solidarity.

5. PRIs (Panchayati Raj Institutions) should be strengthened and given more resources to serve local seniors.

6. promoting private sector involvement in elder care and creating public-private partnerships to address age-related concerns.

7. putting particular emphasis on the requirements of senior citizens and setting up a network of helplines for their support in disaster preparedness measures.

8. improving data systems and carrying out micro-level research to better comprehend the aged population and enhance initiatives and programmes for their welfare.

Initiatives taken for elderly people

1. **Global:**
   i. Madrid International Plan of Action on Ageing (MIPAA), 2002.

ii. Sustainable Development Goal (SDG 3: ensuring healthy lives and well-being at all ages).

iii. United Nations Decade of Healthy Ageing: 2020–2030.

2. **India:**

i. National Social Assistance Programme (NSAP).

ii. Pradhan Mantri Vaya Vandana Yojana (PMVVY).

iii. Integrated Program for Older Persons (IPOP).

iv. Rashtriya Vayoshree Yojana.

v. SAMPANN Project.

vi. SACRED Portal for Elderly.

vii. Elder Line: Toll-Free Number for Elderly.

viii. SAGE (Seniorcare Ageing Growth Engine) Initiative.

International Institute for Population Sciences (IIPS)

1. IIPS is a research and training centre for population studies in Mumbai, India.

2. It was established in 1956 by the Government of India, the United Nations, and Sir Dorabji Tata Trust.

3. The institute is a regional centre for the Asia and Pacific region.

4. IIPS is an autonomous organization of the Ministry of Health & Family Welfare, Government of India.

5. It conducts research using its own resources and external funding.

Conclusion

With a rapidly increasing geriatric population, which is predicted to account for a sizeable share of the overall population by 2050, India is witnessing a huge demographic shift. Economic and social issues are brought on by this demographic shift, especially for older women and those who are poor. In order to meet the unique needs of this ageing population, policymakers will need to address these issues and create appropriate measures.

UN Population Fund (UNFPA)

1. It is a trust fund under the jurisdiction of the United Nations Development Programme (UNDP).

2. UNFPA was formerly (1969–87) known as United Nations Fund for Population Activities.

3. Established in 1969, the UNFPA is the largest international source of assistance for population programs.

4. It is the leading UN organization for the implementation of the 1994 Programme of Action of the International Conference on Population and Development.

5. In other words, UNFPA is the United Nations sexual and reproductive health agency.

6. Its mission is to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled.

Functions of UNFPA:

6. UNFPA funds assistance, research, and advocacy programs in three major areas:

7. reproductive health, including family planning, safe motherhood, and the prevention and treatment of sexually transmitted diseases,

8. population problems of developed and developing countries and possible strategies for addressing them, and

9. issues related to the status of women, including the gender gap in education.

10. UNFPA assistance programs are undertaken only in response to government requests.

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14. SPECS2030 INITIATIVE

Context

In October 2023, the World Health Organization (WHO) is implementing an initiative to combat global vision impairment and blindness.

Key Points

1. **Aims:** To ensure access to eye care and treatment for all.

2. **Purpose:** Reporting of the number of people who receive spectacles.
3. **India's Role:** Specs 2030 aims to improve access to eye care and glasses in India, benefiting over 100 million individuals who may lack such services.
4. **Myopia:** Near sightedness-can be corrected by a concave lens.
5. **Hypermetropia:** Farsightedness can be corrected by a convex lens.
6. **Presbyopia:** the gradual loss of the eyes' ability to focus on nearby objects, bifocal lens is prescribed.

15. NOBEL PEACE PRIZE 2023

Context

In October 2023, Iranian activist Narges Mohammadi has been awarded the 2023 Nobel Prize for Peace.

Who is Narges Mohammadi?

THE NOBEL PEACE PRIZE 2023

Narges Mohammadi

"for her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all"

THE NORWEGIAN NOBEL COMMITTEE

1. **About:**
    a) Woman, human rights activist, and freedom warrior Narges Mohammadi is the 2023 recipient of the Nobel Peace Prize.
    b) According to the Academy, the Nobel Peace Prize this year also honours the hundreds of thousands of individuals who protested the theocratic regime's oppressive and discriminatory laws against women.
    c) The slogan chosen by the Iranian protesters, **"Woman - Life - Freedom,"** accurately captures Narges Mohammadi's commitment and labour of love.
2. **Contributions:**
    a) Ms Mohammadi opposes the death penalty in a nation that records the majority of state executions. a committed supporter of women's rights ever since she was a college student.
    b) She was detained for the first time in 2011 as a result of her efforts to support activists who were incarcerated and their families.
3. **Fight for Human Rights:**
    a) She started resisting the regime's routine use of torture and sexualized violence against political prisoners, particularly women, while she was incarcerated in Iran.
    b) She showed prison support for the protesters during Mahsa Amini's protests (the Iranian Hijab Movement) and coordinated solidarity acts among her fellow prisoners.
4. **Other Awards Received by Mohammadi are:**
    i. Alexander Langer Award 2009.
    ii. UNESCO/Guillermo Cano World Press Freedom Prize and the Olof Palme Prize earlier in 2023.
    iii. Her book **'White Torture: Interviews with Iranian Women Prisoners'** also won an award for reportage at the International Film Festival and Human Rights Forum.

What is the Iranian Hijab Movement?

1. The headscarf or hijab is strongly advised by Iranian law for women to wear with their everyday attire. Recently, everyone who disobeyed this was either arrested, issued a harsh warning, or both.
2. A 22-year-old woman named Mahsa Amini was detained for going beyond Iranian women's dress regulations.
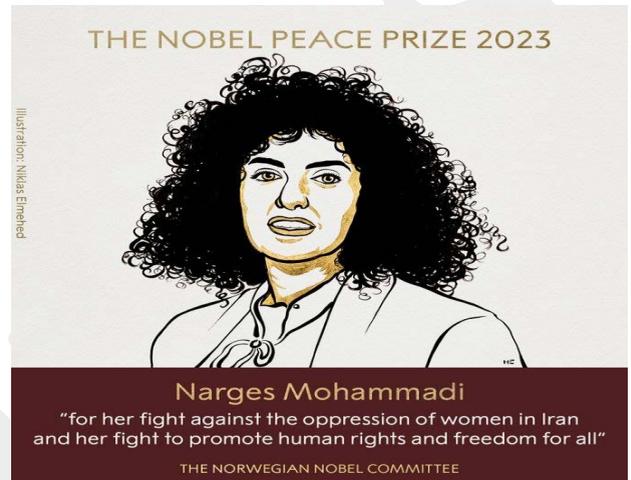
3. An enormous demonstration by Iranian women seeking more freedom broke out when Mahsa Amini was detained by the morality police of Iran and later killed.

4. These days, this demand is not only limited to Iran; a global uprising has developed around it.

5. Numerous other significant Western cities, such as Auckland, London, Melbourne, New York, Paris, Rome, Seoul, Stockholm, Sydney, and Zurich, also witnessed protests with banners reading "Women, life, liberty."

Global Women's Rights Movement

1. Women's rights activism varies across countries due to historical, state-specific factors, economic models, cultural and political structures.

2. UN Women and feminist scholars categorize the global movement for women's rights into four generations/waves.

   a) **First wave:** The first wave of feminist activism emerged in the late 19th and early 20th centuries, primarily in Western countries, focusing on legal issues, particularly women's suffrage. Additionally, they called for equal rights within the family, equal pay, and access to higher education.

   b) **Second wave:** The youth movement, which began in the 1970s and 1980s, emerged as part of a broader movement fueled by the growth of higher education.

      i. The individuals were influenced by the Civil Rights movement in the United States, the opposition to Apartheid, and the Vietnam War.

      ii. During the initial stages of the second wave, activists were both radical and critical.

      iii. A fundamental shared principle among various feminist currents was the advocacy for autonomy, emphasizing women's entitlement to define their own agendas, even while engaging within political organizations and parties.

      iv. This wave of activities includes supporting fair wage and reproductive rights campaigns, creating women-only journals and publishing houses, and more.

   c) **Third wave:** The period between the 1980s and 1990s saw the gradual integration of feminist ideas into mainstream politics.

   • **Three significant elements of this wave include:**

      i. Importance of policy-related activism.

      ii. Strengthening of feminist movements and rights advocacy in the Global South.

      iii. Consolidation of women's studies as a discipline.

   • The United Nations' four world conferences on women, held in Mexico (1975), Copenhagen (1980), Nairobi (1985) and Beijing (1995), significantly influenced policy work and global feminist interaction.

   • The Beijing Platform for Action (PFA), a policy framework inspired by the Convention on the Elimination of All Forms of Discrimination against Women, was established.

   d) **Fourth wave:** The internet's rise has sparked a new type of social media-driven women's rights movement.

   • Feminists actively advocated for social justice issues such as racial equity, immigration reform, reproductive rights, environmental protection, and LGBTQIA+ rights.

   • **3 prominent cases of this wave include:**

      i. **Brazil:** Feminists involved in efforts to protect rights previously gained.

      ii. **India:** Campaigns around gender-based violence.

      iii. **Malawi:** Work of LGBTQIA+ activists to secure justice and recognition.

Contemporary issues faced by women		
Social: Gender role stereotyping, adverse sex-ratio, violence against women, etc.	Political: Under-representation in politics and other state institutions.	Economic: Gender pay gap, denial of maternity leave, etc.

Conclusion

Feminism is a contentious aspect of politics and a global social movement that maintains its vitality. Feminists' demands are largely consistent across various countries, regions, and decades, despite varying priorities and interpretations. The persistent nature of gender inequality and the gradual progress in addressing its demands are evident.

Nobel Prize

1. The **Nobel Prize** was established through the will of businessman and entrepreneur Alfred Nobel who left the majority of his fortune to rewarding contributions to the fields of physics, chemistry, medicine, literature, and peace that have conferred the greatest benefit to humankind.

2. In 1968, Sveriges Riksbank, the Swedish central bank, established the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, which is presented as the Nobel Prize in Economics.

3. Alfred Nobel held 355 patents and is most famous for the invention of dynamite.

4. The Nobel Prizes have been awarded annually since 1901 with few exceptions such as World War 1 and World War 2.

5. **About Nobel Peace Prize:** 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.

Conditions:

1. The Prize can be shared by a maximum of three individuals, or in the case of the Peace Prize, it can also be awarded to an organization.

2. It cannot be awarded posthumously but since 1974, it has been awarded to recipients who have died after the announcement.

Who selects the winners:

1. **Except for the Nobel Peace Prize,** the nomination for the prizes is by invitation only and nominators must fulfill the criteria set out by the awarding institutions.

2. **Nobel Prize in Physics and Chemistry:** The Royal Swedish Academy of Sciences

3. **Nobel Prize in Physiology or Medicine:** The Karolinska Institutet for the

4. **Nobel Prize in Literature:** The Swedish Academy

5. **Nobel Peace Prize:** A Committee of five persons to be elected by the Norwegian Parliament (Storting)

6. **Nobel Prize in Economics:** Royal Swedish Academy of Sciences

List of Nobel Laureates from India

1. Literature: Rabindranath Tagore (1913)

2. Physics: C. V. Raman (1930), Subrahmanyan Chandrasekhar (1983)

3. Physiology or Medicine: Har Gobind Khorana (1968)

4. Peace: Mother Teresa (1979), Kailash Satyarthi (2014)

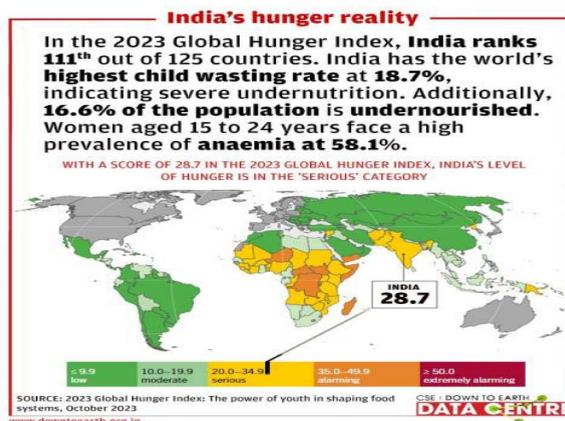5. Economics: Amartya Sen (1998), Abhijit Banerjee (2019)

Evolution of Women's Movement in India

a) The women's movement in India, dating back to the late 19th century, has evolved with the involvement of various stakeholders, including the state and civil society.

b) **Phases of women's movement:**

   i. **First phase:** The foundations of this movement were laid by 19th and 20th-century reform and anti-colonial movements, focusing on issues like sati and child marriage. The movement aimed to promote women's inclusion in public life, ensuring better political rights, access to education, and employment opportunities. During the Gandhian era of national movement, women continued their movement for political rights and social reform activities by forming organisations.

   ii. **Second phase:** The second phase refers to the women's liberation movement which began in the 1960's and was concerned with the legal and social equality of women. The publication of the Towards Equality Report (1974) and The Convention on the Abolition of all Forms of Discrimination Against Women (1979) offered the moral and rational basis of a new wave of autonomous women's movement manifested both in the activist and the academic spheres. Towards Equality Report, exposed the abysmal state of women in contemporary India manifested in the declining sex ratio, the increasing rate of female mortality and morbidity, the economic marginalisation of women and the evils of discriminatory personal laws.

   iii. **Third phase:** The movement began in the early 1990s, emerging from the postcolonial and neoliberal world order. The third wave deconstructed the idea of "universal womanhood" with the focus moving from communal objectives to individual rights. Women at the grassroots level were given the chance to participate in formal decision-making and governance. The Constitution's 73rd and 74th amendments granted a 33% reservation of seats for women in Panchayat and Nagarpalika bodies, ensuring local self-governance.

   iv. **Fourth phase:** Around 2012, a fourth phase of feminism emerged, focusing on issues such as sexual harassment, body shaming, and rape, although debates persist. The fourth wave, originating in the West, rapidly emerged in India due to the widespread use of social media. A key component of this wave was the use of social media like the #MeToo Movement leading to local protests and global outrage.

c) **Note:** The key difference between the first and second phases was that the former was espoused by men on behalf of women while the latter was largely led by women and women's organisations such as the Self-Employed Women's Association (SEWA).

16. Global Hunger Index 2023

Context

In October 2023, the **Global Hunger Index 2023** was jointly released by **Concern Worldwide and Welthungerhilfe** every October. Neighbouring countries, such as Pakistan (102nd), Bangladesh (81st), Nepal (69th), and Sri Lanka (60th).

India's hunger reality

In the 2023 Global Hunger Index, **India ranks 111th** out of 125 countries. India has the world's **highest child wasting rate** at **18.7%**, indicating severe undernutrition. Additionally, **16.6% of the population** is **undernourished.** Women aged 15 to 24 years face a high prevalence of **anaemia at 58.1%.**

WITH A SCORE OF 28.7 IN THE 2023 GLOBAL HUNGER INDEX, INDIA'S LEVEL OF HUNGER IS IN THE 'SERIOUS' CATEGORY

INDIA 28.7

| ≤ 9.9 low | 10.0—19.9 moderate | 20.0—34.9 serious | 35.0—49.9 alarming | ≥ 50.0 extremely alarming |

SOURCE: 2023 Global Hunger Index: The power of youth in shaping food systems, October 2023
www.downtoearth.org.in

Global Hunger Index

1. **About:**
a) The Global Hunger Index (GHI) is a peer-reviewed report, published on an annual basis by Concern Worldwide and Welthungerhilfe.
b) The GHI is a tool designed to comprehensively measure and track hunger at global, regional, and national levels, reflecting multiple dimensions of hunger over time.
c) The GHI score is calculated on a 100-point scale reflecting the severity of hunger - 0 is the best score (implies no hunger) and 100 is the worst.
d) **Note:** Concern Worldwide is an international humanitarian organization dedicated to tackling poverty and suffering in the world's poorest countries.

2. **Welthungerhilfe is a private aid organization in Germany.** It was established in 1962, as the German section of the **"Freedom from Hunger Campaign"**.

3. **Calculation:**
a) Each country's GHI score is calculated based on a formula that combines four indicators that together capture the multidimensional nature of hunger:
    i.   **Undernourishment:** The share of the population whose caloric intake is insufficient.
    ii. **Child Stunting:** The share of children under the age of five who have low height for their age, reflecting chronic undernutrition.
    iii. Child Wasting: The share of children under the age of five who have low weight for their height, reflecting acute undernutrition.
    iv. **Child Mortality:** The share of children who die before their fifth birthday, reflecting in part the fatal mix of inadequate nutrition and unhealthy environments.

4. **Alignment with Sustainable Development Goals (SDG):**
    1. The prevalence of undernourishment is an indicator of **SDG 2.1**, focusing on ensuring access to safe, nutritious, and sufficient food for all.
    2. Child stunting and wasting rates are indicators for **SDG 2.2**, which aims to end all forms of malnutrition.
    3. Reducing preventable child deaths is an **SDG 3.2** goal.
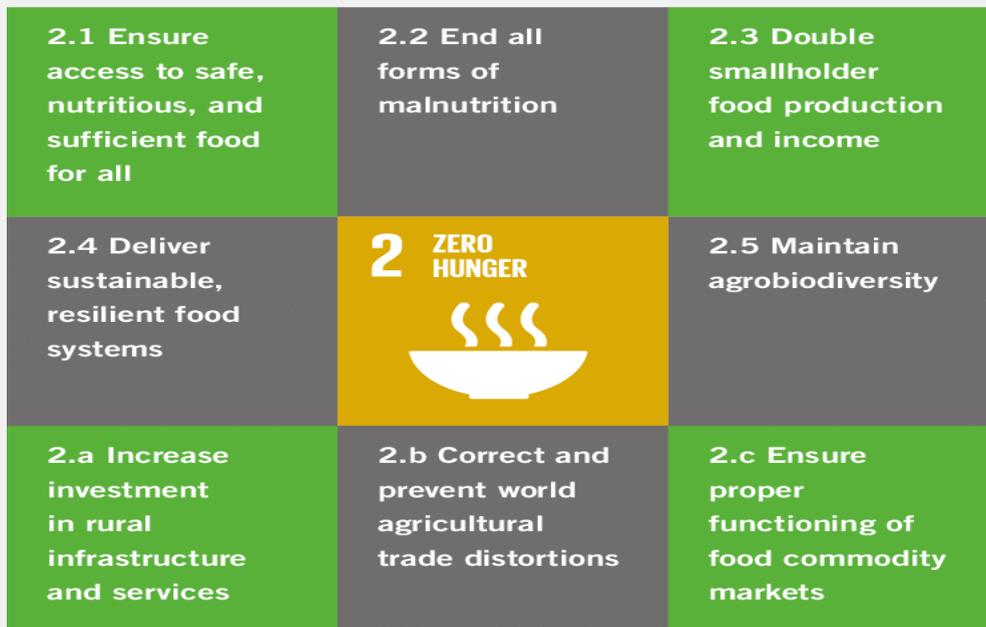
Key Takeaways from GHI 2023

1. **India's GHI Score:**

i. **Score Analysis:**

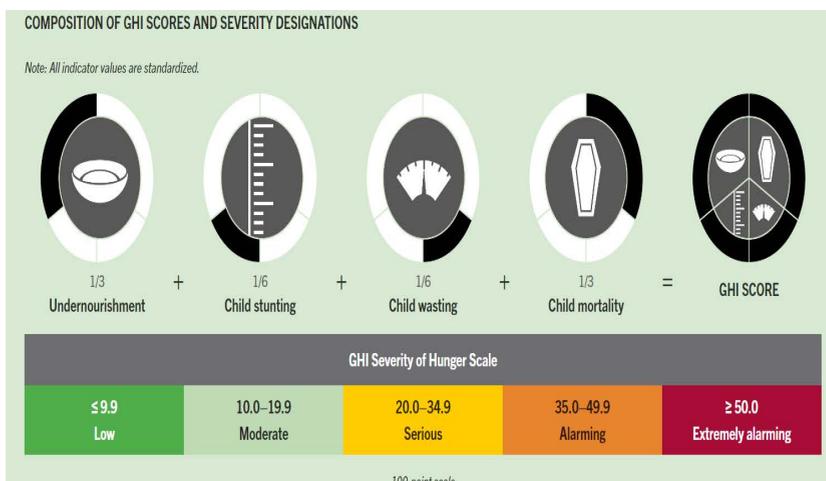a) India is categorized as **"serious"** on the GHI Severity of Hunger Scale, with a 2023 GHI score of 28.7.

b) Compared to its GHI 2015 score of 29.2, which was likewise considered serious, this indicates a little improvement.

c) Furthermore, India has come a long way from its worrisome GHI ratings of 38.4 in 2000 and 35.5 in 2008.

COMPOSITION OF GHI SCORES AND SEVERITY DESIGNATIONS

Note: All indicator values are standardized.

| 1/3 Undernourishment | + | 1/6 Child stunting | + | 1/6 Child wasting | + | 1/3 Child mortality | = | GHI SCORE |

GHI Severity of Hunger Scale

| ≤9.9 Low | 10.0–19.9 Moderate | 20.0–34.9 Serious | 35.0–49.9 Alarming | ≥ 50.0 Extremely alarming |

100-point scale

ii. **Related Data and References:**

a) According to India's National Family Health Survey (NFHS) 2019–2021, 35.5% of children are stunted.

b) According to the 2023 State of Food Security and Nutrition in the World report, 16.6% of Indians are undernourished.

c) India has the highest child-wasting rate of any country in the survey, at a worrisome 18.7% (India's NFHS 2019–21).

d) According to the United Nations Inter-Agency Group for Child Mortality Estimation (January 2023), the under-five mortality rate is 3.1%.

2. **Global Hunger Trends:**

a) **As per the GHI 2023 report**, the countries with the lowest degree of hunger are Yemen, Madagascar, and Central African Republic, while the highest-rated countries are Belarus, Bosnia & Herzegovina, Chile, and China.

b) The **global GHI 2023 score** is 18.3, which is deemed moderate and represents just slight progress from 2015.

c) Since 2017, the number of persons who suffer from undernourishment has increased from 572 million to over 735 million.

d) The **COVID-19 pandemic, conflicts, economic shocks, and the Russia-Ukraine war** were among the factors the GHI blamed for the stagnation.

e) These problems have slowed down efforts to end hunger globally and made social and economic inequality worse.

Indian Government's Response to GHI Report 2023

1. **Criticism of Methodology:** Concerning the report's methodology, the Ministry of Women and Child Development has suggested "serious methodological issues" and "malafide intent." Contrary to the GHI's published figure of 18.7%, data from the government's Poshan Tracker regularly shows a child wasting prevalence below 7.2%.

2. **Focus on Child Health:** Three of the four GHI indicators, according to the government, are related to children's health and might not fully reflect the population as a whole.

3. **Small Sample Size:** Because the **"Proportion of Undernourished Population"** statistic is based on an opinion poll with a tiny sample size, the government has expressed concerns about its accuracy.

4. **Complex Factors:** The government argues that signs such as wasting and stunting are not only related to hunger but also result from a complex interaction of factors like heredity, environment, sanitation, and food consumption.

Factors Responsible for Hunger in India

1. **Socioeconomic Disparities and Poverty:** The primary causes of hunger in India are widespread poverty and social inequality. Inadequate food consumption and the inability to pay for necessary medical and nutritional services are caused by poverty.

2. **Hidden Hunger:** There is a serious micronutrient shortage in India, which is often referred to as "hidden hunger." This issue has a number of root causes, including as inadequate nutrition during pregnancy and nursing, illness, and bad diet.

3. **Inefficient Agricultural Practices and Food Distribution:** There is not enough food available due to inefficiencies in agricultural operations, such as inadequate crop yields and post-harvest losses. In addition, the poor are disproportionately affected by subsequent leakages in the supply chain management and food distribution, which limit the amount of food that reaches vulnerable communities. This leads to food scarcity and increased costs.

Other Terms Related to Hunger

1. **Undernourishment:** It refers to Insufficient calorie intake to sustain a healthy life, as defined by the Food and Agriculture Organization of the United Nations. It is based on individual needs in terms of age, sex, stature, and physical activity.

2. **Undernutrition:** It extends beyond calories and encompasses deficiencies in energy, protein, and essential vitamins and minerals. Undernutrition results from inadequate food intake in terms of both quantity and quality, poor nutrient utilization due to infections or illnesses, or a combination of these factors.

3. **Famine:** It is a distinct condition defined by the UN as occurring when specific conditions are met:
   a) when at least 20% of the population faces severe food shortages.
   b) acute child malnutrition rates exceed 30%.
   c) Two out of 10,000 people die from starvation or malnutrition-related diseases daily.

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4. **Gender Inequality and Nutritional Disparities:** Inequalities based on gender worsen India's hunger and malnutrition issues. In households where there is unequal access to food, women and girls frequently receive smaller portions or diets of lesser quality. Chronic undernutrition results from the combination of this inequality and the pressures placed on mothers and children to provide for their needs.

5. **Climate Change and Environmental Stressors:** Climate change-related environmental stressors, including altered weather patterns, extreme weather occurrences, and natural disasters, might affect India. These elements may interfere with agricultural output, resulting in crop failures and a shortage of food.

6. **Lack of Audit for Nutritional Programmes:** Even though the nation is planning several programs with the primary goal of boosting nutrition, there is little to no nutritional auditing at the local governance level.

Indian Government Initiatives to Address Hunger

1. Eat Right India Movement.
2. POSHAN Abhiyan (National Nutrition Mission).
3. Mid-day Meal (MDM) scheme.
4. Pradhan Mantri Matru Vandana Yojana.
5. National Food Security Act, 2013.
6. Mission Indradhanush.
7. Integrated Child Development Services (ICDS) Scheme.
8. PM Garib Kalyan Yojna.

Way Forward

1. **Social Audit and Awareness:**
   a) In addition to promoting nutrition awareness, mandate social audits of the midday meal program including local authorities in all districts.
   b) Information technology should be used to improve program monitoring.

c) Create community-driven nutrition education initiatives that, with a focus on women and children in particular, educate people in the local languages about balanced meals, food preparation, and the significance of nutrition.

2. **Reducing Food Waste, Reducing Hunger:**
   a) To tackle the problem of food waste, enhance your cold storage and warehouse infrastructure.
   b) The International Institute of Refrigeration estimates that developing nations could prevent famine and malnutrition by saving 200 million tonnes of food, or about 14% of their total food supply if their refrigeration infrastructure was on par with that of affluent nations.

3. **PDS Enhancement:** Redesign the Public Distribution System (PDS) to improve the availability, affordability, and transparency of wholesome food for the underprivileged.

4. **Mobile Nutritional Clinics:** Establish mobile nutrition clinics to provide health exams, dietary counselling, and supplemental feeding for children and pregnant women in underprivileged and distant locations.

17. SHRESHTA SCHEME

Context

In October 2023, the **Ministry of Social Justice and Empowerment** introduced the **'Scheme for Residential Education for Students in High Schools in Targeted Areas' (SHRESHTA)**.

Key Points

1. Till now in FY 2023-24 the expenditure under SHRESHTA is Rs. 14.94 cr.
2. **Type:** Central Sector Scheme
3. **Objective:** To address the service gap in service-deprived SCs (Scheduled Castes) and foster socio-economic upliftment in dominant areas.
4. **Benefits:** The scheme provides free residential education to both poor and meritorious scheduled caste students from class 9th to class 12th.
5. **Two Modes of Implementation:**
   a) **Mode 1:** District Administration.
   b) **Mode 2:** Voluntary organisation (VO)/Non-Governmental Organisation (NGO)/ other organisations.

18. PROTOCOL FOR MANAGEMENT OF MALNUTRITION IN CHILDREN

Context

In October 2023, the Ministry of Women and Child Development (WCD) launched a protocol in collaboration with the Ministry of Health and Family Welfare and the Ministry of AYUSH to combat child malnutrition.

Key Points

1. The protocol offers comprehensive guidelines for identifying and managing malnourished children at the Anganwadi level.
2. Mission Poshan 2.0 is a comprehensive initiative that focuses on identifying and treating malnourished children.
3. 7.7% of children under 5 years old are severely wasted.
4. **Key Components of the Protocol:**
   a) The focus is on monitoring growth, assessing appetite, and implementing nutritional management strategies for malnourished children.
   b) The Appetite Test measures children's food intake based on body weight, and if they don't consume three-fourths of the food, they are transferred to a Nutritional Rehabilitation Centre.

c) The focus is on providing follow-up care to children who successfully achieve the necessary growth parameters following intervention.

d) 'Buddy Mother' initiative where the mother of a healthy baby guides the mother of a malnourished child at an Angandwadi centre every week.

e) The concept of 'Buddy mother' was first introduced in Assam.

f) The text promotes a balanced diet and recommends the consumption of micronutrients in food.

19. PROJECT VEER GATHA 3.0

Context

In October, 2023 the Ministry of Defence (MoD) in collaboration with the Ministry of Education (MoE) has now decided to launch Project Veer Gatha 3.0.

About

1. Being a part of Azadi ka Amrit Mahotsav, it has been launched in schools to raise awareness about the Gallantry Awards.

GALLANTRY AWARDS

1. These awards honor the acts of bravery and sacrifice of the officers/personnel of the Armed Forces, other lawfully constituted forces, and civilians.

2. **Classification**
   a) **Classified into two Categories:** Wartime **Gallantry Awards & Peacetime Gallantry Awards**
   b) **Wartime Gallantry Awards:** Param Vir Chakra (PVC), Mahavir Chakra (MVC), Vir Chakra
   c) **Peacetime Gallantry Awards:** Ashok Chakra, Kirti Chakra, Shaurya Chakra
   d) **Others:** Sena Medal, Nao Sena Medal & Vayu Sena Medal: Awarded for acts of exceptional devotion to duty or courage in the Army, Navy & IAF respectively.

3. **Aim:** To raise awareness about the brave acts and sacrifices of the Gallantry Award winners among school students.

4. **Activities conducted**
   a) The projects can be interdisciplinary and in various formats like poems, paintings, essays, videos, etc.
   b) Schools have conducted various projects/activities and have uploaded a total of four best entries from each school on the MyGov portal.
   c) Virtual/ face-to-face awareness programs/sessions for schools across the country.

5. Two editions of the Veer Gatha Project 1.0 and 2.0 have been conducted in 2021 and 2022 respectively.

6. The best project is rewarded nationally by the Ministry of Defence on the forthcoming Republic Day.

7. During the earlier two editions, 25 winners (Super 25) were selected. However, in the Veer Gatha Project (3.0), 100 winners (Super 100) will be selected.

8. Each winner will be awarded a cash prize of Rs.10,000.

20. WAGH NAKH

Context

Recently Maharashtra government signed an MoU with the Victoria and Albert Museum in London to bring back Chhatrapati Shivaji Maharaj's legendary Wagh Nakh to the state.

Key Point

1. Literally meaning 'tiger claws', the Wagh Nakh is a mediaeval claw-like dagger which was used across the Indian subcontinent.

2. Designed to either fit over the knuckles or be hidden under the palm, the weapon consisted of four or five curved blades fixed to a glove or a bar of some kind.

Wagh Nakh and Shivaji

1. The most famous use of the Wagh Nakh in history comes from the story of Afzal Khan's killing by Shivaji.Khan was a general of Bijapur's Adil Shahi Sultanate.

2. Shivaji used to be a former vassal of the Adil Shahis but by the 1650s, he had become increasingly assertive, taking forts across the Konkan, and bringing under control large parts of Adil Shahi territory.

3. Given Afzal Khan's success in the south, he was sent by the Sultan, with a mighty army, to subdue the Maratha icon.

4. Khan marched into the Konkan and demanded a meeting with Shivaji.

5. In the meeting, Khan, while embracing Shivaji, attempted to stab the Maratha leader. But Shivaji was protected by his armour and killed Khan with the Wagh Nakh. And in the battle that followed, Shivaji's army came out as victor.

6. According to the Victoria and Albert Museum, the weapon was brought to Britain by East India Company officer James Grant Duff (1789- 1858). Duff was the Company Resident (political agent) of the Satara State from 1818-22.

7. The Wagh Nakh was given to Mr. James Grant-Duff of Eden when he was Resident at Satara by the Prime Minister of the Peshwa of the Marathas.

21. NOBEL PRIZE IN LITERATURE FOR 2023

In October, 2023 It was awarded to the Norwegian author and dramatist Jon Fosse, "for his innovative plays and prose which give voice to the unsayable."

Key Facts

1. The Academy honoured Fosse's body of work written in Norwegian Nynorsk which includes several plays, novels, poetry collections, essays, children's books and translations.
   a. Nynorsk is one of two official languages of Norway.

2. Nobel prize for Literature is worth 11 million Swedish kronor ($1 million) and is regarded widely as the world's most prestigious literary award.

3. The Nobel Prize in Literature has been awarded 116 times to 120 Nobel laureates between 1901 and 2023.

4. In the recent years, the prizes have gone to French author Annie Ernaux (2022), Tanzanian novelist Abdulrazak Gurnah (2021).

22. 53rd DADASAHEB PHALKE LIFETIME ACHIEVEMENT AWARD

Context

Recently, Ms. Waheeda Rehman was honoured with this award.

About award

1. It is **India's highest award** in the field of cinema presented annually at the National Film Awards ceremony by the Directorate of Film Festivals (under Ministry of Information and Broadcasting).

2. Award was first introduced in 1969 and was bagged by actress Devika Rani.

3. Award is given to commemorate Dadasaheb Phalke's contribution to Indian cinema who directed India's first full-length feature film, **Raja Harishchandra in 1913.**

4. The award comprises a Swarna Kamal (Golden Lotus) medallion, a shawl, and a cash prize of ₹10 lakh.

23. MEWAR SCHOOL OF PAINTING

1. Allah Baksh, Maharana Jai Singh's Court painter, had illustrated the Mahabharata with 4,000 Mewari miniature paintings.

2. About Mewar Miniature painting (17th-18th centuries)

    a) It is a school in the Rājasthanī style developed in Mewar (Rajasthan).

    b) The emergence of the Mewar School is associated with a set of Ragamala paintings painted at Chawand in 1605 by an artist named Nisardin.

    c) In the 18th century, Mewar painting shifted towards courtly and secular subjects, including portraiture, court scenes, hunting expeditions, festivals, zenana activities, and sports.

    d) The Nathdwara School is a subset of the Mewar School of painting.
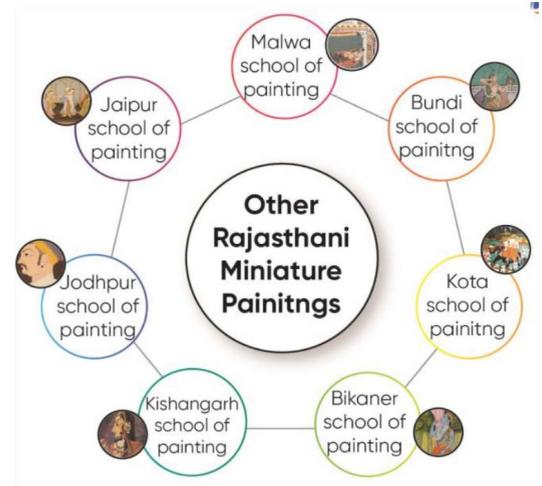
3. Features

    a) It is characterized by simple bright colour and direct emotional appeal.

    b) Miniature painting is a small, finely wrought portrait executed on vellum, prepared card, copper, or ivory.

    c) **Mewar school artists**: Sāhibdīn (drew Raagmala), Manohar (Bal Kanda of Ramayana), and Jagannath (Bihari Satsai).

About Rajasthani painting:

    a) 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.

    b) **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.

24. PROJECT UDBHAV

Context

In October 2023, the defence minister inaugurated **Project Udbhav** at the Indian Military Heritage Festival (IMHF).

Project Udbhav

1. The Indian Army and the United Service Institution of India (USI) are working on a collaborative project.

2. **Objective:**

    ➢ To rediscover the profound Indic heritage of statecraft and strategic thoughts derived from ancient Indian texts of statecraft, warcraft, diplomacy and grand strategy ('Udbhav' translates to 'origin' or 'genesis').

    ➢ To combine ancient Indian wisdom with contemporary military pedagogy through interdisciplinary research, workshops, and leadership seminars.

    ➢ To develop a comprehensive strategy to tackle modern military issues utilizing ancient military wisdom.

Highlights of the discussion

1. The discussion's focus was on the Kautilya, Kamandaka, and The Kural, but it also included the study of ancient literature from the fourth century BCE to the eighth century CE.

2. The panel discussion has clearly highlighted India's extensive and sometimes under-researched strategic and military history.

3. The Indian Army seeks to develop its officers' ability to apply ancient knowledge in contemporary contexts and also to provide a greater understanding of international relations and other cultures.

4. This is accomplished by reintroducing these classical teachings into the modern military and strategic realms.

Significance of the project

1. **Acknowledges vintage scriptures and writing on military wisdom:** E.g., Mahabharata, Nitisara, Arthashastra, Thirukkural etc.

2. **Enriches Military Pedagogy:** Facilitates a better understanding of ancient military wisdom and helps to facilitate its usage in contemporary military strategies.

3. **Knowledge enrichment:** Facilitate research of previously under-explored thoughts and theories related to strategic thinking, statecraft and warfare.

Military systems in Ancient India

India's ancient military wisdom is derived from a vast collection of intellectual texts, scriptures, manuscripts, thinkers, and studies of notable military campaigns and leaders.

1. **Kautilya's realism:** Kautilya, during the Mauryan period, wrote Arthasastra around 300 BC, emphasizing understanding ground realities and adapting tactics accordingly.

   ➢ **Mandala theory:** It deals with knowledge of foes, friends and allied countries. The theory suggests that a state's immediate neighbour is more likely to be an enemy, while a state next to it is more likely to be friendly.

   ➢ **Diplomacy and Alliances:** Kautilya emphasized diplomatic strategies and alliance formation as a key strategy for achieving strategic objectives.

   ➢ **Intelligence Gathering:** He advocated for the use of spies, specifically Amatyas, to gather information about the enemy's capabilities, intentions, and weaknesses.

   ➢ **Logistics and Supply Chains:** The Arthashastra emphasizes the significance of effective resource provision and management for the triumph of military expeditions.

2. **Kamandaka by Nitisara:** It belongs to the Gupta age and follows the Arthasastra tradition.

   ➢ The kingdom's security and stability were deemed crucial by building and maintaining friendly relations with neighboring states.

   ➢ During the Indian freedom struggle, the strategies of Upeksha (diplomatic neglect) and Maya (deception) were repeatedly used and revived.

   ➢ The proposal suggested that an army composed of women could also participate in combat.

3. **Thiruvalluvar by Thiruvalluvar (31 BC):** The text discusses the ethical conduct in warfare, ensuring it aligns with modern military codes of ethics and principles of the Geneva Convention.

United Service Institution of India

1. **About:** It is an Indian think tank for national security and defence services based in New Delhi.

2. **Origin:** An army scholar named Colonel (later Major General) Sir Charles MacGregor founded it in 1870.

3. **Objectives:** The "furtherance of interest and knowledge in the art, science, and literature of the defence services" is its stated goal.

4. **Activities:** USI operates two research centres and one centre that primarily trains the Indian Army and a small number of Indian Navy officers for Professional Military Education exams.

Indian Military Heritage Festival (IMHF)

1. The IMHF seeks to deepen our understanding of India's extensive military heritage and traditions. It will explore various aspects, including indigenous historical knowledge systems, India's role in the world wars, post-independence challenges, and perspectives on war and conflict. Through insightful discussions, the festival aims to enlighten attendees from all walks of life about the multifaceted dimensions of India's military history.

Agni Purana: The first explanation of the philosophy of reserve (pratigraha) on the battlefield, which is an essential part of modern-day army structure, was provided.

4. **Ramayana, Mahabharata, Buddhist Jatakas:** The battle's outcome was heavily influenced by Vyuha's scientific knowledge and the strategic deployment of the troops.

Relevance in today's time

1. **Kautilyan realism:** India can greatly benefit from a comprehensive understanding of both geopolitical challenges and opportunities. Ex: Understanding the strategic motive of China, USA.

2. **Enduring Elements of Kautilya's foreign policy:** The fight for power, national interests, alliances, enmity, and diplomacy remains unchanged.

3. **Being Vigilant:** Mandala theory suggests that natural adversaries do not necessitate constant warfare but rather a state of alertness in international relations. Ex: India is vigilant in its borders with Pakistan and China.

4. **Ethical principles:** Thiruvalluvar's ethical principles offer a timeless framework for assessing morality in modern conflicts, emphasizing leaders' responsibility to exemplify ethical conduct and inspire their followers.

25. RURAL TOURISM

Context

In October 2023, the **United Nations World Tourism Organization (UNWTO)** released its list of the Best Tourism Villages for 2023.

More on news

1. The UNWTO initiative, Best Tourism Villages, was launched in 2021 as part of the UNWTO Tourism for Rural Development Programme.

2. **The initiative comprises three pillars:**

   ➢ **Best Tourism Villages by UNWTO:** The organization acknowledges exceptional rural tourism destinations with recognized cultural and natural assets, community-based values, and a strong commitment to innovation and sustainability.

   ➢ **Best Tourism Villages by UNWTO Upgrade Programme:** The organization assists villages in achieving recognition criteria and fills gaps identified during the evaluation.

   ➢ **Best Tourism Villages Network:** The forum encourages sharing experiences, best practices, and opportunities among its members, including experts and public/private sector partners promoting tourism for rural development.

About Rural Tourism

1. Rural tourism refers to any form of tourism that showcases the unique culture, art, and heritage of rural areas.

2. The Ministry of Tourism has identified rural tourism as a crucial area for the development and promotion of rural India.

3. Rural tourism encompasses various forms such as agritourism, cultural tourism, and ecotourism.

4. **Rural Tourism activities take place in non-urban (rural) areas with the following characteristics:**

   ➢ Low population density.

   ➢ Landscape and land use are dominated by agriculture and forestry.

   ➢ Traditional social structure and lifestyle.

Dhordo Village (Best Tourism Villages 2023)	Madla Village (Selected in Upgrade Programme)
• Dhordo village in Kutch district of Gujarat has been recognized as one of the Best Tourism Villages globally by the UNWTO. • Dhordo is renowned for hosting the annual Rann Utsav (White Desert Festival). • Rann Utsav, a cultural extravaganza in November, is a celebration by Gujarat Tourism that showcases the region's traditional art, music, crafts, dance, and cuisine. • Dhordo is home to the Sindh-based Mutwa community, known for their unique Mutwa embroidery, which includes chain of stitches, mirrors, silver jewelry, and leather.	• Madla Village is situated in the Panna district of Madhya Pradesh. • River Karnawati (Ken) flows through the village. • The village boasts an intangible heritage, including folk music and dance, local festivals, and Bundelkhand cuisine. • The architecture of the houses still embodies the essence of the village.

Best Tourism Villages are evaluated under nine key areas

1. Cultural and Natural Resources
2. Promotion and Conservation of Cultural Resources
3. Economic Sustainability
4. Social Sustainability
5. Environmental Sustainability
6. Tourism Development and Value Chain Integration
7. Governance and Prioritization of Tourism
8. Infrastructure and Connectivity
9. Health, Safety, and Security

Significance of Rural Tourism

1. Promotes conservation of cultural and natural heritage.
2. Improvement in public services and increase the living standards of local community.
3. Develop market for agro products and handicrafts.
4. Create employment opportunities for local communities and generate revenue for government.
5. Reduces stress migration to urban areas.
6. Brings together people of different cultures, faiths, languages etc. and provide broader outlook of life.

Challenges associated with Rural Tourism

1. **Poor infrastructure:** The distance from nearby towns, lack of connectivity, poor transportation, inadequate lodging, amusement, electricity, and ICT infrastructure are major issues.
2. **Lack of awareness and skills:** Rural communities often lack the necessary knowledge, skills, and financial resources to effectively market their cultural, artistic, and craft-related services to tourists.
3. **Lack of trained manpower:** Rural areas lack trained human resources, impacting tourism and hospitality industries. Urban-trained workforce often avoids rural tourism due to seasonal demand.
4. **Digital Illiteracy:** Rural areas' lack of digital literacy hinders the adoption of technology-based solutions like social media advertisements and online booking services for marketing and attracting tourists.

Initiatives taken to promote Rural Tourism

1. **National Strategy and Roadmap for Development of Rural Tourism in India:** The initiative aims to utilize India's rural heritage to foster a vibrant and responsible tourism sector by delivering engaging rural experiences.

2. **National Strategy for Promotion of Rural Homestays (RH):** It aims to develop RH as an experiential tourism product that boosts rural tourism. The Indian Institute of Tourism and Travel Management (IITTM) has been appointed as the Central Nodal Agency for Rural Tourism and Rural Homestay, identifying unique tourist experiences. For instance,

   ➢ Tamil Nadu's Kolukkumalai, Kerala's Devalo- kam, Telangana's Pochampalli village, and Maharashtra's Maach-li are some of the world's highest tea plantations, yoga centres, traditional weaving villages, and agrarian homestays.

3. **National Tourism Awards (NTA):** The Ministry of Tourism annually awards NTA to various segments of the travel, tourism, and hospitality industry, including State Governments, to acknowledge their performance and promote competition. Kongthong village honoured with 'Best Tourism Village (Bronze)' award at National Tourism Awards (NTA) 2023

4. **Dekho Apna Desh Scheme:** The initiative aims to boost domestic tourism in India by promoting the exploration of its diverse cultural heritage.

   Unity Mall: It was announced in the Union budget 2023-2024. State capitals and major tourism centres are establishing malls to promote and sell unique handicraft products, including "one district, one product" (ODOPs), and geographical indication (GI).

Way ahead

1. **Digital Literacy:** Indian tourism startups and NGOs can enhance service delivery by providing digital literacy and simplified solutions, and advertising local attractions to attract tourists to rural areas.

2. **Infrastructure:** The lack of tourism infrastructure in rural areas can be addressed by developing community-based tourism infrastructure and attracting public-private partnerships.

3. **Government Support:** The government can support rural tourism by providing financial and infrastructure support for high-potential tourist attractions, such as guide skill development and adventure sports infrastructure creation.

4. **Collaboration and recognition:** The convergence of various ministries' schemes focuses on rural development to promote sustainable tourism and attract tourists through recognition.

5. **Marketing:** Implementing measures like integrating rural tourism into state tourism architecture and promoting niche tourism like agri-tourism and water sports can enhance the appeal of rural destinations.

United Nations World Tourism Organisation

1. The World Tourism Organization (UNWTO) is the United Nations Specialised Agency responsible for the promotion of responsible, sustainable and universally accessible tourism.

2. It was established in 1975 with headquarters at Madrid, Spain.

3. UNWTO encourages the implementation of the Global Code of Ethics for Tourism, to maximize tourism's socio-economic contribution while minimizing its possible negative impacts.

Kongthong (East Khasi Hills, Meghalaya)

1. It is popular as the 'whistling village' due to its unique tradition of 'Jingrwai Lawbei' (meaning the Song of the Clan's First Woman).

2. It is a tradition under which mothers create a tune for their newborns. These tunes are often used as names.

3. Kongthong people belong to the Seng Khasi Tribe and speak the Khasi language.

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26. RANI DURGAVATI

Context

In October 2023, the **500th birth anniversary of Veerangana Rani Durgavati** was celebrated.

About Rani Durgavati

1. Born in the **Chandel Dynasty** of Mahoba in Banda, UP, she married Dalpatshah of the Gond Dynasty of Garha Katanga in 1542.

2. **Gonds** are one of the largest tribal groups and are situated in central India.

3. **Assuming leadership:** In 1550, she assumed the Gond Dynasty as the guardian of her son Veer Narayan after the death of Dalpatshah.

4. **Conflict with Akbar:** She was a contemporary of Mughal emperor Akbar. Akbar, under the leadership of Asaf Khan, launched a significant attack on the Gond Empire during her reign. She opposed Mughal expansionism.

Contributions

1. **Infrastructure Development:** She established reservoirs like Ranital, Cheriual, and Adhartal and relocated the capital to Chauragarh, strategically located on the Satpura Hill Range.

2. **Patronage of Religious Figures:** Acharya Bitthalnath was granted permission to establish a seat of the Pushtimarg Cult at Garha. She welcomed Vitthalnath from the Vallabh community and took Diksha from him.

3. Commitment to Secular Governance.

4. **Victory over Baz Bahadur of Malwa:** Tarikh-i-Firishta mentions Durgavati defeated Baz Bahadur, the ruler of Malwa.

5. **Historical documentation:** Abul Fazl, Akbar's chronicler, and British Colonel Sleeman were responsible for documenting the story of Durgavati.

About the Chandela dynasty of Bundelkhand

1. The Chandelas were a prominent Indian Rajput clan from Central India, also known as the Jejakabhukti dynasty.
   - **Founder:** Nanuka in 835 CE.
   - **Prominent Rulers**: Yashovarman, Dhanga, Vidhyadhara, Paramardideva, Trilokyavarman.

2. **Major Cities:** Capital city: Khajuraho (later changed to Mahoba)

3. **Language:** Sanskrit and Prakrit

4. **Social System:** The Varna system was the basis of social organisation. Women as wives occupied a high place in the family and society.

5. **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.
   - **Components:** The temples had three chambers - Garbhagriha, Mandapa and Ardhamandapa.
   - **Direction:** North or East facing.
   - **Method:** The temples were built on a relatively high platform and Panchayatana style of temple making.
   - Lakshmana Temple (Vishnu)- built by Yashovarman
   - Vishvanatha Temple (Shiva) Parshavanatha Temple (Jain) - built by Dhanga
   - Kandariya Mahadeva Temple (Shiva)-built by Vidhyadara
   - Sun temple in Mahoba – built by Rahil Dev Varman

6. Contributed to the rich heritage of Bundelkhand and constructed multiple temples inside of Kalinjar Fort.

7. **Decline:** Invasion of Mahmud Ghaznavid, Qutb ud-Din Aibak.

27. SIR SYED AHMED KHAN

Context

In October 2023, it was commemorated as Sir Syed Ahmed Khan's 125th death anniversary.

About Sir Syed Ahmed Khan (1817-1898)

1. He held various positions including civil servant, journalist, educationist, social reformer, and historian.
2. **Religious view:**
   - Sir Syed Ahmed Khan's interpretation of Islam emphasized the importance of free enquiry (ijtihad).
   - He emphasized the resemblance between Koranic revelations and the laws of nature discovered by modern science.
3. **Writings:**
   - He has written a paper titled **"The Causes of the Indian Revolt"** to provide a native perspective on the reasons behind the revolt.
   - The Aligarh Institute Gazette, a magazine published by him, was an organ of the Scientific Society and effectively influenced traditional Muslim society's minds.
   - **Tahzebul Akhlaq (magazine),** founded by him, aims to raise awareness on social and religious issues.
   - He was a renowned Christian scholar who authored a book, 'Commentary on the Holy Bible'.
   - **Historical Documentation:** His works, such as "Asar-us-Sanadid," have significantly contributed to the preservation of India's cultural heritage and serve as valuable historical references.

Role as a Social Reformer

1. **Transformation in the Education sector:**
   - In 1863, he established the Scientific Society to instill a scientific mindset in the Muslims.
     - He emphasized the crucial need for Muslims to acquire proficiency in the English language.
     - The advancement of Muslims was attributed to their adoption of modern education and proficiency in the English language.
     - In 1875, he established Muhammadan Anglo-Oriental College in Aligarh, marking the beginning of the Aligarh movement.
     - He opposed ignorance, religious intolerance, and irrationalism.
2. **As part of the National Movement:**
   - Sir Syed, in his later years, advised Indian Muslims against joining the National Movement.
   - He is considered a key proponent of the **Two-Nation Theory,** which asserts that Hindus and Muslims cannot coexist as a single nation.
3. **Record on women's rights: Conservative**
   - Sir Syed Ahmed Khan faced criticism for advocating "disorganized tutor-based home education" for women, which emphasized family roles.
   - He expressed concerns that formal education for women might hinder their marriage prospects.
   - He advocated for gender segregation and purdah-centric home education, opposing co-education and girls' institutions.
   - Despite his opposition to polygamy, infanticide, and child marriage, he remained committed to his principles of justice and equality.
   - His 1869-70 visit to England influenced a revised view on women's education, emphasizing its significance for societal advancement and promoting women's freedom in Europe.

   ### Conclusion

   Sir Syed Ahmed Khan's ideas are crucial in addressing India's challenges such as education, social reform, gender equality, interfaith harmony, and cultural heritage preservation.

28. TOTO LANGUAGE

a) The Toto is a primitive and isolated tribal group of population of about 1,600 only and their language is called Toto language.

b) Toto Para is located at the foot of the Himalayas just to the south of the borderline between Bhutan and West Bengal (on the western bank of Torsa River).

c) Toto language belongs to the Sino-Tibetan family.

d) The Toto language does not have its own script.

e) Dhaniram has created the Toto language script and Toto alphabet, for which he received 'Padma Shri'.

29. ARUNACHAL YAK CHURPI

1. Arunachal Yak Churpi becomes the first ever Yak milk product to get a Geographical Indication (GI) tag.

2. Yak Churpi is a naturally fermented cheese prepared from milk of Arunachali yak reared in the high-Altitude areas in Arunachal Pradesh.

   a. Rich in protein, used as a substitute of vegetables or mixed in meat curry or eaten with rice as a staple food.

3. GI tag is going to serve the cause of yak conservation and yak pastoralists' socio-economic upliftment.

   a. Arunachali Yaks is reared by tribal yak pastoralists known as Brokpas.

30. MEHRAULI ARCHAEOLOGICAL PARK

Context

Recently, Major restoration and conservation works have been completed at Mehrauli Archaeological Park.

About

1. It is an archaeological area spread over 200 acre in the Mehrauli neighbourhood of South Delhi.

2. Spread over 200 acres, Mehrauli Archaeological Park is adjacent to Qutub Minar (UNESCO World Heritage Site).

3. It consists of over 100 historically significant monuments built by various empires including the Khaljis, Tughlaqs, Lodhis, Mughals, and the British.

4. These include the Jamali Kamali Mosque, Metcalfe House, Rajon ki Baoli, as well as the tombs of Mamluk king Ghi-yas-ud-din Balban and Mughal governor Shah Quli Khan

H. Ethics

1. Ethics of Parliamentarians

Why in News?

- Recently, The Ethics Committee of the Lok Sabha investigated the cash-for-query allegations against Mahua Moitra, Trinamool Congress MP from Bengal, and reportedly recommended her expulsion in their final report.
- Such occurrences often point to a larger concern: a pervasive erosion of values within public life.

"A politician thinks of the next election; a statesman thinks of the next generation."

–James Freeman Clarke

Parties at Stake:

The legislative process encompass more than just lawmakers. It involves several stakeholders dedicated to upholding and advancing ethical standards in public life such as -

- **Citizen/Voters:** Vital in electing lawmakers and ensuring accountability, citizens foster integrity by staying informed, participating in democracy, and advocating ethical conduct from representatives.
- **Political Parties:** Political parties select and endorse candidates, ensuring ethical adherence. By promoting integrity and endorsing ethically committed candidates, they contribute to ethical governance.
- **Media:** Media, influential in informing and shaping opinions, critically examines lawmakers' actions. Through accurate reporting and responsible journalism, it ensures accountability devoid of bias or sensationalism.
- **Judiciary:** The judiciary interprets laws, acting as a vital check on lawmakers. It ensures due legal processes, adjudicating corruption cases, and upholding ethical principles in governance.
- **Election Commission:** The Election Commission oversees elections, monitoring campaigns and enforcing rules to maintain ethical standards, ensuring the process's integrity.

Essential Ethical Values required in lawmakers:

- **Integrity**: Upholding honesty and moral principles in decision-making.
- **Accountability**: Taking responsibility for actions and being transparent.
- **Impartiality**: Ensuring fair treatment for all citizens regardless of status.
- **Adherence to Rule of Law:** Respecting and following legal frameworks.
- **Commitment to Public Service**: Prioritizing public welfare above personal interests.
- **Courage and Conviction**: Standing for what is right despite challenges.
- **Empathy and Compassion**: Understanding and addressing citizens' needs.
- **Transparency**: Conducting affairs openly and involving citizens.
- **Ethical Leadership**: Setting high standards and being a role model.
- **Continuous Self-Reflection**: Engaging in self-improvement and alignment with values.

Factors causing the decline in ethical values in Law makers

- **Corruption Scandals:** Instances of high-profile corruption have eroded trust. For example, the 2G spectrum scam in India revealed corrupt practices among politicians and business leaders.
- **Criminalization of Politics:** Lawmakers with criminal backgrounds perpetuate a decline in ethical standards. The presence of legislators facing serious criminal charges undermines public confidence in governance.

"Bad officials are elected by good citizens who do not vote."

–George Jean Nathan

- **Political Interests Over Public Good:** Prioritizing party interests over public welfare weakens ethical values. The passage of bills without adequate debate or scrutiny solely for political gains showcases this decline.
- **Lack of Accountability:** Instances of politicians evading accountability for their actions contribute to ethical decay. When politicians are not held responsible for misconduct, it sends a message of impunity.
- **Unethical Conduct in Legislatures:** Instances of disruptions, unruly behavior, or misuse of power within legislative bodies diminish ethical standards. Examples include frequent disruptions in parliamentary sessions, hindering productive discussions.
- **Limitations of the Criminal Justice System:** Challenges in addressing organized crime and economic offenses contribute to ethical decay. Weaknesses in enforcing high standards of public life create a culture of impunity.
- **Conflict of Interest:** Instances where lawmakers have vested interests in legislative matters they oversee, such as financial gains from proposed changes, undermine ethical standards.
- **Nepotism and Dynastic Politics:** The prevalence of dynastic politics results in favoritism and compromised ethical standards, as family members enter politics without merit-based selection.
- **Influence of Interest Groups:** Powerful interest groups exert undue influence on lawmakers, compromising their ethical standards for personal or group interests. For instance, conflicts arise when voting on environmental regulations conflicts with business interests.

> **Mahatma Gandhi:**
> "The best way to find yourself is to lose yourself in the service of others."

Strategies to Foster Ethical Values Among Lawmakers:

- **Legal Strengthening:** Bolster laws to protect whistleblowers and impose strict penalties for corruption. Discourage politicians with criminal backgrounds from holding office.
- **Code of Conduct:** Establish clear norms for lawmakers' behavior, promoting self-discipline and ethical standards for entering politics.
- **Citizen Engagement:** Encourage civic participation by fostering platforms for citizen feedback, involvement in legislative processes, and holding lawmakers accountable through elections.
- **Ethics Committees:** Empower and support ethics committees within legislative bodies to oversee ethical compliance, offer guidance, and address ethical concerns.
- **Party Reforms:** Monitor members' conduct transparently, especially in funding, to maintain integrity in public life.
- **Election Changes:** Revise election expense limits, explore state funding for parties, and regulate foreign donations to minimize monetary influence.
- **House Penalties:** Grant authority for sanctions like censure or suspension through an empowered Ethics Committee.
- **Education Programs:** Introduce civic and leadership programs emphasizing ethical values and public service from an early age.

Conclusion:

- As India progresses, nurturing ethical leadership remains crucial for the nation's development and the preservation of its democratic ideals.
- Ultimately, upholding ethical values among lawmakers is a shared duty, demanding active engagement and watchfulness from everyone involved.
- Moreover, the emphasis on values in ancient Indian texts and teachings, like the concept of "Dharma" in various scriptures, underscores the significance of ethical conduct and moral righteousness in governance and public life.

2. Ethical Implications of AI on Human Rights

Why in News?

- The annual **Freedom on the Net Report** indicates a decline in online human rights conditions, emphasizing that AI technologies can both advance and violate these rights.
- Recognizing the delicate balance between them is crucial at this time.

> "WE ARE ENTERING A NEW WORLD, A WORLD THAT REQUIRES DIFFERENT THINKING, DIFFERENT TECHNOLOGIES, AND DIFFERENT ETHICS."
> - KLAUS SCHWAB

Parties at Stake:

- **Governments**: They prioritize national security, law enforcement, and efficient public administration. Simultaneously, they aim to encourage innovation and economic growth within the AI sector.
- **Users of AI (citizens)**: Their focus lies in ensuring that AI respects fundamental rights, including privacy, freedom of expression, and protection against discrimination.
- **Civil Society and Activists**: They work to raise awareness about human rights concerns and hold both governments and corporations accountable for any infringements.
- **AI Developers and Engineers**: Their primary goal is to advance the field and solve intricate problems. They are concerned with issues such as algorithmic bias and fairness in AI.
- **International Organizations**: Entities like the United Nations prioritize global peace, security, and development, aligning their interests with ethical AI implementation.

> "The development of full artificial intelligence could spell the end of the human race."
> - Stephen Hawking

AI's Potential Threats to Human Rights?

AI itself doesn't inherently harm human rights, but its application and use can potentially impact various rights. AI might influence human rights in following ways:

- **Privacy:** AI systems handling large amounts of data can pose privacy risks if not managed properly. For instance, AI-driven surveillance might infringe on personal privacy.
- **Bias and Discrimination:** AI algorithms can inadvertently reflect biases present in their training data, leading to discriminatory outcomes, particularly in areas like hiring or lending practices.
- **Freedom of Expression:** AI-driven content moderation on social media platforms might restrict or censor certain types of speech, impacting freedom of expression.
- **Right to Fairness and Due Process:** AI used in legal settings for decision-making could potentially affect due process and fairness if not transparent or accountable.
- **Employment and Labor Rights:** Automation through AI might impact job markets and labor rights, leading to job displacement or changes in working conditions.
- **Digital Election Interference:** AI can be utilized to manipulate elections by augmenting disinformation campaigns, creating deep fakes, and undermining public trust in the democratic process.
- **Access to Information:** Platform algorithms often prioritize incendiary content over reliable information, influencing public perception. Additionally, generative AI can be used to create widespread disinformation, affecting the public discourse.

AI's Role in Advancing Human Rights:

- **Surveillance and Privacy Protection:** AI can be used to detect and prevent privacy infringements and surveillance abuses.
- **Right to Equality:** AI algorithms are pivotal in minimizing biases in decision-making processes. For example - Bias reduction in hiring, lending, and criminal justice promotes fairness and equality.
- **Combatting Misinformation and Disinformation:** AI tools detect and combat fake news, safeguarding the right to access accurate information.

> "TECHNOLOGY IS A USEFUL SERVANT BUT A DANGEROUS MASTER."
> - Christian Lous Lange

▢ **Healthcare and Welfare:** AI in healthcare improves access to quality treatment, enhancing the right to health.

▢ **Ensuring Accountability:** AI-powered surveillance holds institutions accountable, enhancing transparency. For instance - Facial recognition technology can be used to document instances like police brutality.

▢ **Governance and Early Warning Systems:** AI develops early warning systems for disasters and humanitarian crises.

▢ **Data Analysis and Prediction:** AI helps identify patterns of discrimination or human rights abuses by analyzing vast amounts of data.

ASILOMAR AI PRINCIPLES

RESEARCH
1. Research Goal
2. Research Funding
3. Science-Policy Link
4. Research Culture
5. Research Avoidance

RESEARCH
6. Safety
7. Failure Transparency
8. Judicial Transparency
9. Responsibility
10. Value Alignment
11. Human Values
12. Personal Privacy
13. Liberty and Privacy
14. Shared Benefit
15. Shared Prosperity
16. Human Control
17. Non-subversion
18. AI Arms Race

LONGER TERM ISSUES
19. Capability Caution
20. Importance
21. Risks
22. Recursive Self-Improvement
23. Common Good

Way Forward:

▢ **Regulations & Ethics:** Establish strict rules and ethical guidelines for AI development and usage.

▢ **Transparency & Accountability:** Ensure clear AI decision-making and accountability.

▢ **Bias Reduction:** Continuously minimize biases in crucial areas like hiring and justice.

▢ **Inclusivity & Accessibility:** Design AI tech to be inclusive and accessible.

▢ **Collaboration & Awareness:** Collaborate across groups and raise public awareness about AI's human rights impact.

▢ **Privacy & Responsible Data Use:** Safeguard data privacy and promote responsible data practices.

▢ **Human-Centric Focus:** Prioritize human well-being in AI advancements.

▢ **Continuous Evaluation:** Regularly assess AI's societal impact on human rights.

▢ **Global Cooperation:** Encourage worldwide cooperation for universal AI standards aligned with human rights.

AI's impact on human rights is substantial, but ethical guidelines and stringent regulations are imperative to harness its potential positively while mitigating potential risks or misuses.
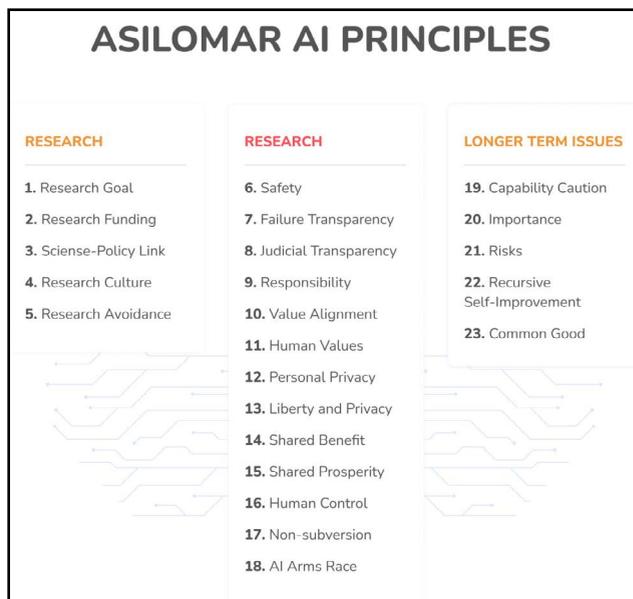
I. ESSAY

1. Thinking is like a game, it does not begin unless there is an opposite team.

In the ancient realm of intellect, where thoughts took tangible forms, a curious notion stirred. It was believed that thinking, like a game, required an opponent. The great sages, **Vriti** and **Viveka,** embodied this belief. **Vriti** represented unwavering **optimism**, while **Viveka** personified pragmatic **skepticism**. They engaged in ceaseless **debates**, shaping the minds of mortals. Yet, one fateful day, they paused, realizing their **unity** formed a richer **tapestry** of understanding. Their **harmonious** collaboration unveiled profound **wisdom**: thinking thrived not on opposition alone, but on the symphony of diverse ideas. From then on, thinkers knew that **unity, as much as opposition, was the cornerstone of enlightenment.**

In this following essay, we would delve into the **analysis** of a few thoughts; **what is thinking ? How is it like a game ? Why does it begin only with antithetical ideas ? Is it always the case ? Can thinking be initiated in isolation ?** And **finally**, we would ponder over **how to develop a thought process** that ensures **harmonious coexistence** of all ideas as the famous **illustration** goes, **"I shall not agree with what you say, but I shall die to protect your right to do so".**

Thinking, if understood from a general perspective, is a **response** process that our brain cells give to some **stimulus**. For **instance**, thinking in response to a possible failure , our mind works on finding ways to avoid failure.Thinking as a process involves analysis ,reasoning and awareness to ensure an optimum output. Now let us explore more aspects to understand **why thinking is like a game ?**

"In the clash of ideas, truth is born"

First and foremost, both involve **strategy,Skills** and **tactics**. Just as a **chess** player must plan in advance for future moves,a **thinker** must look into causes and **consequences** of an issue problem . This can be seen in example of Kautilya where he planned for years to ensure defeat of Dhanananda .In both instances, the ability to think **critically**, **evaluate** options, and make informed decisions is **crucial** for success.

Furthermore, thinking, like a game, often necessitates **competition**, whether against one's own weaknesses or with others. This competitive aspect gives motivation and encourages individuals to improve their thinking skills. For **instance**, when **James Watt** saw the lid of the kettle lifted by steam, he thought that there is some phenomenon at play, which he took as a **challenge** to himself to find out. This help him in the **invention** of the steam engine .

Also both thinking and game generate a sense of accomplishment when some result is achieved.As thinking yield great manuscript and intellectual fitness as results on the other hand games yield prize money and physical fitness and thus creates a sense of achievement

Lastly, both thinking and gaming can be immensely **enjoyable**. The excitement of problem-solving, the **satisfaction** of reaching a **creative** solution, and the fruits derived from thinking can be as gratifying as the excitement of playing a game. For example, In **medieval** times King Akbar used to organise debates in ibadat khana on religious issues and whosoever used to win was highly rewarded .**But** , the question arises **why does it need an antithetical or opposite perspective to take off** ?

Thinking is a **cognitive** process that often begin when one wants to oppose any existing notion or start looking towards it. When there are **contrasting** perspectives to our current understanding, our mind is forced to assess, analyze, and change our thoughts. For instance, **Karl Marx** utilized the process of **dialectical materialism** to understand the changing or evolving **mode of production** over the period of time in history. He explained how people who lacked opportunities realized the **inequality** only when they were able to **think** about the **exploitation** at hands of the upper class.

It is said that "Without opposition, there is no progress." - Marty Rubin

As, having an opposing viewpoint compels individuals to **critically evaluate** their own beliefs, arguments, and evidence. This critical thinking process helps to strengthen one's own position and identify potential weaknesses in the argument. The best example for this can be,the **debates of constituent assembly**, the constitution makers were at different sides of a seesaw on whether to include **Uniform Civil Code** in the **Part III** of the constitution or not? To this, **B.R. Ambedka**r despite being in favour of Uniform Civil Code, advocated for a comprehensive civil code that would ensure equal rights for women but it must be done only when the country is ready to ensure this while maintaining unity and integrity.

Not only this, opposition also leads to development of innovations based on **creative thinking**. When faced with a differing perspective, individuals or organizations may need to come up with innovative solutions, ideas, or counterarguments to address the opposition effectively. In the sphere of industry we can Take the example of the competitive **smartphone industry**. When **Apple's** iPhone initially dominated the market, rival companies were facing setbacks. This challenge pushed them to think **creatively** and develop **unique features**, leading to the birth of various **Android**-based devices. Thus, economic opposition can act as a **catalyst** for creative solutions and drive progress, demonstrating how adversity can inspire innovation and ultimately benefit consumers and the industry as a whole.

Furthermore, engaging with an "opposite team" allows for a more **deeper understanding**. It encourages individuals to delve deeper into the subject matter, seeking a comprehensive understanding by considering various angles and counterarguments. In the realm of Indian **governance**, the **cooperative federalism** model

demonstrates how engaging with opposing political parties and state governments can lead to a more profound exploration of policy topics. For **instance**, the NITI AAYOG, by way of debate among centre and state representative ensure that decisions are taken based on deeper understanding of topics.

In addition to deeper understanding, engaging with opposing viewpoints fosters **intellectual growth**. It encourages individuals to learn new things. This could be better understood with the **story of great tennis players,** Rafael **Nadal** and Roger **Federer**. In a fiercely competitive tennis match, two young players found themselves locked in a harsh **battle**. But as the encounters progressed over the years, they started to engage in **friendly** matches and **strategic** discussions between points. These interactions not only eased the tension but also allowed them to appreciate the skills of their "opposite team." With each volley, they learned from one another, adapting techniques and tactics. In the end, one may have won more matches, but both walked away with a deeper understanding of the game and, more importantly, a new found respect for their intellectual opponents, fostering personal and intellectual growth.

Furthermore debate among opposing viewpoints often bring great results. This create a way to minimize the weaknesses of both viewpoints. This is best reflected in the rivalry between ideology of capitalism and socialism. The debate on nature of state ultimately helped in realization of labour rights even in capitalist countries , thus reflecting importance of opposing viewpoints.

Correspondingly, When faced with opposing viewpoints continuously, we are better equipped to make i**nformed decisions**, weighing pros and cons thoroughly. This can be seen in working of judicial system , where constant opposition by lawyers on both side helps judge in making good decision. Having discussed the prerequisite of an opponent to start the engine of a thinking machine, now we may ponder over the **flip side of the theme** ; **can thinking develop in isolation?**

To understand this, we may talk about **Self-Introspection**; Individuals can engage in introspection and **self-reflection** to develop their thinking. This internal process doesn't require an opposition team and can lead to personal growth. For **instance**, the story of founder of **'Super 30'** Anand Kumar , a teacher in Gaya district of Bihar, who decided to develop **self-reflection** as a means to improve his thinking and instructional strategies. After each class, he'd critically evaluate his teaching techniques, student engagement, and learning outcomes. Through this self-reflection process, he identified areas for improvement and experimented with new approaches. Over time, his teaching evolved significantly, fostering a

more engaging and effective learning environment. Anand's commitment to self-reflection not only improved his thinking but also had a positive impact on his students, exemplifying how developing self-reflection can be a powerful tool for personal and professional growth.

In the same way, Many artists and innovators develop unique ideas in isolation, without direct opposition. They work for development of their talents without external challenges. This is termed as **Creative Solitude**. The renowned physicist **Sir Isaac Newton** provides a compelling example of this creative mindset. In the early 1660s, during a period of **social isolation** prompted by the **Great Plague**, Newton retreated to his family estate. In the seclusion of Woolsthorpe Manor, he embarked on groundbreaking scientific explorations of calculus, formulated his laws of motion, and conducted experiments on optics. This period of intense intellectual solitude not only revolutionized science but also exemplified how isolation can lead to extraordinary creative achievements.

Therefore **on one hand**, while thinking can certainly develop without an opposition team, but **on the other hand**, the presence of opposing views, challenges, and collaboration can often lead to more robust thinking processes, enriching the outcomes and decisions. Now as we move to **sum up our essay**, we must look up on the **hovering clouds** of how to develop such a conducive **environment** where **debates, deliberations** and **discussions** provide us a way forward to build a **harmonious** and **intellect oriented** society.

"Two heads are better than one." - John Heywood

Firstly, on an **individual** level, we may develop a sense of dialectics or questioning ourselves through cultivating a willingness to consider and accept different viewpoints. We must be aware of our life, ideas and biases and actively work to minimize their influence on our thinking. An initiative must be opted to approach every idea with the mindset that it may have merit.

Secondly, on a **societal** level, we may actively listen to others when they express their ideas, without interrupting or immediately formulating a response. Every faction of society should seek to understand the underlying motivations and experiences that shape their perspective.The idea of Sabha and Samiti of ancient India can be practiced in present day times.

Thirdly , at **national** level Freedom of Speech and Expression needs to be promoted , so that new ideas comes into forefront without fear of suppression.

Lastly, at a **global** level, all nations, be it developed or developing world must engage in respectful and constructive dialogue on platforms like United Nations . The countries should avoid personal attacks, insults, or aggressive communication.

As the famous philosopher, **Alan Watts** puts it, **"**The only way to make sense out of change is to plunge into it, move with it, and join the dance." We must inculcate self-awareness, a commitment to open-mindedness, and the practice of respectful communication and empathy. By fostering an environment where diverse ideas are valued, just as the sages **Vriti** and **Viveka** in the start of this essay realized the importance of **Thesis, Antithesis and Synthesis,** we must contribute to a more inclusive and productive community by building harmonious thoughts.

J. Schemes

1. PM SCHOOLS FOR RISING INDIA (PM SHRI)

Context

On 25th October 2023 the Union Minister for Education will inaugurate ICT labs for PM Shri schools at Rohtak, Haryana.

About

1. **Aim**
    a. To turn existing government schools into model schools.
    b. It will provide high-quality education in an "equitable, inclusive and joyful environment that takes care of the diverse background, multilingual needs and different academic abilities of children".

2. **Funding:**
    a. The scheme will be implemented as a Centrally sponsored scheme with a total project cost of 27,360 crore for the period of five years from 2022-23 to 2026-27 for transforming nearly 14,500 schools across the country.
    b. It will showcase all components of the National Education Policy 2020, act as exemplary schools and also offer mentorship to other schools in their vicinity.
    c. A '**School Quality Assessment Framework'** is being developed to measure the progress and performance of these schools.

Key Features

1. **Development of 'Green schools':** These will be equipped with solar panels, LED lights, nutrition gardens, and waste management, water conservation and harvesting systems.
2. **Modern facilities**: Schools will include ICT (information and communication technologies) facilities, smart classrooms, library, digital library, science labs and vocational labs etc. Schools will also get science and math kits and annual school grants for libraries or sports.
3. **Mother tongue and local languages** to be encouraged.

Accreditation of the Schools App and Mobile Application

1. **Simplifying School Accreditation:** At the event, the ministers will introduce the Accreditation of the Schools app.
    ● This app will play a crucial role in simplifying the accreditation process for schools, ensuring that they meet the necessary quality standards.
2. **Skill Development**: The Mobile Application (NIPUN) will provide students with a handy platform for skill development, helping them acquire new skills and knowledge.

2. PRADHAN MANTRI ANUSUCHIT JAATI ABHUYDAY YOJANA (PM- AJAY)

Merger of three Centrally Sponsored Schemes into the Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM- AJAY).

About

1. Schemes like Pradhan Mantri Adarsh Gram Yojana (PMAGY), Special Central Assistance to Scheduled Castes Sub Plan (SCA to SCSP) and Babu Jagjivan Ram Chhatrawas Yojana (BJRCY) are merged into the PM- AJAY.

2. **Objectives:** It aims to reduce poverty of the Scheduled Caste communities by generation of additional employment opportunities through Skill development, income generating schemes to improve socio-economic developmental indicators by ensuring adequate infrastructure and requisite services in the SC dominated villages.

Components of the Scheme

1. **Adarsh Gram**: Development of SC dominated villages. These villages would have all such infrastructure facilities and its residents will have access to all such basic services that are necessary for a dignified living, creating thereby an environment in which everyone is enabled to utilise his/her potential to the fullest.

2. **Grants-in-aid**: For District/State-level Projects for those selected under Adarsh Gram component, construction of Hostels/Residential schools, and Comprehensive Livelihood Projects. The main objectives of this component are:
   a) To increase the income of the target population by way of comprehensive livelihood projects.
   b) Improve socio-economic developmental indicators by ensuring adequate infrastructure in the SC dominated villages.
   c) Increase literacy and encourage enrolment of SCs in schools by providing residential schools where required.

3. **Construction/Repair of Hostels:** It is one of the means to enable and encourage students belonging to Scheduled Castes (SC) to attain quality education.

Eligibility Criteria:

1. The Scheduled Castes persons living below the poverty lines.
2. The villages having 50% or more SC population are eligible for grants under the Scheme for infrastructure development.

Scheme Coverage:

• The scheme is implemented throughout the India, except:
   a) **States:** Arunachal Pradesh, Nagaland, Meghalaya & Mizoram
   b) **UTs:** A & N Islands, Dadra Nagar Haveli, Daman & Diu, Ladakh & Lakshadweep.

Special Provisions:

1. Up to 15% of the total Grants exclusively on viable income generating economic development schemes/programmes for SC Women. Up to 30% of the total Grants utilised for infrastructure development.
2. At Least 10% of the total funds for skill development.
3. Promote SC Women Cooperatives engaged in production and marketing of consumer goods and services.

3. PRIME MINISTER STREET VENDOR'S ATMANIRBHAR NIDHI (PM SVANIDHI) SCHEME

Context

Recently, the State Bank of India released a report analysing the impact of PM SVANidhi on street vendors.

Objective

Facilitate collateral free working capital loan upto ₹10,000, of 1 year tenure, with enhanced loan of ₹20,000 and ₹50,000 in the second and third tranches respectively, on repayments of earlier loans.

• Incentivize regular repayment, through interest subsidy @ 7% per annum; and
• Reward digital transactions, by way of cash back upto ₹1,200 per year.

Salient Features

1. A micro-credit scheme for urban street vendors, launched in 2020, to facilitate street vendors in resuming their livelihood activities, which were adversely impacted by the COVID-19 pandemic.

2. **Type:** Central Sector Scheme

3. **Ministry:** Ministry of Housing and Urban Affairs

4. Implementation**: Small Industries Development Bank of India (SIDBI) is the implementation partner of the MoHUA.**

5. **Features of the scheme**

   A. **Eligibility:** Available to all street vendors engaged in vending in urban areas as on or before 24 March, 2020.

   B. **Criteria for Identification of eligible vendors:**

      a) Street vendors in possession of Certificate of Vending/Identity Card issued by Urban Local Bodies (ULBs).

      b) Vendors, who have been identified in the survey but have not been issued a Certificate of Vending/Identity Card.

      c) Vendors, left out of the ULB led identification survey or who have started vending after completion of the survey and have been issued Letter of Recommendation (LoR) to that effect by the ULB / Town Vending Committee (TVC);

      d) The vendors of surrounding development/ peri-urban / rural areas vending in the geographical limits of the ULBs and have been issued LoR to that effect by the ULB / TVC.

   C. **Eligible state/UTs:** Available for beneficiaries belonging to only those States/UTs that have notified Rules under the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014.

   D. **Timeline:** Extended till December 2024.

   E. **Credit Guarantee:** The Scheme has a provision of Graded Guarantee Cover for the loans sanctioned. It is administered by Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE).

   F. SVANidhi se Samriddhi programme: It is an additional program of PM SVANidhi scheme.

      a) It aims to provide social security benefits to street vendors for their holistic development and socio-economic upliftment.

      b) Quality Council of India (QCI) is the implementing partner for the programme