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"Tribal Empowerment in INDIA:

Challenges, Government Schemes and Future Direction

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Message



An officer with a right mindset is an officer that a nation aspires for. A right mindset doesn't necessarily comprise unlimited jargon of knowledge rather a right amount of knowledge and its appropriate execution. Especially, when it comes to UPSC and State PSCs preparation, the crux is not to accumulate the knowledge but its effective implementation and utilization in tackling any situation. The situation here can be anything from UPSC CSE Prelims to the major issues that need to be addressed. The journey is hard but it is worth.

Perfect 7 has been part of many UPSC and State PSCs aspirants in their journey of becoming well reputed officers serving nationally and internationally. The magazine itself had gone through constant ebb and flows of change and improvements. Now, that the magazine is in its monthly era, I hope it becomes your perfect preparation partner and guides you through this ever learning endeavor of Civil Services Preparation.

With Best wishes.

Vinay Singh
Founder
Dhyeya IAS

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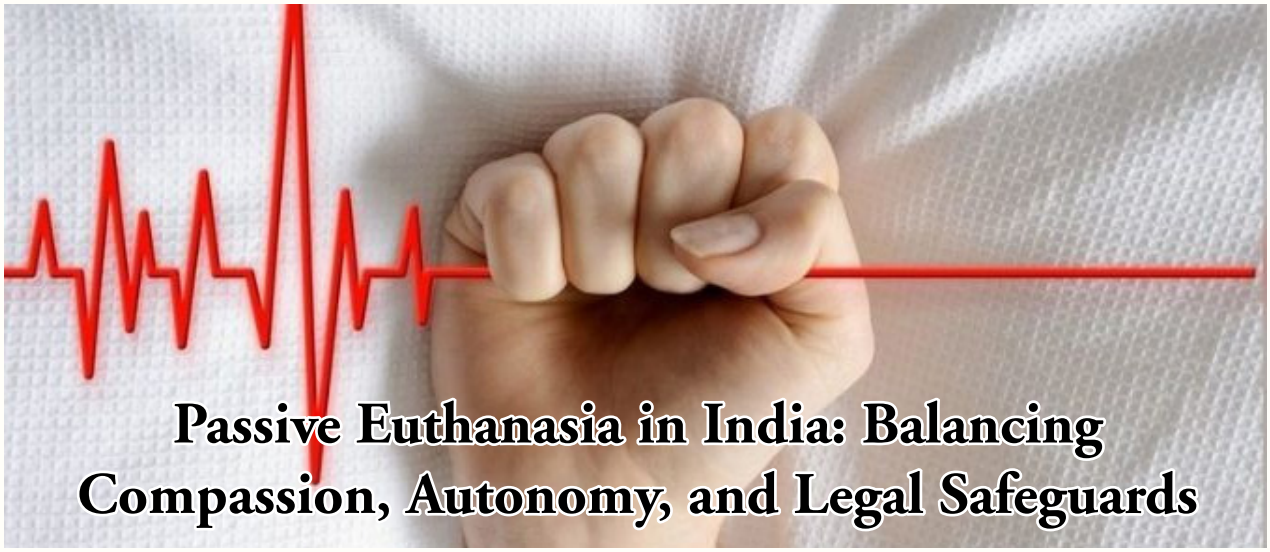


Passive Euthanasia in India: Balancing Compassion, Autonomy, and Legal Safeguards

Context:

Passive euthanasia, the practice of withholding or withdrawing life-sustaining treatment from terminally ill patients, has been an evolving and contentious topic in India. Recently, the Directorate General of Health Services (DGHS) introduced new draft guidelines aimed at streamlining this process, responding to legal, ethical, and practical concerns within India's healthcare landscape.

Legal Evolution of Passive Euthanasia in India:

- In India, the Supreme Court recognized the right to die with dignity in the 2018 Common Cause v. Union of India ruling, establishing a legal framework for passive euthanasia under Article 21 of the Indian Constitution. This judgment permitted Advance Medical Directives (AMDs), allowing patients to document their preferences for end-of-life care, including instructions for life support withdrawal. However, the 2018 guidelines mandated multiple layers of judicial and medical review, which stakeholders, including the Indian Society for Critical Care Medicine, which was viewed as burdensome.
- To address these challenges, the DGHS recently proposed new draft guidelines to simplify the passive euthanasia process, emphasizing compassion, respect for patient autonomy, and ethical responsibility. The updated guidelines reflect the government's commitment to making end-of-life decisions more accessible, legally sound, and patient-centered.

Key Provisions of the DGHS Guidelines:

The new DGHS guidelines outline criteria and procedures to facilitate passive euthanasia while protecting patient rights and ensuring legal compliance. Key provisions include:

- **Conditions for Withdrawal of Life Support:** Passive euthanasia may be considered when:
  - A patient is declared brainstem dead under the Transplantation of Human Organs Act (THOA).
  - Medical assessments indicate no benefit from continued treatment, such as in advanced, incurable diseases.
  - A documented refusal from the patient or their legal surrogate expresses a wish to forgo life-sustaining treatment.
  - All procedures adhere to Supreme Court protocols, ensuring legal and ethical soundness.

- **Streamlined Medical Board Requirements:** The 2018 guidelines required a two-stage review by medical boards, each with doctors having at least 20 years of experience. The DGHS now allows doctors with a minimum of five years of experience, reducing the board to three members, making it easier for hospitals, especially in smaller facilities, to comply with the guidelines.
- **Time Limits for Decision-Making:** To minimize prolonged suffering, the DGHS introduces a 48-hour window for both the primary and secondary medical boards to render decisions. This provision aims to expedite care for terminally ill patients, ensuring timely and compassionate decision-making.
- **Do-Not-Attempt-Resuscitation (DNAR) Orders:** For the first time, DNAR orders are addressed, allowing doctors to refrain from resuscitation efforts (CPR) when survival prospects are negligible. This addition highlights the importance of respecting the patient's right to a dignified death by avoiding unnecessary medical interventions.
- **Legal and Ethical Safeguards:** The guidelines affirm patient autonomy, allowing those with decision-making capacity to decline life-sustaining treatment. In cases where patients are incapacitated, a primary medical board (PMB) consensus, validated by a secondary board (SMB), is required. This layered approach offers ethical oversight and legal accountability.

Potential Benefits of the DGHS Guidelines:

- **Enhancing Patient Autonomy:** By allowing patients to articulate end-of-life preferences through AMDs, the guidelines promote individual rights and respect for personal dignity. This reassures patients that their values and choices will be honored, contributing to a more humane healthcare system.
- **Reducing Financial and Emotional Burden on Families:** For many families, life-sustaining treatments represent a significant financial and emotional strain. By enabling withdrawal of treatment when recovery is not possible, the guidelines alleviate this burden, allowing families to focus on supportive care and personal time with their loved ones.
- **Easing Healthcare Infrastructure Pressure:** Passive euthanasia helps optimize healthcare resources by reallocating critical care beds and equipment to patients with treatable conditions. This efficient resource use has a ripple effect, potentially enhancing the overall quality and availability of healthcare in India.
- **Providing Clarity for Medical Practitioners:** A structured framework for end-of-life care decisions helps healthcare providers navigate these sensitive decisions without legal ambiguity. Clear protocols reduce hesitation among practitioners, empowering them to provide compassionate care within a legally protected framework.

Challenges and Criticisms:

- **Risk of Misuse and Legal Challenges:** The Indian Medical Association (IMA) and others express concern about potential litigation if families contest life support withdrawal, indicating a need for additional legal safeguards.
- **Cultural and Religious Sensitivities:** India's diverse religious landscape could present resistance to passive euthanasia, as some communities may view it as morally unacceptable.
- **Informed Consent and Health Literacy:** Given variable literacy rates, ensuring that patients and families understand passive euthanasia fully is crucial, especially in rural areas. Public education campaigns are essential in this regard.
- **Emotional and Psychological Impact on Families:** End-of-life decisions can be distressing, and India's cultural emphasis on family caregiving heightens this emotional toll. Counseling and palliative care support can help families cope with the difficult decisions.

Global Perspectives on Euthanasia and Assisted Dying:

- **Europe:** In countries like the Netherlands, Belgium, and Luxembourg, both active euthanasia and physician-assisted suicide are permitted under strict conditions. Patients must demonstrate unbearable suffering and undergo multiple medical evaluations.
- **Switzerland:** Swiss law allows physician-assisted

suicide, including for non-residents, through organizations like Dignitas. This model has attracted international attention, despite ethical debates.

- **Canada:** In 2016, Canada introduced Medical Assistance in Dying (MAID), with mandatory assessments and a waiting period to ensure informed consent.
- **United States:** States like Oregon and Washington have "Death with Dignity" laws permitting physician-assisted suicide but prohibiting active euthanasia.

Way Forward:

- The DGHS guidelines represent an important step toward compassionate and patient-centered end-of-life care in India. However, effective implementation will require:
  - **Expanding Palliative Care:** Enhanced palliative care services can offer alternatives to passive euthanasia by providing comprehensive pain management and emotional support, improving quality of life for terminally ill patients.
  - **Clarifying Legal Protections:** Establishing additional legal frameworks can reassure healthcare providers that they are protected when acting in accordance with the guidelines, minimizing their legal risks and encouraging adherence.
  - **Promoting Health Literacy and Public Awareness:** Increased public awareness and education campaigns can improve understanding of passive euthanasia and the options available, empowering patients and families to make informed decisions aligned with their values.

Passive euthanasia aligns with the broader shift toward patient-centered healthcare by prioritizing dignity, choice, and compassion at the end of life. As India embraces these guidelines, the challenge will be to balance ethical considerations, cultural values, and legal protections, creating a compassionate, transparent, and sustainable approach to end-of-life care.

Supreme Court Advocates for the Prohibition of Child Betrothals to Safeguard Minors' Rights

Context:

Child marriage, defined as any formal marriage or informal union where one or both parties are under the age of 18, remains a significant issue worldwide. This practice poses severe threats to the health, well-being, and future prospects of young girls, who are most often the victims. Many girls forced into early marriage face increased risks of adolescent pregnancy, which brings a heightened chance of complications during pregnancy or childbirth. Tragically, these complications are the leading cause of death among older adolescent girls.

Contextualizing Child Marriage Legislation:

- The Supreme Court's intervention highlighted the legal ambiguities surrounding child betrothals within the existing framework of the PCMA, enacted in 2006.
- This legislation categorizes individuals under the age of 18 for females and under 21 for males as 'children' and criminalizes the practice of child marriage, deeming it a societal malady.
- Despite the legal provisions aimed at curbing child marriages, the Court noted the persistent prevalence of these practices and the inadequacies in enforcement mechanisms.
- Chief Justice Chandrachud revealed that the government had submitted a note seeking judicial clarification on the supremacy of the PCMA over personal laws. However, the absence of documented conflicting High Court judgments on this issue hindered a comprehensive legal resolution. The Court underscored the necessity for legislative clarity to eliminate the loopholes that allow child betrothals to persist.

Judicial Recommendations for Policy Reform:

In light of its findings, the Supreme Court issued

a series of recommendations aimed at bolstering governmental action against child betrothals and marriages:

- **Implementation of Age-Appropriate Sexuality Education:** The Court called for the integration of culturally sensitive sexuality education in school curricula to empower children with knowledge about their rights and health.
- **Campaign for Child Marriage-Free Villages:** The Court proposed the initiation of community-driven campaigns, akin to the 'Open Defecation Free Village' initiative, to mobilize local leaders and eradicate the practice of child marriage.
- **Establishment of an Online Reporting Portal:** A dedicated platform for the reporting of child marriages was recommended to facilitate timely interventions.
- **Creation of a Compensation Scheme:** The Court suggested the development of financial assistance programs for girls who choose to exit child marriages, providing them with necessary support.
- **Annual Budget Allocation:** The Court emphasized the need for dedicated funding to prevent child marriages and support affected individuals, reinforcing the state's commitment to safeguarding minors' rights.

Child Marriage in India:

- A recent study published in the Lancet Global Health on December 15, 2023, reveals that one in five girls and one in six boys in India are still being married below the legal age. Despite a gradual decline in child marriage rates, the current prevalence of 23.3% remains alarmingly high in a nation with a population exceeding 1.4 billion.
- Eight states in India report higher rates of child marriage than the national average. West Bengal, Bihar, and Tripura lead with over 40% of women aged 20-24 married before the age of 18.
- Conversely, states like Madhya Pradesh, Rajasthan, and Haryana have demonstrated progress in reducing child marriages, with notable decreases from previous NFHS data.

Global Context:

- Globally, UNICEF reports that approximately 12 million girls are married each year before reaching adulthood.
- The United Nations Sustainable Development Goals (SDGs), particularly Goal 5, aim to eliminate harmful practices like child marriage and female genital mutilation by 2030.
- While there has been a reduction in the risk of child marriage in South Asia—from nearly 50% to below 30%—progress remains uneven and insufficient.

Legal Framework:

- **Prohibition of Child Marriage Act (2006):** This Act defines a "child" as any male under 21 or female under 18. Key provisions include:
  - The right for boys and girls forced into child marriages to annul their union up to two years after reaching adulthood.
  - Offspring of child marriages are considered legitimate.
  - The Act ensures child custody is decided by district courts, with the child's welfare in mind.
- **Compulsory Registration of Marriages Act (2006):** This Act mandates the registration of all marriages within 10 days, regardless of religion, to help prevent child marriages.
- **Committee to Review Legal Marriage Age (2020):** A Union Ministry committee, led by Jaya Jaitely, was set up in 2020 to study the impact of raising the legal marriage age for girls to 21. It addressed issues like maternal mortality and women's health.
- **Right to Education Act (2009):** The Right to Education (RTE) Act provides free and compulsory education for children aged 6-14, fostering an environment that discourages child marriage by promoting educational opportunities.
- **Protection of Children from Sexual Offenses (POCSO) Act:** This Act considers any sexual activity with a minor as rape, regardless of consent, reinforcing the protection of children from exploitation.
- **Prohibition of Child Marriage (Amendment) Bill, 2021:** This proposed amendment seeks to raise the legal age of marriage for women from 18 to 21 years.

Rationale for Increasing the Minimum Age of

Marriage:

- **Access to Education and Employment:** Early marriages often deny women access to education and economic opportunities. Raising the marriage age could empower more women to pursue higher education and gain financial independence.
- **Health Implications:** Early marriages and subsequent pregnancies significantly affect the health of both mothers and children. Underage mothers are at a higher risk for various health complications, including reproductive health challenges, malnutrition, and increased susceptibility to sexually transmitted diseases.

Government Schemes and Policies:

- **Sukanya Samriddhi Yojana (SSY):** Launched in 2015, this scheme encourages parents to save for their daughters' education and marriage expenses, promoting the welfare of the girl child.
- **Balika Samriddhi Yojana:** This initiative aims to support girls from financially vulnerable families by ensuring their enrollment and retention in primary and secondary schools, contributing to better educational outcomes.
- **Beti Bachao Beti Padhao:** This widely recognized scheme emphasizes the importance of girl children, promoting their safety and education, and fostering an inclusive environment for women's empowerment.

Conclusion:

The Supreme Court's judgment and associated guidelines underscore the imperative for a robust legal framework to protect minors from the deleterious effects of child marriage and betrothal practices. By advocating for educational initiatives and community involvement, the Court aims to foster a societal shift towards the recognition of minors' rights and autonomy, aligning with international standards for child protection.

Short Issues

SC Validates Section 6A of Citizenship Act

Why in News:

In a landmark verdict, the Supreme Court, upheld the constitutional validity of Section 6A of the Citizenship Act, 1955, which granted citizenship to immigrants who entered Assam before March 24, 1971.

- Section 6A was added to the statute in 1985 following the signing of the Assam Accord between the Rajiv Gandhi government at the Centre and the All Assam Students' Union (AASU).

Background of Section 6A:

- Enacted in 1986, Section 6A was added to address the specific circumstances of migration from Bangladesh, particularly during the tumultuous period surrounding the Bangladesh Liberation War in 1971.
- It grants citizenship to persons who entered India before March 24, 1971, recognising their right to stay in India without fear of deportation.

The Judgement:

- The majority opinion held that Parliament has the power to grant citizenship under different conditions so long as the differentiation is reasonable.
- As the migrant situation in Assam was unique in comparison to the rest of India at the time, it was justified to create a law to specifically address it and doing so would not violate the right to equality under Article 14 of the Constitution.
- The petitioners did not provide any proof to show that the influx of migrants affected the cultural rights of citizens already residing in Assam. Article 29(1) gives citizens the right to 'conserve' their language and culture. CJI Chandrachud stated that "Mere presence of different ethnic groups in a state is not sufficient to infringe the right guaranteed by Article 29(1)".
- The cut-off dates of January 1, 1966 and March 24, 1971 were constitutional as Section 6A and the Citizenship Rules, 2009 provide 'legible' conditions

for the grant of citizenship and a reasonable process.

The Dissent:

- Justice Pardiwala, in his dissenting opinion, held that the provision was unconstitutional and suffered from "temporal unreasonableness" as it does not prescribe a time limit for detecting foreigners and determining whether they were citizens.
- This, he held, relieves the government of the burden of identifying immigrants and deleting them from the electoral rolls which goes against the objective of providing citizenship while protecting the cultural and political rights of the people of Assam.

Implications of the Ruling:

- **Stability for Migrants:** The ruling provides legal reassurance to thousands of individuals and families who have lived in India for generations. It protects their rights and addresses fears of statelessness.
- **Political Repercussions:** The decision is likely to influence ongoing debates surrounding citizenship and migration in India, especially in the context of the National Register of Citizens (NRC) and the Citizenship Amendment Act (CAA).
- **Regional Dynamics:** In northeastern states, where migration has been a contentious issue, this ruling could either exacerbate tensions or promote a more nuanced understanding of historical migrations.
- **Future Legal Frameworks:** The ruling sets a precedent for how future migration policies may be framed, potentially influencing legislative changes that address the complexities of citizenship in a diverse nation.

Conclusion:

The Supreme Court's upholding of Section 6A reflects the ongoing struggle to balance humanitarian concerns with national integrity. The decision not only impacts those directly affected but also shapes the future of India's legal and political landscape regarding migrants. As discussions continue, it is imperative for policymakers and civil society to engage in meaningful dialogue to address the multifaceted nature of citizenship in India.

National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds)

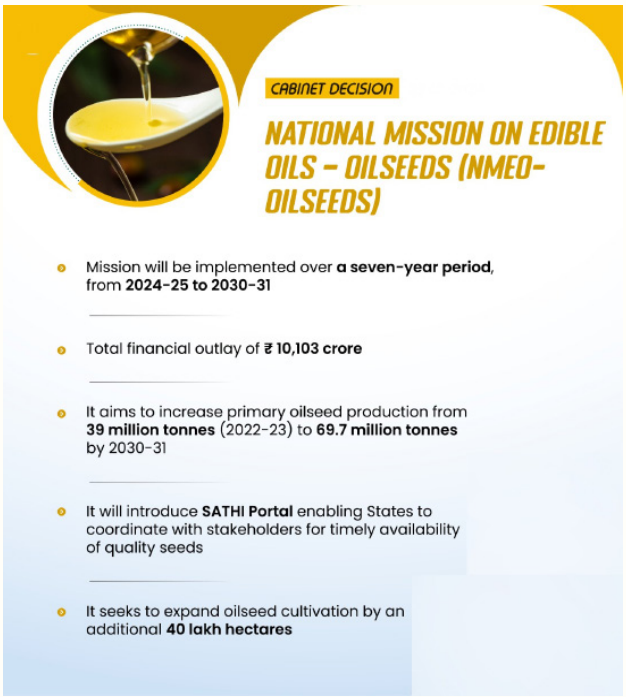
Why in News:

The Union Cabinet, led by Prime Minister Narendra Modi, has approved the National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds).

- NMEO is a significant initiative aimed at enhancing domestic oilseed production and achieving self-reliance in edible oils. With a financial outlay of ₹10,103 crore, the Mission will be implemented over seven years, from 2024-25 to 2030-31.

Objectives and Implementation:

- NMEO-Oilseeds aims to boost the production of key oilseed crops such as rapeseed-mustard, groundnut, soybean, sunflower, and sesamum, increasing primary oilseed production from 39 million tonnes (2022-23) to 69.7 million tonnes by 2030-31.
- The initiative, alongside the National Mission on Edible Oils – Oil Palm (NMEO-OP), targets a domestic edible oil production of 25.45 million tonnes by 2030-31, which would meet approximately 72% of India's projected demand.



Key Strategies:

To achieve its goals, the Mission will:

- Promote the adoption of high-yielding seed varieties and extend cultivation into rice fallow areas.
- Establish an Online 5-year rolling seed plan via the 'Seed Authentication, Traceability & Holistic Inventory (SATHI)' Portal.
- Develop 65 new seed hubs and 50 seed storage units to enhance seed production infrastructure.
- Create over 600 Value Chain Clusters across 347

districts, offering farmers access to quality seeds, training in Good Agricultural Practices (GAP), and pest management advisory services.

Supporting Farmers and Reducing Import Dependency

- The initiative aims to expand oilseed cultivation by 4 million hectares, particularly targeting rice and potato fallow lands.
- Support will be provided to Farmer Producer Organizations (FPOs) and cooperatives to upgrade post-harvest units, thereby improving recovery rates from various oil sources.
- Moreover, the Mission will implement an Information, Education, and Communication (IEC) campaign to promote recommended dietary guidelines for edible oils.

Background:

- India currently imports 57% of its edible oil requirements, prompting the government to implement various measures for self-sufficiency, including the introduction of NMEO-OP in 2021 and increasing the Minimum Support Price (MSP) for oilseeds.
- These measures aim to bolster local production, protect domestic farmers from cheap imports through a 20% import duty, and ensure sustainable agricultural practices.
- The NMEO-Oilseeds represents a vital step towards enhancing India's agricultural landscape, reducing foreign exchange outflows and improving farmer incomes, while also contributing positively to environmental sustainability.

SC Recalls Verdict Declaring Benami Law Provisions Unconstitutional

Why in News:

A Special Bench of the Supreme Court recalled its August 23, 2022 judgment which declared provisions and amendments made in the benami property law "unconstitutional and manifestly arbitrary."

- The amendments, introduced in 2016, had applied retrospectively and could send a person to prison for three years. It had empowered the Centre to confiscate "any property" subject to a benami transaction.
- The decision to recall and have a re-look at the issue was based on review petitions filed by the Union Government and Deputy Commissioner of Income Tax (Benami Prohibition).

2022 Supreme Court Judgment:

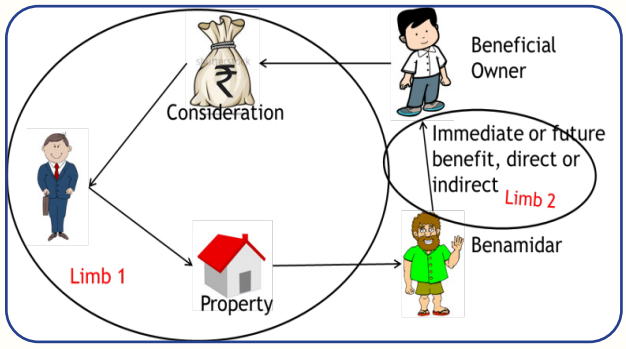
- In 2022, the Supreme Court struck down certain amendments to the Benami Transactions Act, declaring them unconstitutional.
- This ruling questioned the government's expansive powers to seize properties and impose penalties, arguing that it infringed upon individual rights and due process.

Legal Basis for the Judgment:

- The court highlighted concerns regarding the adequacy of safeguards against arbitrary action by authorities.
- It raised issues related to the burden of proof and the rights of individuals accused of engaging in benami transactions.

Recall of the 2022 Judgment:

- The Supreme Court recalled its 2022 judgment, which raises significant implications for the enforcement of the Benami Transactions Act.
- The recall effectively reinstates the amendments that were deemed unconstitutional, empowering authorities to pursue benami cases more aggressively.
- It reinforces the legal foundation for the government's efforts to investigate and prosecute benami transactions, thus expanding its reach in combating corruption and financial misconduct.



Impact on Enforcement and Investigations:

With the recall, the government can more effectively carry out investigations into suspected benami transactions. This could involve:

- **Targeting High-Value Properties:** Authorities may intensify efforts to identify properties owned by individuals hiding behind proxies.
- **Increased Scrutiny:** Greater scrutiny will be

applied to financial transactions, particularly in real estate and large asset purchases.

- **Potential for Misuse:** While the recall aims to bolster enforcement, there are concerns regarding the potential misuse of the Act:
- **Arbitrary Seizures:** Critics fear that authorities might overreach, leading to unjustified confiscations without adequate evidence.
- **Chilling Effect on Property Transactions:** The uncertainty may deter legitimate transactions, as individuals fear unwarranted scrutiny.

Conclusion:

The Supreme Court's decision to recall the 2022 judgment on the Benami Transactions (Prohibition) Act marks a significant moment in India's legal landscape regarding economic offenses. While it aims to strengthen the government's ability to combat corruption and illicit financial activities, it also raises critical questions about individual rights and the potential for misuse of power. As the situation evolves, stakeholders will be closely watching how these legal and enforcement dynamics play out in practice.

Child Marriage in India

Why in News:

Recently, Supreme Court of India has declined to enforce the Prohibition of Child Marriage Act (PCMA) uniformly across all faiths, highlighting unresolved conflicts and gaps within the legislation. Instead, the court has called on Parliament to consider a ban on child betrothals, stressing the urgent need for comprehensive measures to safeguard minors from the perils of child marriage.

Context of the Judgment:

- The Supreme Court's decision follows a Public Interest Litigation (PIL) that drew attention to the ongoing prevalence of child marriages in India, despite the enactment of the PCMA 18 years ago.

Key Points from the Judgment:

- **Child Betrothals:** The court recommended that Parliament explore the possibility of outlawing child betrothals. This practice often serves as a loophole that allows individuals to circumvent penalties prescribed by the PCMA.
- **Protection of Minors:** The ruling emphasized the importance of protecting minors from child marriages. The court stressed the need to uphold their rights to free choice, autonomy, and agency.
- **International Law:** The judges referred to international legal frameworks, such as the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which explicitly prohibits the betrothal of minors, thereby reinforcing the need for alignment between domestic and international standards.
- **Penalizing Approach:** The court cautioned that a punitive approach should be a last resort when addressing violations of the PCMA. Instead, it advocated for preventive measures that focus on awareness and education.

About Child Marriage in India

- **Current Statistics:**
  - » A study published in The Lancet Global Health on December 15, 2023, indicates that one in five girls and one in six boys in India are married below the legal age.
  - » The current prevalence of child marriage is 23.3%, which is concerning in a nation of over 1.4 billion people.

State Variations:

- Eight states report higher rates of child marriage than the national average.
- **Top States:** West Bengal, Bihar, and Tripura lead with over 40% of women aged 20-24 married before 18.

About Legal Framework:

India has established various laws to protect children from rights violations, including:

- **Prohibition of Child Marriage Act (2006):**
  - » Defines a "child" as any male under 21 or female under 18.
  - » Allows annulment of child marriages up to two years after reaching adulthood.
  - » Ensures offspring of child marriages are considered legitimate.
  - » Custody decisions are made by district courts, prioritizing the child's welfare.
- **Compulsory Registration of Marriages Act (2006):**
  - » Mandates the registration of all marriages within 10 days, irrespective of religion, to help prevent child marriages.
- **Committee to Review Legal Marriage Age (2020):**
  - » Led by Jaya Jaitely, this committee was established to study the impact of raising the legal marriage age for girls to 21, considering issues like

maternal mortality and women's health.

- **Prohibition of Child Marriage (Amendment) Bill, 2021:**
  - » Proposes to raise the legal marriage age for women from 18 to 21 years.

Way Forward:

To effectively combat child marriages, experts propose reforms that include amending the Prohibition of Child Marriage Act (PCMA) to clarify its overriding effect over personal laws, enhancing grassroots awareness of the PCMA's provisions, and engaging a diverse range of stakeholders such as NGOs, community leaders, and government agencies in collaborative efforts to prevent child marriages and protect minors' rights.

Supreme Court Closes Habeas Corpus Petition Against Isha Yoga Centre

Why in News:

The Supreme Court of India recently dismissed a habeas corpus petition filed by S. Kamaraj, a retired professor from Coimbatore, alleging that his two daughters were being held captive and brainwashed at the Isha Yoga Centre, run by spiritual leader Jaggi Vasudev. The petition was originally transferred from the Madras High Court to the Supreme Court.

- A bench led by Chief Justice DY Chandrachud noted that the two daughters, aged 39 and 42, are adults and voluntarily reside at the Ashram.
- The court stated that the habeas corpus purpose was fulfilled, as the women confirmed their ability to leave at any time. Consequently, no further directions were deemed necessary.
- The Supreme Court clarified that the closure of the habeas corpus proceedings would not affect any regulatory compliance obligations for the Isha Foundation.

Habeas Corpus:

- Protects individuals from unlawful detention by ensuring their release. It enables individuals to request a court order for the custodian to bring the detained person before the court.
- In India, the Supreme Court and High Courts have the authority to issue habeas corpus, providing a quick way to restore personal freedom.

Constitutional Writs under Article 32:

- **Mandamus:** Commands a public official or body to fulfill a legal duty they are required to perform.
- **Prohibition:** Issued by higher courts to prevent lower courts from acting beyond their authority.
- **Certiorari:** Directs a lower court or tribunal to transfer a case to a higher court or correct errors in its proceedings.
- **Quo Warranto:** Challenges the legality of a person holding a public office without the necessary qualifications.

Key Initiatives to Boost Nutrition Support for TB Patients and Their Families

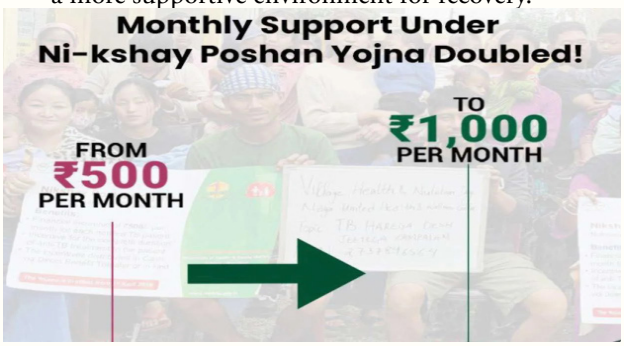
Why in News:

In a landmark effort to achieve the Sustainable Development Goals (SDGs) aimed at tuberculosis (TB) elimination, Union Minister of Health and Family Welfare, J P Nadda, has recently announced several pivotal initiatives designed to enhance nutritional support for TB patients and their families.

Key Announcements:

- **Increased Financial Assistance:** The financial assistance provided under the Ni-Kshay Poshan Yojana (NPY) has been raised from Rs. 500 to Rs. 1,000 per patient. This increase applies for the entire duration of treatment, reinforcing the government's dedication to bolstering the health and recovery of TB patients.
- **Energy Dense Nutritional Supplementation (EDNS):** The introduction of Energy Dense Nutritional Supplementation is a pivotal initiative targeting patients with a Body Mass Index (BMI) of less than 18.5. This nutritional support aims to address the dietary deficiencies often faced by TB patients, thereby promoting better health outcomes and recovery.
- **Expanded Eligibility for Assistance:** All household contacts of TB patients will now be eligible for assistance under the Pradhan Mantri TB Mukt Bharat Abhiyaan (PMTBMBA). This extension includes food baskets distributed by Ni-Kshay Mitras, which are designed to enhance the immunity of family members. This initiative aims to significantly reduce the out-of-pocket expenses incurred by TB patients and their families, providing

a more supportive environment for recovery.



About Tuberculosis and Drug Resistant TB:

- Tuberculosis (TB) is an infectious disease that primarily affecting the lungs, caused by the bacillus Mycobacterium tuberculosis.
- The Bacille Calmette-Guerin (BCG) vaccine provides immunity against TB.
- Drug-resistant TB occurs when the Mycobacterium tuberculosis bacteria become resistant to one or more anti-TB drugs, complicating treatment efforts.

Strategic Vision for TB Elimination in India:

- **National Tuberculosis Elimination Programme (NTEP):** Launched in March 2018, this programme sets an ambitious goal of eliminating TB in India by 2025. This program focuses on integrating various aspects of TB control, including early diagnosis, treatment, and prevention strategies, to significantly reduce the incidence of TB in the country.
- **Pradhan Mantri TB Mukt Bharat Abhiyaan (PMTBMBA):** Initiated on September 9, 2022, this initiative aims to promote collective action towards TB elimination. It emphasizes community engagement and the involvement of various stakeholders, including local governments, NGOs, and health professionals, to create a united front against TB.
- **Ni-kshay Mitra Program:** The Program provides essential services such as diagnostics, nutrition, and vocational assistance. This program is designed to address the multifaceted needs of TB patients, ensuring they receive comprehensive care that aids in their recovery and rehabilitation.
- **Ni-kshay 2.0 Portal:** It facilitates community involvement in TB control efforts and leverages Corporate Social Responsibility (CSR) initiatives to support patients. This digital platform aims to create a network of support for TB patients, fostering collaboration between various stakeholders to improve health outcomes.
- **Revised National Tuberculosis Control Programme (RNTCP):** Launched in 1997, introduced the internationally recommended Directly Observed Treatment Short-course (DOTS) strategy. This systematic and cost-effective approach has revitalized TB control efforts in India, emphasizing adherence to treatment and regular monitoring of patients.

National Electricity Plan (Transmission) 2024

Why in News:

The National Electricity Plan (NEP) 2024, was recently launched by the Ministry of Power, this plan represents a strategic move to enhance India's energy infrastructure and accelerate its transition to renewable energy. It provides a detailed roadmap for the expansion of India's transmission systems, supporting the government's ambitious renewable energy targets.

Key Features of the NEP 2024:

- **Transmission Capacity Expansion:** The plan aims to add over 1,91,000 circuit kilometers (ckm) of transmission lines and 1,270 GVA of transformation capacity by 2032. This will ensure efficient transmission of renewable energy from generation hubs to consumption centers.
- **Renewable Energy Goals:** A core objective of the NEP is to facilitate the integration of 500 GW of renewable energy by 2030, increasing to 600 GW by 2032. This is critical for meeting India's growing energy demands and reducing dependence on fossil fuels.
- **Energy Storage Systems:** Recognizing the intermittent nature of renewable energy sources like solar and wind, the plan includes provisions for 47 GW of Battery Energy Storage Systems (BESS) and 31 GW of Pumped Storage Plants. These systems will help stabilize the grid and ensure a consistent power supply.
- **Green Hydrogen and Ammonia Hubs:** The NEP also addresses the transmission of power to green hydrogen and green ammonia manufacturing hubs at coastal locations such as Mundra, Kandla, and Vizag, which are crucial for India's clean energy future.

Economic Impact and Investment Opportunities:

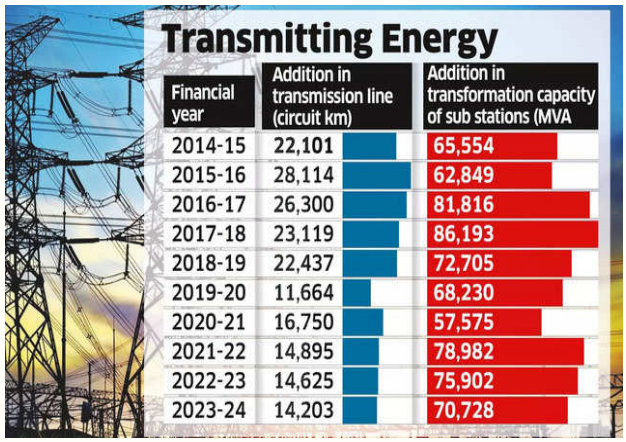
- The NEP opens up significant investment

opportunities, with over INR 9,15,000 crore expected to be invested in transmission infrastructure by 2032. This will enhance India's energy security and stimulate job creation, drive economic growth, and attract international investments.

- The plan aligns with the government's Make in India initiative, encouraging domestic manufacturing of renewable energy technologies and related components.

Cross-border Connectivity:

- The NEP prioritizes inter-regional and cross-border connectivity. India's inter-regional transmission capacity is expected to increase from 119 GW to 168 GW by 2032.
- Additionally, cross-border connections with Nepal, Bhutan, Bangladesh, and Myanmar are also part of the plan, alongside potential links with Saudi Arabia and the UAE.



Technological Advancements:

- To support the vast transmission expansion, the NEP introduces cutting-edge technologies such as hybrid substations, dynamic line ratings, high-performance conductors, and monopole structures. These technologies will improve efficiency, reduce energy losses, and ensure that renewable energy reaches consumers more effectively.
- Additionally, the plan includes provisions for skill development in the transmission sector to manage this advanced infrastructure.

Challenges and Outlook

While the NEP sets ambitious targets, it also faces several challenges:

- **Grid Integration:** Managing large volumes of renewable energy requires significant upgrades to the existing grid infrastructure.
- **Land Acquisition and Financing:** Acquiring land for new transmission lines and securing long-term financing are critical challenges that need to be addressed.

'Maiya Samman Yojana'

Why in News:

The Jharkhand state government led by Chief Minister Hemant Soren has announced a significant increase in financial assistance for women under the 'Maiya Samman Yojana'.

Key Details:

- **Financial Aid Increase:** Under the revised Maiya Samman Yojana, the amount of monthly financial assistance given to women has been increased from Rs 1,000 to Rs 2,500. This move is aimed at financially empowering women in the state.
- **Start Date:** Beneficiaries will start receiving the increased amount from December 2024.
- **Beneficiaries:** The scheme currently benefits around 50 lakh women in Jharkhand, all of whom are above the age of 18 years. With the revised amount, the financial burden on the state government is estimated to increase by Rs 9,000 crore annually.

Background on Maiya Samman Yojana:

- **Launch:** The Maiya Samman Yojana was introduced by the Jharkhand government in August 2024. It initially provided Rs 1,000 per month to women above the age of 18 years as part of an initiative to empower women financially.
- **Purpose:** The scheme is designed to support women in managing their household expenses and promoting financial independence, particularly for those without a regular income.

Universal Basic Income (UBI):

- Universal Basic Income (UBI) is a regular, unconditional cash transfer given to all citizens, regardless of their income or socio-economic status. The goal is to reduce poverty and inequality by offering financial security and giving people more freedom in choosing work.
- **Article 41:** Guarantees the right to work, education, and public assistance in cases of unemployment, old age, sickness, disablement, and other cases of undeserved want
- **Advantages include:**
  - » Economic freedom

  - » Reduced corruption
  - » Equitable distribution of wealth
- **However, there are challenges, such as:**
  - » High fiscal costs
  - » Inflation risks
  - » Potential reduction in workforce participation
- Economic Survey 2016-17 suggests alternatives, such as targeting women or vulnerable groups, to make UBI more feasible in India.

Conclusion:

The Jharkhand government's move to increase the monthly assistance under the Maiya Samman Yojana is a significant development aimed at boosting the financial standing of women.

Supreme Court Affirms Secularism as Integral to India's Constitution

Why in News:

Recently, the Supreme Court of India reaffirmed that secularism is a fundamental aspect of the country's Constitution, integral to its basic structure. This ruling was delivered while hearing petitions challenging the inclusion of the terms "socialist" and "secular" in the Constitution's Preamble, which were added during the 42nd Constitutional Amendment in 1976.

Terms under Review:

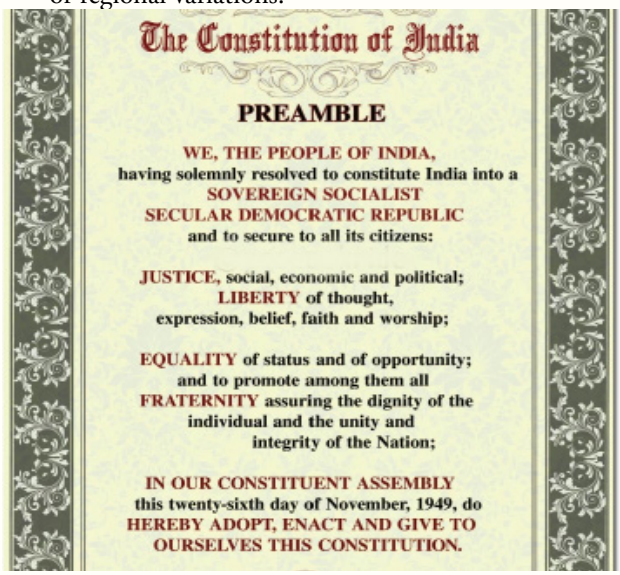
- The focus of the ruling was on the terms "socialist" and "secular," which shifted the original description of India in the Preamble from a "sovereign, democratic republic" to a "sovereign, socialist, secular, democratic republic."

Court's Observations:

- Justices Sanjiv Khanna and Sanjay Kumar reaffirmed that secularism is not merely a constitutional provision but a core feature that underpins the entire framework of the Indian Constitution. The justices connected secularism to the rights to equality and fraternity as outlined in the Constitution.
- Justice Khanna's assertion that socialism should not be viewed solely through a Western lens is pivotal. Socialism, in this framework, is not just about state control of resources but encompasses broader ideals such as social justice, equal access to opportunities, and empowerment of marginalized communities.

Constitutional Provisions related to Secularism:

- **Preamble:** India is described as a "Sovereign, Socialist, Secular, Democratic Republic."
- **Article 14:** Equality before the law.
- **Article 15:** Prohibition of discrimination on grounds of religion, race, caste, sex, or place of birth.
- **Article 16:** Equality of opportunity in matters of public employment.
- **Article 25:** Freedom of conscience and free profession, practice, and propagation of religion.
- **Article 26:** Freedom to manage religious affairs.
- **Article 27:** Freedom from taxation for promotion of a particular religion.
- **Article 28:** Freedom from attending religious instruction or worship.
- **Article 51A (Fundamental Duties):** Promotion of harmony and spirit of common brotherhood amongst all people, regardless of religious, linguistic, or regional variations.


The Constitution of India

PREAMBLE

WE, THE PEOPLE OF INDIA,
having solemnly resolved to constitute India into a
SOVEREIGN SOCIALIST
SECULAR DEMOCRATIC REPUBLIC
and to secure to all its citizens:

JUSTICE, social, economic and political;
LIBERTY of thought,
expression, belief, faith and worship;

EQUALITY of status and of opportunity;
and to promote among them all
FRATERNITY assuring the dignity of the
individual and the unity and
integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY
this twenty-sixth day of November, 1949, do
HEREBY ADOPT, ENACT AND GIVE TO
OURSELVES THIS CONSTITUTION.

Constitutional Provisions Related to Socialism:

- **Preamble:** India is described as a "Sovereign, Socialist, Secular, Democratic Republic."
- **Article 38:** State to secure a social order for the promotion of welfare of the people.
- **Article 39:** Certain principles of policy to be followed by the State, including equal pay for equal work and protection of workers.
- **Article 41:** Right to work, education, and public assistance.
- **Article 43:** Promotion of cottage industries and protection of interests of workers.
- **Article 43A:** Participation of workers in management of industries.

Arbitration and Conciliation (Amendment) Bill, 2024

Why in News:

The Department of Legal Affairs in the Union Law Ministry has introduced the Draft Arbitration and Conciliation (Amendment) Bill, 2024 to amend the Arbitration and Conciliation Act, 1996. This initiative aims to enhance the efficiency of arbitration proceedings in India.

Draft Arbitration, Conciliation (Amendment) Bill, 2024:

- Proposes significant amendments to the existing Arbitration and Conciliation Act, 1996.
- **Primary objectives:**
  - » Boost institutional arbitration.
  - » Reduce court intervention.
  - » Ensure timely conclusion of arbitration proceedings.

Arbitration:

- A form of alternative dispute resolution where parties agree to submit disputes to neutral arbitrators.
- Arbitrators review evidence, hear arguments, and make binding decisions.
- Generally faster and more flexible than court trials, commonly used in commercial disputes.

Conciliation:

- A voluntary process where a neutral conciliator helps parties reach a mutually acceptable agreement.
- Unlike arbitration, the conciliator does not impose decisions but facilitates communication.
- Often used in labor disputes and situations where relationships matter.

Key Highlights of the Draft Bill

- **Emergency Arbitration:** Introduces the concept of appointing an emergency arbitrator to grant interim measures before the full tribunal is formed. Aims to provide swift relief in urgent situations, aligning with international standards.
- **Promotion of Institutional Arbitration:** Emphasizes the use of established arbitration institutions over ad-hoc arrangements to enhance efficiency and reliability.
- **Arbitration Council of India (ACI):** Empowers ACI to create model procedural rules and recognize arbitral institutions. Aims to standardize practices and improve overall quality.
- **Video Conferencing:** Includes provisions for conducting arbitration proceedings via video conferencing, making the process more accessible.
- **Appellate Arbitral Tribunal:** Proposes establishing an Appellate Arbitral Tribunal to streamline the appeals process and reduce court burdens.
- **Omission of Conciliation Provisions:** Proposes omitting conciliation provisions as they have been incorporated into the Mediation Act, 2023. The amended act will be renamed the Arbitration Act, 1996.
- **Expert Committee Recommendations:** Incorporates recommendations from an expert committee led by T.K. Vishwanathan, focusing on making arbitration more effective and less reliant on judicial intervention.

Key Issues and Concerns:

- **Legal Recognition:** Emergency arbitration may not be recognized in all jurisdictions, affecting enforceability.
- **Institutional Support:** Requires robust support from arbitration institutions, including clear rules and qualified arbitrators.
- **Time Constraints:** The expedited nature may compromise thoroughness due to pressure for swift resolutions.
- **Costs:** Higher costs may arise from the need for rapid actions and intensive resource use.
- **Awareness and Acceptance:** Parties may be skeptical or unfamiliar with emergency arbitration; trust-building is essential.
- **Interim Measures:** Effectiveness relies on granting and enforcing interim measures, which can be challenging across jurisdictions.

Implications for the Arbitration Landscape:

- The amendments are expected to significantly impact India's arbitration landscape.
- By introducing emergency arbitration and promoting institutional frameworks, the bill aims to enhance efficiency and reliability in dispute resolution.
- Aligning with international practices could boost confidence among foreign investors and reduce court backlogs, enhancing the ease of doing business.

Conclusion:

The Draft Arbitration and Conciliation (Amendment) Bill, 2024, represents a pivotal step toward modernizing India's arbitration framework. By focusing on emergency arbitration and institutional support, the government seeks to create a more efficient, reliable, and internationally

competitive dispute resolution mechanism.

Supreme Court: PMLA Cannot Be Used as a Means of Indefinite Detention

Why in News:

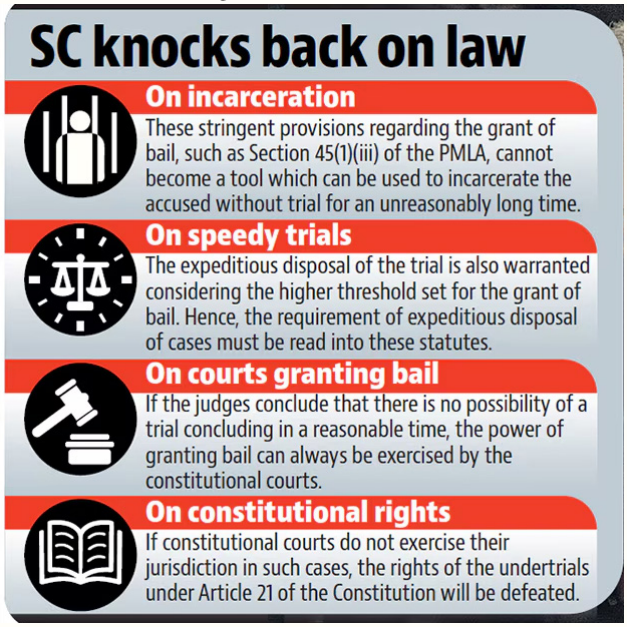
The Supreme Court of India has delivered a historic judgment on the Prevention of Money Laundering Act (PMLA), stating that its provisions should not be misused to extend the detention of accused individuals. This decision is a significant intervention in the ongoing debate about balancing strict anti-money laundering measures with individuals' fundamental rights.

Context of the Decision:

- This ruling came during the consideration of the bail plea of former Tamil Nadu minister V. Senthil Balaji, who was arrested in connection with a cash-for-jobs scam in June 2023.
- The Supreme Court acknowledged the prima facie existence of a case against Balaji but expressed serious concerns about his prolonged pre-trial detention.

Key Points of the Judgment:

- **Indefinite Detention as Abuse:**
  - » The court expressed concern over the misuse of PMLA provisions by the Enforcement Directorate (ED).
  - » It clarified that Section 45(1)(ii) of the PMLA does not grant the state the authority to detain any accused indefinitely.
- **Bail as a Constitutional Right:**
  - » The court reaffirmed the principle that "bail is the rule, and jail is the exception."
  - » The judges stated that significant delays in trial proceedings necessitate consideration of bail applications, reflecting the broader constitutional rights under Article 21, which guarantees the right to life and personal liberty.
- **Judicial Responsibility:**
  - » The court indicated that it is the responsibility of constitutional courts to ensure that the stringent bail provisions of PMLA do not violate personal liberties.
  - » If a trial is likely to extend beyond a reasonable limit, it is the court's duty to intervene and grant bail.
- **Conditions for Granting Bail:**
  - » While granting bail to Balaji, the court imposed strict conditions to prevent tampering with evidence or interfering with witnesses.
- **Impact of Delay in Justice:**
  - » The ruling highlighted the harmful effects of excessive delays in the justice system, emphasizing the need for prompt hearings, especially in cases under stringent laws like PMLA.



Implications of the Decision:

- This judgment signals a significant shift in the judicial approach to the application of stringent laws like PMLA.
- It raises important questions about balancing the effective enforcement of laws designed to combat financial crimes with the protection of individual rights.
- The court's emphasis on judicial oversight reflects a growing awareness of the need to protect personal freedoms from potential state overreach.

Conclusion:

The Supreme Court's decision against the misuse of PMLA provisions is a vital step in affirming individuals' rights within the judicial process. By clarifying that prolonged detention without trial is unacceptable, the court not only safeguards the rights of accused individuals but also strengthens the integrity of the justice system. This ruling could set a precedent for future cases, ensuring that the state respects the principles of justice and personal freedom while addressing crime.

2 International

A New Era of Cooperation: PM Modi Meets Maldives President Muizzu

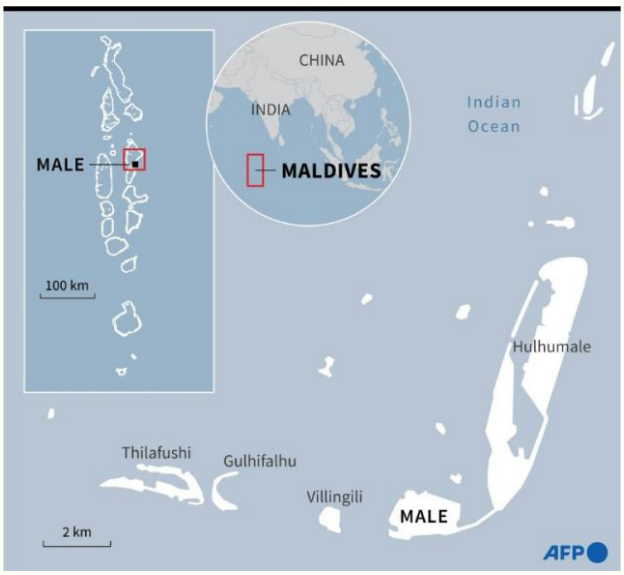
Context:

Maldivian President Dr. Mohamed Muizzu recently visited India after months strained relations, This visit signifies a shift in Maldives-India ties. Muizzu, who assumed office in November 2023, campaigned on the 'India Out' movement and initially called for the withdrawal of Indian troops from the Maldives, reflecting a perceived shift towards China.

- Historically, India has been a crucial ally and aid provider to the Maldives. Muizzu's visit aims to reinforce bilateral relations, despite earlier tensions exacerbated by derogatory comments from Maldivian officials regarding Indian leadership and policies. Following his election, Muizzu's diplomatic overtures included visits to China and Turkey, perceived as snubs to India.
- Muizzu's recent approach indicates a willingness to collaborate with India. The country is currently facing a looming economic crisis, with a debt default risk as foreign reserves dwindle.

Key highlights of the meeting:

- **Strengthening Bilateral Relations:** The meeting reaffirmed India's commitment to the Maldives as a cornerstone of its 'Neighbourhood First' policy and Vision SAGAR (Security and Growth for All in the Region).
  - The Maldives expressed gratitude for India's timely emergency financial assistance, including the rollover of USD 100 million in T-bills, which provided critical support during urgent economic challenges.
  - The role of India as a 'First Responder' in crises was acknowledged, citing assistance during the 2014 water crisis and the COVID-19 pandemic.
- **Financial Cooperation and Support:**
  - A bilateral currency swap agreement of USD 400 million and INR 30 billion was made which is expected to significantly alleviate ongoing economic challenges. Both parties agreed to explore further collaboration on financial issues.
- **Comprehensive Economic and Maritime Security Partnership:** A proposal was made to establish a partnership aimed at creating stability in the Indian Ocean Region, focusing on:
  - **Political Exchanges:** Enhanced diplomatic exchanges at various levels, including a Memorandum of Understanding (MoU) to institutionalize parliamentary cooperation.
  - **Development Cooperation:** Initiatives included infrastructure development across sectors such as ports, healthcare, and education, completing the Greater Malé Connectivity Project, developing a commercial port at Thilafushi Island, and collaborating on agriculture and tourism investments in the atolls.
  - **Trade and Economic Cooperation:** Agreement to initiate discussions on a Bilateral Free Trade Agreement (FTA) and enable local currency transactions to deepen economic ties and promote investments.
  - **Digital and Financial Cooperation:** Sharing expertise in digital services and establishing digital public infrastructure in the Maldives, including India's Unified Payments Interface (UPI).
  - **Energy Cooperation:** Exploring renewable energy projects, including solar power, and conducting feasibility studies for participation in the One Sun One World One Grid initiative.



- » **Health Cooperation:** Strengthening health cooperation through improved access to affordable healthcare, recognition of Indian pharmacopoeia, and training programs for healthcare professionals.
- » **Defence and Security Cooperation:** Acknowledgment of shared challenges in the Indian Ocean, with an agreement to enhance the capabilities of the Maldives National Defence Force (MNDF), including the ongoing 'Ekatha' harbour project.
- » **Capacity Building and Training:** Emphasis on tailored capacity-building initiatives, including training for civil servants and promoting women-led development.
- » **People-to-People Linkages:** Agreement to enhance cultural ties, establish consulates in Bengaluru and Addu City, and improve air and maritime connectivity.
- » **Regional and Multilateral Cooperation:** Commitment to collaborate on maritime and security interests as founding members of the Colombo Security Conclave (CSC) and continue joint efforts in multilateral fora.

Importance of the Maldives for India:

- ❖ The Maldives holds significant strategic importance for India due to its geographical proximity, which places it just 70 nautical miles from Minicoy and 300 nautical miles from India's west coast. This strategic location positions the Maldives as a crucial hub for critical commercial sea-lanes in the Indian Ocean, particularly along the 8° N and 1½° N channels. Such positioning also poses potential challenges from other nations' naval presences in the region.
- ❖ India's geopolitical interests in the Maldives include securing vital sea lanes of communication essential for maritime trade and security, combating piracy and sea-based terrorism, and striving to maintain the Indian Ocean as a conflict-free zone. Additionally, exploring the blue economy and enhancing trade relations are crucial for sustainable development, alongside ensuring the safety of Indian expatriates living in the Maldives.
- ❖ The Maldives is also significant in the context of China's "String of Pearls" initiative, which aims to establish a network of Chinese military and commercial facilities across South Asia. This raises concerns for India, emphasizing the necessity of maintaining a robust presence in the region.
- ❖ Maldives is also crucial with respect to Internal security issues that complicate the geopolitical landscape. There is a notable increase in the number of Maldivians joining terrorist groups amid ongoing political instability and socio-economic uncertainty. These factors raise fears that the Maldives could become a launch pad for terrorist activities targeting India.



Bilateral Relations between India and the Maldives

- Bilateral relations between India and the Maldives have deep historical roots. India was one of the first countries to recognize the Maldives after its independence in 1965, marking the beginning of a strong diplomatic relationship.
  - India's role as a first responder during crises such as the 1988 coup attempt (Operation Cactus), the 2004 tsunami, and the 2014 water crisis demonstrates its commitment to the Maldives.
  - Furthermore, India's public health support during the COVID-19 pandemic and the delivery of measles vaccines in 2020 further highlight this commitment.
- In terms of security and defense cooperation, a comprehensive Action Plan was signed in 2016 to strengthen defense ties. India provides around 70% of the training for the Maldivian National Defence Force (MNDF), emphasizing its role as a key partner in enhancing the Maldives' defense capabilities. The establishment of an annual Defence Cooperation Dialogue further solidifies this partnership.
- India's development cooperation initiatives include significant projects such as the Indira Gandhi Memorial Hospital, the Maldives Institute of Technical Education, and the National College for Police and Law Enforcement. Infrastructure projects aimed at improving water and sanitation in 34 islands, developing roads in the Addu Atoll, and establishing a cancer hospital showcase India's commitment to the Maldives' development.
- Economically, India has become the Maldives' second-largest trade partner in 2022 and the largest in 2023, with bilateral trade reaching nearly $1 billion in the 2023-24 period. This robust trade relationship is bolstered by financial assistance, including a $100 million aid package and a Currency Swap Agreement signed in December 2022.
- Tourism is vital to the Maldivian economy, and in 2023, Indians formed the largest group of tourists visiting the islands, with over 200,000 travelers. This trend not only reflects strong cultural ties but also emphasizes the importance of tourism in sustaining the Maldivian economy.
- Furthermore, the Indian community in the Maldives constitutes the second-largest expatriate group, with approximately 22,000 members. Indian nationals play critical roles in various sectors, comprising about 25% of the doctors and teachers in the Maldives.

Conclusion:

The meeting between PM Modi and President Muizzu marks a significant step towards a new era of cooperation, underscoring the importance of deepening bilateral ties and addressing shared challenges in a rapidly changing geopolitical landscape. The Maldives, with its strategic location and evolving partnership with India, remains a key player in regional stability and security.

Short Issues

Britain Returns Chagos Islands to Mauritius

Why in News:

Britain has agreed to return sovereignty of the Chagos Islands to Mauritius, ending a longstanding dispute over the UK's last African colony.

Background:

- The Chagos Islands have been a point of contention between the UK and Mauritius since the 1960s when the UK detached the archipelago from Mauritius before its independence.
- Mauritius has consistently claimed the Chagos Archipelago as part of its territory, while the UK has maintained its sovereignty over the islands.

About the agreement:

- The agreement, reached after 13 rounds of negotiations that began in 2022, will return sovereignty of the Chagos Islands to Mauritius.

- However, the UK will retain control over Diego Garcia, a critical military base for the United States. This arrangement allows continued US military operations in the region.

Key developments before this agreement:

- The legal dispute over the Chagos Islands has been brought before various international bodies, including the International Court of Justice (ICJ), which ruled in 2019 that the UK's administration of the Chagos Archipelago was unlawful and that it should be returned to Mauritius.
- The same year, the UN General Assembly adopted a resolution affirming that the Chagos Archipelago is part of Mauritius' territory and calling for the UK to withdraw its colonial administration.
- In 2022, as part of the ongoing sovereignty campaign, Mauritian ambassador Jagdish Koonjul symbolically raised the Mauritian flag over Peros Banhos, one of the islands in the Chagos Archipelago.
- **Historical Context:**
  - » Britain has controlled the Chagos Islands since 1814. In 1965, the UK separated the islands from Mauritius to create the British Indian Ocean Territory as part of its colonial strategy.
- This move also involved the forced relocation of nearly 2,000 residents, which has been widely condemned and classified as a crime against humanity.



About the Chagos Archipelago:

- The Chagos Archipelago is a group of seven atolls made up of over 60 islands located in the Indian Ocean. It is the southernmost archipelago of the Chagos–Laccadive Ridge and features low-lying atolls surrounding lagoons.

Land Area:

- The total land area of the Chagos Archipelago is 56.13 km² (21.7 sq. miles). Diego Garcia, the largest island, covers 32.5 km².
- Other notable islands include the Salomon Islands, Nelsons Island, and Peros Banhos.

India-Jamaica Relationship

Why in News:

Prime Minister of Jamaica, Dr. Andrew Holness, recently concluded a landmark official visit to India, at the invitation of Prime Minister Narendra Modi.

Key Outcomes of the Visit:

- India has renamed the road in front of the Jamaica High Commission in New Delhi as 'Jamaica Marg', symbolising the growing friendship between the two nations.
- One of the major highlights of Dr. Holness's trip was the signing of several Memorandums of Understanding (MoUs) aimed at bolstering bilateral cooperation.



Important MoUs:

- **Memorandum of Understanding on Digital Public Infrastructure:** Both countries agreed to collaborate on sharing successful digital public infrastructure initiatives aimed at promoting financial inclusion and driving social and economic transformation.

- **Memorandum of Understanding on Cultural Exchange:** An MoU was signed for cultural exchange between India and Jamaica for the years 2024-2029, fostering deeper cultural ties and mutual understanding.
- **Memorandum of Understanding on Cooperation in Sports:** The two nations committed to enhancing cooperation in the field of sports, recognizing the shared passion for athletic pursuits, particularly cricket.
- **Memorandum of Understanding on UPI:** A Memorandum of Understanding between India's NPCI International Payments Limited and Jamaica's Egov was signed, providing a platform to explore integration between UPI and Jamaica's existing digital payment systems.

About India-Jamaica Relationship:

- The diplomatic ties between Jamaica and India were formally established on August 12, 1962, and were strengthened when Prime Minister Indira Gandhi visited Jamaica in 1975, leading to the opening of India's resident mission in Kingston in 1976.
- **Trade:** India ranks as Jamaica's fourth-largest trading partner, with bilateral trade valued at approximately $82.40 million in the 2020-2021 fiscal year.
- **Education:** India has a robust educational exchange program, offering scholarships to Jamaican students through the Indian Council for Cultural Relations (ICCR).
- **Healthcare:** India has been instrumental in supporting Jamaica's healthcare sector through capacity building and medical tourism initiatives.
- **Cultural and Historical Ties:** India and Jamaica share a rich cultural and historical ties, rooted in their shared colonial past and a commitment to democratic values. The mutual love for cricket, a sport that unites both nations, adds another layer to their relationship, fostering goodwill and camaraderie.
- **Diaspora:** The Indian diaspora in Jamaica, numbering around 70,000, serves as a living bridge between the two nations, fostering people-to-people ties.

Conclusion:

The historic visit of Prime Minister Andrew Holness to India marks a significant milestone in the growing friendship between India and Jamaica. This visit, with its focus on digital infrastructure, cultural exchange, sports, and defence cooperation, has opened new avenues for collaboration and development. By building on shared values and aspirations, both nations are poised to foster a stronger, more dynamic partnership that can serve as a model for cooperation between developing nations in the global South.

India-Bhutan Relations: Navigating the Complex Geopolitical Landscape

Why in News:

Recently, officials from Bhutan and India held a significant meeting to discuss enhancing collaboration on the Puna-1 Hydroelectric Power (HEP) Project, aimed at boosting energy production. The discussions also focused on finalizing tariffs for the Puna-2 project, highlighting efforts to ensure the economic viability of these initiatives.

- Both sides explored avenues for future cooperation in energy generation. India reaffirmed its commitment to hydropower development in Bhutan.

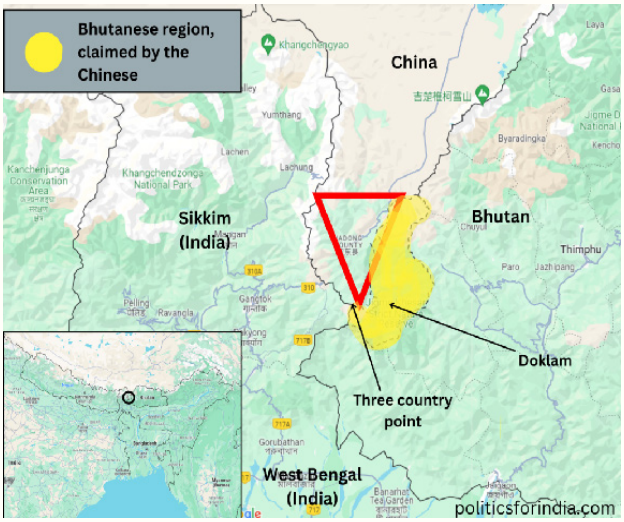
Significance of Bhutan for India:

- India has historically supported Bhutan by assisting in border management and addressing security threats from insurgent groups. Bhutan holds a strategic position for India as a buffer state between itself and China.
- With Bhutan located between China to the north and India to the south, its significance is heightened by its proximity to the Siliguri Corridor, a critical strip of land connecting India's northeastern states with the rest of the country.
- This corridor is vital for troop and supply movement, making Bhutan's cooperation crucial to India's national security.
- India's military involvement, including training the Royal Bhutan Army, strengthens Bhutan's defense capabilities. Furthermore, India has provided essential diplomatic backing to Bhutan, ensuring its sovereignty in international forums.

Hydropower Cooperation:

- Hydropower cooperation forms the backbone of India-Bhutan economic relations, tapping into Bhutan's vast hydropower potential.
- India's major hydropower projects in Bhutan, including Tala, Chukha, and Mangdechhu, supply renewable energy to India while significantly boosting Bhutan's economy.

- Hydropower exports represent a substantial portion of Bhutan's revenue, contributing to its status as one of the highest per capita income countries in South Asia.
- Despite the success of projects like the 720 MW Mangdechhu, handed over in 2022, challenges remain. India faces issues with power purchasing policies, tariff negotiations, and delays in projects like Punatsangchhu I and II, impacting the pace and effectiveness of this collaboration.



Major Challenges in India-Bhutan Relations:

While the India-Bhutan relationship is rooted in strong cooperation, several challenges affect the partnership:

- **Increased Financial Burden:** Bhutan faces financial strain as India transitioned from the 60:40 funding model (60% grant, 40% loan) to a 30:70 model. This shift has increased Bhutan's financial burden, affecting its ability to undertake development projects.
- **China's Presence:** Bhutan's border disputes with China, particularly over regions like Doklam, raise security concerns for India. China's growing assertiveness in the region challenges India's influence and complicates the geopolitical dynamics.
- **BBIN Initiative Stalemate:** The Bangladesh-Bhutan-India-Nepal (BBIN) Motor Vehicle Agreement, designed to enhance regional connectivity, is on hold due to Bhutan's environmental concerns, delaying cooperation on transportation and economic integration.
- **Hideout for Militants:** India's northeastern insurgent groups, such as the United Liberation Front of Assam (ULFA) and the National Democratic Front of Bodos (NDFB), have used Bhutan as a hideout, posing security challenges for India and complicating bilateral relations.

Conclusion:

India-Bhutan relations face evolving challenges, particularly with China's growing regional influence. To sustain and strengthen the partnership, India must continue leveraging its historical ties with Bhutan while addressing the complexities of regional geopolitics. By proactively engaging with Bhutan on security, economic cooperation, and infrastructure development, India can help ensure stability in South Asia while securing its strategic interests in the region.

Sixth India-Singapore Defence Ministers' Dialogue

Why in News:

Recently, sixth India-Singapore Defence Ministers' Dialogue was conducted, co-chaired by Indian Defence Minister Rajnath Singh and Singapore's Defence Minister Dr. Ng Eng Hen. This significant meeting underscores the growing importance of defence relations between India and Singapore, reinforcing their comprehensive strategic partnership.

Key Takeaways from the Dialogue:

- **Enhanced Defence Cooperation:** India and Singapore have pledged to deepen their defence relations, focusing on the co-development and co-production of defence equipment. This collaborative approach not only strengthens military ties but also promotes technological innovation.
- **Joint Military Training:** The extension of the Joint Military Training Army agreement emphasizes the importance of regular joint exercises, which are crucial for interoperability and preparedness in addressing regional security challenges.
- **Commitment to Regional Security:** The dialogue reaffirmed the shared commitment of both nations to regional peace, stability, and security. In an era marked by geopolitical tensions, such collaborations are vital for fostering a secure and stable environment in the Indo-Pacific region.
- **Celebrating 60 Years of Diplomatic Relations:** Looking ahead, India and Singapore are set to commemorate 60 years of diplomatic relations in

2025. This milestone presents an opportunity to reflect on the achievements of the partnership and set new objectives for future cooperation, particularly in the defence sector.

About India-Singapore Defence Ministers' Dialogue:

- **Established:** Inaugurated in 2016, the India-Singapore Defence Ministers' Dialogue serves as a vital platform for enhancing bilateral defence cooperation.
- **Purpose:** The dialogue aims to strengthen and deepen the defence relationship between Singapore and India, reflecting their mutual strategic interests and commitments.

About India-Singapore Relationship:

Historical Ties:

- **Foundational Connection:** Established in 1819 by Sir Stamford Raffles.
- **Recognition of Independence:** India was one of the first countries to recognize Singapore's independence in 1965, initiating a fruitful bilateral relationship.

Trade and Economic Cooperation:

- **Bilateral Trade Growth:** The Comprehensive Economic Cooperation Agreement (CECA) has led to bilateral trade reaching USD 35.6 billion in 2023-24, with India being a net importer.
- **Tax Agreements:** The Direct Tax Avoidance Agreement (DTAA), signed in 2016, aims to prevent tax evasion and enhance economic ties.

Defence Relationship:

- **Strategic Maritime Reach:** Defence collaboration enhances India's regional strategic maritime capabilities and reinforces Singapore's role as a security partner in the Indian Ocean.
- **Joint Exercises:** Key military exercises include:
  - » Exercise Agni Warrior (Army)
  - » Exercise SIMBEX (Navy)
  - » Air Force Exercise Joint Military Training (JMT)

Fintech and Multilateral Cooperation:

- **Fintech Developments:** Significant strides in cross-border fintech, including the RuPay card and UPI-Paynow Linkage.

Indian Community in Singapore:

- **Population Stats:** Ethnic Indians make up 9.1% of Singapore's resident population, with Tamil as one of the four official languages.
- **Indian Citizens:** Approximately one-fifth of the 1.6 million foreigners in Singapore are Indian nationals.

Kartarpur Corridor Agreement

Why in News:

India and Pakistan have recently renewed the Kartarpur Corridor agreement, ensuring that this vital link for Indian pilgrims to the Kartarpur Sahib Gurudwara in Pakistan remains open for another five years, extending until 2029.

- This renewal is a significant development for the Sikh community, allowing uninterrupted access to one of their most revered religious sites.

Key Details of the Renewal:

- **Duration:** The renewed agreement extends the corridor's operation for five more years, until 2029.
- **Pilgrim Capacity:** The corridor will accommodate up to 5,000 pilgrims daily, facilitating a large number of devotees wishing to pay their respects.
- **Service Fee:** Pakistan will continue to charge a nominal service fee of $20 per pilgrim to help cover operational costs.



Eligibility and Requirements:

- **Who Can Use the Corridor:**
  - » Indian citizens.
  - » Persons of Indian origin.
- **Required Documents:**
  - » **For All Pilgrims:** A valid passport and an Electronic Travel Authorization (ETA).
  - » **For OCI Card Holders:** Must present their Overseas Citizen of India (OCI) card.
- **Travel Guidelines:**
  - » **Travel Schedule:** Pilgrims will embark in the morning and must return on the same day.
  - » **Visit Restrictions:** Access is limited to

Gurdwara Sri Kartarpur Sahib, and travel beyond this site is not allowed.

About the Kartarpur Corridor Agreement:

- The initial agreement was signed on October 24, 2019.
- Its primary aim is to facilitate easy access for Indian pilgrims to Gurdwara Darbar Sahib Kartarpur, located in Narowal, Pakistan.
- The Kartarpur Corridor is a 4.7-kilometer (2.9-mile) visa-free crossing that connects Gurdwara Darbar Sahib in Pakistan to Gurudwara Dera Baba Nanak in India.

Historical Background:

- The idea for the Kartarpur Corridor was first proposed in 1999 by Indian PM Atal Bihari Vajpayee and Pakistani PM Nawaz Sharif during the Delhi-Lahore Bus diplomacy.
- The groundwork for the corridor was laid on November 26, 2018, by PM Narendra Modi in India, followed by PM Imran Khan's foundation-laying ceremony on November 28 in Pakistan.
- The corridor was officially completed on November 12, 2019, in time for the 550th birth anniversary of Guru Nanak, a significant event for the Sikh community.

Significance:

- The Kartarpur Corridor holds immense cultural and spiritual significance for Sikh devotees, allowing them easier access to the birthplace of Guru Nanak. Politically, the corridor is seen as a bridge between India and Pakistan, symbolizing a step toward peace and easing long-standing tensions between the two nations.

Conclusion:

The renewal of the Kartarpur Corridor agreement is a positive development for interfaith dialogue and cultural exchange, providing Sikh pilgrims with a meaningful connection to their heritage. As this corridor continues to facilitate spiritual journeys, it reinforces the idea that shared cultural and religious values can foster understanding and cooperation between nations.

The Kazan Summit and BRICS: A New Era of Multilateralism

Why in News:

Recently, Kazan, Russia hosted a significant summit centered on enhancing multilateral cooperation for equitable global development and security. The key outcome was the Kazan Declaration, a comprehensive document that underscores the importance of collaboration among member countries and articulates a unified perspective on pressing global matters.

Key Highlights:

- The Declaration emphasized the theme "Strengthening Multilateralism for Just Global Development and Security," highlighting commitments to fostering peace, establishing a fairer international order, and promoting sustainable development initiatives.
- Russia also spotlighted the necessity for a BRICS-led payment system as an alternative to the SWIFT network, particularly in light of sanctions affecting Russian banks since 2022. Additionally, discussions included the escalating dynamics in West Asia.
- During the summit, BRICS nations agreed to pursue innovative initiatives such as the establishment of a BRICS Grain Exchange and a BRICS (Re)Insurance Company. Furthermore, the summit introduced a new "BRICS Partner Country" category, allowing other nations to engage in collaborative projects with BRICS.
- An announcement was made regarding the creation of a BRICS R&D Vaccine Center aimed at advancing vaccine research. India's proposal for an International Big Cats Alliance was also acknowledged as a significant contribution.

Understanding BRICS:

- BRICS, which stands for Brazil, Russia, India, China, and South Africa, is a coalition of five major emerging economies.
- The term "BRIC" was first introduced by British economist Jim O'Neill in 2001 to describe these rising economies. Since its inception, the group has convened annually, starting formal summits in 2009, with South Africa joining in 2010.
- Recently, the coalition has expanded to include six additional nations: Argentina, Ethiopia, Egypt, Iran, Saudi Arabia, and the UAE.
- BRICS is a significant entity in the global landscape, representing about 41% of the world's population, around 24% of global GDP, and approximately 16% of international trade.



The Importance of BRICS for India:

- For India, BRICS offers a vital platform for enhancing South-South cooperation, enabling developing nations to amplify their voices within global institutions like the UN and the World Bank.
- This grouping also acts as a counterbalance to Western-dominated alliances such as the G7, facilitating India's diversification of foreign relations and reducing reliance on Western powers.
- Additionally, BRICS fosters economic cooperation and investment opportunities, with the New Development Bank (NDB) providing essential funding for infrastructure and sustainable development projects aligned with India's growth goals.

Challenges Ahead:

- Despite the advantages, BRICS faces challenges, including differing national agendas. India's focus on terrorism and border security may not always align with the priorities of other members, particularly China and Russia, who may emphasize their own geopolitical interests. The increasing influence of China within BRICS, especially with the accession of countries like Iran and Saudi Arabia, raises concerns about a potential tilt towards a pro-China stance.
- Moreover, the inclusion of Middle Eastern nations complicates India's diplomatic relationships in that region. Intra-BRICS trade is also hindered by tariffs, regulatory discrepancies, and currency issues, which can obstruct India from fully leveraging trade opportunities within the bloc.

Way Forward:

- India's involvement in BRICS is essential for furthering its national interests and influencing global governance in a shifting geopolitical landscape. As a founding member, India has consistently worked to maintain BRICS as a cooperative platform for emerging economies.
- The organization provides India with unique opportunities to diversify trade networks, attract foreign investments, and engage in joint infrastructure projects. Strategically, India should leverage the resources of the New Development Bank (NDB) to support critical initiatives that align with its long-term development objectives.

Shanghai Cooperation Organisation (SCO) Summit 2024

Why in News:

The Shanghai Cooperation Organisation (SCO) summit was recently held which brought together member countries to discuss critical regional issues, enhance cooperation, and address challenges affecting the collective growth of member states. The summit was attended by India, Pakistan, China, Russia, and several other nations.

Key Highlights from the SCO 2024 Meeting

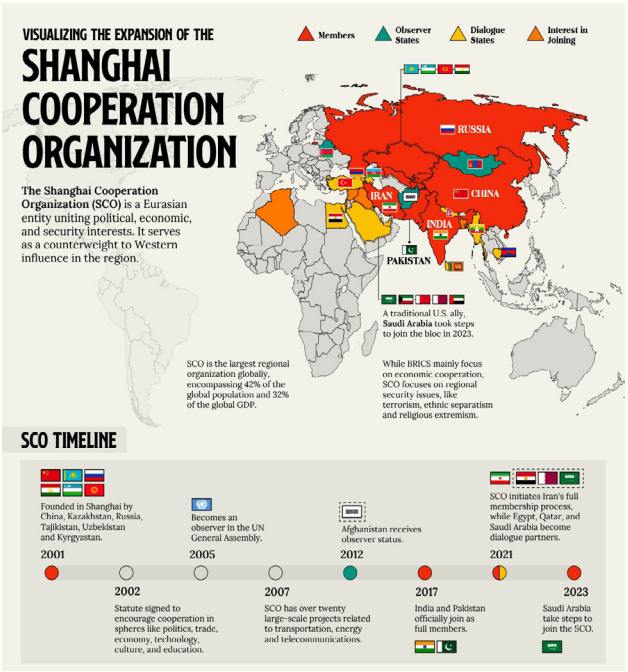
- **Addressing Regional Tensions and Cooperation:** The summit underscored the importance of trust and cooperation among member states. There were discussions about the challenges posed by cross-border terrorism and regional initiatives like the China-Pakistan Economic Corridor, which India views as a violation of its territorial integrity.
- The summit reaffirmed the SCO's commitment to tackling critical challenges such as terrorism, separatism, and extremism, which hinder regional stability, trade, and connectivity.
- **Call for Multilateral Reform:** India stressed the need for reforms in global multilateral institutions, particularly in the United Nations Security Council, to ensure more inclusive representation of developing countries and enhance their role in international decision-making.

Regional Cooperation and Connectivity

- India emphasized the importance of regional cooperation through initiatives like the International Solar Alliance and digital infrastructure. It was highlighted that genuine partnerships, based on mutual respect and sovereignty, could significantly enhance trade, energy flows, and connectivity within the SCO region.

India-Pakistan Bilateral Engagement

- **Resumption of Dialogue:** A significant outcome of the summit was the resumption of direct talks between India and Pakistan, the first such engagement in nearly a decade. These discussions addressed various bilateral issues, including the possibility of reviving cultural and sporting exchanges between the two nations. One focus was on the potential for collaborative participation in upcoming regional events, such as the Champions Trophy, which Pakistan will host in February 2025.



About Shanghai Cooperation Organisation (SCO)

- The SCO, established in June 2001 in Shanghai, China, is a major intergovernmental organization with 10 member states: China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India, Pakistan, Iran, and Belarus.
- Initially formed by five countries—Kazakhstan, China, Kyrgyzstan, Russia, and Tajikistan—the SCO focused on regional security, terrorism, and border troop reductions.
- The organization expanded its membership over time, with India and Pakistan joining in 2017, Iran in 2023, and Belarus in 2024.

Conclusion:

The SCO summit in 2024 provided a platform for SCO member states to address regional issues and explore avenues for cooperation. India's participation reaffirmed its commitment to regional security, economic collaboration, and the promotion of multilateralism. Additionally, the diplomatic engagement between India and Pakistan opened doors for future cooperation, signaling a potential shift in bilateral relations. The summit highlighted the importance of addressing regional challenges collectively and fostering relationships based on mutual respect and shared prosperity.

India's Changing Trade Stance amid Globalisation and Protectionism

Why in News:

Speaking at the Kautilya Economic Conclave, External Affairs Minister S. Jaishankar recently emphasized how globalisation has led to both interdependence and backlash, with nations reconsidering open trade policies to protect local jobs and industries. His remarks underscored how trade is no longer merely an economic transaction but have become "weaponised," reflecting national security concerns.

Impact of Globalisation on Local Economies

Globalisation has had mixed effects, leading to both economic growth and challenges for local industries:

- **Job Losses in Key Sectors:** As countries globalize, outsourcing and competition from cheaper imports have displaced many local jobs.
- **Economic Disparities:** While multinational corporations benefit, smaller local businesses often struggle, leading to income inequality and economic imbalances.
- **Political and Social Backlash:** The perception that globalisation benefits corporations at the expense of ordinary workers have fueled dissatisfaction and populist movements worldwide.

The Weaponisation of Trade and National Security:

- **Technological and Data Security:** Economic transactions involving sensitive technology are increasingly subject to scrutiny, with nations safeguarding critical information from foreign control.
- **Job Protection:** Governments are placing a stronger emphasis on policies that ensure local employment, even if it means sacrificing some economic efficiency

in the process.

- **Strategic Economic Decisions:** Countries are increasingly viewing trade decisions through a national security lens, with the aim of securing economic stability and reducing external vulnerabilities.

Geopolitical Conflicts and Delays in Key Initiatives:

- **India–Middle East–Europe Economic Corridor (IMEC):** Despite initial enthusiasm, the focus on this trade corridor has been overshadowed by geopolitical crises. However, India continues to work on feasibility studies with Saudi Arabia and the UAE.
- **Delay in Multilateral Development Bank (MDB) Reforms:** Efforts to reform global financial institutions have taken a backseat as the international community focuses on more immediate geopolitical crises.
- **Climate Change and Sustainability:** While climate change remains a pressing issue, global political attention has been diverted, leaving climate goals delayed or deprioritized in favor of other urgent matters.

India's Protectionist Measures Against Chinese Imports:

- **Anti-Dumping Duties:** In 2024, India imposed over 30 anti-dumping measures on Chinese products to protect its domestic industries from predatory pricing.
- **Focus on Key Industrial Sectors:** The targeted measures impact critical sectors, including industrial equipment, steel products, and technology-related goods.
- **Supporting Domestic Manufacturers:** These actions are aimed at providing local manufacturers with a fairer playing field, reducing dependency on cheap imports and encouraging self-reliance.

Conclusion:

India's trade policies are increasingly shaped by the need to balance globalisation's opportunities with national interests. As countries around the world react to rising protectionism and shifting geopolitical priorities, India's cautious approach seeks to protect its economy while navigating complex global dynamics. The challenges of maintaining a balance between economic growth and local stability are becoming more evident in the current trade landscape.

Tripartite Agreement between Nepal, India and Bangladesh

Why in News:

Nepal, India, and Bangladesh have recently signed a tripartite agreement aimed at facilitating cross-border electricity trade. This agreement strengthens regional energy cooperation and helps address the energy needs of these neighboring countries.

Key highlights of the Agreement:

- **Electricity Export:** Nepal will export its surplus hydroelectric power to Bangladesh via India. The export will occur annually from June 15 to November 15.
- **Initial Export Volume:** In the first phase, Nepal will export 40 MW of hydroelectricity to Bangladesh.
- **Transmission Line:** The electricity will be exported via the Dhalkebar-Muzaffarpur 400 kV transmission line, with the metering point in Muzaffarpur, India.
- **Price and Income:** The agreed rate is 6.4 cents per unit of electricity. This deal will generate an annual income of around USD 9.2 million for Nepal.
- **Signing Officials:** The memorandum of understanding (MoU) was signed by NEA Executive Director Kulman Ghising, NTPC Vidyut Byapar Nigam CEO Deino Naran, and Bangladesh Power Development Board Chairman Mohamad Rizwan Karim in Kathmandu.



Strategic Importance of the Agreement

- This agreement plays a crucial role in energy security and regional integration. While Nepal and Bhutan produce surplus energy, India and Bangladesh face energy shortages. The agreement helps utilize Nepal's

surplus hydroelectricity to meet the growing energy needs of these countries.

India's Role in Regional Energy Cooperation

- India is central to regional energy trade, facilitating cross-border electricity transmission. It has made substantial investments in energy infrastructure, including hydropower plants and transmission lines across countries such as Bangladesh, Bhutan, and Sri Lanka. India's energy diplomacy also includes a 25-year long-term power purchase agreement with Nepal to buy 10,000 MW of hydropower annually by 2030.

Strategic and Geopolitical Significance

- **Energy Integration:** India's efforts to connect the energy systems of neighboring countries like Nepal, Bangladesh, and Bhutan enhance regional economic integration and ensure energy security.
- **Countering Chinese Influence:** The agreement is also seen as a strategic move to counter China's Belt and Road Initiative (BRI) by promoting regional connectivity through energy infrastructure development. By fostering energy interdependence, India strengthens its geopolitical position in South Asia.

Conclusion:

The tripartite electricity trade agreement between Nepal, India, and Bangladesh is a significant milestone in enhancing regional energy cooperation. By facilitating the trade of surplus electricity, the agreement not only addresses the energy needs of the region but also promotes economic integration and geopolitical stability. India's growing role as a central player in regional energy trade underscores its commitment to sustainable development and energy security in South Asia.

19th East Asia Summit

Why in News:

At the 19th East Asia Summit (EAS) was recently held in Vientiane, Laos, where India reaffirmed its commitment to promoting peace, development, and regional cooperation in the Indo-Pacific. The summit provided a platform for India to highlight its diplomatic priorities, focusing on peaceful conflict resolution, economic growth, and strengthening regional partnerships.

Key Highlights from India's Participation

- **Development-Oriented Indo-Pacific:** India advocated for a development-focused, rather than expansionist, approach to the Indo-Pacific, emphasizing regional growth and peaceful coexistence.
- **Support for Nalanda University:** India reiterated its support for the restoration of Nalanda University and invited EAS members to the Heads of Higher Education Conclave, reinforcing educational and cultural ties in the region.
- **Global Challenges:** India addressed critical issues like terrorism, cyber threats, and maritime security, underscoring the importance of dialogue-based conflict resolution.



What is the East Asia Summit (EAS)?

- The EAS, established in 2005, is a leader-led forum that brings together 18 countries to discuss political, security, and economic issues in the Indo-Pacific region.
- The summit operates on principles of inclusiveness, respect for international law, and ASEAN centrality, with its members including the 10 ASEAN countries and eight dialogue partners (Australia, China, India, Japan, New Zealand, South Korea, Russia, and the United States).

Importance of the EAS:

- **Economic Influence:** EAS members represent 53% of the world's population and 60% of global GDP. India is ASEAN's seventh-largest trading partner, with trade between India and ASEAN reaching over USD 130 billion in the last decade.
- **Strategic Cooperation:** The EAS supports India's Act East Policy through projects like the India-Myanmar-Thailand Highway and Kaladan Multi-Modal Transit Transport, enhancing connectivity in Southeast Asia.
- **Cultural Ties:** Buddhism, which originated in

India, plays a significant role in the cultural ties between India and Southeast Asia, strengthening regional harmony.

India's Commitment to Global Peace:

- **Conflict Resolution:** India stressed that solutions to global conflicts, including those in Eurasia and West Asia, should come from dialogue and diplomacy, not the battlefield.
- **Maritime Security:** India emphasized the need for a free, open, and inclusive Indo-Pacific, ensuring maritime security under the UN Convention on the Law of the Sea (UNCLOS).
- **Regional Cooperation:** India's participation in the EAS reflects its role as a regional leader committed to peace, prosperity, and stability in the Indo-Pacific.

Conclusion:

India's participation in the 19th East Asia Summit highlights its commitment to fostering peace, stability, and sustainable development in the Indo-Pacific. By promoting dialogue, strengthening regional cooperation, and addressing global challenges, India continues to play a crucial role in shaping the future of the region and the world.

Musaned Platform

Why in News:

Saudi Arabia has introduced a digital platform, Musaned, to safeguard the rights of foreign workers, particularly those from countries like India, Bangladesh, and Pakistan. This initiative is part of Saudi Arabia's Vision 2030, aiming to improve labor conditions, protect human rights, and reduce illegal immigration.

Key Features of Musaned:

- **Wage Protection System:** The platform includes a wage protection system, ensuring employers fulfill their financial obligations by tracking payments between employers and foreign workers. This system aims to prevent wage exploitation and delays.
- **Employment Contracts and Updates:** Musaned allows foreign workers to access and track their employment contracts, providing updates on any changes. This is crucial for resolving disputes, as embassies have "view access" to worker details, such as employer names and contract status.
- **Link to Insurance and Health Benefits:** Musaned is connected to workers' insurance and health benefits, ensuring comprehensive protection for foreign workers, improving their overall welfare in Saudi Arabia.

Efficient Dispute Resolution:

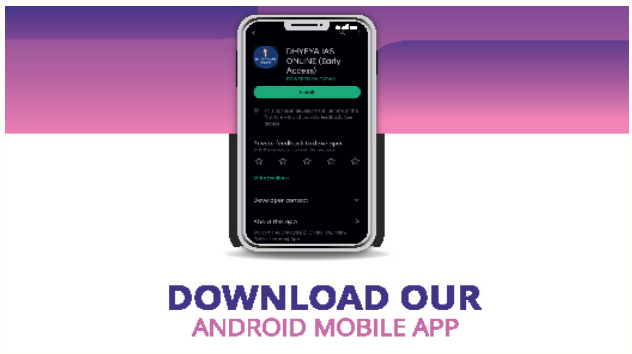
- The platform facilitates faster resolution of labor disputes by allowing digital access to workers' employment records and employer backgrounds, including criminal records. This helps ensure employer integrity and fairness in dispute handling.

Implications:

- **Geographical Impact:** Musaned benefits workers from 10 African countries (including Sudan, Ethiopia, and Kenya) and nine Asian countries (such as India, Bangladesh, Pakistan, and Sri Lanka). Indian workers, numbering around 1.4 million, form one of the largest groups in the Saudi labor market, with Bangladesh at the forefront with 2.7 million workers.
- **Labor Lawsuit Management:** The platform is expected to streamline the resolution of labor lawsuits. From 2021 to 2024, over 12,600 labor lawsuits involving Indian workers in the domestic sector were reported. Musaned will improve the process by offering transparency and digital record access, helping resolve disputes more efficiently.
- **Curbing Illegal Immigration:** Musaned also aims to reduce illegal immigration by allowing the Saudi government to vet employers more effectively. The system tracks employers' criminal records and ensures that only authorized workers are employed, minimizing the risk of trafficking or exploitation.

Conclusion:

Musaned represents a significant step toward improving labor conditions for foreign workers in Saudi Arabia. By leveraging digital tools, the platform ensures greater transparency, faster dispute resolution, and enhanced protection for workers, aligning with Saudi Arabia's Vision 2030 goals.



3 Environment

Pradhan Mantri E-Drive Scheme: A Step Towards A Green Future

Context:

The Ministry of Heavy Industries, Government of India has recently launched the 'PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM e-DRIVE) Scheme with the approval of the Union Cabinet chaired by the Prime Minister Shri Narendra Modi. The Scheme will be implemented from 1st October, 2024 to 31st March, 2026.

Key Features of the Scheme:

- **Replacement of FAME II:**
  - The Pradhan Mantri Electric Mobility Drive (PM e-Drive) replaces Phase II of the FAME II scheme, aiming to promote the usage and manufacturing of electric vehicles (EVs) in India.
  - The expenditure under EMPS-2024 for e-2W (electric two-wheelers) and e-3W (electric three-wheelers), implemented from 1st April 2024 to 30th September 2024, is subsumed under the PM e-DRIVE scheme.
- **Financial Outlay:**
  - **Total Budget:** ₹10,900 crore over two years
  - The scheme aims to create a supportive environment for the EV industry, reducing dependence on fossil fuels and encouraging environmentally friendly transportation.

Key Components and Allocations:

- **Subsidies and Incentives:**
  - **Financial Support for Manufacturers and Buyers:** the government will offer a variety of incentives to both electric vehicle manufacturers and buyers, including subsidies, tax exemptions, and reduced registration fees for electric vehicles.
- **Subsidy for EVs:** A demand incentive of ₹3,679 crore is earmarked to promote the adoption of electric two-wheelers (e-2W), electric three-wheelers (e-3W), electric ambulances (e-ambulances), electric trucks (e-trucks), and other emerging electric vehicles. The scheme will assist in the sale of approximately:
  - 24.79 lakh e-2W (electric two-wheelers)
  - 3.16 lakh e-3W (electric three-wheelers)
  - 14,028 e-buses
- **E-Voucher:** This voucher will be used to avail demand incentive and will be authenticated by Aadhaar.
- **E-Ambulance:** Rs 500 crore allocated for deployment of electric ambulances to promote green healthcare solutions.
- **E-Buses:** Rs 4,391 crore has been allocated for the purchase of about 14,028 e-buses by state transport undertakings and public transport agencies.
- **E-Trucks:** Rs 500 crore has been allocated to promote e-trucks. Which will play an important role in controlling air pollution caused by trucks in general.
- **Charging Infrastructure:** A strong network is to be created by setting up Electric Vehicle Public Charging Stations (EVPCS) in selected cities, areas and highways across the country.
- **Technology Development:** Testing agencies will be modernized to deal with new and emerging technologies to promote green mobility. For example, the focus is on making electric vehicles (EV) more efficient and economical by promoting research in battery technology, charging systems and vehicle design.

Impacts:

- **Achievement of Net Zero Target:** The PM e-DRIVE Scheme has the potential to play a

crucial role in helping India achieve its net zero emissions target by 2070. By promoting electric mobility, the scheme will reduce greenhouse gas emissions from the transportation sector, which is one of the largest contributors to air pollution in India.

- **Reduction in Air Pollution:** The deployment of electric trucks (e-trucks) and e-buses will lead to a significant reduction in air pollution and greenhouse gases, particularly in urban areas. E-trucks will help mitigate the pollution caused by diesel-powered freight trucks, while e-buses will contribute to cleaner and more sustainable public transportation.
- **Boost to Public Mobility:** The introduction of 14,028 e-buses will boost public transportation in cities, providing a cleaner and more efficient mode of travel for the general public. This move will also help reduce traffic congestion and the overall environmental impact of conventional buses.

Domestic Manufacturing and Phased Manufacturing Program (PMP):

- The scheme includes a Phased Manufacturing Program (PMP) designed to promote domestic manufacturing and the development of a local supply chain. By encouraging local production, the government aims to create job opportunities, foster innovation, and attract international investment, thereby strengthening the Indian economy.

Reduction in Fossil Fuel Dependence:

- The PM e-DRIVE Scheme will reduce India's dependence on fossil fuels for transportation. This will not only help India meet its environmental goals but also reduce the country's sensitivity to fluctuations in global oil prices, thereby strengthening energy security.

Challenges:

- **High Battery Costs:** Despite the financial incentives, the price of electric vehicles in India remains relatively high due to the high cost of batteries. The cost factor may limit widespread adoption, particularly among price-sensitive consumers.
- **Electricity Production from Coal:** A significant proportion of India's electricity is still generated by burning coal, which limits the environmental benefits of electric vehicles. To fully realize the potential of EVs, the country needs to shift toward renewable energy sources for electricity production.
- **Limited Charging Infrastructure:** The current charging infrastructure in India is underdeveloped, and without adequate charging facilities, the convenience and usability of electric vehicles are limited. The expansion of public charging stations is critical for the successful adoption of EVs.
- **Battery Safety and Performance:** Issues related to battery safety and performance remains a concern, particularly in extreme weather conditions. Consumers need confidence in the safety and longevity of EV batteries to consider making the switch from conventional vehicles.
- **Supply Chain Vulnerabilities:** India relies heavily on imports for critical raw materials like lithium and cobalt, which are essential for manufacturing EV batteries. This dependence on imports exposes the country to potential supply chain disruptions and price volatility.

Potential Solutions:

- **Private Sector Participation:** The government can encourage greater participation from the private sector in the development of EV infrastructure, technological innovation, and manufacturing processes. Private investment can help overcome some of the financial and technological challenges currently faced by the EV industry.
- **Domestic Lithium Reserves:** States like Telangana have the potential to become hubs for EV manufacturing, leveraging lithium reserves found in Jammu and Kashmir. By utilizing these domestic resources, India can reduce its reliance on imported raw materials and build a more resilient supply chain for EV batteries.
- **Securing Lithium Resources:** India is actively pursuing international partnerships to secure lithium resources, which will be essential for meeting the growing demand for lithium-ion batteries. By securing these resources, India can ensure stable prices and a consistent supply of

key battery components.

Conclusion:

The PM e-DRIVE Scheme represents a significant step towards promoting electric vehicles in India. Through financial incentives, infrastructure development, and technological advancement, the scheme aims to address key environmental concerns and reduce the country's dependence on fossil fuels. By fostering innovation, encouraging local manufacturing, and raising public awareness, the scheme has the potential to create a thriving EV ecosystem. While challenges remain, such as high battery costs and limited charging infrastructure, with the right policies and private sector collaboration, India can overcome these obstacles and move toward a greener, more sustainable future.

Short Issues

Assam's Swallowtail Butterflies

Why in News:

A study has recently revealed the significant decline of swallowtail butterflies in Assam's Bodoland Territorial Region, primarily caused by the overexploitation of medicinal host plants. The International Union for Conservation of Nature has classified these butterflies as globally endangered, raising urgent concerns for conservation efforts to protect their habitats and ensure their survival.

Key Findings:

Threats to Swallowtail Butterflies:

- Overexploitation of 25 species of host plants valued for their medicinal properties.
- Illegal cattle farming within protected areas.
- Agriculture and tea cultivation near butterfly habitats.
- Illegal tree felling.
- Pesticide use affecting butterfly populations.



Butterfly Population Status:

- The decline in swallowtail butterflies, which was not a significant concern two decades ago, has led the International Union for Conservation of Nature (IUCN) to classify them as globally endangered.
- **India's Status:** The country is home to 77 of the 573 recorded swallowtail butterfly species worldwide; northeastern India is designated as a 'swallowtail-rich zone'.

Host Plant Exploitation:

- The extensive harvesting of three species of the plant belonging to the family Aristolochiaceae has negatively impacted swallowtail butterflies from the Atrophaneura, Pachliopta, and Triodes genera. These species rely exclusively on these plants for food.
- The exploitation of Ligustrum cordatum, a plant used in traditional medicine, also affects the Lamproptera genus.
- Similar concerns apply to butterflies in the Graphium genus, which depend on plants from the Lauraceae and Magnoliaceae families.

Long-term Survival Concerns:

- The reduction of host plant resources raises significant concerns regarding the long-term survival and ecological health of swallowtail butterflies, as these plants are essential for their lifecycle and reproduction.
- Swallowtail butterflies serve as valuable indicators of environmental health, influencing their presence, abundance, and diversity.

About Bodoland Territorial Region:

- The Bodoland Territorial Region covers 8,970 sq. km, with approximately 40% of the area forested, primarily near the Bhutan border.
- The study area, particularly the Manas Biosphere Reserve, is crucial for supporting 25 host plant species from 6 families that are vital for the butterflies.
- This region is significant for its citrus biodiversity, with 52 varieties of 17 citrus species and 6 potential hybrid species.

- Citrus plants are essential for the development of swallowtail larvae, particularly those in the Papilio genus.

Little Prespa Lake

Why in News:

Little Prespa Lake, a vital water body on the Albanian-Greek border, is shrinking due to a combination of human intervention and climate change.

Geography:

- **Location:** Little Prespa Lake lies mostly in Greece, with its southern tip extending into Albania. It is a smaller counterpart to the larger Great Prespa Lake.
- **Size:** Of the 450 hectares of the lake in Albania, 430 hectares have turned into swamps or dried up.
- **Historical Causes for Degradation:** In the 1970s, Albanian communist authorities diverted the Devoll River to irrigate fields near the city of Korca, significantly reducing the lake's water levels.



Impact of lake shrinking:

- **Loss of Livelihoods:** Fishing, once a primary occupation for locals, has been severely affected. Boats are now stranded in mud, and fish populations have dwindled, leaving residents with few alternatives.
- **Shift in Landscape:** The dried-up lake has become marshy impacting the overall ecology.
- **Change in weather patterns:** Rising temperatures, increasingly mild winters, and decreased precipitation have further worsened the situation.
- **Environmental impact:** Little Prespa Lake is part of a transboundary region known for its rich biodiversity. The loss of the lake could endanger bird species and other wildlife reliant on its water.
- Environmental experts warn that continued dry conditions could lead to the lake's complete disappearance. If the upcoming winter stays dry and summers are hot, the lake may lose all its water, leading to irreversible ecological damage.

About Prespa Lakes:

- The Prespa Lakes are the two highest tectonic lakes at an elevation of 853 meters (2,799 ft) in the Balkans. They are located at the tripoint of North Macedonia, Albania, and Greece.
  - » **Great Prespa Lake:** Shared between North Macedonia (176.3 km²), Albania (46.3 km²), and Greece (36.4 km²).
  - » **Little Prespa Lake:** Mostly in Greece, with 4.3 km² extending into Albania.
  - » The two lakes are separated by a 4 km long isthmus in Greece, connected by a short canal.

Redrawing Borders Due to Glacier Melting

Why in News:

Italy and Switzerland are redrawing their national borders due to alarming glacier melting in the Alps, particularly around the Matterhorn Peak.

- The shift is primarily driven by climate change, causing natural landmarks and borders to evolve.
- The melting glaciers have significantly changed the definition of the border, leading to an agreement on a new boundary between the two countries.

Agreement Status:

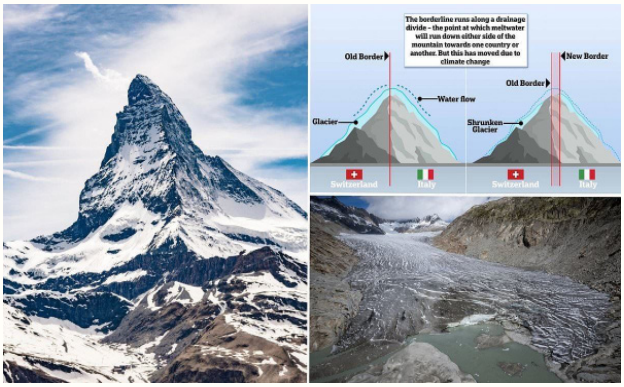
- Switzerland signed the agreement for the new border on September 27, 2024.
- Italy is expected to give its official approval soon.

Glacier Volume Loss:

- Switzerland lost 4% of its glacier volume last year, following a record 6% loss in 2022.
- This trend is expected to continue, with scientists predicting that up to half of the world's glaciers could disappear by 2100.

Commission Formation:

- In 2023, a commission was established to study the impact of climate change on glaciers and the resulting effects on national borders.
- The commission recommended the border modifications in May 2023.



Implications:

- The impacts of glacier melting extend beyond border changes, including increased landslides and dangerous collapses of unstable terrain.
- There are also concerns about water shortages during heatwaves.
- Europe is the fastest-warming continent, with climate risks affecting energy and food security, ecosystems, and public health.
- The European Environment Agency warns of worsening extreme weather events like heatwaves, droughts, wildfires and floods.

Significance of the Agreement:

- The agreement to redraw the border highlights the effects of climate change on national boundaries.
- While the changes may seem minor, they serve as a reminder of the importance of addressing climate change and its far-reaching consequences.

Italy:

- **Location:** Southern Europe, bordering the Mediterranean Sea
- **Capital:** Rome
- **Population:** 60.4 million
- **Language:** Italian
- **Currency:** Euro

Switzerland:

- **Location:** Western-Central Europe, bordering Alps
- **Capital:** Bern
- **Population:** 8.5 million
- **Languages:** German, French, Italian, Romansh
- **Currency:** Swiss Franc (CHF)

Shared Border:

- **Length:** Approximately 759 km (472 mi)
- **Border regions:** Lombardy, Piedmont, and Aosta Valley (Italy); Ticino, Grisons, and Valais (Switzerland)
- **Mountain passes:** Simplon Pass, St. Gotthard Pass, and Great St. Bernard Pass.

Odisha's Leopard Population

Why in News:

Odisha's leopard population has seen a significant increase of 22% from 568 in 2022 to 696 in 2024, according to the 'All Odisha Leopard Estimation 2024 report'. This rise is a positive trend, but the current population is still lower than the 760 leopards recorded in the 2018 National Tiger Conservation Authority (NTCA) census.

Methodology of survey:

- **Statewide Monitoring:** The estimation process involved extensive monitoring across 47 forest divisions by the Forest Department.
- **Field Survey:** Comprehensive surveys utilized signs such as pugmarks, scats, scrapes, and vocalizations to identify leopard presence.
- **Camera Traps:** Unique individual leopards were identified using camera traps that captured their distinctive rosette patterns, a scientifically recognized method for population assessment.

Key Habitats for Leopard in Odisha:

- **Protected Areas:** These regions show the highest abundance of leopards.
- **Similipal Tiger Reserve:** This reserve hosts the largest leopard population and is vital for dispersal to nearby Hadagarh and Kuldiha Wildlife Sanctuaries.
- **Satkosia Landscape:** Known for having the second-highest leopard population in the state.
- **Hirakud Wildlife Division:** This area, including Debrigarh Wildlife Sanctuary, supports a significant number of leopards.

Population Distribution:

- **Outside Protected Areas:** Notably, 45% of leopards reside outside protected regions, indicating a considerable presence in territorial forest divisions.
- **Rare Morphs:** The estimation also recorded melanistic leopards (black panthers) in three forest divisions.



Conservation Concerns in Odisha:

- **Poaching Issues:** Ongoing concerns about poaching and illegal trade persist, with 116 leopards reported killed for their skins between 2018 and 2024.
- **Seizures:** Between 2018 and 2023, authorities seized 59 leopard skins; an additional 57 were recovered by the Special Task Force from 2019 to 2024.

About Similipal National Park:

- Similipal is a prominent tiger reserve located in the Mayurbhanj district of Odisha, India.
- It forms a crucial part of the Mayurbhanj Elephant Reserve, which encompasses three protected areas: Similipal Tiger Reserve, Hadgarh Wildlife Sanctuary, and Kuldiha Wildlife Sanctuary.
- **Etymology:** The park derives its name from the abundant red silk cotton trees (Bombax ceiba) found in the region.
- **Tigers:** Similipal holds the highest tiger population in Odisha and is notable for having the population of melanistic tigers (black tigers).
- **Elephants:** Similipal is recognized for hosting the largest population of elephants in Odisha.
- **Conservation Status:** Since 2009, Similipal National Park has been designated as part of the UNESCO World Network of Biosphere Reserves, highlighting its ecological significance and commitment to conservation.

About the Indian Leopard:

- Indian Leopard (Panthera pardus fusca), widespread across the Indian subcontinent.
- **Characteristics:** Smallest of the big cats, adaptable to various environments, strong and agile, capable of climbing trees.
- **Conservation Status:** Classified as Vulnerable on the IUCN Red List; listed in Appendix I of CITES and Schedule I of the Wildlife (Protection) Act, 1972.

Wild Ass Population in Gujarat Sees a Significant Rise

Why in News:

The population of wild asses in Gujarat has witnessed a remarkable increase, as revealed by the 10th Wild Ass Population Estimation (WAPE) conducted by the Gujarat government earlier in 2024. The latest census estimates the wild ass population at 7,672, reflecting a 26.14% rise from the last WAPE in 2020, which recorded 6,082 individuals.

Key highlights of the Report:

- The WAPE was conducted over a 15,510 square kilometer area using the Direct Count Method. Modern technologies, including drone cameras and camera traps, were utilized for accurate enumeration.
- **Population Increase:** The wild ass population in Gujarat has risen to 7,672 as per the 10th Wild Ass Population Estimation (WAPE) conducted in 2024, marking a 26.14% increase from the previous estimate of 6,082 in 2020.



- **Current Habitat:** The wild ass population is now confined to the Little Rann of Kutch and Great Rann of Kutch, having lost its historical range in North-West India, Pakistan, and Central Asia.
- **Population Demographics:** In forest and sanctuary areas, the population included 2,569 females, 1,114 males, 584 babies, and 2,206 unclassified individuals. Meanwhile, in revenue areas, the population consisted of 558 females, 190 males, 168 babies, and 283 unclassified individuals.
- In addition to wild asses, the 2024 WAPE also enumerated several other wildlife species in Gujarat. The survey recorded the highest populations of 2,734 Asian antelopes, 915 wild boars, 222 Indian hares, 214 Indian gazelles, and 153 Indian jackals.

Conservation status of Wild Asses:

- Historically, wild asses were found in North-West India, Pakistan, and Central Asia, but their current

habitat is restricted to the Little Rann of Kutch and Great Rann of Kutch in Gujarat, making conservation efforts in this region crucial.
- Wild asses are protected under Schedule I of the Wildlife Protection Act, 1972.
- Additionally, the International Union for Conservation of Nature (IUCN) classified them as "Endangered" in 2008 due to their limited population.

A History of Conservation Success:
- The wild ass population in Gujarat has been on a consistent upward trend since 1976, when there were only 720 wild asses in the state.
- The continuous efforts by the Gujarat government, including habitat protection, anti-poaching measures, and community awareness programs, have played a pivotal role in the species' recovery.
- As India celebrated Wildlife Week (October 2-8), this increase in the wild ass population is a significant achievement for Gujarat's wildlife conservation.

Amazon Basin's Worst Drought in 122 Years

Why in News:
The Amazon Basin, the world's largest tropical rainforest and hydrobasin, is facing its most severe drought in 122 years. This ongoing crisis is driven by a combination of climatic factors and has extensive environmental, social, and economic repercussions.

Geographical Significance:
- **Size:** The Amazon Basin spans 6.87 million sq. km, discharging 16-18% of the world's freshwater into the oceans.
- **Biodiversity:** It holds around 10% of global biodiversity, playing a critical role in regulating climate and biogeochemical cycles.
- **Carbon Storage:** Approximately 150-200 billion tonnes of carbon are stored in its biomass and soils.
- **Floodplains:** Around 750,000 sq. km of the basin consists of nutrient-rich várzea and nutrient-poor igapó floodplains, which are essential for supporting indigenous livelihoods and diverse ecosystems.

Key Drivers of the Drought:
El Niño-Southern Oscillation (ENSO):
- The El Niño phenomenon, specifically the eastern Pacific El Niño, suppresses rainfall across the Amazon Basin by causing descending dry air masses over northern South America.
- This results in reduced rainfall from June onwards, leading to drought, which peaks between December and February.

Tropical North Atlantic (TNA) Warming:
- Simultaneous heating of the TNA shifts the Intertropical Convergence Zone (ITCZ) northwards, further reducing moisture inflow into the Amazon Basin.
- This intensifies the drought, especially in southern and southwestern regions.



Atlantic Multidecadal Oscillation (AMO):
- The AMO, characterized by cyclical variations in sea surface temperatures, exacerbates drought conditions during its warm phase, which has persisted since the mid-1990s.

Deforestation and Fires:
- Deforestation decreases evapotranspiration and leads to higher atmospheric temperatures, while fires contribute to air pollution and create feedback loops that worsen the drought.

Impact on Biodiversity and Communities:
- **Indigenous and Traditional Populations:** Many communities rely on rivers and floodplains for water, food, and transport. The extreme low water levels have isolated these populations, making it difficult to access essential services.

- **Agriculture and Livestock:** Crop failures and livestock deaths are widespread due to extreme heat and lack of water.
- **Aquatic Life:** Warm water temperatures in floodplain lakes have caused mass die-offs of fish and aquatic mammals like manatees and river dolphins.
- **Economic Losses:** Fluvial navigation, crucial for commerce, has been severely disrupted by low water levels, affecting the transport of goods and materials.

Deforestation and Climate Initiatives in India:

- India's total forest cover is approximately 713,789 sq km, constituting about 21.71% of the nation's geographical area, according to the India State of Forest Report (ISFR) 2021. Despite these significant figures, certain regions, particularly the Northeast and the Western Ghats, face critical deforestation threats driven by infrastructure projects and agricultural expansion.
- The challenges of water management are particularly pronounced in states like Rajasthan and Maharashtra
- India launched the National Action Plan on Climate Change (NAPCC) in 2008, which outlines eight missions aimed at addressing climate change while promoting sustainable development.
- India also reaffirmed its commitment to achieving Net Zero emissions by 2070 at COP28,

WWF's Living Planet Report 2024

Why in News:

The World Wide Fund (WWF) for Nature has released its Living Planet Report (LPR) 2024, revealing a staggering 73% decline in the average size of monitored wildlife populations globally from 1970 to 2020.

Key Findings of the Report:

Overall Decline:

- The report highlights an increase from the 69% decline recorded in the 2022 edition. The data presented is based on the Living Planet Index (LPI), which includes trends from nearly 35,000 populations of 5,495 species.

Ecosystem-specific Declines:

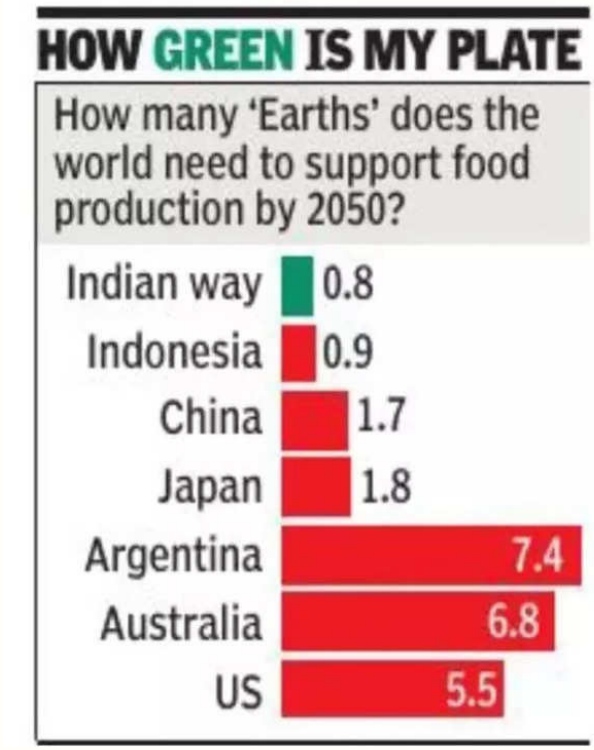
- Freshwater ecosystems: Declined by 85%.
- Terrestrial ecosystems: Declined by 69%.
- Marine ecosystems: Declined by 56%.

Threats to Wildlife:

- Habitat loss and degradation is the most significant threat, primarily driven by unsustainable agricultural practices and food consumption patterns.
- Other threats include over-exploitation, invasive species, and diseases.
- Pollution poses an additional risk, particularly in the Asia-Pacific region, which recorded a 60% average decline in wildlife populations.

India-specific Observations:

- The report notes a concerning decline in three vulture species in India:
  - **White-rumped vulture (Gyps bengalensis):** Declined by 67% since 2002.
  - **Indian vulture (Gyps indicus):** Declined by 48%.
  - **Slender-billed vulture (Gyps tenuirostris):** Declined by 89%.
- Despite these declines, certain species in India, such as tigers, have shown recovery due to proactive conservation efforts. The All-India Tiger Estimation 2022 recorded a minimum of 3,682 tigers, up from 2,967 in 2018.



Implications of Wildlife Declines:

- The declining wildlife populations serve as critical indicators of ecosystem health and potential extinction risks. Damaged ecosystems are more susceptible to tipping points, which can lead to irreversible changes

and threaten the planet's life-support systems.
- The report emphasizes that the ongoing nature loss and climate change crises could destabilize societies and endanger human livelihoods.

Global Commitments and Future Actions:
- Countries have set ambitious global goals to reverse nature loss through the Global Biodiversity Framework, cap temperature rise to 1.5°C under the Paris Agreement, and work towards the UN Sustainable Development Goals.
- However, the report stresses that current national commitments and actions are inadequate to meet the targets set for 2030.

Global Coral Bleaching Event Expands

Why in News:
Recently, NOAA said that global coral bleaching event that began in February 2023 has now escalated to the most extensive on record, impacting 77% of the world's coral reef areas. This marks the fourth significant global bleaching event since 1998 and has surpassed the previous record (2014-2017) by over 11% in a significantly shorter time frame.

Affected Regions:
- Coral reefs across the Atlantic, Pacific, and Indian Oceans have suffered, with bleaching reported in 74 countries and territories. Recently confirmed bleaching areas include Palau, Guam, and Israel, while high heat stress persists in regions such as the Caribbean and South China Sea.

The Science behind Coral Bleaching:
- Coral bleaching occurs when corals expel the vibrant algae (zooxanthellae) residing within their tissues due to heat stress. This process leads to pale corals that become increasingly vulnerable to starvation and disease. Alarmingly, at least 14% of the world's remaining corals died during the last two global bleaching events.

Climate Change and Its Impact:
- Scientists warn that coral reefs are at significant risk of loss, having already crossed a tipping point at just 1.3 degrees Celsius of global warming, contrary to earlier projections that set the critical threshold at 1.5 degrees.
- The current bleaching event has been exacerbated by the El Niño climate pattern. However, forecasts suggest a potential transition to La Niña, which typically brings cooler ocean temperatures, offering a glimmer of hope for coral recovery.



Economic Importance:
- Coral reefs play a vital role in the global economy, contributing approximately $2.7 trillion annually in goods and services. Their health is crucial for ocean ecosystems, subsistence fisheries, and tourism, making their preservation a priority for environmental sustainability.

Global Response:
- In response to this escalating crisis, a special emergency session on coral reefs took place at the UN Convention on Biological Diversity summit (COP16) in Colombia.
- This session discussed strategies for coral conservation and secure necessary funding, marking a crucial step in addressing the global coral bleaching event and protecting these essential marine ecosystems.

Coral Bleaching Background:
- Mass bleaching events have occurred in 1998, 2010, 2016, and now 2023.
- Coral reefs support 25% of marine species, provide coastal protection, and generate significant economic benefits.

Conclusion:
The alarming expansion of the global coral bleaching event underscores the urgent need for comprehensive conservation efforts. With significant portions of coral reefs at risk, 'collaborative action' at forums like COP16 is essential to safeguard these critical ecosystems, ensuring their resilience and the continued benefits they provide to

our planet.

Use of IVF to Conservation of Great Indian bustard

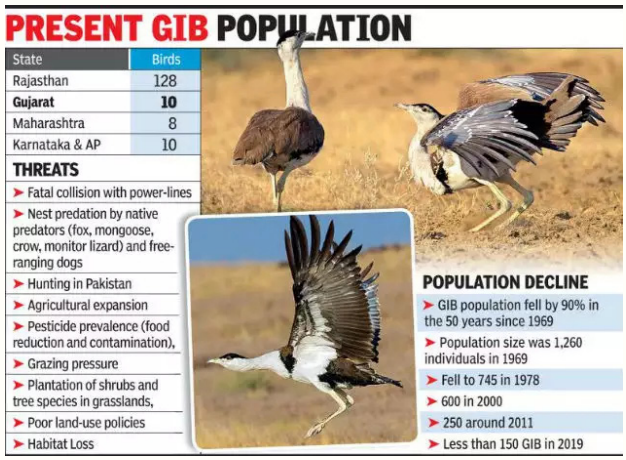
Why in News:

A chick of the critically endangered Great Indian Bustard (GIB) was recently born through Artificial Insemination (AI). The birth occurred at the Sudasari Great Indian Bustard Breeding Centre in Jaisalmer, Rajasthan.

- This achievement offers renewed hope for the species, which faces extinction due to habitat loss and environmental threats.
- The chick was born under the Species Recovery Programme at the Desert National Park in Rajasthan, which is home to the last remaining wild population of GIBs.

The AI Breakthrough:

- A Great Indian Bustard chick was successfully born through IVF, a first for the species, giving a major boost to ongoing conservation efforts aimed at saving this critically endangered bird.



Significance:

- The breakthrough allows for the potential creation of a sperm bank to enhance conservation efforts.
- With fewer than 150 GIBs remaining in the wild, primarily in Rajasthan, genetic diversity is crucial.

Conservation Efforts in Jaisalmer:

- Sudasari breeding centre was established in 2016 as part of the Union Environment Ministry's Bustard Recovery Program.
- Focus is on captive breeding and creating a sustainable environment for future releases into the wild.

About the Bustard Recovery Project:

- Launched for an initial period of five years (2016-2021), with an extension granted from 2021 to 2024.

Objectives:

- Conservation breeding of the Great Indian Bustard (GIB).
- Capacity building and advocacy to raise awareness among stakeholders and decision-makers about bustard conservation.
- Incentivizing land uses that are friendly to the bustard.

About the Great Indian Bustard (Godawan):

- **Habitat:** Primarily found in Rajasthan and Gujarat, with small populations in Maharashtra, Karnataka, and Andhra Pradesh.
- **Species:** A grassland bird endemic to the Indian subcontinent.
- **Population:** Fewer than 150 GIBs remain in the wild, almost exclusively restricted to India.

Conservation Status:

- **IUCN Status:** Critically Endangered.
- **Legal Protection:** Listed under Schedule I of the Wildlife Protection Act, 1972, and included in Appendix I of CITES.

Emissions Gap Report 2024

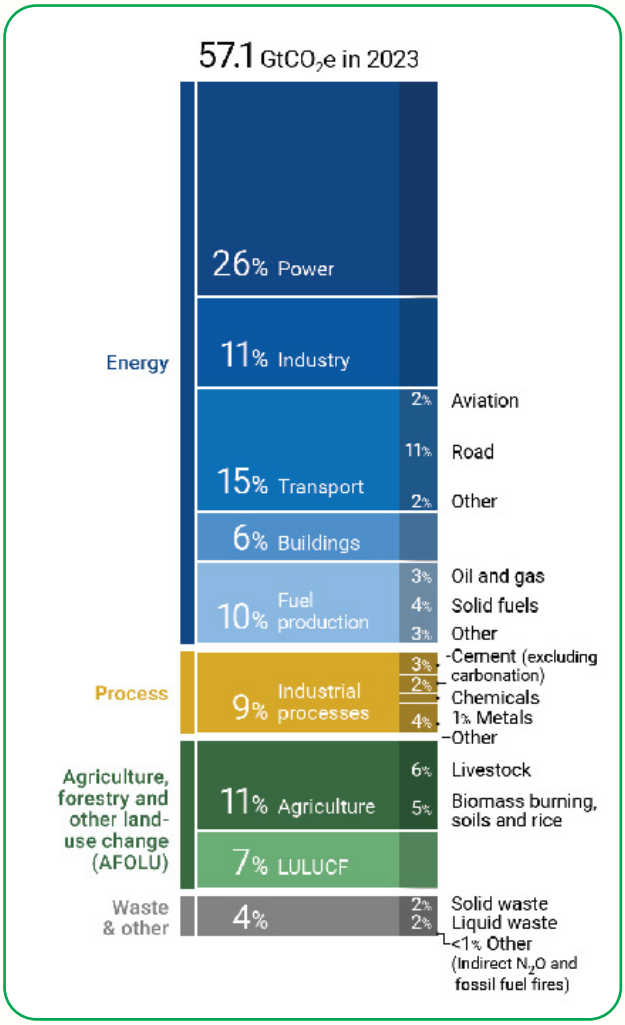
Why in News:

The Emissions Gap Report 2024, was published recently by the UN Environment Programme. The Report sheds light on the current state of global greenhouse gas emissions and highlights urgent actions needed to address the climate crisis.

Key findings:

- **Global Emissions Surge:**
  - » Global greenhouse gas emissions reached a record high in 2023, increasing by 1.3% compared to the previous year.
- **India's contribution:**
  - » India's greenhouse gas emissions experienced a notable increase of 6.1% in 2023 compared to the previous year, resulting in a contribution of 8% to the global total emissions.
  - » Despite the upward trend in annual emissions, India's historical contribution to global CO2 emissions remains comparatively low at approximately 3%.
  - » The rise in emissions reflects the energy needs

of India, now the world's most populous nation, with per capita emissions at 2.9 tons of CO2 equivalent (tCO2e), well below the global average of 6.6 tCO2e.



- **Global Emission Disparities:** The report highlights significant inequalities in emissions, noting that G20 countries (excluding the African Union) collectively account for 77% of global greenhouse gas emissions.
- **Peaking Emissions:** Countries like India, China, and others have not yet peaked in their emissions. Rapid reduction efforts post-peak are essential for long-term climate goals.
- **Historical Context:** While India's emissions are increasing, it has contributed only 3% to global CO2 emissions historically, compared to 20% from the United States. This distinction underscores the complexities of global climate responsibility.
- **Urgency for Action:** The report stresses the need for immediate action to bridge the gap between climate pledges and actual progress, as global emissions reached a record high of 57.1 gigatons of CO2 equivalent in 2023.
- **Future Targets:** To limit global warming to 1.5 degrees Celsius, emissions must decrease by 42% by 2030. Even for a 2-degree limit, a 28% reduction is necessary.
- **Sector Contributions:** The power sector remains the largest emitter, followed by transportation, agriculture, and industry. International aviation emissions surged by nearly 20% as travel rebounded post-pandemic.
- **Potential Solutions:** The report identifies renewable energy, particularly solar and wind, as crucial for emissions reduction, potentially contributing 27% of total reductions by 2030.

Ambitious Cuts Required:

- Nations must commit to cutting greenhouse gas emissions by 42% by 2030 and 57% by 2035 to stay on track for the 1.5°C target.
- Without these increases in ambition, the world is projected to warm by 2.6-3.1°C this century, leading to severe consequences for people, ecosystems, and economies.

About the Emissions Gap Report:

- The Emissions Gap Report is a crucial document that highlights the gap between where global greenhouse gas emissions are heading and where they need to be to limit global warming to 1.5°C, as agreed upon in the Paris Agreement.

India's Comprehensive Survey for Ganges and Indus River Dolphins

Why in News:

The Ministry of Environment, Forest and Climate Change, the Wildlife Institute of India (WII), and state forest departments will soon begin an 8,000-kilometer survey to assess and conserve Ganges and Indus river dolphins. This will be the world's first comprehensive survey of freshwater dolphin populations, providing a crucial baseline for future conservation efforts.

Key Features of the Survey:

- **Scope of Survey:** The survey spans major river systems across several Indian states, including

Uttar Pradesh, Bihar, West Bengal, Assam, Madhya Pradesh, Rajasthan, and Punjab, to assess dolphin presence and population health.

- **Baseline Data:** This survey marks the first time detailed data that will be gathered on the dolphin populations, essential for monitoring long-term population trends and ecosystem health.
- **Conservation Focus:** The survey will assist in developing a year-round monitoring system at key dolphin hotspots and formulate targeted conservation strategies based on the findings.



Importance of River Dolphins:

- **Ecosystem Health Indicators:** River dolphins are considered "sentinels" of river health, as their presence reflects the quality of the aquatic ecosystem. They are sensitive to environmental changes such as pollution, habitat destruction, and declining river flow.
- **Cultural Significance:** The Ganges river dolphin holds the title of India's national aquatic species, reflecting its cultural importance. Similarly, the Indus river dolphin is recognized as the state aquatic animal of Punjab, underscoring its regional significance.

Current Conservation Challenges:

- **Population Decline:** Over the past century, both species have suffered drastic population declines, primarily due to habitat fragmentation, pollution, illegal hunting, and changes in water flow caused by dams and irrigation projects.
- The Ganges river dolphin population in the Ganga and Brahmaputra basins is estimated to be around 3,600, showing a significant decline of 50-65% since the 19th century.
- The Indus river dolphin population in India is critically low, with only a handful remaining in the Beas river, Punjab, while the majority of the population is located in Pakistan.
- **Protected Areas:** Less than 10% of the river dolphins' range is safeguarded, limiting effective protection and conservation.

Legal and Conservation Efforts:

- **Legal Protection:** Both the Ganges and Indus river dolphins are listed under Schedule I of the Wildlife Protection Act of 1972 and in CITES Appendix I, marking them as critically endangered species in need of urgent protection.
- **Project Dolphin:** The launch of Project Dolphin emphasizes the need for continuous monitoring and surveillance to secure the future of these species, given their slow reproductive rates and high vulnerability to human-induced threats.

Conclusion:

The 8,000-kilometer survey is a crucial step toward understanding the status of India's Ganges and Indus river dolphins. With their role as ecosystem indicators and their cultural significance, these species require immediate and ongoing conservation efforts. The data gathered will be vital for formulating effective strategies to protect and sustain these freshwater cetaceans, ensuring healthier river ecosystems for future generations.

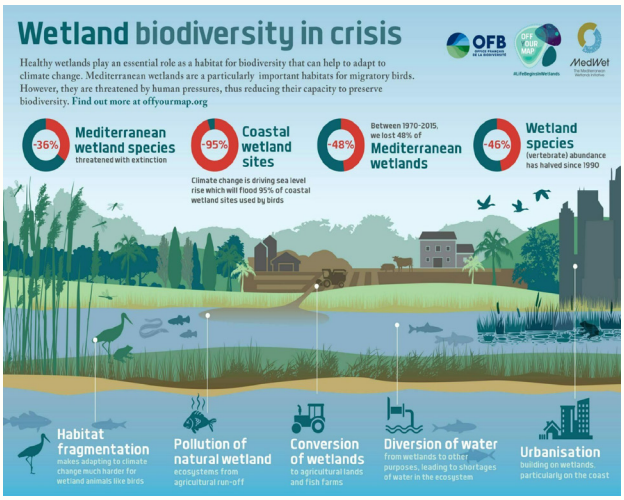
Role of Wetlands in National Biodiversity Strategies

Why in News:

Wetlands International, recently commissioned an assessment by 35 per cent Ltd, an organization focused on the conservation and sustainable management of natural resources like wetlands.

- The assessment called Assessing the Inclusion of Wetlands in NBSAPs highlights the critical importance of wetlands in the National Biodiversity Strategies and Action Plans (NBSAPs) submitted after COP15.
- The report underscores the vital role that wetland conservation plays in achieving the global biodiversity goals set by the Kunming-Montreal

Global Biodiversity Framework (KMGBF), designed to halt biodiversity loss by 2030.



Key Findings:

- **Recognition of Wetlands:**
  - » 83% of NBSAPs explicitly mention wetlands, inland waters, or freshwater in their targets.
  - » Africa and Oceania have a 100% mention rate, while over 90% of European nations include wetlands in their plans.
- **Wetland Restoration and Protection:**
  - » 71% of the plans include specific restoration measures for wetlands (Target 2 of KMGBF).
  - » 50% address wetland protection (Target 3), though fewer NBSAPs provide measurable, specific targets.
- **Focus on Wetland Types:**
  - » 16 NBSAPs mention specific wetland types such as mangroves, rivers, lakes, and peatlands. Among these, mangroves, rivers, and lakes were the most frequently mentioned.
  - » Vast wetland areas, including the Amazon River Basin and Hudson Bay Lowland, are rarely addressed in national strategies, despite their critical importance.
- **Integration and Focus Areas:**
  - » The assessment calls for clearer, measurable targets for wetland conservation and restoration.
  - » Highlighting key wetland regions in national strategies will improve ecological health and biodiversity.

Assessment Process:

- The report, Assessing the Inclusion of Wetlands in NBSAPs, evaluates the representation of wetlands in the NBSAPs submitted after COP15.
- The analysis covers 24 NBSAPs, representing 12% of the 196 countries party to the Convention on Biological Diversity. The submissions came from Europe (10), Asia (7), Africa (2), North America (2), Latin America and the Caribbean (2), and Oceania (1).

Wetlands' Importance:

- Wetlands are integral ecosystems that provide essential services:
  - » **Water Quality Improvement:** Wetlands filter pollutants and improve water quality.
  - » **Flood Storage:** They absorb excess floodwater, reducing the risk of floods.
  - » **Wildlife Habitats:** Wetlands offer habitats for a diverse range of species.
  - » **Water Flow Regulation:** Wetlands maintain surface water during dry periods, supporting ecological balance.
- These ecosystems support 40% of the world's biodiversity but are disappearing faster than any other ecosystem, making their conservation and restoration crucial for biodiversity preservation and global ecosystem health.

Conclusion:

This assessment serves as a call to action for nations to enhance the integration of wetlands into national biodiversity plans. While significant progress has been made, there is an urgent need for countries to set measurable targets for wetland protection and restoration. COP16 represents a crucial opportunity for nations to take bold action in conserving these critical ecosystems, ensuring the protection of biodiversity and benefiting the communities that depend on them.

4 Science & Technology



"India's Space Startup Revolution: Government's Rs. 1,000 Crore Initiative

Context:

The Indian government has decided to allocate ₹1,000 crore for space startups. It is a significant milestone that showcases the country's commitment to fostering innovation and growth in the space sector. This move is part of the government's efforts to promote entrepreneurship and attract global investment in space sector.

Significance of this allocation:

- **Encouragement for Private Sector Participation:** By establishing a dedicated fund for space startups, the government aims to encourage private investment, recognizing the essential role that private enterprises play in driving growth and innovation in the space industry.
- **Enhancing Global Competitiveness:** The funding will enable Indian startups to develop cutting-edge technologies, positioning them to compete on a global scale. This can enhance India's reputation as a key player in the international space arena.
- **Job Creation and Economic Impact:** Supporting space startups has the potential to create numerous job opportunities, contributing to economic growth. A robust space sector can generate both direct and indirect employment, boosting the overall economy.
- **Strengthening the Ecosystem:** The fund will help create a more vibrant ecosystem for innovation, attracting talent, investment, and collaboration. This can lead to synergies between startups, established companies, and research institutions.
- **Strategic National Interest:** Investing in the space sector aligns with national interests, enhancing capabilities in satellite technology, space exploration, and national security. A robust space industry is essential for various applications, including communication, weather forecasting, and defense.
- **Vision for the Future:** This funding is part of a long-term vision for the Indian space sector,

aiming for significant contributions to the global space economy and reaching milestones such as a $100 billion space economy by 2040.

Key Factors Contributing Growth of Space Sector:

- **Ecosystem Growth:** India has seen a rapid increase in the number of space startups, with nearly 200 startups emerging as of 2024, up from just one in 2022. This reflects significant reforms and a supportive environment for innovation.
- **Government Support:** The Indian government has taken proactive steps to boost the space sector, including the recent announcement of a ₹1,000 crore Venture Fund to support space startups. Policies such as the Indian Space Policy 2023 have further opened avenues for private participation.
- **Investment Surge:** In 2023, investments in Indian space startups reached approximately $124.7 million, signaling growing confidence and interest from investors in this sector.
- **FDI Provision:** The allowance of 100% Foreign Direct Investment (FDI) in the space sector has significantly boosted new initiatives and attracted entrepreneurs. This policy facilitates easier access to capital and resources for startups.
- **Key Players:** Notable private companies include Pixxel, Dhruva Space, and Skyroot Aerospace, which have developed innovative satellite technologies and launch capabilities, such as India's first privately developed rocket, Vikram-S.
- **Space economy:** India's space economy is currently valued at approximately USD 8.4 billion, which translates to Rs 6,700 crore, and it's growing rapidly. In fact, the country's share in the global space economy is expected to rise fourfold by 2030, from 2% in 2021 to 8% . By 2047, India's share is projected to reach an impressive 15% of the global space economy.

Government Support for Startups including space startup:

- **Removal of Angel Tax:** The abolishment of the 31% angel tax will ease financial burdens on startups, encouraging more investment.
- **Corporate Tax Reductions:** Reductions in corporate tax for foreign companies are designed to attract international investments into the Indian startup ecosystem.
- **Increased MUDRA Loan Limits:** Raising the MUDRA loan limit from ₹10 lakh to ₹20 lakh provides more financial resources for startups to utilize in their growth and development.

Public-Owned Government Bodies in India's Space Sector that promotes space sector growth:

Government Body	Formation Year	Duties/Role/ Goals
Indian National Space Promotion and Authorization Centre (IN-SPACe)	2020	❖ Promote and enable private sector participation in space activities. ❖ Authorize and supervise non-governmental entities (NGEs) in developing launch vehicles and satellites. ❖ Establish new space infrastructure and facilities.
Antrix Corporation Limited	1992	Acts as the commercial and marketing arm of the Department of Space (DOS).
New Space India Limited (NSIL)	2019	❖ Provide satellite services to meet domestic and international demands. ❖ Support SMEs in expanding their high-technology manufacturing capabilities for space activities.

Indian Space Association (ISpA)	2021	Promote self-sufficiency and technological advancement in India's space sector.

About Indian Space Research Organisation (ISRO)

- ISRO is India's space agency responsible for planning and executing space-related activities. ISRO operates under the Department of Space, which reports directly to the Prime Minister of India.

Origin and History of ISRO

- **Establishment of INCOSPAR:** Formed in 1962 under the Department of Atomic Energy (DAE) at the suggestion of Dr. Vikram Sarabhai.
- INCOSPAR built the Thumba Equatorial Rocket Launching Station (TERLS) in Tamil Nadu.
- The first sounding rocket (Nike-Apache) was launched from TERLS on November 21, 1963.
- **Establishment of ISRO:** ISRO was officially established on August 15, 1969, in Bengaluru, replacing INCOSPAR with a broader mandate.

Objectives of ISRO:

- The primary goal is to develop and apply space technology for various national needs.
- ISRO has established major space systems for communication, television broadcasting, and meteorological services.

Recent ISRO Missions:

Mission	Launch Date	Details
SSLV-D3/EOS-08 Mission	August 16, 2024	Utilized the Small Satellite Launch Vehicle (SSLV) to deploy the EOS-08 satellite into orbit.
GSLV-F14/ INSAT-3DS Mission	February 17, 2024	Launched the INSAT-3DS satellite using the
PSLV-C58/ XPoSat Mission	January 1, 2024	Employed the Polar Satellite Launch Vehicle (PSLV) to launch the XPoSat satellite.
Chandrayaan-3 Mission	July 14, 2023	Significant lunar mission launched using the Launch Vehicle Mark 3 (LVM3).
Aditya-L1 Mission	September 2, 2023	Aimed to study the Sun's corona, launched using the PSLV-XL.
Gaganyaan TV-D1 Mission	October 21, 2023	Part of India's human spaceflight program.
Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX-03)	June 23, 2024	Successfully tested reusable launch vehicle technology.

Conclusion:

The ₹1,000 crore Venture Fund for space startups is a strategic move to propel India's space sector forward. By encouraging private investment, fostering innovation, and developing cutting-edge technologies, India can emerge as a significant player in the global space industry. This development has the potential to contribute significantly to India's economic growth, making the country a hub for space technology and entrepreneurship.

Addressing Rare Diseases in India: Current Challenges and Policy Directions

Rare diseases are often debilitating, lifelong conditions that affect a small percentage of the population, representing a significant public health challenge worldwide. Defined by the World Health Organization (WHO) as diseases with a prevalence of 1 or fewer cases per 1,000 individuals, these conditions impact millions globally but remain largely underfunded and understudied. In India, the situation is exacerbated by a lack of comprehensive epidemiological data, complicating the understanding and management of these diseases.

- Recently, the Delhi High Court took a significant step toward improving the accessibility of orphan drugs essential for treating rare diseases. Currently, around 55 medical conditions fall under this classification in India, including Gaucher's disease and various forms of muscular dystrophy. Alarmingly, only 5% of these rare diseases have available treatments, leaving a vast majority of patients without specific care.

Key Directions from the Delhi High Court:

The Delhi High Court recently issued directives aimed at improving access to "orphan drugs," which are critical for treating rare diseases. These directions include:

- **Constitution of the National Rare Diseases Fund (NRDF):** This fund aims to reduce prices and improve accessibility to medications.
- **Inclusion in the Companies Act, 2013:** Donations for rare diseases will be recognized under Schedule VII, facilitating Corporate Social Responsibility (CSR) contributions.
- **Administration by the National Rare Disease Cell:** The NRDF will be overseen by one or more nodal officers from the Ministry of Health and Family Welfare (MoH&FW).
- **Development of a Centralized Information Portal:** A national portal will be established within three months to include a patient registry and available treatments.
- **Fast-Track Approval Process:** The Union of India has directed the Drug Controller General of India (DCGI) and Central Drugs Standard Control Organization (CDSCO) to create a dedicated fast-track approval process for drugs and therapies related to rare diseases within 60 days.

The Indian Scenario: Current Landscape:

- India faces a considerable gap in data concerning rare diseases. The National Registry for Rare and Other Inherited Disorders (NRROID), initiated by the Indian Council of Medical Research (ICMR), has recorded around 14,472 rare disease patients; however, this number represents only a fraction of those affected. Estimates suggest that globally, there could be between 7,000 to 8,000 different rare diseases, including prevalent conditions such as Gaucher's disease, Cystic fibrosis, and Lysosomal storage disorders.
- The economic burden of rare diseases is profound, as treatments are often prohibitively expensive. Many orphan drugs are patented, leading to exorbitant costs that make them inaccessible to most patients. Currently, therapies are available for less than 5% of rare diseases, which results in fewer than 1 in 10 patients receiving disease-specific care. This situation underscores the urgent need for systemic reforms in policy and practice.

Cost and Availability of Orphan Drugs:

- The high cost of orphan drugs is a significant barrier to treatment. Many of these medications are patented, leading to exorbitant prices. The small market for rare disease treatments often dissuades pharmaceutical companies from investing in their development. The court stressed the importance of negotiating with pharmaceutical companies and promoting domestic manufacturing to lower costs.
- Moreover, the court expressed concerns over a 2019 order that exempted orphan drugs from price controls, emphasizing the need for

regulation in this area.

Policy Framework and Recent Developments:

- In 2021, the Indian government launched the National Policy for Rare Diseases (NPRD), aimed at reducing the incidence and prevalence of rare diseases through a comprehensive approach. This policy provides financial assistance of up to ₹50 lakh to patients receiving treatment at identified Centres of Excellence (CoEs), such as AIIMS Delhi and PGIMER Chandigarh.
- Recently, the Delhi High Court issued directives to improve the availability of orphan drugs, recognizing the critical need for better access to treatments. The court mandated the establishment of a National Rare Diseases Fund (NRDF), which will be managed by a dedicated cell within the Ministry of Health and Family Welfare (MoHFW).
- This fund aims to lower drug prices and enhance accessibility for patients suffering from rare diseases.

Economic Considerations and Funding Challenges:

- The treatment of rare diseases poses significant economic challenges, especially in resource-constrained settings like India. Policymakers must balance competing public health priorities while allocating limited resources. The high costs associated with rare disease treatments necessitate prioritization, where interventions that offer the most significant health benefits for larger populations are favored.
- Current funding policies, such as the Rashtriya Arogya Nidhi, provide financial assistance to poor patients suffering from rare diseases, yet many families still struggle to access necessary care.
- Reports indicate that financial assistance of ₹24 crore was released to CoEs for rare disease patients until August 2024, but these funds are insufficient given the scale of the need. Furthermore, the lack of systematic epidemiological studies hinders accurate estimations of the burden of rare diseases, complicating the allocation of resources.

Future Directions: Strengthening the Framework

- **Comprehensive Epidemiological Studies:** Systematic studies are needed to ascertain the number of individuals suffering from rare diseases and to better understand their associated morbidity and mortality. This data is critical for formulating effective health policies.
- **Public Awareness and Education:** Increasing awareness about rare diseases among healthcare providers and the general public can facilitate early diagnosis and treatment. Educational initiatives can help demystify these conditions and encourage research into potential treatments.
- **Incentivizing Domestic Production:** The government should consider providing incentives for pharmaceutical companies to develop and manufacture rare disease treatments locally. This could include tax breaks or grants for research and development, thereby reducing costs and increasing accessibility.
- **Streamlining Drug Approval Processes:** The establishment of a dedicated fast-track approval process for rare disease drugs can help expedite access to necessary therapies.
- **Enhancing Funding Mechanisms:** Expanding funding mechanisms, including incorporating donations for rare diseases into the Schedule VII of the Companies Act, 2013, would enable corporate social responsibility (CSR) contributions, bolstering financial support for affected patients.

Conclusion:

Addressing the challenges posed by rare diseases in India requires a multifaceted approach that encompasses policy reform, increased funding, and improved data collection. By focusing on the specific needs of this population, the Indian government can enhance health outcomes and ensure equitable access to treatment. As the landscape evolves, ongoing dialogue among stakeholders—patients, healthcare providers, policymakers, and pharmaceutical companies—will be essential in shaping a more inclusive healthcare system for rare diseases in India.

Short Issues

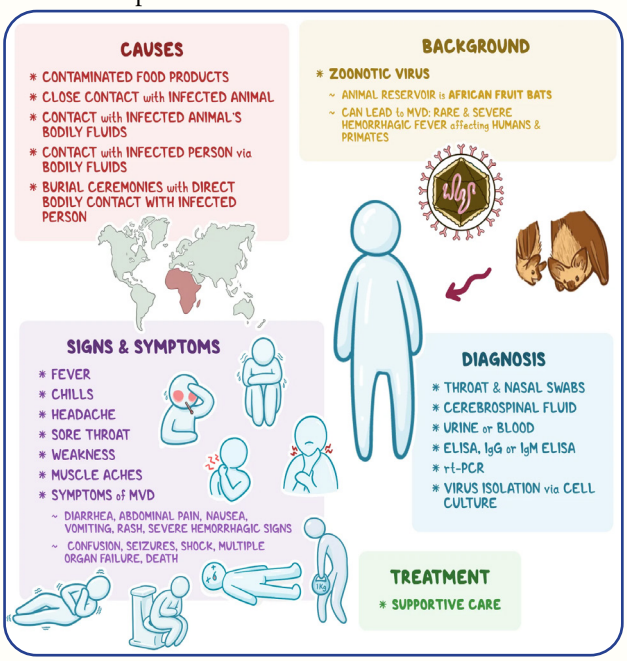
Marburg Virus Disease (MVD)

Why in News:

The Marburg Virus Disease (MVD) outbreak in Rwanda has resulted in six fatalities, mostly among healthcare workers.

What is Marburg Virus Disease?

- Marburg Virus Disease (MVD), previously known as Marburg Hemorrhagic Fever, is a highly fatal illness caused by the Marburg virus.
- Marburg virus belongs to the same family as the Ebola virus, the Filoviridae family, which causes severe hemorrhagic fevers in humans and non-human primates.



Origin:

- First identified in 1967 in Marburg, Germany, after lab workers were exposed to infected green monkeys from Uganda.
- **Natural Host:** The African fruit bat (Rousettus aegyptiacus) is the primary reservoir of the Marburg virus, though it can spread to humans and primates.

Transmission:

- MVD can spread through zoonotic transmission from fruit bats to humans and then through human-to-human transmission via direct contact with:
  - » Blood,
  - » Secretions,
  - » Other bodily fluids of an infected person.
- Healthcare workers, caregivers, and family members of infected individuals are at high risk if protective measures are not in place.

Symptoms of Marburg Virus Disease:

- Early signs of the disease include high fever, severe headache, muscle pain, and a rash characterized by flat and raised bumps on the torso. Patients may also experience chest pain, a sore throat, as well as nausea, vomiting, and diarrhea.
- Advance symptoms become more severe, leading to liver failure, delirium, and shock. In advanced stages, internal and external bleeding (hemorrhaging) can occur, along with multi-organ dysfunction, which significantly increases the risk of fatality.
- **Fatality Rate:** Ranges from 24% to 88%, with an average of 50%, depending on the virus strain and medical care quality.

Treatment and Prevention:

- Currently, there is no specific treatment or vaccine for Marburg Virus Disease. Supportive care plays a critical role in managing the illness and increasing the chances of survival. Supportive care includes:
  - » Intravenous fluids,
  - » Electrolyte balance,
  - » Oxygen supplementation, and
  - » Blood product replacement.

Prevention measures are crucial in controlling the spread of the virus that include:

- Good hygiene practices, especially handwashing,
- Avoiding direct contact with bodily fluids of infected persons,
- Using protective gear (gloves, masks, gowns) for healthcare workers and caregivers,
- Ensuring safe handling of animals and thorough cooking of animal products.

Fluorescent Nano Diamonds

Why in News:

In a recent study published in Nature Communications, physicists from Purdue University achieved a significant breakthrough by levitating Fluorescent Nano Diamonds (FNDs) in a high vacuum and spinning them at ultra-fast rates. This experiment has major implications for quantum mechanics and various industrial applications, opening new doors for scientific research.

What are Fluorescent Nano Diamonds (FNDs)?

- Fluorescent Nano Diamonds (FNDs) are nanometre-sized diamonds made of carbon nanoparticles. They are produced under high temperatures and pressures, making them extremely stable and non-toxic to living organisms. FNDs have several unique features:
  - » **High Stability:** They do not degrade when exposed to light, unlike many other fluorescent materials.
  - » **Non-toxic Nature:** This makes them safe for use in biological applications, such as tracking cells over long periods.

Fluorescence and Stability of FNDs:

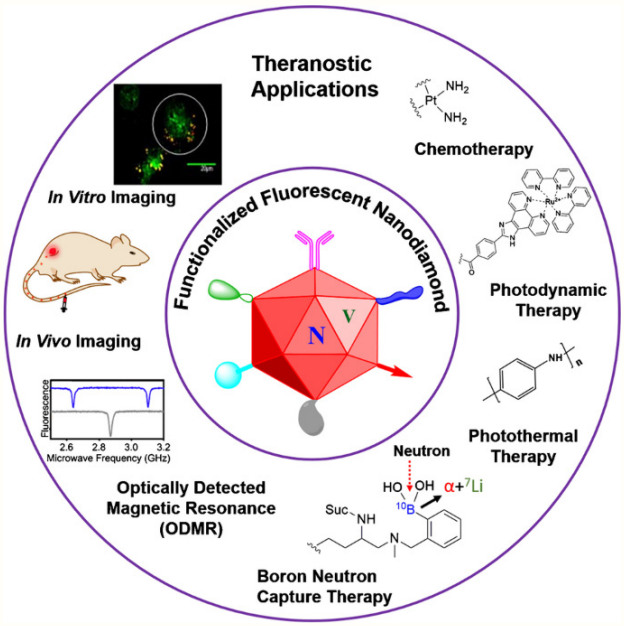
- Fluorescence is the ability of a material to emit lower-frequency light when irradiated with higher-frequency light.
- FNDs stand out because they do not blink (an intermittent pattern of light emission) like other nanoscale materials.
- Their fluorescence lifespan exceeds 10 nanoseconds, making them more reliable for long-term applications than quantum dots, which won the 2023 Nobel Prize in Chemistry.

Quantum Spin and the Berry Phase:

- FNDs are valuable in the field of quantum mechanics due to their ability to manipulate the spin of particles, such as electrons. Spin is a fundamental quantum property that allows particles to exist in different states—important for quantum computing, where spin qubits store information.
- The Berry phase is a key concept in quantum mechanics that describes how the phase of a particle's wave changes after it moves through different quantum states and returns to its original state.
- This phenomenon plays a key role in:
  - » **Quantum mechanics:** It helps explain certain behaviours of particles in magnetic fields and rotating systems.
  - » **Quantum gravity research:** By measuring the Berry phase in complex systems like levitated FNDs, researchers hope to probe deeper into quantum gravity and explore the boundaries of how quantum mechanics interacts with gravity, which remains one of the biggest challenges in physics.

Industrial Applications of FNDs:

- Levitated FNDs have significant industrial potential due to their sensitivity to acceleration and electric fields. This makes them ideal for use as sensors in various high-value industries. Some possible applications include:
  - » **Sensor Technologies:** FNDs can be used in advanced sensors and gyroscopes for precise rotation sensing.
  - » **Quantum Computing:** FNDs can be doped with nitrogen to create nitrogen-vacancy (NV) centres, which allow electron spin qubits to exist, supporting future quantum superposition experiments and computing advancements.



Other Applications of FNDs:

- **Medical Diagnostics:** Due to their non-toxic nature and high stability, FNDs are used for high-resolution imaging and long-term tracking of cells.
- **Temperature Sensing:** FNDs can measure temperatures at the micro-scale, making them useful for scientific experiments in various fields.
- **Correlative Microscopy:** Their fluorescent properties make FNDs ideal for combining multiple imaging techniques, enhancing the accuracy of microscopic observations.

Nobel Prize in Medicine 2024

Why in News:

The Nobel Prize in Physiology or Medicine for 2024 has been awarded to Victor Ambros and Gary Ruvkun

for their groundbreaking discovery of microRNA and its crucial role in post-transcriptional gene regulation.

What is MicroRNA?

- The microRNA (miRNA) is a form of small, single-stranded RNA, 18–25 nucleotides long. It is transcribed from DNA, instead of being translated into protein and regulates the functions of other genes in protein synthesis. Therefore, miRNAs are genes that modulate other protein-coding genes.
- **Occurrence:** Found in plants, animals, and some viruses, miRNAs play a critical role in RNA silencing and post-transcriptional regulation of gene expression.

Functions of MicroRNA:

- **Modulation of Protein-Coding Genes:** miRNAs play a critical role in modulating the expression of other protein-coding genes.
- **Inhibiting Translation:** Prevents the synthesis of proteins from mRNA.
- **Inducing mRNA Degradation:** Causes breakdown of mRNA molecules.
- **Silencing Gene Expression:** Effectively reduces' the activity of specific genes.

Importance of MicroRNA:

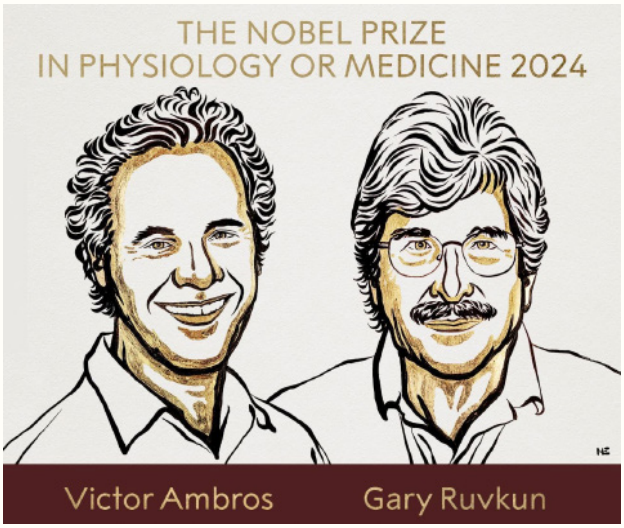
- **Development and Differentiation:** Essential for proper cell development, differentiation, and growth.
- **Involvement in Diseases:** miRNAs are linked to various diseases, including cancer, cardiovascular diseases, and neurological disorders.
- **Therapeutic Potential:** They present potential targets for therapeutic interventions, offering new avenues for treatment.

Mechanism of MicroRNA Action:

- **Transcription:** miRNAs are transcribed from DNA as primary miRNA (pri-miRNA).
- **Processing:** These pri-miRNAs are processed into precursor miRNA (pre-miRNA).
- **Export and Maturation:** Pre-miRNAs are exported to the cytoplasm, where they are further processed into mature miRNAs.
- **Target Interaction:** Mature miRNAs bind to target mRNAs, regulating gene expression by either degrading the mRNA or inhibiting its translation.

Discovery:

- The concept of microRNA was pioneered by Ambros and Ruvkun, who revealed these tiny RNA molecules as a new principle of gene regulation, crucial for multicellular organisms, including humans.



Human Genome:

- The human genome encodes over 1,000 microRNAs, illustrating the complexity and nuance of gene regulation. Each microRNA can interact with multiple messenger RNAs (mRNAs), fine-tuning gene expression across various contexts.

About The Nobel Prizes:

- The Nobel Prizes were established by Alfred Nobel as outlined in his 1895 testament.
- They are awarded to individuals or organizations that have conferred the greatest benefit to humankind during the preceding year.
- The first Nobel Prize was awarded in 1901, marking the beginning of a tradition that continues to honor remarkable contributions in various fields.
- Initially Nobel Prizes were awarded in five categories: Physics, Chemistry, Physiology or Medicine, Literature, Peace.
- In 1968, the Sveriges Riksbank Prize in Economic Sciences was introduced, provided by Sweden's central bank in memory of Alfred Nobel.

Nobel Prize in Physics 2024

Why in News:

The 2024 Nobel Prize in Physics has been awarded to John J. Hopfield and Geoffrey E. Hinton for their groundbreaking contributions to Artificial Intelligence (AI) and Artificial Neural Networks (ANNs). Their innovative research has fundamentally transformed

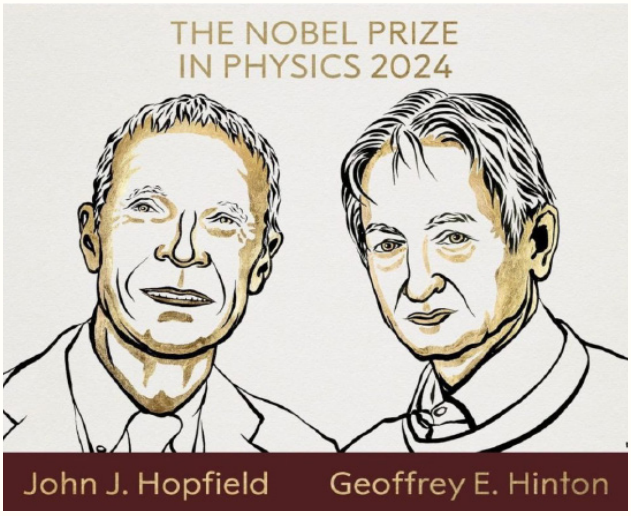
machine learning technology, which underpins many AI applications we rely on today.

Hopfield's Contributions:

- John J. Hopfield, an American theoretical physicist, is renowned for developing the Hopfield network, a form of artificial neural network capable of storing and recalling information. This seminal work demonstrated how a network of interconnected nodes could remember and retrieve data efficiently.
- Hopfield's innovation laid the groundwork for subsequent advancements in AI, highlighting the potential of neural networks in computing.

Hinton's Contributions:

- Geoffrey E. Hinton, a British-Canadian computer scientist, built upon Hopfield's foundational work to create the Boltzmann machine. This development introduced key concepts of machine learning, illustrating how artificial neural networks could learn from data inputs.
- Hinton's research has been instrumental in driving the evolution of modern AI systems, enabling them to adapt and improve based on experience.



About Artificial Neural Networks:

- Artificial Intelligence, as commonly understood today, largely involves the implementation of Artificial Neural Networks. ANNs consist of interconnected nodes designed to function like networks of neurons in animal brains.
- Each node processes input data according to fixed rules, generating an output. By stacking multiple layers of nodes, each performing specialized tasks, ANNs can achieve deep learning capabilities, allowing machines to surpass human capabilities in certain tasks.
- The evolution of AI reflects a paradigm shift from traditional computing to advanced systems capable of complex pattern recognition.
- The foundational work by Hopfield and Hinton not only established the principles of ANNs but also illustrated how concepts from fields like statistical physics, neurobiology, and cognitive psychology could be integrated into computational frameworks.

Applications of Artificial Neural Networks:

- **Image Recognition:** Crucial for self-driving cars and medical imaging.
- **Natural Language Processing (NLP):** Enhancing tasks like language translation and sentiment analysis.
- **Speech Recognition:** Used in virtual assistants and voice-controlled devices.
- **Recommender Systems:** Employed by platforms like Netflix and Amazon for personalized suggestions.
- **Financial Forecasting:** Assisting in predicting market trends and stock prices.
- **Medical Diagnosis:** Supporting disease diagnosis through image analysis.
- **Robotics:** Facilitating object recognition and motion planning.
- **Fraud Detection**: Identifying fraudulent transactions across sectors.

Impact of Their Work:

- The contributions of Hopfield and Hinton have revolutionized AI, leading to advancements in image recognition, natural language processing, and autonomous decision-making.
- However, their work has also raised concerns about the implications of advanced AI systems.
- Hinton has expressed worries about the rapid pace of AI development and its potential risks, prompting discussions on ethical considerations and safety measures in AI deployment.

2024 Nobel Prize in Chemistry

Why in News:

The 2024 Nobel Prize in Chemistry has been awarded to three distinguished scientists David Baker, Demis Hassabis, and John M. Jumper for their transformative contributions to the study of proteins.

- David Baker will receive half of the prize for his pioneering work in computational protein design.

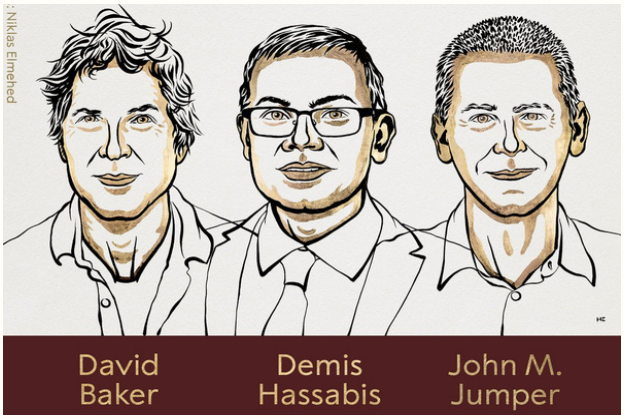
- Demis Hassabis and John M. Jumper will share the other half of the prize for their development of AlphaFold, an artificial intelligence model that predicts protein structures with exceptional accuracy.

About Proteins:

- Proteins are complex biomolecules consisting of amino acids linked together by peptide bonds. They are essential components of all living organisms, playing critical roles in various cellular processes.

David Baker Contribution:

- David Baker has successfully designed entirely new types of proteins, a feat previously considered impossible.
- He works with the 20 standard amino acids, the building blocks of proteins, to create novel proteins not found in nature.Baker's research group has developed proteins that serve various functions, including pharmaceuticals, vaccines, nanomaterials, and sensors.
- His work highlights the versatility of proteins and their potential in addressing complex medical and technological challenges. By designing proteins with specific functionalities, he opens avenues for targeted drug delivery systems and adaptable vaccines for evolving pathogens.



Demis Hassabis and John Jumper Contribution:

- The work of Demis Hassabis and John Jumper addresses the challenge of predicting protein structures from amino acid sequences. Predicting protein shapes, which determine their functions, has been a significant challenge in biology for decades.
- In 2020, they introduced AlphaFold2, an AI model that revolutionized protein structure prediction. AlphaFold2 enables the prediction of structures for nearly all known 200 million proteins with high accuracy.
- Since its launch, AlphaFold2 has been used by over two million scientists across 190 countries, demonstrating its widespread impact. The model's applications include studying antibiotic resistance and visualizing enzymes that can degrade plastic waste.

Significance of Their Work

Understanding Proteins:

- Proteins are fundamental components of living organisms, playing critical roles in nearly all biological processes.
- The laureates' work elucidates protein structure and function, paving the way for significant scientific advancements.

Impact on Medicine:

- David Baker's computational design enables the creation of proteins specifically tailored to target diseases.
- This could lead to new treatments and therapies, including drug delivery systems or novel therapeutics.

Advancements in AI and Biology:

- Demis Hassabis and John Jumper's AlphaFold introduces a revolutionary approach to predicting protein structures.
- The model provides insights previously unattainable, predicting the structures of nearly all known proteins and enhancing our understanding of protein interactions and functions.

Other Implications:

- In drug discovery, accurate protein structures can facilitate the identification of new drug targets and the design of more effective pharmaceuticals.
- In agriculture, engineered proteins may improve crop resilience and yield.
- In environmental science, these innovations could lead to proteins that aid in bioremediation and other ecological applications.

NASA's Europa Clipper Mission Launched to Explore Jupiter's Icy Moon

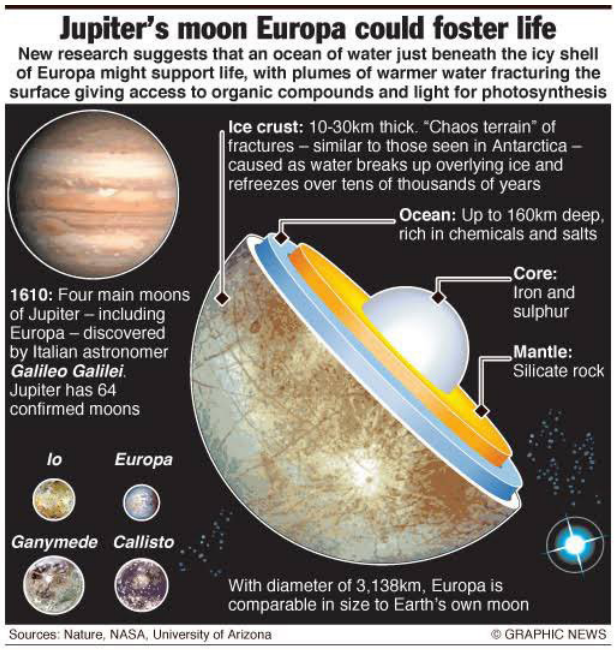
Why in News:

NASA has launched the Europa Clipper spacecraft using a SpaceX Falcon Heavy rocket from Kennedy Space Center in Florida. This mission aims to explore whether

Jupiter's moon Europa could support life. It is NASA's largest planetary exploration project, with a budget of $5.2 billion.

About Europa Clipper Mission:

- The Europa Clipper aims to place a spacecraft in Jupiter's orbit to conduct an in-depth investigation of Europa, a moon with evidence suggesting a subsurface ocean of liquid water beneath its thick ice crust.
- Its primary goal is to assess whether this icy moon possesses the right conditions to support life. This will be NASA's first dedicated mission to study the potential habitability of an ocean world beyond Earth.
- Equipped with cutting-edge scientific tools, the spacecraft will study Europa's surface, subsurface, and atmosphere.



Key Instruments:

- **Plasma Instrument for Magnetic Sounding (PIMS):** Measures Europa's magnetic fields to analyze the depth and salinity of its subsurface ocean.
- **Mapping Imaging Spectrometer for Europa (MISE):** Identifies the chemical composition of Europa's surface.
- **Europa Imaging System (EIS):** Captures high-resolution images of the moon's surface.
- **Radar for Europa Assessment and Sounding Ocean to Near-surface (REASON):** Probes beneath the ice to examine subsurface structures, such as possible lakes and cryovolcanoes.
- **Europa Clipper Magnetometer:** Analyzes Europa's magnetic environment, essential for understanding the moon's potential habitability.

Power and Flight Path:

- The spacecraft features large solar arrays, providing it with sufficient power as it operates in the distant Jupiter system, where sunlight is sparse.
- The mission will utilize gravitational assists from Mars and Earth before reaching Jupiter's orbit in 2030. Over the course of 49 flybys, Europa Clipper will gather data while navigating through one of the solar system's most intense radiation zones.

About Europa:

- Europa, Jupiter's fourth-largest moon, is believed to have more water than Earth's oceans, making it a prime candidate for studies on potential extraterrestrial life.

Conclusion:

NASA's Europa Clipper mission is a groundbreaking effort that combines advanced scientific research with space exploration, seeking to uncover whether Europa could harbor life. This mission not only promises to provide profound insights into Europa's environment but also has the potential to reshape humanity's understanding of life beyond Earth.

Brain Tuberculosis

Why in News:

Scientists at the Institute of Nano Science and Technology (INST) in Mohali, which operates under the Department of Science and Technology (DST), have developed an innovative method to deliver Tuberculosis (TB) medicines directly to the brain. This approach effectively bypasses the blood-brain barrier (BBB), addressing a major challenge in treating brain TB, a serious condition with a high risk of death.

What is Brain Tuberculosis?

- Central Nervous System Tuberculosis (CNS-TB) is one of the most dangerous forms of TB, often resulting in severe complications or death.
- The primary obstacle in treating CNS-TB is the difficulty of TB drugs in penetrating the blood-brain barrier (BBB), which protects the brain but also restricts many medicines from reaching it.
- Traditional treatments typically involve high doses

of oral anti-TB drugs, but these often fail to attain effective concentrations in the cerebrospinal fluid due to the BBB.

- This limitation emphasizes the need for more effective delivery methods that can directly target the brain.

About the Study:

- To enhance the delivery of TB medicines, scientists have developed chitosan nano-aggregates. These are tiny clusters of nanoparticles made from chitosan, a biocompatible and biodegradable material.
- These nano-aggregates are specifically designed for easy nasal delivery and can encapsulate TB drugs such as isoniazid (INH) and rifampicin (RIF).
- The researchers used nose-to-brain (N2B) drug delivery technology, which leverages the olfactory and trigeminal nerve pathways in the nasal cavity to bypass the blood-brain barrier (BBB). This method enhances the availability of the drugs directly at the brain infection site.
- The mucoadhesive properties of chitosan help the nano-aggregates stick to the nasal lining, allowing them to remain in place longer and release the medication steadily. Additionally, the spray-drying process used to create these nano-aggregates ensures they are stable and can be easily administered through the nose, leading to efficient absorption into brain tissues.



Implications the Study:

- In laboratory tests, these nano-aggregates demonstrated improved adherence to the nasal cavity, delivering substantially more medication into brain cells compared to conventional TB treatments.
- In experiments with TB-infected mice, the nasal delivery of these nano-aggregates resulted in a nearly 1,000-fold reduction in bacterial counts in the brain compared to untreated mice, showcasing their potential as a targeted treatment for CNS-TB.

Conclusion:

This study marks a significant milestone, demonstrating that delivering TB drugs through the nose using these advanced particles can effectively treat brain TB. The new treatment ensures that the medication reaches the brain while also helping to reduce inflammation caused by the infection. Furthermore, this innovative delivery method could be applied to treat other brain infections, neurodegenerative diseases (such as Alzheimer's and Parkinson's), brain tumors, and epilepsy by enabling efficient drug delivery to the brain.

Smart Insulin: Breakthrough in Diabetes Treatment

Why in News:

An international team of scientists from companies in Denmark, the UK, and Czechia, along with the University of Bristol, has achieved a major breakthrough in diabetes treatment by developing a "smart" insulin that responds in real time to fluctuations in blood sugar levels. This innovative approach modifies the insulin molecule itself to include an "on-and-off switch" that automatically activates in response to changing glucose levels.

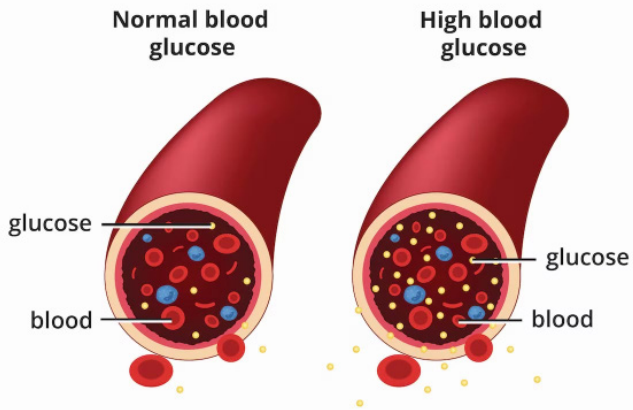
Understanding Diabetes:

- Diabetes has emerged as a pressing global health concern, impacting over 500 million individuals worldwide and causing nearly seven million deaths each year.
- As the prevalence of diabetes continues to rise, advancements in treatment become increasingly vital. Diabetes is primarily categorized into two types:
  - » **Type 1 Diabetes:** This form typically begins in childhood and occurs when the pancreas produces little to no insulin, a hormone essential for regulating blood sugar levels.
  - » **Type 2 Diabetes:** More common among adults, this type arises when the body's cells become resistant to insulin, requiring higher levels than what the pancreas can produce.
- Effective management of both types of diabetes typically involves synthetic insulin administration. However, patients face challenges due to fluctuating blood glucose levels, necessitating constant monitoring and adjustments to insulin doses. Overdosing can lead to dangerously low blood sugar

levels, resulting in severe complications.

Breakthrough in Smart Insulin Development

- "Smart" insulin also known as NNC2215, is designed to automatically respond to blood glucose fluctuations, thereby reducing the burden of constant monitoring.
- The insulin comprises two essential components:
  - » Ring-shaped structure
  - » A glucose-like molecule called a glucoside.
- When blood sugar levels are low, the glucoside binds to the ring, keeping the insulin inactive. As blood sugar rises, glucose replaces the glucoside, triggering the insulin to activate and effectively lower blood sugar levels.



Challenges:

- Despite promising results in animal trials, NNC2215 faces challenges in activation. Its current mechanism requires a significant spike in glucose to activate, resulting in a sudden influx of insulin that may not be ideal for gradual glucose management.
- Researchers are actively working to refine the molecule to ensure a more controlled and gradual insulin release, with human trials anticipated soon.

Conclusion:

The development of smart insulin NNC2215 represents a promising advancement in diabetes management, offering the potential to significantly improve the quality of life for millions of individuals who rely on insulin therapy. It could reshape the landscape of diabetes treatment, making it easier for people to manage their condition and enhancing their overall well-being.

Innovative Study Reveals Diamond Dust as a Promising Solar Radiation Management Material

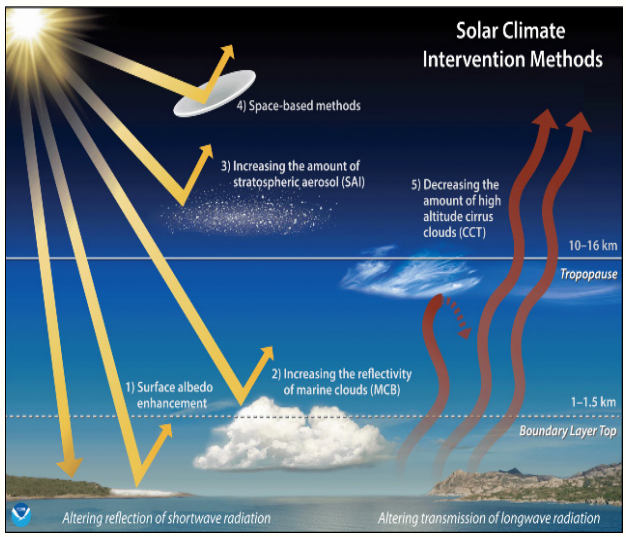
Why in News:

A recent study published in Geophysical Research Letters has highlighted diamond dust as a potentially effective material for solar radiation management (SRM). The research compared seven different compounds and concluded that diamonds are the most efficient for reflecting solar radiation.

- The authors propose an ambitious plan to spray five million tonnes of diamond dust annually into the upper atmosphere, which could lead to a temperature reduction of approximately 1.6 degrees Celsius.

About Diamond Dust:

- In geoengineering, diamond dust refers to tiny, micron-sized diamond particles proposed for spraying into the upper atmosphere, specifically the stratosphere. This innovative approach aims to reflect sunlight and contribute to cooling the Earth.



Key Properties of Diamond Dust:

- **High Albedo (Reflectivity):** Diamonds possess a remarkable ability to reflect sunlight, making them highly effective for solar radiation management (SRM).
- **Durability:** The robust nature of diamond particles allows them to withstand various atmospheric conditions, ensuring their longevity and effectiveness once deployed.

- **Non-toxic:** Being chemically inert, diamonds minimize environmental risks, presenting a safer alternative to other materials traditionally considered for SRM.

Understanding Geoengineering:

- Geoengineering refers to large-scale interventions designed to alter the Earth's climate system, primarily aimed at counteracting the effects of global warming. It encompasses two main strategies:
  - » **Solar Radiation Management (SRM):** This strategy focuses on reflecting solar radiation away from the Earth to lower global temperatures.
  - » **Carbon Dioxide Removal (CDR):** This approach seeks to remove carbon dioxide from the atmosphere to mitigate climate change.

The Science Behind Solar Radiation Management

- SRM has garnered significant interest as a potential solution to climate change. It involves the deployment of reflective materials either in the atmosphere or space to deflect sunlight. The concept is inspired by natural phenomena, such as volcanic eruptions. For instance, the 1991 eruption of Mount Pinatubo released sulphur dioxide, forming particles that reflected sunlight and temporarily reduced global temperatures by 0.5 degrees Celsius.
- **Diamond Dust vs. Other SRM Materials**
  - » Historically, various materials have been considered for SRM applications, including sulphur, calcium, and sodium chloride. While each material has its benefits and limitations, diamonds stand out due to their unique reflective properties. The recent study suggests that diamond dust could provide a more effective and sustainable option for managing solar radiation.

Carbon Dioxide Removal Technologies:

- In parallel, CDR technologies aim to remove carbon dioxide from the atmosphere through various methods:
  - » **Carbon Capture and Sequestration (CCS):** Captures CO_2 emissions from industrial sources and stores them underground.
  - » **Carbon Capture and Utilization (CCU):** Utilizes captured CO_2 in industrial processes.
  - » **Direct Air Capture (DAC):** Extracts CO_2 directly from the ambient air.
- While these technologies can play a role in reducing atmospheric CO_2 levels, they face challenges regarding scalability and cost-effectiveness.

Challenges with Carbon Capture Technologies:

- Relying heavily on CCS to achieve climate goals may prove impractical and expensive. Estimates suggest that the cost of meeting climate targets primarily through CCS could exceed US$30 trillion, making renewable energy a more feasible focus. Furthermore, the search for safe storage sites for captured CO_2 continues to present challenges.

Cyber Fraud in India

Why in News:

As cyber fraud continues to escalate, alarming projections from the Indian Cyber Crime Coordination Centre (I4C) suggest that Indians may incur losses exceeding 1.2 lakh crore over the next year. This figure highlights the increasing vulnerability of the nation to cybercriminal activities, which are poised to siphon off approximately 0.7% of India's GDP.

Scam Compounds on the Rise:

- The rise of "scam compounds" in Southeast Asia, which resemble call centers, has become a hub for investment scams. Fraudsters operating from these locations often use Indian mobile numbers to deceive unsuspecting victims across the country.

Key Contributors to Cyber Fraud:

- A significant factor in these financial crimes is the proliferation of mule bank accounts, which are often used to facilitate illegal transactions and money laundering. A majority of the funds lost to cyber fraud are believed to be transferred out of India, with many scams traced back to entities in China, Cambodia, and Myanmar.

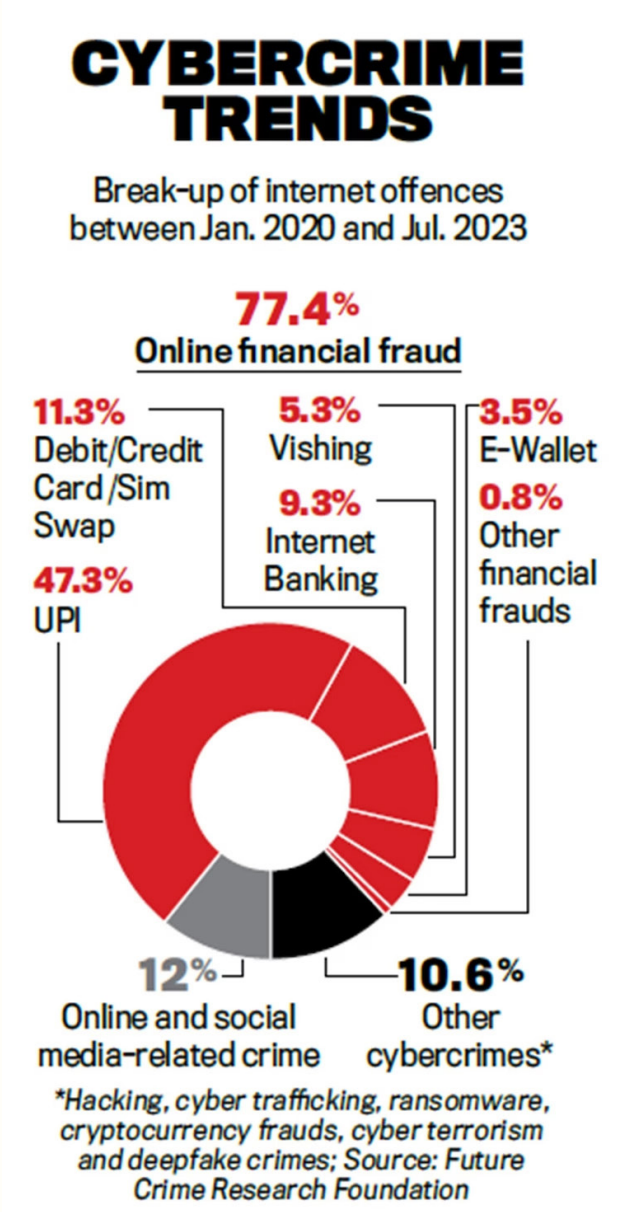
Alarming Scam Statistics:

- Investigative agencies are identifying about 4,000 mule bank accounts daily. In just the first half of this year, cybercrime complaints registered through the Ministry of Home Affairs' cybercrime portal and helpline have reported total losses amounting to 11,269 crore. This underscores the urgency of addressing the burgeoning issue of cyber fraud.

ATM and Global Fraud:

- Additionally, 18 ATM hotspots have been identified across the country where fraudulent withdrawals have occurred. There have also been reports of cash being withdrawn from overseas ATMs in locations such as

Dubai, Hong Kong, Bangkok, and Russia, further complicating the efforts to combat cybercrime.



India's initiative to curb cyber fraud:

- India is making a significant move to combat cyber fraud by disconnecting approximately 2.17 crore mobile connections and blocking 2.26 lakh mobile handsets. These connections were obtained through forged documents or have been misused for cybercrime. This initiative, spearheaded by the Union Ministry of Telecommunications, aims to address the alarming rise in cyber complaints, with over 1 lakh cases reported since January 2023.

Key Measures Implemented:

- **KYC Protocols for SIM Cards:** The Department of Telecommunications (DoT) has introduced measures to enforce strict Know Your Customer (KYC) protocols for SIM card procurement to prevent misuse.
- **Blocking Spoofed Calls:** The DoT has mandated the blocking of incoming international spoofed calls that display Indian mobile numbers. Currently, 35% of such calls are already being blocked, with full implementation expected by December 31, 2024.
- **Weekly Reporting:** Telecom service providers will be required to report weekly on Indian mobile numbers roaming in Southeast Asian countries, including Hong Kong, Cambodia, Laos, the Philippines, and Myanmar.
- **Legal Action against Agents:** State and Union Territory police are tasked with taking legal action against point-of-sale agents who sell SIM cards that are subsequently used in scam operations across Southeast Asia.
- **International Cooperation:** The initiative includes efforts to collaborate with Southeast Asian countries to strengthen joint efforts in combating cybercrimes.

Way Forward:

Ministry of Home Affairs (MHA) plans to convene a meeting with the Union Finance Ministry and the Reserve Bank of India (RBI) to develop mechanisms to curb the operations of mule accounts. Banks are being urged to closely monitor unusual transactions, especially in accounts with low balances or those belonging to salaried individuals.

5 Economy



Connecting India: How the UDAN Scheme is Revolutionizing Air Travel

Context:

Recently, Prime Minister Shri Narendra Modi inaugurated three newly developed airports in Saharanpur (Uttar Pradesh), Rewa (Madhya Pradesh), and Ambikapur (Chhattisgarh) under the Regional Connectivity Scheme (RCS) - UDAN (Ude Desh Ka Aam Nagrik). This event marks a significant milestone for India's aviation sector, particularly in promoting connectivity to remote and underserved regions. The inauguration took place in Varanasi, Uttar Pradesh, and these airports will soon begin operations under the UDAN scheme, which has already connected several previously unserved and underserved regions across the country.

The UDAN Scheme: A Brief Overview

- The Regional Connectivity Scheme (RCS) - UDAN was launched on October 21, 2016, as a critical component of the National Civil Aviation Policy (NCAP) 2016. UDAN was designed to enhance regional air connectivity by making air travel affordable for the general public, particularly in regions where air services were either limited or non-existent.
- The scheme's primary objective is to democratize air travel and make it accessible to the common man, encapsulated by vision of "seeing people wearing slippers boarding planes."
- Since its inception, the UDAN scheme has made substantial progress. The first UDAN flight took off on April 27, 2017, connecting Shimla to Delhi, and since then, over 144 lakh (14.4 million) passengers have benefitted from the scheme. To date, more than 601 routes have been operationalized, and 86 aerodromes (including airports, heliports, and water aerodromes) have been made functional, connecting even the remotest parts of India.



Evolution of the UDAN Scheme:

- The UDAN scheme has undergone multiple phases of development since its inception:
  - **UDAN 1.0 (2017):** In the first phase, five airline companies were awarded 128 flight routes connecting 70 airports, including 36

newly operational airports.

- **UDAN 2.0 (2018):** In this phase, 73 underserved and unserved airports were included, and helipads were connected for the first time.
- **UDAN 3.0 (2019):** This phase, in collaboration with the Ministry of Tourism, introduced tourism routes, connecting popular tourist destinations, and expanded services in the North-East region. It also added seaplanes for water aerodrome connectivity.
- **UDAN 4.0 (2020):** The focus shifted to North-Eastern regions, hilly states, and islands. Helicopter and seaplane operations were further expanded.
- **UDAN 5.0 (2023):** The latest phase, UDAN 5.0, removed the earlier restriction of a 600 km flight distance cap. It prioritized routes that could be operationalized quickly, with airlines required to commence operations within four months of receiving route awards.

- Further enhancements included UDAN 5.1, specifically designed for helicopter routes, and UDAN 5.2, which targeted small aircraft operations. The ongoing versions UDAN 5.3 and 5.4 continue to focus on re-operationalizing discontinued routes and expanding regional connectivity.

Significance of the scheme:

The UDAN scheme (Ude Desh Ka Aam Nagrik) significantly impacts India's aviation sector and regional development. Here are the key points:

- **Boosting Regional Connectivity:** The scheme addresses the gap in regional connectivity by linking remote areas to urban hubs. It operationalizes smaller airports and introduces new routes, bringing regions like Tezu (Arunachal Pradesh), Darbhanga (Bihar), and Jharsuguda (Odisha) closer to major cities, thus enhancing access to services and markets.
- **Economic Impact and Employment Generation:** Developing new airports stimulates trade, tourism, and local businesses, contributing to regional economic growth. The construction and maintenance of these airports create direct jobs in aviation and indirect jobs in hospitality, tourism, and local commerce.
- **Promoting Tourism:** UDAN has significantly boosted tourism, especially in less accessible regions. Under UDAN 3.0, new routes connect culturally rich locations like Khajuraho and Amritsar, while improving access to the North-East, known for its natural beauty and cultural heritage. Airports in Pasighat, Ziro, and Hollongi are examples of this initiative enhancing the tourism sector.
- **Support for Emerging Airlines:** The scheme creates a favorable environment for new airlines like Flybig and Star Air to thrive. These regional airlines benefit from government support, including Viability Gap Funding (VGF), reduced taxes on aviation turbine fuel (ATF), and exemptions on landing and parking charges.
- **Environmental and Social Impact:** RCS-UDAN promotes environmental sustainability by encouraging regional flights, which are shorter and consume less fuel. It also increases air travel accessibility for a broader population.



Fueling Growth in the Aviation Industry:

- The UDAN scheme has significantly transformed the Indian aviation landscape, enhancing connectivity and revitalizing the civil aviation industry.
- **Operational Routes:** Around 601 routes, including helicopter routes, have been operationalized, connecting various states and Union Territories. Notably, about 28% of these routes serve remote areas, improving accessibility in challenging terrains.
- **New Airlines:** The RCS-UDAN scheme has been crucial in the rise of regional airlines like Flybig, Star Air, IndiaOne Air, and Fly91. These carriers have developed sustainable business models,

contributing to a growing ecosystem for regional air travel.

- **Demand for Aircraft:** The scheme's expansion has generated a rising demand for new aircraft of all sizes. The fleet serving RCS routes includes various aircraft like Airbus 320/321, Boeing 737, ATR 42 and 72, DHC Q400, Twin Otter, Embraer 145 and 175, Tecnam P2006T, Cessna 208B Grand Caravan EX, Dornier 228, Airbus H130, and Bell 407. Indian carriers have also placed orders for over 1,000 aircraft for delivery in the next 10-15 years, significantly increasing the existing fleet of around 800 planes.
- **Growth of Airports:** The number of operational airports has doubled from 74 in 2014 to 157 in 2024, with a goal of reaching 350-400 by 2047. A total of 86 aerodromes have been operationalized, including 71 airports, 13 heliports, and 2 water aerodromes. Since the scheme's inception, it has facilitated the travel of over 1.44 crore passengers across more than 2.8 lakh flights.
- **Operational Achievements:** Fixed-wing operations have cumulatively covered approximately 112 crore kilometers, equivalent to circling the globe around 28,000 times.

Conclusion:

The UDAN scheme is more than just a program; it represents a movement dedicated to empowering every Indian with the opportunity to fly. By enhancing regional connectivity and ensuring affordable travel, UDAN has fulfilled the aspirations of countless citizens while also driving economic growth and job creation. As the scheme continues to evolve, it promises to reshape India's aviation landscape, making the sky accessible to all. With its steadfast commitment to connecting underserved areas and promoting tourism, UDAN is a transformative force in Indian aviation, significantly contributing to India's vision of a connected and prosperous nation.

India Emerging as a Global Power in Telecommunication Sector

Context:

During the 8th edition of the India Mobile Congress (IMC) 2024, Prime Minister Narendra Modi highlighted India's significant transformation into a smartphone manufacturing hub. He traced the growth from having only two mobile manufacturing units in 2014 to over 200 units today. This transformation is a key part of India's push toward self-reliance and global competitiveness in the mobile and electronics sector.

Key Highlights:

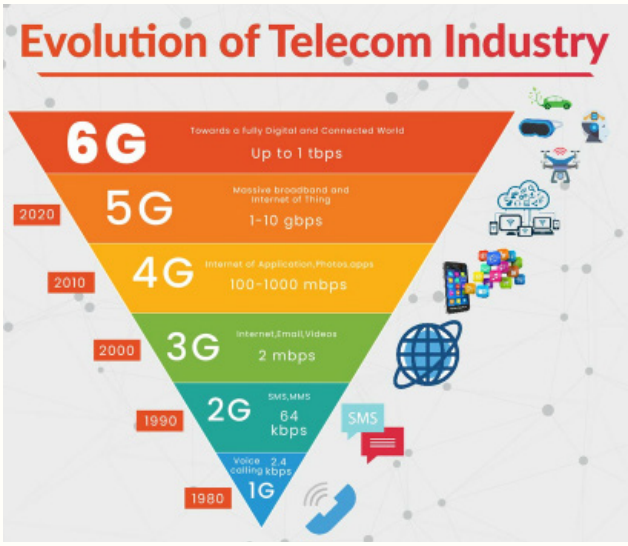
- **Smartphone Manufacturing Growth:**
  - In 2014, India relied heavily on mobile phone imports, but today, the country manufactures six times more phones than it did before.
  - This growth is largely driven by initiatives such as the Make in India campaign, which was designed to boost domestic production and reduce dependency on imports.
- **Increased Global Attention:**
  - India is now seen as a major mobile phone exporter. Currently, 14% of iPhones are manufactured in India, and tech giants like Apple and Google are increasing their production presence in the country.
  - India is emerging as a key location for global tech companies, especially as businesses look to diversify production away from China due to geopolitical factors.
- **Ambitious Future Goals:**
  - PM Modi announced plans to move towards producing a fully Made-in-India phone, including developing a domestic semiconductor ecosystem to manufacture chips locally.
  - This initiative aligns with the country's broader vision to become a leader not only in mobile manufacturing but also in high-tech components like semiconductors.
- **Semiconductor Sector Growth:**
  - Though India's semiconductor manufacturing is still at an early stage, the government has set an ambitious goal to grow the electronics

sector from $155 billion today to $500 billion by 2030.

» While Taiwan remains the largest global chipmaker, India seeks to collaborate with countries like the US to accelerate its semiconductor development.

Support Measures:

- India's mobile manufacturing success can be attributed to various support measures introduced by the government:
  - » The Production Linked Incentive (PLI) Scheme and tariff incentives have attracted both domestic and foreign companies to establish a presence in India.
  - » These initiatives encourage local manufacturing, boost exports, and provide a strong foundation for the country's future ambitions in high-tech production.



Major Growth Drivers of the Telecom Sector:

- **Digital India Initiative:** Launched in 2015, this government initiative aims to create a digitally empowered society, significantly increasing demand for internet services. Internet subscribers surged from 881 million in March 2023 to 954 million by March 2024, with projects like BharatNet enhancing rural connectivity.
- **Affordable Smartphone Penetration:** The rise of low-cost smartphones has fueled growth, with 146 million devices shipped in 2023. Initiatives like Google's Android One and government support for local manufacturing have expanded the customer base, especially in tier 2 and tier 3 cities.
- **5G Revolution:** The rollout of 5G services, initiated in October 2022, has transformed the telecom landscape. As of December 2023, 5G reached around 100 million users across 738 districts, unlocking new opportunities in IoT and smart cities. India is projected to have 920 million unique mobile subscribers by 2025.
- **Rise of Digital Payments:** The shift to digital payments has driven telecom growth, with UPI transactions increasing from 920 million in FY 2017-18 to 8.375 billion in FY 2022-23. Telecom companies are leveraging this trend by offering specialized data plans for financial services.
- **Over-the-Top (OTT) Content Boom:** The growth of OTT platforms has led to a surge in data consumption. The Indian OTT streaming industry is projected to grow to USD 13-15 billion in the next decade, with telecom operators bundling OTT subscriptions to enhance customer acquisition.
- **Remote Work and Education:** The pandemic accelerated the adoption of remote work and online education, resulting in a 30-40% increase in data consumption. Telecom companies upgraded network capacities and introduced specialized plans to meet this sustained demand for high-speed internet.

Major Challenges in the Telecom Sector:

- **Financial Stress:** The telecom industry is burdened by significant debt, totaling around ₹6.4 lakh crore as of March 31, 2023. High spectrum costs, intense competition, and substantial infrastructure investments contribute to this financial strain, with Vodafone Idea alone owing ₹2.1 lakh crore, hampering capital expenditure and delaying 5G rollouts.
- **AGR Dispute:** The Supreme Court's 2019 ruling expanded the definition of Adjusted Gross Revenue (AGR) to include non-telecom revenues, leading to cumulative liabilities of ₹1.69 lakh crore for telecom companies. This ongoing financial burden continues to strain operators' balance sheets, despite government moratoriums and options to convert dues into equity.
- **Infrastructure Gaps:** There is a significant urban-rural divide in telecom infrastructure, with urban tele-density at 133.81% compared to only 57.71% in rural areas as of March 2023. Challenges such as difficult terrain and inconsistent power supply

hinder network expansion and quality in rural regions.

- **Spectrum Pricing:** High spectrum prices are a major obstacle for operators. The government raised ₹1.5 lakh crore from the 2022 5G spectrum auction, but operators argue that these costs impede network expansion and quality improvements, potentially slowing technology adoption.
- **Quality of Service:** Persistent issues with quality of service, including high call drop rates and low connection success rates, lead to customer dissatisfaction and increased churn, negatively affecting revenues.
- **Cybersecurity Threats:** The expansion of India's digital landscape has led to a surge in cybersecurity threats, with over 1.39 million incidents recorded in 2022. Telecom networks are prime targets for attacks, resulting in financial losses and eroding customer trust.
- **Regulatory Challenges:** The sector grapples with a complex regulatory environment, characterized by frequent policy changes and operational uncertainties. The unresolved definition of Over-The-Top (OTT) services and their regulatory obligations poses significant challenges for long-term planning and investment.

Government Initiatives and Recommendations:

- The government has launched several initiatives to address the sector's challenges, including the Prime Minister Wi-Fi Access Network Interface (PM-WANI) and the Bharat Net Project. The Telecommunications Act 2023 focuses on optimal spectrum utilization and better governance in the telecom sector.
- To revamp India's telecom sector, the following measures are recommended:
  - **Rationalizing Spectrum Pricing:** Implement a balanced pricing model to alleviate financial burdens on telecom companies.
  - **Infrastructure Sharing Incentives:** Encourage active infrastructure sharing through tax rebates and a centralized database of shareable assets.
  - **Rural Connectivity Fund:** Establish a dedicated fund for rural infrastructure development, leveraging public-private partnerships.
  - **Regulatory Sandbox for Innovation:** Create a flexible framework for telecom and tech companies to test innovative services.
  - **Skill Development Initiative:** Partner with universities to address talent gaps in emerging technologies like 5G and IoT.
  - **Green Telecom Policy**: Promote sustainable practices and renewable energy usage within the sector.

Conclusion:

India's telecom sector is at a pivotal moment, necessitating comprehensive reforms to tackle financial challenges, regulatory complexities, and infrastructure gaps. By rationalizing spectrum pricing, fostering infrastructure sharing, and promoting innovation, the sector can unlock its full potential. Government initiatives like the Telecommunications Act 2023, coupled with a focus on sustainability and rural connectivity, will ensure that the telecom sector contributes effectively to India's digital transformation journey.

Short Issues

New SEBI Rules to Curb F&O Frenzy

Why in News:

The Securities and Exchange Board of India (SEBI) have recently introduced six new measures to strengthen the equity index derivatives framework, also known as Futures and Options (F&O).

Context of the Changes:

- The F&O segment has seen a substantial increase in trading activity in recent times, which has led to a majority of investors incurring losses.
- This alarming trend has prompted regulatory authorities to address the potential systemic risks posed by unchecked speculation.

Key Measures Introduced by SEBI:

- **Increased Contract Size:** The minimum contract size has been raised from Rs 5 lakh to Rs 15 lakh to discourage retail investors from participating in the index derivatives market.
- **Higher Margin Requirements:** SEBI has increased the margin requirements to prevent excessive leverage and speculation.
- **Upfront Collection of Option Premiums:** Brokers are now required to collect option premiums upfront from buyers to prevent undue intraday leverage.
- **Limit on Weekly Expiries:** Weekly expiries will be limited to one benchmark per exchange to reduce speculative trading.
- **Intraday Monitoring of Position Limits:** Stock exchanges will monitor position limits for equity index derivatives on an intraday basis to prevent market manipulation.
- **Removal of Calendar Spread Treatment:** The calendar spread margin benefit on expiry days has been removed to reduce speculative trading.

About Futures and Options Contracts:

- **Futures Contract:** A futures contract is a binding agreement between a buyer and a seller to buy or sell an asset at a predetermined price on a specified future date.
  - » **Obligation:** The buyer is obligated to purchase, and the seller is obligated to sell the underlying asset at the agreed-upon price, regardless of the current market price at the expiration date.
- **Option Contract:** An option contract grants an investor the right, but not the obligation, to buy or sell a commodity at a specified price on a specified future date.
  - » Unlike futures, options do not impose a mandatory obligation to execute the transaction; the investor can choose whether to exercise the option.

About SEBI:

- **Origin of SEBI:** Established in 1988 as a non-statutory body; accorded statutory powers in 1992 with the passing of the SEBI Act 1992 by the Indian Parliament

Organisational Structure:

- **Chairman:** Nominated by the Union Government of India
- **Members:**
  - » Two members (Officers from the Union Finance Ministry)
  - » One member from the Reserve Bank of India
  - » Five members (Nominated by the Union Government; at least three must be whole-time members)
- **Headquarters:** Mumbai
- **Regional Offices:** Ahmedabad, Kolkata, Chennai, Delhi.

Union Cabinet Approves Rationalization of Centrally Sponsored Agricultural Schemes

Why in News:

The Union Cabinet, chaired by Prime Minister Narendra Modi, has recently approved the Department of Agriculture & Farmers Welfare's (DA&FW) proposal to rationalize all Centrally Sponsored Schemes (CSS) operating under the Ministry of Agriculture and Farmers' Welfare.

More about the News:

- The two umbrella schemes have been rationalized namely: the **Pradhan Mantri Rashtriya Krishi Vikas Yojana (PM-RKVY)** and the **Krishonnati Yojana (KY)**. This strategic move aims to streamline existing schemes and enhance their effectiveness in promoting sustainable agriculture and ensuring food security.
- Both schemes will be implemented with a total proposed expenditure of ₹1,01,321.61 crore and will be executed through state governments. The new structure aims to leverage technology to ensure efficient implementation across various components.
- Out of the total projected expenditure of ₹1, 01,321.61 crore, the funding is allocated as follows:
  - » Central Share of Department of Agriculture, Cooperation and Farmers Welfare: ₹69,088.98 crore
  - » State Share: ₹32,232.63 crore

Key Features of the New Schemes

Pradhan Mantri Rashtriya Krishi Vikas Yojana (PM-RKVY):

- **Focus:** Sustainable agriculture and enhancing farmers' welfare.

- **Structure:** A cafeteria scheme allowing for flexibility and customization to meet state-specific needs.
- **Financial Allocation:** Projected expenditure of ₹57,074.72 crore.

Components of PM-RKVY

- The PM-RKVY will encompass various schemes aimed at enhancing agricultural productivity and sustainability, including:
  - » Soil Health Management
  - » Rainfed Area Development
  - » Agro Forestry
  - » Paramparagat Krishi Vikas Yojana
  - » Agricultural Mechanization (including Crop Residue Management)
  - » Per Drop More Crop
  - » Crop Diversification Programme
  - » RKVY DPR Component
  - » Accelerator Fund for Agri Startups

Krishonnati Yojana (KY):

- **Focus:** Addressing food security and promoting agricultural self-sufficiency.
- **Financial Allocation:** Projected expenditure of ₹44,246.89 crore.

Objectives of the Rationalization:

The rationalization of the schemes is intended to achieve several objectives:

- **Avoid Duplication:** Ensures convergence of efforts and resources to avoid redundancy in initiatives.
- **Address Emerging Challenges:** Focuses on pressing issues such as nutrition security, sustainability, climate resilience, value chain development, and private sector participation.
- **Holistic Strategic Planning:** Allows states to prepare comprehensive strategic documents for their agricultural sectors, tackling crop production, productivity, and emerging challenges like climate change.
- **Simplified Approval Process:** Streamlines the Annual Action Plan (AAP) approval process by allowing states to submit a comprehensive plan rather than individual scheme-wise plans.
- One significant change in PM-RKVY is the provision that allows state governments to reallocate funds from one component to another based on their specific requirements.

India Becomes Fourth Nation to Reach $700 Billion in Forex Reserves

Why in News:

India has made history by surpassing the $700 billion mark in foreign exchange (forex) reserves, joining an elite group of nations that includes China, Japan, and Switzerland.

- According to data released by the Reserve Bank of India (RBI). India's forex reserves increased by $12.6 billion during the week, marking the largest weekly rise since July 2023.
- With this addition, India's total forex reserves now stand at $705 billion, reflecting a strong balance of payments position.

Factors Contributing to the Forex Increase

- The boost in India's foreign reserves is attributed to several factors, including stable global oil prices and strong capital inflows into Indian stocks and bonds.
- The country's balance of payments (BoP) surplus, bolstered by foreign investments, trade balance, and remittances, has played a pivotal role in expanding the reserves.
- The reserves had grown by $2.8 billion to $692.3 billion in the previous reporting week before seeing a more substantial jump to over $700 billion.

Importance of Forex Reserves:

- **Buffer against sudden shocks:** Forex reserves are critical for maintaining the economic stability of a country. They serve as a buffer against external shocks, including currency volatility, sudden capital outflows, and trade imbalances.
- **Enhancing creditworthiness:** For a developing economy like India, large reserves provide the confidence needed to attract foreign investments and enhance the country's creditworthiness in global markets.
- **Maintaining the value of the Indian Rupee:** These reserves also help the RBI intervene in the foreign exchange market to manage the value of the Indian rupee. During times of excessive volatility, the central bank can use the reserves to buy or sell foreign currencies to stabilize the rupee.
  - » This was particularly evident in recent months when the rupee was trading close to a record low

of 83.98 against the US dollar.



Challenges Ahead:

- Despite the increase in forex reserves, challenges remain. After peaking at $642 billion in September 2021, the reserves dropped to $525 billion within a year, primarily due to revaluation losses. The RBI's intervention to mitigate rupee volatility, combined with external factors like rising interest rates in advanced economies, has occasionally strained the reserves.
- Additionally, the RBI's interventions in the currency market do not necessarily imply a stronger rupee, as seen with the rupee continuing to hover near record lows.
- Another concern is the potential for a slowdown in reserve accumulation. Analysts at BofA Securities have predicted that India's forex reserves could reach $745 billion by March 2026, as the balance of payments surplus is expected to remain at a comfortable level of $40-50 billion annually. However, sustaining this level of accumulation will require continued efforts to attract foreign capital, maintain trade balance, and manage external risks.

Repo Rate Stability: Implications of RBI's neutral monetary policy

Why in News:

The Monetary Policy Committee (MPC) of Reserve Bank of India (RBI) has kept the repo rate unchanged at 6.5% for the 10th consecutive time, citing inflation control as a priority. Governor Shaktikanta Das emphasized a "neutral" monetary policy stance, signaling balanced efforts between managing inflation and supporting growth.

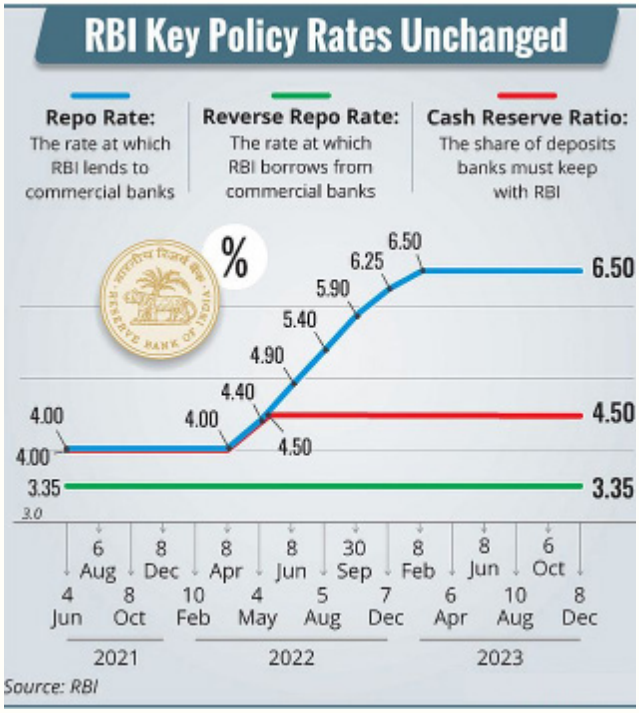
Key projections made by the committee:

- The RBI projects real GDP growth at 7.2% and CPI inflation at 4.5% for 2024-25, unchanged from previous estimates. Favourable agricultural output may ease food inflation, but risks like weather remain.
- The health of banks and NBFCs was highlighted, with concerns raised about aggressive growth strategies and high interest rates in some NBFCs.
- To protect consumers, RBI plans to broaden restrictions on pre-payment penalties and enhance account verification for NEFT and RTGS transactions.
- The RBI remains confident in meeting external financing needs, as FPI inflows have rebounded. Industry analysts suggest this stance could open doors for a possible rate cut, pending global conditions and inflation.

Implications of the RBI's Neutral Stance:

- **Interest Rate Adjustments:** A neutral position allows for the possibility of an interest rate cut, provided inflation remains under control and economic growth remains stable. This could stimulate investment and consumer spending.
- **Inflation Management:** The RBI's focus will likely remain on closely monitoring inflation trends. The central bank may take proactive measures to intervene should inflationary pressures re-emerge, ensuring price stability.
- **Supporting Economic Growth:** By signaling a readiness to stimulate growth, the RBI demonstrates its commitment to fostering economic expansion while maintaining inflation within targeted levels.
- **Market Stability**: A neutral stance can reassure financial markets by balancing expectations regarding interest rates. This stability can help reduce market

volatility and encourage investor confidence.



The Role of the RBI in Price Stability:

- The central bank is crucial for maintaining price stability and containing inflation in any economy. The inflation rate, assessed over specific periods, indicates how much the general price level has risen.
- Inflation targets vary by country: the U.S. targets 2%, while India's law mandates a 4% target with a comfort zone of 2% to 6%. These benchmarks are based on research indicating the ideal inflation rate for sustainable economic growth.

About Monetary Policy:

- Monetary policy primarily concerns the supply and cost (interest rates) of money within an economy. The RBI's Monetary Policy Committee (MPC) convenes every two months to evaluate monetary conditions and may adjust the repo rate—the interest rate at which the RBI lends to commercial banks—to manage inflation effectively
- The Monetary Policy Committee (MPC), constituted under the amended RBI Act, 1934, is a six-member body tasked with setting the repo rate to control inflation.
- It includes the RBI Governor, Deputy Governor, and government nominees. Decisions are made by majority vote, with the RBI Governor holding a casting vote if tied.

Empowering Rural India: NABARD Survey on Rural Financial Inclusion

Why in News:

NABARD recently released the findings of its second All India Rural Financial Inclusion Survey (NAFIS) for 2021-22. This comprehensive survey, based on data from 100,000 rural households, highlights various economic and financial indicators in the post-COVID period. The inaugural survey was conducted for the agricultural year 2016-17, and the latest results provide insights into the evolution of rural economic conditions over the past five years.

Key Findings from NAFIS 2021-22

- **Increase in Average Monthly Income:** Average monthly income rose by 57.6%, from Rs. 8,059 in 2016-17 to Rs.12,698 in 2021-22. Agricultural households reported a higher average income of Rs. 13,661 compared to Rs. 11,438 for non-agricultural households.
- **Rise in Average Monthly Expenditure:** Monthly expenditure increased from Rs. 6,646 to Rs. 11,262, with agricultural households spending Rs. 11,710 and non-agricultural households Rs. 10,675.
- **Increase in Financial Savings:** Annual average financial savings grew from Rs. 9,104 to Rs. 13,209. Savings were reported by 66% of households, up from 50.6%. Agricultural households led with 71% reporting savings.
- **Kisan Credit Card (KCC) Adoption:** 44% of agricultural households possessed a KCC, with 77% of larger landholders having a valid card.
- **Insurance Coverage:** Households with at least one insured member increased from 25.5% to 80.3%. Vehicle insurance was most common, covering 55% of households.
- **Pension Coverage:** The percentage of households with a member receiving any form of pension rose from 18.9% to 23.5%. Among households with members over 60, 54% received pensions.
- **Financial Literacy:** Financial literacy improved significantly, with 51.3% demonstrating good understanding, up from 33.9%. Sound financial

behaviors also increased from 56.4% to 72.8%.

About NABARD:

- The National Bank for Agriculture and Rural Development (NABARD) is a pivotal institution in India, founded on July 12, 1982.
- Headquartered in Mumbai, Maharashtra, NABARD plays a crucial role in facilitating rural development and improving the economic conditions of rural areas across the country.

Functions of NABARD:

- **Refinance Support:** Provides refinance assistance for building rural infrastructure projects.
- **Credit Planning:** Prepares district-level credit plans to guide and motivate banks in achieving rural financing targets.
- **Development Scheme Design:** Involved in designing and implementing development schemes for the Union government.
- **Training and Support for Artisans:** Provides training to handicraft artisans and helps them develop marketing platforms for their products.
- **International Partnerships:** Collaborates with leading global organizations and World Bank-affiliated institutions for rural development and agricultural optimization.
- **Supervision of Cooperative Banks and RRBs:** Supervises Cooperative Banks and Regional Rural Banks (RRBs), assisting them in developing sound banking practices.

PM's Internship Scheme

Why in News:

Prime Minister Narendra Modi recently launched the Prime Minister's Internship Scheme, aimed at equipping Indian youth with essential skills for the evolving job market. This initiative is part of the government's broader strategy to promote skill development and employment opportunities, targeting one crore young individuals over the next five years.

Key Features of the Scheme:

- Announced in the Union Budget for 2024-25, the scheme began with a pilot project targeting 1.25 lakh internships for the financial year 2024-25. It covers 24 sectors, including oil, gas, energy, travel, hospitality, automotive, and banking and financial services.
- The companies selected for this pilot were chosen based on their corporate social responsibility (CSR) expenditure over the past three years; ensuring participants are placed in organizations committed to ethical practices.
- It is independent from existing skill development programs, apprenticeships, and student training initiatives across all states and union territories. By focusing exclusively on internships, the Prime Minister's Internship Scheme aims to create a tailored experience that enhances employability and provides real-world exposure to young people.



Financial Assistance:

- Interns under the Prime Minister's Internship Scheme will receive a monthly stipend of Rs. 5,000 throughout their internship duration, structured as follows:

Contribution Breakdown:

- 500 will be contributed by partner companies, based on attendance and conduct.
- The remaining Rs. 4,500 will be provided by the government via Direct Benefit Transfer (DBT) to the intern's Aadhaar-seeded bank account.

Additional Grant:

- Interns will also receive a one-time grant of Rs. 6,000, disbursed through DBT upon joining the internship.

Insurance Coverage:

- All interns will be covered under the government's insurance schemes:
  - » Pradhan Mantri Jeevan Jyoti Bima Yojana
  - » Pradhan Mantri Suraksha Bima Yojana
- The government will pay the premiums for these

insurance policies. Partner companies may also offer additional accidental insurance coverage for their interns.

Implementation through the PM Internship Portal:

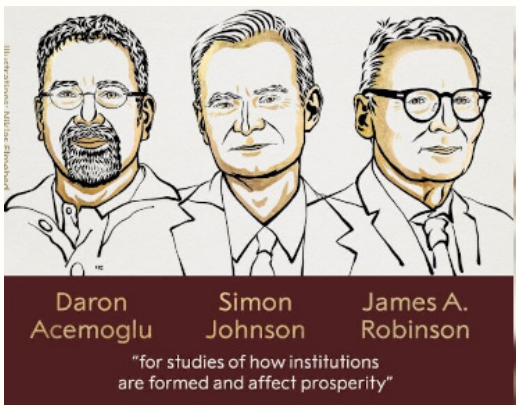
- The scheme operates through a centralized online portal that manages the entire internship lifecycle. This platform allows eligible candidates to create resumes, browse internships, and apply for positions in their preferred sectors. Emphasis is placed on diversity and social inclusivity, ensuring representation from marginalized communities.

2024 Economics Nobel Prize

Why in News:

The 2024 Nobel Prize in Economics has been awarded to U.S. economists Daron Acemoglu, Simon Johnson, and James A. Robinson for their groundbreaking research into the disparities in prosperity between nations. The Nobel committee from the Royal Swedish Academy of Sciences emphasized that these scholars have demonstrated the critical importance of societal institutions in a country's economic success.

- By emphasizing the "rules of the game" within economies, this award highlights crucial pathways to fostering equitable growth and understanding the systemic challenges nations face in achieving economic stability.
- The economics prize, officially known as the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel, has been awarded alongside the other Nobel Prizes since its establishment in 1968.



Key Insights on Economic Disparities:

- The Nobel committee pointed out that "societies with a poor rule of law and institutions that exploit the population do not generate growth or change for the better." This observation underscores the laureates' contributions in understanding the reasons behind these failures.
- The stark contrasts in wealth among nations were highlighted, noting that the richest 20% of countries today have an average income 30 times higher than that of the poorest 20%. This disparity has long spurred debate among economists regarding its root causes.
- Historical theories have attributed wealth differences to various factors, including:
  - **Colonial Legacy:** Some argue that Western colonialism laid the groundwork for contemporary disparities.
  - **Natural Resources:** Others suggest that the availability of resources significantly impacts economic success.
  - **Cultural Factors:** Historical accidents and intelligence levels have also been proposed as explanations.

The Role of Institutions:

Acemoglu, Johnson, and Robinson contend that the quality of economic and political institutions is a primary factor influencing national prosperity. Their thesis, elaborated in the book Why Nations Fail, posits that institutions can be classified as inclusive or extractive:

- **Inclusive Institutions:** These feature secure property rights and political freedom, fostering long-term economic growth and higher living standards.
- **Extractive Institutions:** Characterized by insecure property rights and lack of political freedom, these institutions lead to economic stagnation and poverty.

Historical Context and Implications:

- The economists examined colonial practices to understand institutional impacts on economic trajectories. In regions where colonial powers aimed for long-term settlement, they established inclusive institutions that promoted growth, such as in the United States.
- Conversely, in areas deemed unfit for settlement, extractive institutions were implemented, prioritizing short-term resource extraction over sustainable development—an example is being colonial India.
- The laureates also addressed the question of why more countries do not adopt inclusive institutions. They argue that rulers often benefit from extractive

systems and are reluctant to implement reforms that could democratize power and benefit the wider population. This entrenchment can persist unless significant popular unrest compels change.

Government Announces MSP Hikes for Rabi Crops for 2025-26 Season

Why in News:

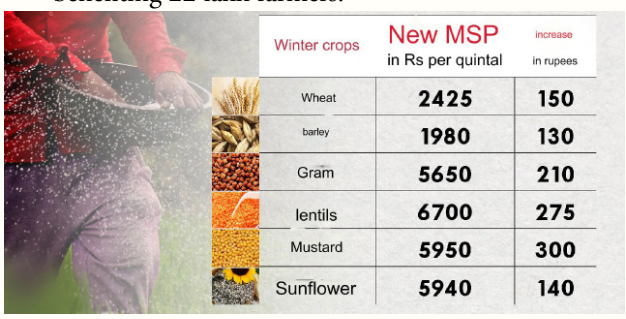
The Union government has announced new Minimum Support Prices (MSP) for six rabi crops for the 2025-26 marketing season, with significant hikes. The new MSPs were approved by the Cabinet Committee on Economic Affairs, chaired by Prime Minister Narendra Modi.

Key MSP Hikes:

- **Wheat:** Increased by Rs. 150 per quintal to 2,425, marking a 6.59% hike.
- **Barley:** Raised by Rs. 130 per quintal to 1,980 (7.03% increase).
- **Gram:** Hiked by Rs. 210 to 5,650, a 3.86% rise.
- **Lentil (Masur):** Increased by Rs. 275 to 6,700.
- Rapeseed & Mustard: Highest increase of Rs. 300 per quintal to 5,990.
- **Safflower:** Raised by Rs. 140 to 5,940.

Wheat:

- Wheat, the second-largest crop in India after paddy, saw a significant MSP hike. In 2023-24, wheat was cultivated over 318.33 lakh hectares, with an estimated production of 113.92 million tonnes.
- Uttar Pradesh leads in wheat production, followed by Madhya Pradesh, Punjab, and Haryana. During the current Rabi Marketing Season (RMS) 2024-25, the government procured 26.6 million tonnes of wheat, benefiting 22 lakh farmers.



Winter crops	New MSP in Rs per quintal	increase in rupees
Wheat	2425	150
barley	1980	130
Gram	5650	210
lentils	6700	275
Mustard	5950	300
Sunflower	5940	140

Gram:

- Gram, the largest pulse crop in India, had a significant MSP increase of Rs. 210. In 2023-24, gram was cultivated over 95.87 lakh hectares, producing 11.03 million tonnes.
- Maharashtra, which is heading for elections in November, is the top producer, contributing to about 25% of the total production. Other key gram-producing states include Madhya Pradesh, Rajasthan, and Uttar Pradesh.

Lentil and Oilseeds:

- The MSP of lentil (masur) was increased by 275. Uttar Pradesh, Madhya Pradesh, and West Bengal are the top lentil-producing states. India imports a significant portion of its lentil needs, with 1.67 million tonnes imported in 2023-24.
- For rapeseed and mustard, the second-largest oilseed crop after soybean, the new MSP is 5,990 per quintal. Rajasthan is the top mustard-producing state, followed by Madhya Pradesh and Haryana.

About Minimum Support Price (MSP):

- The Minimum Support Price (MSP) is a critical mechanism employed by the Indian government to ensure farmers receive fair prices for their crops.
- The MSP is fixed by the central government based on the recommendations of the Commission for Agricultural Costs and Prices (CACP), a statutory body that submits two reports annually for the Kharif and Rabi seasons. The MSP is established twice a year, providing crucial financial support to farmers.
- Annually, the Government of India announces MSPs for 22 major agricultural commodities, including 14 Kharif crops, 6 Rabi crops, and 2 commercial crops. In addition, MSP for Toria and de-husked coconut is also fixed based on MSPs of rapeseed & mustard, and copra, respectively

Importance of MSP:

- The MSP plays a vital role in safeguarding farmers against price fluctuations in the market, which can occur due to various factors such as good harvests that lead to price drops. By providing a guaranteed minimum price, the MSP encourages farmers to cultivate crops, ensuring a stable supply and supporting the agricultural economy.

World Bank's B-READY Index

Why in News:

India is aligning its Business Reform Action Plan

(BRAP) rankings with the upcoming Business Readiness Index (B-READY) by the World Bank to improve its business environment and global competitiveness. The 2024 version of BRAP, prepared by the Department for Promotion of Industry and Internal Trade (DPIIT), will incorporate certain indicators from the B-READY index.

Overview of the B-READY Index:

- The B-READY index is a successor to the Ease of Doing Business (EoDB) index, which the World Bank discontinued in 2021 due to irregularities. Unlike EoDB, the B-READY index assesses both the legal and procedural aspects of business formation and operation, as well as the actual conditions businesses face in the market.
- The new framework tracks ten key parameters throughout a firm's lifecycle, including the ease of starting, operating, closing, and reorganizing a business.
- These indicators cover a wide range of factors such as regulations on business entry, utility services, labor laws, and insolvency.
- Its focus goes beyond theoretical regulations and evaluates their actual implementation on the ground, making it a more comprehensive measure of business readiness.



India's Integration with the B-READY Index:

- India will not be directly ranked in the B-READY index until 2026, when the global framework expands to include 180 economies. However, India is already taking steps to align its business reform efforts with the B-READY framework.
- The World Bank's enterprise survey for the B-READY index in India began in October 2024. The World Bank, with support from the Ministry of Statistics and Programme Implementation (MOSPI), will assist in determining a representative sample of industries for this survey.
- The results from these surveys will help India understand the gaps in its business environment and plan for improvements.

Improving State-level Business Readiness:

- To improve its ranking in both the BRAP and global B-READY index, the Indian government has encouraged states to address the gaps in their business environments. States will be urged to implement reforms that ensure not only legal compliance but also the practical application of these reforms.
- A team of government officials has been tasked with studying the technical aspects of the B-READY framework to devise strategies for improving India's score. The government's efforts focus on enhancing both legal reforms and ground-level implementation of business regulations.

Key Features of the B-READY Index:

- **Comprehensive Parameters:** Tracks the entire lifecycle of a firm, from starting to closing or reorganizing, covering key business factors such as utility services, labor regulations, and insolvency.
- **Real-World Assessment:** Focuses on evaluating the implementation of reforms on the ground, not just the legal framework.
- **Global Benchmarking:** Provides a framework for global financial institutions and multinational companies to assess the regulatory environment of countries.

Conclusion:

India's alignment with the B-READY index demonstrates its commitment to improving its business environment and competitiveness on the global stage. By adopting key indicators from the B-READY framework, India aims to enhance its business ecosystem, foster growth, and attract international investment. This proactive alignment positions India for improved rankings in global evaluations, which will support long-term economic development and business prosperity.

Manufacturing in India

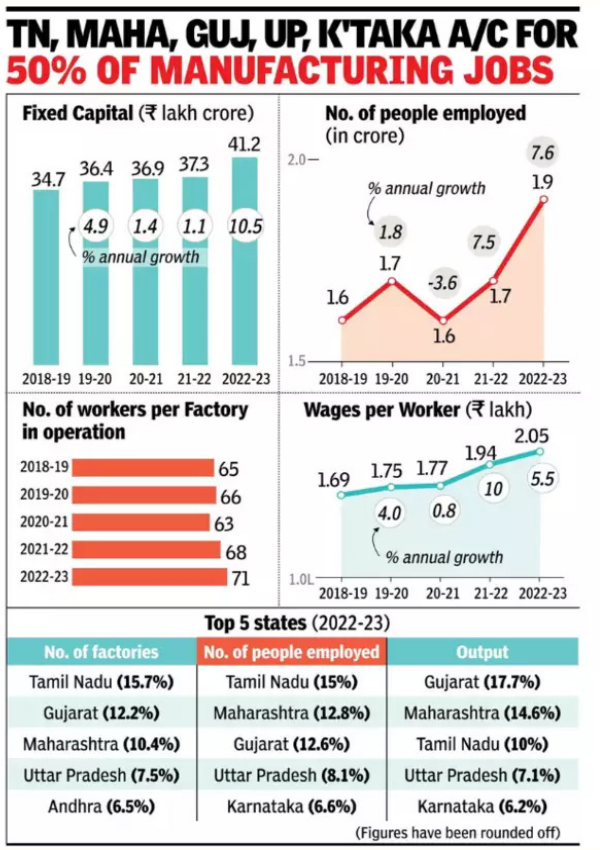
Why in News:

The manufacturing sector in India saw significant growth in job creation during fiscal year 2022-23, marking its highest employment increase in 12 years. According to the Ministry of Statistics and Programme Implementation

(MoSPI), the number of employees in manufacturing rose by 7.5%, from 1.72 crore in 2021-22 to 1.84 crore in 2022-23, following the sector's recovery from the COVID-19 pandemic.

Key Findings from the Survey:

- **Factory Growth:** The number of factories increased from 2.49 lakh in 2021-22 to 2.53 lakh in 2022-23.
- **Sector-Specific Employment:** Sectors such as food products, textiles, basic metals, wearing apparel, and motor vehicles saw the highest job growth.
- **Wage Increase:** Average emoluments per person grew by 6.3% in 2022-23, reflecting better wages in the sector.



- **Sectoral Contributions to Growth:** Key sectors like basic metals, food products, chemical products, and motor vehicles contributed about 58% of the sector's total output, with a notable increase in both output and gross value added (GVA). Additionally, gross fixed capital formation, an investment indicator, grew by over 77%, reaching Rs 5.85 lakh crore.
- **Regional Distribution:** The top five states contributing the most to manufacturing GVA and employment in 2022-23 were:
  - » Maharashtra
  - » Gujarat
  - » Tamil Nadu
  - » Uttar Pradesh
  - » Karnataka
- These states together accounted for more than 54% of total manufacturing GVA and about 55% of sector employment.

Government Initiatives for Growth:

- **National Manufacturing Policy:** The policy aims to increase manufacturing's contribution to GDP to 25% by 2025, enhancing its role in the nation's economy.
- **Production Linked Incentive (PLI) Scheme:** Launched in 2022, the scheme seeks to boost local manufacturing, aligning it with global standards. It offers incentives across various sectors, including chemicals, shipping containers, and vaccine inputs.
- **Union Budget 2023-24 Measures:**
  - » Startups meeting certain criteria can deduct up to 100% of their profits.
  - » Income tax for new cooperative societies involved in manufacturing has been reduced from 22% to 15%.
- **Defence Manufacturing:** The Ministry of Defence aims for a turnover of US$ 25 million in aerospace and defence manufacturing by 2025, with a focus on exports. The 'Buy (Indian-IDDM)' category in Defence Procurement Procedure (DPP)-2016 promotes indigenously designed, developed, and manufactured goods.

Conclusion:

India's manufacturing sector has shown resilience and strong growth, emerging as a key driver of economic progress. With government initiatives, strategic policies, and investments, India is on track to expand its manufacturing capabilities, enhance exports, and establish itself as a global manufacturing powerhouse. The outlook remains positive, with key sectors primed for further development, contributing to India's economic goals and global standing.

Fairwork India Ratings 2024

Why in News:

The Fairwork India Ratings 2024 report, titled "Labour

Standards in the Platform Economy," was recently launched providing an insightful analysis of work conditions for gig and platform-based workers in India.

- Conducted by the Centre for IT and Public Policy (CITAPP) at the International Institute of Information Technology, Bangalore (IIIT-B) in association with Oxford University, the study evaluates 11 prominent platforms, including Amazon Flex, Bigbasket, Swiggy, Ola, and Uber, against five essential principles.

Key Findings from Fairwork India Ratings 2024:

- The Fairwork India Ratings 2024 evaluated 11 prominent digital platforms across five principles (each principle having two criteria): Fair Pay, Fair Conditions, Fair Contracts, Fair Management, and Fair Representation.
- No platform scored above six out of 10 points, and none fulfilled all initial requirements under each principle, showing significant gaps in providing fair work conditions.

Fair Pay and Conditions

- **Fair Pay:** Only Bigbasket and Urban Company met the first point by ensuring workers earn at least the local minimum wage after expenses, but no platform committed to a living wage.
- **Fair Conditions:** Platforms like Bigbasket, Swiggy, and Zomato were commended for providing safety gear and periodic training. Bigbasket, Swiggy, and Urban Company also offered accident insurance and medical leave compensation.

Contracts and Management:

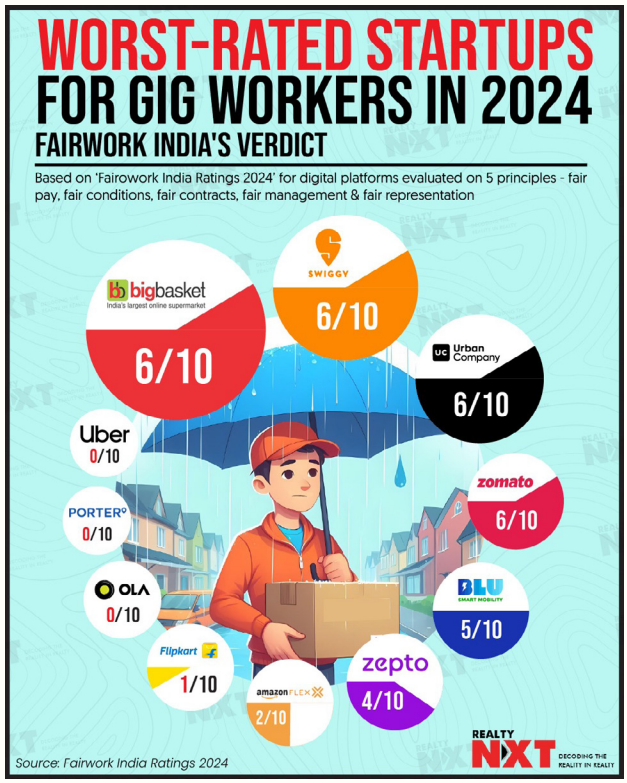
- **Fair Contracts:** Platforms such as Bigbasket and BluSmart ensured transparent contracts with protections for worker data.
- **Fair Management:** Swiggy and Zomato provided grievance channels and conducted audits to check for biases in work allocation.

Representation Challenges

- Despite growing efforts toward worker collectivization, none of the platforms recognized unions or worker bodies, restricting workers' collective bargaining rights.

Legislative Framework for Gig Workers in India

- The gig economy in India is gradually being acknowledged in legislative frameworks, though full implementation remains underway:
  - **Code on Social Security, 2020:** Recognizes gig workers and proposes extending social security benefits, pending state-level finalization.
  - **Code on Wages, 2019:** Applies to all sectors, aiming for a national minimum wage but allowing state-specific variations.
  - **NITI Aayog Report (2022):** Recommends platform-led skilling and social security initiatives while emphasizing improved data collection to support policy making for gig workers.



Conclusion:

India's rapidly expanding gig economy, driven by platforms like Swiggy and Zomato, has brought a new level of convenience to consumers. Essential goods and services are now only a few taps away, but this convenience comes with a human cost. According to the NITI Aayog, India's gig workforce could grow to 23.5 million by 2029-30, raising critical concerns about the economic and social sustainability of this model. The Fairwork India Ratings 2024 report highlights critical challenges in India's platform economy. While some platforms are making strides in areas like safety and contracts, significant gaps remain that need to be addressed.

6 Miscellaneous

"Tribal Empowerment in India: Challenges, Government Schemes and Future Direction

India is home to diverse tribal population, with Scheduled Tribes (ST) numbering 10.45 crore, representing 8.6% of the country's total population as per the 2011 Census. Comprising over 705 distinct groups, these communities often inhabit remote and inaccessible areas. In order to alleviate the socioeconomic condition of tribal people, on 2 October 2024, Government has launched various initiatives for tribal people development during PM visit to Jharkhand.

Dharti Aaba Janjatiya Gram Utkarsh Abhiyan:

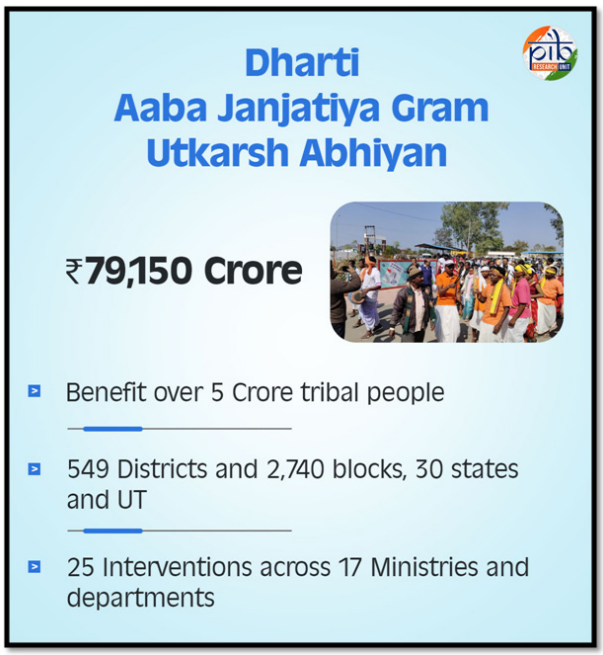
- On October 2, 2024, Prime Minister Narendra Modi launched the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan in Hazaribagh, Jharkhand. The program, with a budget of ₹79,150 crore, aims to improve social infrastructure, health, education, and livelihood in around 63,000 tribal villages.
- It is set to benefit over 5 crore tribal people across 549 districts in 30 states and Union Territories. The initiative includes 25 interventions coordinated across 17 ministries to address various challenges in tribal development.

Eklavya Model Residential Schools:

- 40 new EMRS were recently inaugurated, and the foundation for 25 additional schools was laid, amounting to an investment of over ₹2,800 crore. These schools prioritize preserving local tribal culture while promoting sports and skill development.
- Eklavya Model Residential Schools (EMRS) is designed to provide quality education to ST children in remote areas. Each school accommodates 480 students from Class VI to XII, fostering both academic and holistic development.

Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan:

- Alongside the Dharti Aaba program, the government has initiated projects under the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN). With a budget of over ₹1,360 crore, these projects aim to enhance road connectivity, construct Anganwadis and multipurpose centers, and build school hostels. **Notably, over 75,800 Particularly Vulnerable Tribal Groups (PVTG) households have been electrified, and 275 mobile medical units along with 500 Anganwadi centers have been established to improve healthcare access.**



Government Commitment for Tribal Welfare:

- The Indian government's efforts for tribal development began with the Tribal Sub-Plan (TSP) in 1974-75. This later evolved into the Scheduled Tribe Component (STC) and the Development

Action Plan for Scheduled Tribes (DAPST). These plans ensured that various ministries targeted tribal welfare through a coordinated approach.

- Presently, the financial commitment for tribal development has significantly increased, with the DAPST budget rising from ₹25,000 crore annually to ₹1.2 lakh crore in 2023-24.
- The Union Budget 2024-25 has further increased the allocation to ₹13,000 crore for the Ministry of Tribal Affairs, reflecting a 73.60% increase over the previous year's estimate.

Key Government Schemes for Tribal Empowerment:

Distribution of Land Titles

- **Total Distributed:** 23.43 lakh land titles covering 1.8 crore acres under the Forest Rights Act by October 31, 2023.

Employment Initiatives

- **Job Fair:** 'Kaushal Mahotsav' organised for tribal youth, resulting in job placements.
- **Skill Development:** Various collaborations to promote tribal products and skill enhancement.

National Overseas Scholarship for ST Students

- A scheme providing opportunities for meritorious ST students to pursue higher education (post-graduate, doctoral, post-doctoral) abroad. A total of 20 awards are given annually, with 30% reserved for women.

Particularly Vulnerable Tribal Groups (PVTGs) Development Program

- Focuses on the welfare of the most vulnerable tribal groups, providing access to healthcare, education, clean water, and electricity to around 7 lakh families in 22,000 habitations across 200 districts.

Support to Tribal Research Institutes (TRIs)

- Aims to preserve tribal culture and address socio-economic challenges.

Development Action Plan for Scheduled Tribes (DAPST)

- Ensures that all ministries implement welfare schemes for tribal communities.

National Fellowship for ST Students

- Provides scholarships for ST students pursuing higher education, with a fully digital process ensuring timely financial assistance and grievance redressal through DigiLocker.

National Scheduled Tribes Finance and Development Corporation (NSTFDC)

- Provides concessional financial assistance to ST beneficiaries for income-generating activities.

Cultural promotion:

- **Aadi Mahotsav:** Major tribal festival to showcase tribal culture, crafts, and cuisine, with participation from various PVTGs.
- **G20 Showcase:** TRIFED showcased tribal craftsmanship at the G20 Summit.

Jan Jatiya Gaurav Divas:

- **Date:** Celebrated on November 15, 2023.
- **Purpose:** Tribute to Bhagwan Birsa Munda and recognition of tribal freedom fighters.

Socio-Economic Empowerment:

- **Term Loan Scheme:** Provides soft loans up to 90% of the unit cost for viable business ventures.
- **Adivasi Mahila Sashaktikaran Yojna (AMSY):** offering concessional loans for tribal women.
- **Micro Credit Scheme:** Loans of up to ₹5 lakhs for tribal self-help groups (SHGs).

Health Initiatives: Sickle Cell Anaemia Elimination Mission

- **Implementation:** Jointly by Ministry of Health and Family Welfare, Ministry of Tribal Affairs, ICMR, and state governments.
- **Goal:** Address sickle cell disease among tribal populations through screening and management.
- **Launch Date:** Prime Minister Modi launched the program on July 1, 2023.
  - **Target:** Screen over 8 crore tribals under 40 years in 3 years

Honoring Tribal Heritage:

- To celebrate and preserve tribal culture, 10 Tribal Freedom Fighters' Museums have been sanctioned in states where tribals historically resisted colonial rule. A significant memorial, Mangarh Dham, near the Rajasthan-Gujarat border, is under development to honor Bhil freedom fighters that died in a mass shooting in 1913.

Constitutional rights for tribal people:

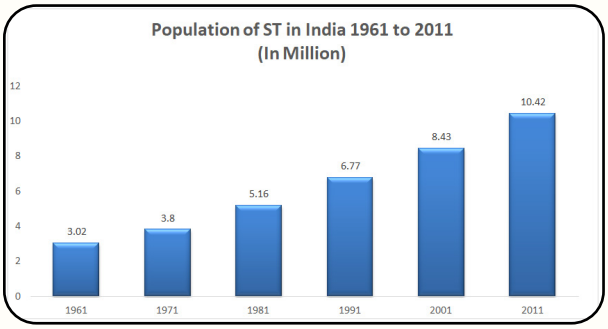
Category	Article	Description
I. Educational & Cultural Safeguards	Art. 15(4)	Special provisions for the advancement of other backward classes, including STs.

	Art. 29	Protection of interests of minorities, including STs.
	Art. 46	State promotion of educational and economic interests of weaker sections, particularly STs.
	Art. 350	Right to conserve distinct language, script, or culture.
	Art. 350 (A)	Instruction in mother tongue.
II. Social Safeguards	Art. 23	Prohibition of traffic in human beings and similar forms of forced labor.
	Art. 24	Forbidding child labor.
III. Economic Safeguards	Art. 244	Provisions of Fifth Schedule apply to administration and control of Scheduled Areas and STs.
	Art. 275	Grants-in-aid to specified States covered under Fifth and Sixth Schedules.
IV. Political Safeguards	Art. 164(1)	Provides for Tribal Affairs Ministers in Bihar, MP, and Odisha.
	Art. 330	Reservation of seats for STs in Lok Sabha.
	Art. 332	Reservation of seats for STs in State Legislatures.
	Art. 334	10-year period for reservation (amended several times to extend the period).
	Art. 243	Reservation of seats in Panchayats.
	Art. 371	Special provisions for NE States and Sikkim.
V. Service Safeguards	Various Articles	Protection and promotion in services under Articles 16(4), 16(4A), 164(B), 335, and 320(40).

Legal rights for tribal people:

Act	Objective	Key Provisions
The Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989	Prevent atrocities against Scheduled Castes (SCs) and Scheduled Tribes (STs).	❖ Defines atrocities, including violence, intimidation, and harassment. ❖ Makes it a non-bailable offense. ❖ Provides for special courts and exclusive public prosecutors. ❖ Enhances punishment for convicted offenders. ❖ Provides relief and rehabilitation to victims.
The Panchayats (Extension to Scheduled Areas) Act, 1996 (PESA)	Extend Panchayati Raj institutions to Scheduled Areas.	❖ Recognizes tribal customs and traditions. ❖ Ensures tribal involvement in land acquisition and rehabilitation decisions. ❖ Provides for Gram Sabhas (village assemblies) to manage local affairs. ❖ Mandates consultation with tribal communities before land acquisition. ❖ Protects tribal land rights.

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA)	Recognize forest rights of Scheduled Tribes and other traditional forest dwellers.	❖ Grants title rights to forest land. ❖ Recognizes use rights, relief and development rights, and forest management rights. ❖ Provides for community forest resource management. ❖ Protects tribal interests in forest conservation. ❖ Ensures rehabilitation and resettlement.



Conclusion:

The Indian government's initiatives for tribal welfare reflect a profound commitment to enhancing the socio-economic conditions of tribal communities. Through strategic programs like the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan and the PM-JANMAN, the government is working diligently to bridge the development gap and ensure that tribal populations are integral to India's growth story. These efforts not only uplift tribal communities but also honor their rich cultural heritage.

Finding New Paths: Transforming India's Approach to Poverty Alleviation

Context:

Poverty extends beyond financial hardship—it is a complex reality marked by limited access to health, education, and basic living conditions. Recognizing that traditional measures of poverty, which often focus solely on income, don't capture this depth, the Global Multidimensional Poverty Index (MPI) was introduced in 2010 by the UNDP and Oxford Poverty and Human Development Initiative.

❖ The latest 2024 MPI report presents a sobering view: despite decades of development, over 1.1 billion people worldwide still live in acute poverty, experiencing hardship in multiple areas essential for well-being. India, with 234 million people in multidimensional poverty, continues to face a significant challenge even as it makes strides in poverty reduction. This year's findings underscore the need to look beyond income and address the wider range of factors that trap individuals and families in cycles of poverty.

❖ For policymakers, the MPI serves as both a measurement tool and a guide for action, highlighting where improvements in health, education, and living standards are most urgently needed. As we explore the implications of the 2024 MPI for India and beyond, it becomes clear that poverty alleviation requires targeted, multidimensional efforts that empower individuals and communities to rise above deprivation in all its forms.

The Concept of Multidimensional Poverty:

❖ Traditional poverty measures, like income poverty, only considers financial deprivation. However, the Global Multidimensional Poverty Index (MPI), introduced by the OPHI and UNDP in 2010, redefines poverty by examining deprivations

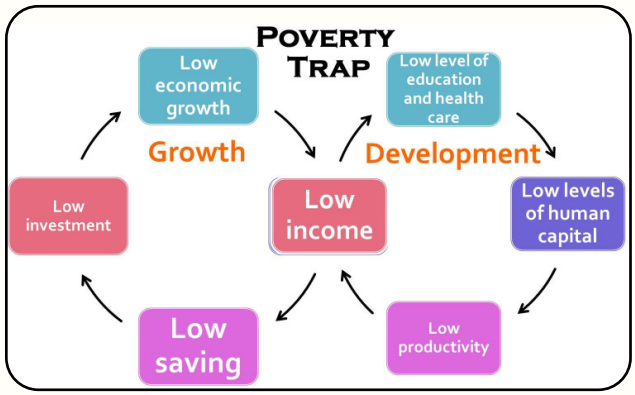
in multiple dimensions of life. This broader perspective includes a range of factors that, when absent, significantly impair quality of life, such as access to education, healthcare, and basic living conditions.

Structure of the Global MPI:

- The Global MPI evaluates poverty across three main dimensions:
  - **Health:** Includes indicators like nutrition and child mortality, which reflect the well-being and survival prospects of individuals and households.
  - **Education:** Includes years of schooling and school attendance, indicating educational opportunities and potential for personal development.
  - **Standard of Living:** Encompasses indicators such as access to clean water, sanitation, electricity, housing, and cooking fuel, representing overall living standards.
- Each dimension has a one-third weight in the final calculation, and each household is assessed across ten indicators. A person is classified as "MPI poor" if they experience deprivations in at least one-third of these indicators.

Key Highlights from the 2024 Global MPI Report:

- **Global Poverty:** The report reveals that 1.1 billion people—approximately 18.3% of the population in 112 countries—experience multidimensional poverty. Out of this, 584 million are children, highlighting that poverty affects younger generations disproportionately, especially in regions where infrastructure, education, and healthcare are limited.
- **India's Position in Global Poverty:** India has the largest absolute number of multidimensionally poor people, with 234 million individuals experiencing poverty. This figure, while significant, reflects progress compared to countries with lower HDI values, such as Niger, where multidimensional poverty is more widespread.
- **Poverty in Conflict-Affected Areas:** Around 40% of multidimensional poor individuals live in regions affected by violent conflict. Conflict areas face severe disruptions to essential services, further exacerbating poverty and posing significant challenges to poverty reduction.
- **Improvement in India's MPI Over Time:** India has made substantial gains in reducing poverty. According to the UNDP, the MPI for India halved from 55.1% in 2005-06 to 27.7% in 2015-16, lifting around 271 million people out of multidimensional poverty. This progress underscores the impact of policies aimed at enhancing social, health, and educational services.



Global MPI vs India's National MPI:

In November 2021, NITI Aayog introduced the National Multidimensional Poverty Index (MPI), which adapts the global MPI methodology to India's unique socioeconomic conditions. Here are the key differences:

- **Indicator Count and Customization:** The National MPI includes 12 indicators as opposed to the Global MPI's 10. The additional indicators are:
  - Maternal Health (under the health dimension), focusing on reproductive health access.
  - Bank Account (under the standard of living dimension), reflecting financial inclusion in poverty metrics.
  - These additions recognize India's specific developmental priorities, such as improving maternal health services and enhancing financial inclusion through accessible banking.
- **Data Sources and Surveys:** India's National MPI relies on data from National Family Health Surveys (NFHS) 4 and 5 (2015-16 and 2019-21, respectively). This data source allows the National MPI to better reflect regional disparities within India, helping tailor policies to address poverty at both the national and state levels.
- **Targeted Poverty Reduction:** According to recent data, the National MPI shows a remarkable reduction in India's poverty rate, from 29.17% in 2013-14 to 11.28% in 2022-23. Some states like

Bihar, Uttar Pradesh, and Madhya Pradesh have seen notable improvements due to targeted interventions in health, education, and sanitation.

India's Multidimensional Approach to Poverty Alleviation:

- **India's National and Global Poverty Alleviation Goals:** The National MPI serves as a robust framework to meet Sustainable Development Goal (SDG) 1: to end poverty in all its forms everywhere. By targeting multidimensional poverty, India's policy framework aligns closely with international goals and adapts them to the country's socioeconomic diversity.
- **Regional and State-Level Interventions:** With disparities in poverty levels across Indian states, the National MPI provides valuable insights for state governments to develop focused programs. For example, poverty reduction in states like Bihar and Jharkhand, which historically had high poverty rates, underscores the effectiveness of locally driven, multidimensional poverty alleviation strategies.
- **Financial Inclusion and Maternal Health Focus:** The addition of bank accounts as an indicator reflects India's effort to bring the unbanked population into the financial system, promoting savings and access to credit. Meanwhile, addressing maternal health emphasizes reproductive and family health needs, which are crucial for sustainable poverty alleviation.

Conclusion:

The 2024 Global MPI provides a comprehensive view of global poverty, revealing significant challenges and areas of progress. India's strides in poverty reduction, as shown in the National MPI, underscore the importance of multidimensional approaches to tackling poverty. By focusing on education, health, and living standards, India is gradually closing gaps in poverty, ensuring that its development agenda addresses more than economic deprivation alone.

Short Issues

GI Tags

Why in News:

The Geographical Indications Registry in Chennai has conferred GI tags on eight traditional products from the state.

Products that received GI tag:

Distinctive Rice Beers:

- **'Bodo Jou Gwran',** notable for its alcohol content of 16.11%, exemplifies the region's brewing tradition.
- **'Maibra Jou Bidwi',** is a beloved welcome drink made from fermented half-cooked rice and yeast.
- **'Bodo Jou Gishi'** is mentioned in the cultural narratives of the Bodo community, highlighting the deep-rooted traditions associated with these beverages.

Culinary Traditions:

- **'Bodo Napham',** a dish made from fermented fish preserved through traditional methods like smoking and salting
- **'Bodo Ondla',** a flavorful rice powder curry
- **'Bodo Narzi',** a semi-fermented food noted for its high Omega-3 fatty acid content
- **Bodo Gwkha' (Gwka Gwkhi)** is a traditional Bodo dish prepared during the Bwisagu festival.



Traditional Craftsmanship:

- **'Bodo Aronai',** a handwoven cloth, earning a GI tag

About Geographical Indication (GI) Tag:

- A Geographical Indication (GI) is an indication that identifies goods with special characteristics originating from a specific geographical area.
- It signifies that the product has the qualities or

a reputation that are intrinsically linked to its geographical origin.

Legal Framework:

- The protection and registration of GIs in India are governed by the Geographical Indications of Goods (Registration and Protection) Act, 1999.
- **Scope:** GI tags primarily apply to agricultural products, natural products, and manufactured goods, including handicrafts and industrial items.
- **Validity:** A GI tag is valid for a period of 10 years and can be renewed thereafter.

Union Cabinet Approves Five Languages as "Classical"

Why in News:

The Union Cabinet has recognized five additional languages—Marathi, Pali, Prakrit, Assamese, and Bengali—as "classical languages." This decision expands the list of culturally significant languages in India and underscores the government's commitment to preserving linguistic heritage.

Significance:

- The inclusion of these languages reflects nation's focus on promoting Indian languages. With this decision, these languages join the ranks of six other languages already designated as classical: Tamil, Sanskrit, Telugu, Kannada, Malayalam, and Odia.
- The classification of a language as "classical" ensures increased academic and cultural interest and opens up new avenues for research and preservation of these ancient tongues.

Criteria for Classical Language Recognition:

- The recognition of a classical language is based on specific criteria established by a Linguistic Experts Committee. These include:
  - » **High Antiquity:** The language must have early texts and a recorded history spanning over 1,000 years.
  - » **Ancient Literature:** A significant body of ancient literature, valued as cultural heritage, must exist.
  - » **Knowledge Texts:** The language should have a corpus of prose, including knowledge texts and epigraphically evidence.
  - » **Distinct Evolution:** The classical language and its literature must be distinct from their modern forms, with potential evolution resulting in discontinuity from their original structure.

Constitutional Context:

- Under Article 343(1) of the Indian Constitution, Hindi in Devanagari script is the official language of the Union, while Section 3 of the Official Language Act, 1963, allows for the continuance of English for official purposes.
- The Eighth Schedule of the Constitution enumerates the official languages of the Republic of India, currently comprising 22 languages, including the newly recognized classical languages.
- **Official Language Commission:** The Official Languages Commission is established by the President of India under Article 344 of the Indian Constitution. It was constituted in 1955 through a notification from the Ministry of Home Affairs.

Languages Listed in the Eighth Schedule:

Assamese	Hindi	Bodo
Bengali	Dogri	Punjabi
Gujarati	Kannada	Sanskrit
Kashmiri	Malayalam	Sindhi
Konkani	Maithili	Tamil
Manipuri	Marathi	Santhali
Nepali	Telugu	Urdu
Oriya		

Benefits of Inclusion Under the Eighth Schedule:

The recognition of languages in the Eighth Schedule provides several advantages:

- **Literary Recognition:** The National Sahitya Akademi automatically recognizes the languages of the Schedule as literary languages.
- **Medium of Instruction:** The Eighth Schedule plays a critical role in determining the medium of instruction in secondary schools, ensuring the use of modern Indian languages and English.
- **Competitive Examinations:** Languages included in the Eighth Schedule are utilized in various All-India competitive examinations conducted for higher education and employment.

The recent decision to recognize five additional languages as classical represents a significant step in

preserving India's rich linguistic heritage. By promoting academic interest and research opportunities, this initiative is expected to foster a deeper appreciation for these languages and their contributions to India's cultural landscape.

Nobel Prize in Literature (2024)

Why in News:

The Nobel Prize in Literature 2024 was awarded to South Korean author Han Kang for her intense poetic prose that confronts historical traumas and exposes the fragility of human life. She is the first South Korean writer to receive this prestigious award.

Literary Career of Han Kang:

- Han Kang's writing journey began with poetry in 1993, establishing her as a significant voice in South Korean literature.
- She published her first collection of short stories, Love of Yeosu, in 1995.
- Her groundbreaking novel, The Vegetarian (2007), garnered international acclaim and brought her work to a global audience.



Major Works:

- **The Vegetarian (2007):** Explores the profound consequences of a woman's decision to stop eating meat, challenging societal norms and expectations through the reactions of her family.
- **Human Acts (2014):** Set against the backdrop of the 1980 Gwangju Uprising, it examines the event through various perspectives, reflecting on themes of violence, trauma, and resilience.
- **The White Book (2016):** A meditation on life, death, and the color white, blending personal reflection with philosophical inquiry.

Literary Style and Themes:

- Combines lyricism with simplicity, allowing complex emotions to resonate deeply.
- Central themes include historical and personal traumas, presented with nuance and sensitivity.
- Highlights women's experiences and societal expectations, providing critical insights into gender dynamics.
- Probes the human condition, questioning the meaning and purpose of life.

Awards and Recognition:

- **Man Booker International Prize (2016):** Awarded for The Vegetarian, marking her significance in international literature.
- **Prix Femina Étranger (2017):** Awarded for Human Acts, solidifying her reputation as a powerful storyteller.

Recent Nobel Laureates in Literature:

- **2023:** Jon Fosse was awarded for his innovative plays and prose which "give voice to the unsayable."
- **2022:** Annie Ernaux was recognized for her courage and clinical acuity in exploring personal memory and societal changes.
- **2021:** Abdulrazak Gurnah received the award for his compassionate exploration of colonialism and the refugee experience.
- **2020:** Louise Glück was honored for her unmistakable poetic voice that universalizes individual existence.

About the Nobel Prize in Literature:

- Awarded each year to authors whose works embody idealism and explore the human condition.
- The first recipient was Sully Prudhomme in 1901 for his poetic contributions.

Nobel Peace Prize 2024

Why in News:

The 2024 Nobel Peace Prize has been awarded to Nihon Hidankyo, a Japanese NGO, for its advocacy for a world free of nuclear weapons. The award was announced by the Norwegian Nobel Committee on October 11, 2024.

Contributions of NGO which was recognised by Nobel Committee:

Role in Raising Awareness:

- Plays a critical role in promoting peace and advocating for nuclear disarmament
- Highlights the catastrophic consequences of nuclear warfare on a global scale

Core Mission:

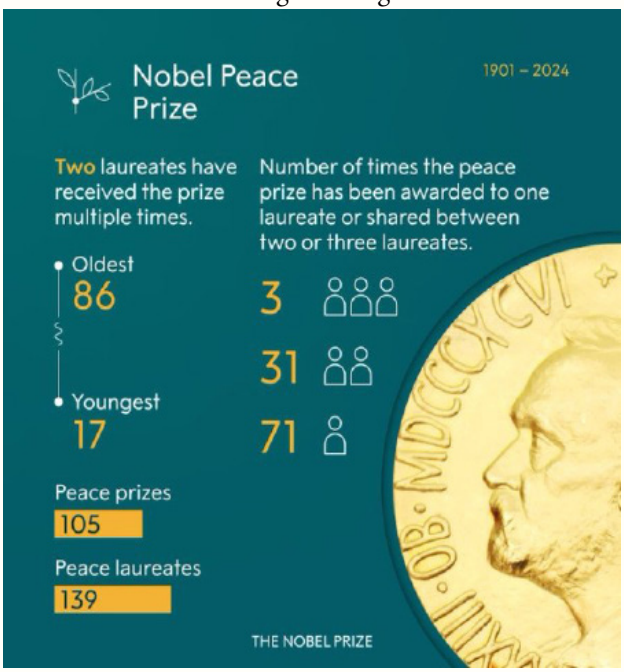
- Focuses on documenting the experiences of Hibakusha as powerful witnesses to the horrors of atomic bombings. Provides thousands of witness accounts that emphasize the need for disarmament.

Public Advocacy:

- Engages in public advocacy through resolutions and public appeals
- Articulates the urgent need for nuclear disarmament to shape public opinion and influence policymakers.

International Engagement:

- Sends annual delegations to the United Nations and various peace conferences
- Advocates for policies promoting nuclear disarmament on the global stage.



Impact on Global Discourse:

- Mobilizes support for disarmament and fosters dialogue among nations.
- Ensures the voices of atomic bomb survivors are heard in international discussions.

About Nihon Hidankyo:

- Nihon Hidankyo is a prominent Japanese NGO.
- Founded by atomic bomb survivors (Hibakusha) after the Hiroshima and Nagasaki bombings in 1945
- Represents the collective voice of those impacted by nuclear weapons

Significance of the Award:

- The committee emphasized the importance of maintaining the "nuclear taboo" amidst ongoing global conflicts, underscoring that nuclear weapons are the most destructive weapons ever created.
- This award highlights the critical discourse surrounding nuclear disarmament and emphasizes the collective responsibility to prevent the use of such catastrophic weapons.

Previous Recipient:

- In 2023, the Nobel Peace Prize was awarded to Iranian activist Narges Mohammadi for her courageous fight against the oppression of women and her advocacy for human rights.

Formal Presentation:

- The Nobel Peace Prize will be formally presented to Nihon Hidankyo on December 10, 2024, in Oslo, Norway, marking a significant moment in the global struggle for nuclear disarmament.

Global Hunger Index 2024

Why in News:

The Global Hunger Index (GHI), a tool used by international humanitarian agencies to measure and track hunger levels with GHI scores based on under-nourishment and child mortality indicators across 127 countries, has ranked India 105th, which places it under the "serious" category of the analysis.

Key Indicators Highlighted in the Report:

- India's 2024 Global Hunger Index (GHI) score of 27.3 reflects a serious level of hunger, underscoring critical public health challenges.
- The report indicates that 13.7% of the population is undernourished, highlighting issues with caloric intake.
- Alarmingly, 35.5% of children under five are stunted, and 18.7% are wasted, indicating both chronic and acute undernutrition.
- Additionally, the 2.9% child mortality rate before age five signifies the detrimental impact of inadequate nutrition and unhealthy living conditions.

Role of These Indicators:

- These indicators point to a pressing need for

comprehensive strategies to improve nutrition, enhance healthcare access, and address environmental factors that contribute to hunger. Tackling these issues will require collaborative efforts among government bodies, NGOs, and community organizations to ensure that vulnerable populations receive the necessary support for a healthier future.

GHI Score Calculation:

- The Global Hunger Index (GHI) score is calculated on a 100-point scale, where a lower score indicates better conditions and zero hunger, while a higher score reflects more severe hunger.
- India's score of 27.3, resulting from the concerning indicators of undernourishment, child stunting, wasting, and child mortality, suggests significant challenges in addressing hunger.



International and National Efforts:

- Addressing hunger requires both immediate humanitarian aid and long-term solutions. International and national efforts should focus on:
  - » **Food Security:** Ensuring access to sufficient and nutritious food for all.
  - » **Healthcare Access:** Expanding healthcare services, especially for children and pregnant women.
  - » **Sustainable Food Systems:** Promoting agricultural practices that support environmental sustainability and food availability.

Solutions and Interventions:

- Solving these issues demands a multifaceted approach:
  - » **Government Initiatives:** Implementing policies that improve food security, nutrition programs, and social safety nets.
  - » **NGO and Community Efforts:** NGOs and local organizations should play an active role in supporting vulnerable populations through education, outreach, and direct assistance.
  - » **Collaborative Strategies:** Coordinated efforts between governments, international agencies, and civil society are crucial for developing sustainable solutions.

Guidelines for the Prevention and Regulation of Greenwashing

Why in News:

To regulate matters relating to misleading advertisements which is prejudicial to the interest of public and consumers, Central Consumer Protection Authority (CCPA) has issued guidelines for Prevention and Regulation of Greenwashing and Misleading Environmental Claims to address the issue of greenwashing and misleading environmental claims.

About Greenwashing:

- Greenwashing is the act of making false or misleading statements about the environmental benefits of a product or practice.
- It can be a way for companies to continue or expand their polluting as well as related harmful behaviors, all while gaming the system or profiting off well-intentioned, sustainably minded consumers.
- The term was coined back in 1986 in an essay by environmentalist and then student Jay Westerveld.

Key Features of the Guidelines:

- **Clear Definitions:** The guidelines provide clear definitions of terms related to greenwashing and environmental claims, ensuring that both businesses and consumers have a common understanding.
- **Transparency Requirements:** Manufacturers and service providers are required to substantiate their environmental claims with credible evidence. This includes providing detailed information on the methodology and data used to support such claims.
- **Prohibition of Misleading Terms:** The use of vague

or misleading terms such as "eco-friendly," "green," and "sustainable" without proper substantiation is sought to be prohibited.

- **Third - Party Certifications:** Third - Party Certifications are also accepted in substantiation of environmental claims.
- **Adequate Disclosures**: The companies are required to provide clear and accessible disclosures of material information. Claims must specify the aspect refer to (good, manufacturing process, packaging, etc.) and be supported by credible certification or reliable scientific evidence.



Key Definitions in the Guidelines

Environmental claims

- Environmental claims means any representation in any form regarding:
  - » Any goods (either in its entirety or as a component), the manufacturing process, packaging, the manner of use of the goods, or its disposal; or
  - » Any service (or any portion thereof) or the process involved in providing the service
  - » Suggesting environmentally friendly attributes aimed to convey a sense of environmental responsibility or eco-friendliness.

Greenwashing:

- Greenwashing" means:
  - » Any deceptive or misleading practice, which includes concealing, omitting. or hiding relevant information, by exaggerating, making vague, false, or unsubstantiated environmental claims.
  - » Use of misleading words, symbols, or imagery, placing emphasis on positive environmental aspects while downplaying or concealing harmful attributes.

Impact of Greenwashing:

- **Misleading consumers:** Greenwashing can lead consumers to believe that a company is more environmentally friendly than it actually is. This can lead consumers to make choices that are harmful to the environment.
- **Diverting resources:** Greenwashing can divert attention and resources away from genuine sustainability efforts.
- **Encouraging harmful practices:** Greenwashing can encourage environmentally harmful practices by making it harder for consumers to support truly eco-friendly products and services.
- **Diluting the term "green":** Greenwashing can dilute the term "green" or "eco-friendly", making it harder for consumers to distinguish between authentic sustainability efforts and marketing ploys.
- **Exposing people to harmful products:** Greenwashing can expose consumers, employees, and the world in general to toxic, dangerous, and/or environmentally harmful products or production methods.

Non-Kinetic Warfare

Why in News:

The Parliamentary Standing Committee on Defence recently discussed 17 key subjects, including the armed forces' preparedness for hybrid warfare, which encompasses cyber, kinetic, and non-kinetic warfare, as well as anti-drone capabilities.

More Info:

- Rahul Gandhi, the Leader of the Opposition in the Lok Sabha and a committee member, emphasized the increasing threat of non-kinetic warfare, drawing parallels to the ongoing conflicts in Russia-Ukraine and Israel-Palestine where such tactics have been evident.
- He argued that future conflicts are likely to rely heavily on these methods and and urged, to ensure a thorough investigation into the Army's readiness to address these emerging threats.

About Non-Kinetic Warfare:

- Non-kinetic warfare encompasses strategies that do not rely on direct physical force but instead aim to disrupt, manipulate, or degrade an opponent's capabilities and resolve. Key components include:
  - » **Cyber Warfare:** Involves hacking, data breaches, and attacks on critical infrastructure, targeting information systems to cause disruption or gather intelligence.
  - » **Psychological Operations (PsyOps):** Aims to influence perceptions and behavior through propaganda, disinformation, and psychological manipulation, often to undermine morale or create confusion.
  - » **Economic Warfare:** Involves measures like sanctions and trade restrictions to weaken an adversary's economy and resources without engaging in military conflict.
  - » **Information Warfare:** Utilizes social media and other platforms to spread misinformation, sow discord, and manipulate public opinion, often blurring the lines between truth and falsehood.
  - » **Electronic Warfare:** Focuses on disrupting or controlling the electromagnetic spectrum, targeting communications and radar systems to hinder an opponent's operational effectiveness.

Other Dimensions:

- **Non-Military Stakeholders:** Involves corporations, civilian organizations, and other entities, expanding the battlefield beyond state actors.
- **Technological Advancements:** The rise of technology enhances the potential impact of non-kinetic methods, making them increasingly effective.
- **Potential Lethality:** Non-kinetic warfare could prove deadlier than traditional approaches, with conflicts potentially resolved without physical confrontation.
- **Real-World Examples:** Large-scale cyberattacks on critical infrastructure (e.g., power grids, hospitals) have demonstrated the severe consequences of non-kinetic warfare, as seen in various global incidents.

Future Warfare Initiatives

Future Warfare Course:

- » **Initiative:** Launched under the direction of Chief of Defence Staff General Anil Chauhan.
- » **Tri-Services Course:** A pioneering course conducted by the Headquarters Integrated Defence Staff for officers across all branches of the armed forces.
- » **Target Audience:** Rank-agnostic, aimed at Major Generals, Majors, and their equivalents from different services.

Course Objectives:

- » **Understanding Modern Warfare:** Equipping officers with knowledge of the operational and technological aspects of future conflicts.

- **Key Focus Areas:**
  - » Contact and non-contact warfare.
  - » Kinetic and non-kinetic strategies.
  - » Psychological and informational tactics.

Conclusion:

Non-kinetic methods are increasingly prominent in contemporary conflicts, allowing for strategic engagement that can be less detectable and deniable compared to traditional military actions. These approaches often aim to achieve objectives without escalating to open warfare.

Hereditary Cancers: Genetic Insights and Implications for Public Health

Why in News:

The International Agency for Research on Cancer has estimated that one in five individuals is at risk of developing cancer in their lifetime. In 2022 alone, 20 million new cancer cases and 9.74 million cancer-related deaths were reported globally. By 2045, these figures are projected to rise to 32 million cases and 16 million deaths, with Asia accounting for nearly half of the global cancer burden.

Hereditary Cancer and Genetic Mutations:

- The discovery of BRCA1 and BRCA2 genes in the 1990s revolutionized the understanding of hereditary cancers, particularly hereditary breast-ovarian cancer syndrome. Mutations in these genes significantly increase the risk of breast, ovarian, and prostate cancers, and in some cases, pancreatic and colorectal cancers.
- Most cancers develop due to genetic mutations in the body's genome. A subset of these is inherited mutations, passed down from one generation to the next.
- Research indicates that 10% of all cancer cases may

be linked to inherited mutations, with the percentage rising to 20% in ovarian cancer cases. Other common cancers, such as breast, colorectal, lung, and prostate cancers, show a 10% prevalence of inherited mutations.

Role of Genetic Testing and Targeted Therapies:

- Genetic testing for BRCA mutations is essential in identifying individuals at higher risk for hereditary cancers, enabling personalized prevention strategies like enhanced surveillance, preventive surgeries, and targeted therapies.
- PARP inhibitors, a promising class of chemotherapy drugs, have shown effectiveness in treating BRCA-associated cancers. Clinical trials highlight their success, especially when combined with platinum-based chemotherapy. However, resistance to PARP inhibitors varies, and researchers are studying the response of BRCA and other DNA-repair gene mutations to these therapies.
- Advances in CRISPR-Cas9 technology have also improved our understanding of cancer genes, helping researchers study BRCA mutations and identify other gene mutations that influence treatment efficacy.

Initiatives for Cancer Treatment and Prevention in India:

- **CAR-T Cell Therapy:** India's first CAR-T cell therapy, launched at IIT Bombay, marks a significant advancement in cancer treatment. This gene therapy, which modifies a patient's own immune cells to fight cancer, is considered the most affordable CAR-T cell therapy worldwide, making advanced cancer treatment accessible to a larger population.
- **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY):** Under the PMJAY, families can avail health insurance coverage of up to INR 5 lakhs per year for secondary and tertiary care hospitalisation, which includes a wide range of cancer treatments. This scheme aims to provide financial protection to millions of low-income families.
- **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS):** The NPCDCS focuses on preventing and controlling major non-communicable diseases, including cancer. The programme integrates screening, early detection, and treatment services for chronic conditions to reduce the burden of these diseases across the country.
- **Pradhan Mantri Swasthya Suraksha Yojana (PMSSY):** PMSSY plays a critical role in upgrading and establishing government medical institutions to improve cancer care facilities. The scheme also strengthens the National Cancer Grid (NCG), enhancing coordination and resource sharing among cancer treatment centers in India.

India Recognized by WHO for Eliminating Trachoma

Why in News:

India has officially been recognized by the World Health Organization (WHO) for eliminating trachoma as a public health issue.This achievement is significant, as trachoma is one of the leading causes of blindness worldwide, affecting approximately 150 million people globally. India was declared free of infective trachoma in 2017, based on the National Trachoma Survey Report (2014-17).

Importance of Recognition:

- WHO's acknowledgment highlights the sustained efforts of the Indian government, international collaboration, and the active involvement of healthcare professionals and communities.
- India joins Nepal, Myanmar, and 19 other countries worldwide that have achieved similar recognition for trachoma elimination.

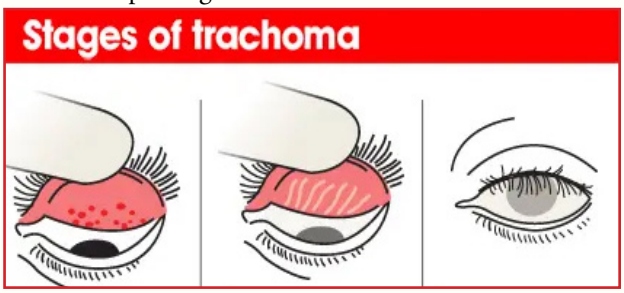
What is Trachoma?

- Trachoma is a chronic, contagious bacterial infection caused by Chlamydia trachomatis. It primarily affects the eyes, leading to inflammation, scarring, and potentially blindness. WHO has termed Trachoma as a neglected tropical disease.
- The World Health Organization (WHO) aims to eliminate trachoma as a public health problem by 2030.

Journey to Elimination:

- India's efforts began in 1963 with the Ministry of Health and Family Welfare launching a trachoma control project, supported by WHO and UNICEF.
- SAFE Strategy: The country adopted the WHO-recommended SAFE strategy, which comprises:
  - » Surgery to treat the blinding stage (trachomatous trichiasis);
  - » Antibiotics to clear infection, particularly mass drug administration of the antibiotic

azithromycin, which is donated by the manufacturer to elimination programmes, through the International Trachoma Initiative;
» Facial cleanliness;
» Environmental improvement, particularly improving access to water and sanitation.



National Program for Control of Blindness and Visual Impairment (NPCBVI:

- **Initiation:** Launched in 1976 by the Ministry of Health and Family Welfare in India.
- **Objective:** Aimed to prevent and control blindness and visual impairment across the country.

Decline in Cases:

- In 2005, trachoma was responsible for 4% of all blindness cases in India.
- By 2018, the prevalence dropped to 0.008%.
- Regular monitoring from 2019 to 2024 was conducted to ensure no new cases emerged.

Transmission:

- **Direct Contact:** Spreads through contact with infected eye, nose, or throat secretions.
- **Indirect Spread:** Can also be transmitted via flies that come into contact with these secretions.

Common Symptoms:

- Itching and irritation of the eyes.
- Discharge from the eyes.
- Sensitivity to light.

Consequences of Trachoma:

- Repeated infections can lead to trachomatous trichiasis, causing pain, visual impairment, and potential blindness if untreated.

Neglected Tropical Disease Road Map of WHO:

- The 2021–2030 roadmap targets the prevention, control, elimination, and eradication of 21 diseases and disease groups by 2030.

Global Multidimensional Poverty Index 2024

Why in News:

The 2024 Global Multidimensional Poverty Index (MPI) was recently published by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative, focuses on Poverty Amid Conflict. The MPI measures poverty across three dimensions: education, health, and living standards, using 10 indicators. A household is considered multidimensionally poor if it is deprived in one-third or more of these indicators.

Key Findings of the 2024 MPI:

- **Global Poverty:** Out of 6.3 billion people across 112 countries, 1.1 billion people (18.3%) live in acute multidimensional poverty.
- **Rural Poverty:** 962 million (83.7%) poor people live in rural areas. The largest concentrations are in Sub-Saharan Africa (463 million) and South Asia (350 million), accounting for 70.7% of the poor.
- **Top Five Countries:** India (234 million), Pakistan (93 million), Ethiopia (86 million), Nigeria (74 million), and the Democratic Republic of the Congo (66 million) account for 48.1% of global poverty.
- **Child Poverty:** 584 million children (27.9% of global child population) live in extreme poverty, nearly double the percentage of adults in poverty (13.5%).
- **Conflict Zones:** Nearly 40% (455 million) of the poor live in conflict-affected countries. The year 2023 saw the highest number of conflicts since World War II, displacing over 117 million people.

India's Poverty challenges:

- **Regional Disparities:** Rural areas suffer from high poverty rates due to inadequate infrastructure, poor service delivery, and limited non-agricultural economic opportunities.
- **Poor Nutrition:** Malnutrition, particularly among children, remains a significant challenge.
- **Education:** The quality of education in government-run schools is often poor, limiting learning outcomes.
- **Water and Sanitation:** Access to clean water and sanitation is inadequate, especially in rural areas.
- **Economic Setbacks:** The COVID-19 pandemic disrupted the economy, leading to job losses and increased vulnerability for many.

Government Initiatives for Poverty Alleviation

- **National Food Security Act (NFSA), 2013:** Ensures 67% of the population has access to subsidized food grains.
- **Pradhan Mantri Ujjwala Yojana (PMUY), 2016:** Provides LPG connections to women in BPL families.
- **Ayushman Bharat Scheme:** Offers health insurance coverage up to 5 lakh per family per year.
- **National Nutrition Mission (POSHAN Abhiyaan), 2018:** Aims to reduce malnutrition, particularly in children and women.
- **Right to Education Act (RTE), 2009:** Ensures free education for children aged 6-14.
- **Swachh Bharat Mission:** Aims to achieve universal sanitation coverage.

Way Forward:

While India has made significant progress in addressing multidimensional poverty through various government initiatives, challenges such as regional disparities, poor nutrition, and inadequate infrastructure remain. Continued focus on sustainable development, enhanced service delivery, and innovative solutions will be key to further reducing poverty and improving the quality of life for its citizens.

Railway Accidents and Safety in India

Why in News:

The recent derailment of the Agartala-Lokmanya Tilak Express and the rear-end collision near Chennai, along with the 2023 Balasore accident that claimed over 275 lives, have brought significant attention to the ongoing safety concerns within India's railway network.

Trends in Railway Accidents:

- **Decrease in Accidents:** Railway accidents have dropped significantly, from 1,390 annually in the 1960s to around 80 in recent years.
- **Consequential Accidents:** Despite the overall decline, consequential accidents (involving fatalities, injuries, or infrastructure damage) remain a concern, with 34, 48, and 40 such incidents in 2021-2022, 2022-2023, and 2023-2024 respectively.
- **Recent Incidents:** The Balasore accident in June 2023 with over 275 fatalities exemplifies the continuing risks in the system.

Reasons Behind Railway Accidents

- **Derailments:** Leading cause, responsible for 70% of accidents, often due to outdated infrastructure, track faults, and operational issues.
- **Human Errors:** Staff errors caused by fatigue, negligence, and inadequate safety protocols, coupled with organizational dynamics that hinder transparent communication.
- **Signalling Failures:** Technical glitches or human errors in the signalling system have led to major accidents like those in Balasore and Kavaraipettai.
- **Unmanned Level Crossings (UMLCs):** Though broad gauge unmanned crossings are removed, accidents persist at manned level crossings due to human error and infrastructure issues.
- **Infrastructure Defects:** Ageing infrastructure, poor maintenance, overcrowding, and operational strains at over 100% capacity increase accident risks.
- **Safety and Information Flow Challenges:** The top-down inspection approach leads to inadequate safety checks, poor compliance, and undetected issues.

The Role of 'Kavach':

- **Automatic Protection System:** The 'Kavach' system prevents collisions by tracking train positions and activating alarms or automatic brakes.
- **Deployment Progress:** By 2024, 'Kavach' covers only 2% of the railway network (1,465 route kilometers).
- **Cost and Challenges:** The system costs Rs. 50 lakh per kilometer and Rs. 70 lakh per locomotive, and its slow deployment raises concerns after incidents like Balasore.

Challenges Facing Indian Railways

- **Financial and Operational Constraints:**
  - » **Operating Ratio:** The estimated operating ratio for 2024-2025 is 98.2, limiting funds for safety and infrastructure upgrades.
  - » **Freight Services:** Network congestion affects freight services, with only the eastern Dedicated Freight Corridor operational.
  - » **Infrastructure Strain:** Outdated infrastructure and insufficient investment hinder operational efficiency and safety.
- **Passenger Services and Losses:**
  - » **Financial Losses:** Passenger services incurred

68,269 crore in losses in 2021-2022 due to cancellations, low fares, and inefficiencies.

» **Revenue Measures:** To increase revenue, sleeper and second-class coaches have been replaced by pricier AC coaches, but fares haven't increased since 2020.

» **Passenger Traffic Growth:** Projected passenger revenue in 2024-2025 is Rs. 80,000 crore, highlighting the strain on infrastructure.

Conclusion:

India's railway network faces significant safety and financial challenges. The adoption of safety measures like Kavach is promising but slow, and financial constraints limit progress. Addressing these issues with faster implementation of safety systems, better resource management, and infrastructure investment is crucial for enhancing railway safety and efficiency.

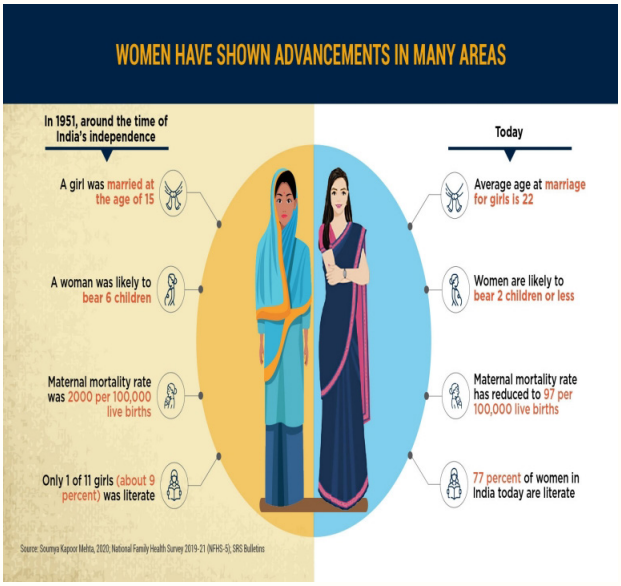
The World Survey on the Role of Women in Development Report

Why in News:

A recent UN report highlights a significant gender gap in social protection, leaving over two billion women and girls vulnerable to poverty. The World Survey on the Role of Women in Development Report, which focuses on "Harnessing social protection for gender equality," reveals that only 18% of nearly 1,000 social protection measures across 171 countries address women's economic needs, leaving them with severe economic insecurity.

Key Findings

- **Limited Focus on Women's Economic Security:** Only 18% of nearly 1,000 social protection measures in 171 countries focus on women's economic security, highlighting the inadequate attention to their specific needs.
- **Disproportionate Vulnerability to Poverty:** Women aged 25-34 are 25% more likely than men to live in households facing extreme poverty. Gender-specific vulnerabilities, such as lack of maternity leave and the impact of inflation, exacerbate this disparity.
- **Lack of Maternity Benefits:** Globally, 63% of women give birth without maternity benefits, with 94% in sub-Saharan Africa lacking such support. This absence harms women's economic stability and their children's well-being.
- **Impact of Conflict, Climate Change, and Economic Shocks:** Women in crisis settings are 7.7 times more likely to experience extreme poverty than those in stable environments, with gender-specific risks worsened by conflict, climate change, and economic crises.
- **Inflation and Rising Costs:** Recent inflation, particularly in food and energy prices, has disproportionately affected women, exacerbating economic inequalities, especially among low-income households.



Progress and Examples of Gender-Responsive Social Protection:

- **Mongolia:** Extended maternity leave benefits to informal workers, including self-employed individuals and herders, while enhancing paternity leave to promote gender equality in caregiving.
- **Mexico and Tunisia:** Included domestic workers in social security systems, ensuring greater coverage for women in informal sectors.
- **Senegal:** Expanded its National Health Insurance scheme to address the needs of rural women, with support from UN Women.

Recommendations:

- The report urges governments to prioritize gender equality in social protection systems to reduce poverty and promote women's empowerment. Gender-responsive social protection systems can help

improve resilience, particularly in crisis situations, and drive long-term social transformation.

Challenges for Low-Income Countries:

- The report highlights that while many countries can generate fiscal space for social protection, low-income nations face challenges in funding these systems. An additional $77.9 billion (15.9% of GDP) is needed to establish a basic social protection floor in low-income countries.

Conclusion:

The UN Women report underscores the urgent need for gender-responsive social protection systems to reduce poverty and promote gender equality, especially for women and girls in vulnerable situations.

India's Investment in Education

Why in News:

A new series of reports from the UNESCO Institute for Statistics on global education investment trends from 2015 to 2024 highlights India's consistent commitment to education spending, surpassing regional counterparts like Afghanistan and Pakistan. Despite global declines in education investment, India has remained aligned with international benchmarks and has increased its share of GDP and government expenditure towards education.

Key Findings:

- **GDP Allocation to Education:** India allocated 4.1% to 4.6% of its GDP to education, in line with the Education 2030 Framework for Action, which recommends 4-6% of GDP for education. This allocation reflects India's commitment to improving educational outcomes.
- **Government Expenditure on Education:** India's government expenditure on education has fluctuated between 13.5% and 17.2% of total public expenditure, aligning with the Education 2030 target of 15-20%. This consistent investment supports the country's educational goals despite global trends.
- **Regional Comparison:** India's educational investment is higher than many South Asian neighbors. While countries like Nepal and Bhutan allocate 4-6% of their GDP to education, India invests more than Afghanistan and Pakistan, and also outpaces China and Japan in Asia.
- **Global Trends:** The world's average public expenditure on education has declined from 13.2% in 2010 to 12.5% in 2020, with further reductions post-COVID-19. India's steady investment contrasts with this global trend, showcasing its focus on achieving Sustainable Development Goal 4 (SDG 4).
- **Central and Southern Asia:** India's expenditure ranks second in Central and Southern Asia, behind Bhutan (7.5%) and ahead of countries like Maldives (4.7%), Tajikistan (5.7%), and Uzbekistan (5.2%).

Challenges in the Indian Education System:

- **Lack of Resources:** Funding remains a major issue. The Economic Survey 2022-23 notes that the budgetary allocation for education has declined from 10.4% to 9.5% of total expenditure over the past seven years.
- **Quality of Teaching:** Teacher shortages, outdated curricula, and ineffective teaching methods affect education quality in many institutions.
- **Traditional Teaching Methods:** Many schools rely on outdated methods and fail to integrate technology or audiovisual aids, particularly in early education.
- **Privatization:** Over 50% of education in India is provided by private institutions, often with a focus on profit rather than quality, leading to compromised educational standards.
- **Inadequate Infrastructure:** Poor infrastructure, including insufficient classrooms and resources, limits the effectiveness of education in many schools.

Conclusion:

While India's consistent investment in education sets a positive example, emerging challenges like inadequate resources, outdated teaching methods, privatization, and poor infrastructure must be addressed for sustained progress. India must increase funding, improve teaching quality, and enhance infrastructure to meet its educational goals.

Brain Boosters

Digital Arrest

Indian Prime Minister Narendra Modi warned Indians against an emerging online fraud known as "digital arrest". Some people have reportedly been scammed out of millions of rupees by fraudsters, who contact their victims via video call posing as police or tax officials levelling false charges at them.

Digital Arrest Scams

- **Impersonation of Officials:** Scammers masquerade as representatives from various government agencies, such as the police, CBI, Narcotics Department, RBI or ED.
- **Intimidation Techniques:** Victims receive phone calls claiming they are involved in illegal activities, such as trafficking drugs or handling counterfeit passports.
- **Family Emergency Tactics:** Scammers may also fabricate situations involving a family member allegedly involved in criminal activities or accidents, pressuring victims to pay money to resolve the 'issue.'
- **Digital Confinement:** Some victims experience a form of 'digital arrest,' where they are coerced into staying on video calls with the scammers until their demands are satisfied.
- **Monetary Extortion:** Criminals are demanding payment in exchange for agreeing not to reveal the fabricated legal cases they have created against the victims.

Actions Taken to Address Digital Arrest Scams

Account Blocking Initiatives:

- The Indian Cyber Crime Coordination Centre (I4C) has successfully deactivated many Skype accounts linked to intimidation, blackmail, extortion and "digital arrests" carried out by cybercriminals posing as government officials.

Targeting Cross-Border Criminal Networks:

- The Ministry of Home Affairs has identified that these scams are orchestrated by international crime syndicates, indicating their involvement in a larger, organized online economic crime framework.

Public Alerts and Education:

- I4C has issued multiple warnings about these fraudulent schemes through its social media platform, "cyberdost," as well as other communication channels to raise awareness.

Encouraging Reporting:

- Those who receive suspicious calls are urged to report the incidents promptly using the cybercrime helpline or the "National Cyber Crime Reporting Portal" for support.

About Indian Cybercrime Coordination Centre (I4C)

- The Indian Cybercrime Coordination Centre (I4C) was launched in January 2021 as part of the Ministry of Home Affairs (MHA) to enhance the country's capability to combat cybercrime.
- I4C serves as a central hub for coordinating efforts among various law enforcement agencies, state governments, and other stakeholders to tackle cybercrime effectively.
- **Multi-Agency Collaboration:** I4C works with multiple government agencies, including law enforcement and cybersecurity organizations, to create a unified response to cyber threats.

Brain Boosters

Cruise Bharat Mission

The Union Minister of Ports, Shipping & Waterways (MoPSW), Sarbananda Sonowal, launched the 'Cruise Bharat Mission' from the Mumbai port. Aimed at the boosting the tremendous potential of cruise tourism in the country, the programme aims to propel country's cruise tourism industry by doubling cruise passenger traffic within five years.

Objectives

- Increase Passenger Footfall: Aim to significantly boost the number of cruise tourists visiting India, targeting both international travellers and domestic cruise enthusiasts.
- Infrastructure Enhancement: Develop and upgrade port facilities to handle larger cruise ships, ensuring smooth embarkation and disembarkation processes.
- Promote Economic Growth: Foster local economies by creating jobs in tourism, hospitality and related sectors through increased cruise traffic.
- Environmental Sustainability: Encourage eco-friendly practices within the cruise industry to minimize the environmental impact of cruise tourism.

Key Features

Destination Development:

- **Cruise Ports:** Focus on developing major cruise ports like Mumbai, Goa, Cochin, and Chennai as key hubs.
- **Cruise Circuits:** Create specific cruise itineraries that include historical sites, natural attractions, and cultural experiences, connecting various coastal cities.

Public-Private Collaboration:

- Foster partnerships between government agencies, private cruise operators, and tourism boards to enhance investment and operational efficiency.
- Engage local stakeholders, including businesses and communities, to ensure that the benefits of cruise tourism are widespread.

Regulatory Framework:

- Develop safety and security regulations tailored to cruise tourism, ensuring the safety of passengers and vessels.

Implementation Strategies

Awareness and Promotion:

- Launch campaigns to highlight India's attractions as cruise destinations, showcasing cultural festivals, cuisine and adventure activities.
- Participate in international cruise tourism fairs and exhibitions to promote India on a global stage.

Training and Skill Development:

- Implement training programs for personnel in ports, hospitality and tourism sectors to enhance service quality and operational efficiency.
- Collaborate with educational institutions to develop specialized courses in cruise management and tourism.

Expected Outcomes

- **Increased Tourism Revenue:** The mission is projected to generate significant revenue through increased passenger traffic and associated spending in local economies.
- **Job Creation:** Boost employment opportunities in various sectors, including hospitality, transportation, and retail.
- **Cultural Exchange:** Enhance cultural exchange through interactions between international tourists and local communities.

Brain Boosters

National Mission on Edible Oils – Oilseeds

The Union Cabinet, chaired by the PM Narendra Modi, has approved the National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds). It is aimed at boosting domestic oilseed production and achieving self-reliance (Atmanirbhar Bharat) in edible oils. The Mission will be implemented over a seven-year period, from 2024-25 to 2030-31, with a financial outlay of Rs 10,103 crore.

Objectives

- **Increase Domestic Production:** Boost the production of oilseeds to meet the growing demand for edible oils in the country.
- **Reduce Import Dependency:** Decrease reliance on imports of edible oils, which is a significant burden on India's economy.
- **Support Farmers:** Enhance the income of oilseed farmers by promoting cultivation and providing them with necessary resources and support.
- **Promote Sustainable Practices:** Encourage environmentally sustainable practices in oilseed farming.

Key Components

- **Focus on Major Oilseeds:** The mission targets various oilseed crops, including groundnut, soybean, sunflower, mustard, and sesame.

Research and Development:

- Invest in R&D to develop high-yielding, disease-resistant varieties of oilseeds.
- Promote technologies and practices that improve oil extraction efficiency.

Financial Support:

- Provide financial assistance and subsidies to farmers for purchasing quality seeds, fertilizers, and other inputs.
- Facilitate access to credit and insurance for oilseed farmers.

Infrastructure Development:

- Improve facilities for oilseed processing and storage to reduce post-harvest losses.
- Develop better supply chain mechanisms to connect farmers with markets.

Implementation Strategies

- **Collaborative Approach:** Engage state governments, agricultural universities, and research institutions to implement the mission effectively at the grassroots level.
- **Monitoring and Evaluation:**
  - Establish a robust monitoring framework to assess progress and impact on production levels and farmer incomes.
  - Regularly evaluate and adapt strategies based on feedback and changing agricultural conditions.
- **Public Awareness Campaigns:** Raise awareness among farmers about the benefits of oilseed cultivation and the support available under the mission.

Expected Outcomes

- **Increased Oilseed Production:** Significant rise in the production of oilseeds, contributing to self-sufficiency in edible oils.
- **Economic Benefits for Farmers:** Improved livelihoods and incomes for oilseed farmers due to enhanced production and market access.
- **Sustainability:** Adoption of sustainable agricultural practices leading to environmental benefits.

Brain Boosters

Namo Drone Didi Scheme

The Ministry of Agriculture & Farmers' Welfare has released the Operational Guidelines of Central Sector Scheme "NAMO DRONE DIDI". All the stakeholders have been requested to make meaningful use of these operational guidelines to ensure prompt roll out and implementation of the Scheme.

Objectives

- **Empowerment of Women:** Promote gender equality by increasing women's participation in technology and entrepreneurship.
- **Utilization of Drone Technology:** Enhance efficiency in agriculture, healthcare and logistics through the application of drone technology.
- **Sustainable Development:** Foster sustainable agricultural practices that improve productivity while minimizing environmental impact.

Key Features

Skill Development and Training:

- Comprehensive training programs for women on drone operation, maintenance and applications.

Financial Support:

- Access to funding and subsidies for women entrepreneurs to start drone-based businesses.
- Support for purchasing or leasing drones and other necessary equipment.

Awareness Campaigns:

- Campaigns to raise awareness about the benefits of drone technology and its applications among rural women.
- Information dissemination on how drones can aid in agriculture, delivery services, and emergency response.

Implementation Strategies

Partnerships:

- Collaborating with educational institutions, NGOs and tech companies to provide training and resources.
- Engaging local governments to facilitate community-level implementation and support.

Pilot Projects:

- Launching pilot projects in select regions to demonstrate the effectiveness of drones in agriculture and delivery.
- Collecting data and feedback from these projects to refine training and operational strategies.

Policy Support:

- Aligning the scheme with broader government initiatives focused on women's empowerment and technological advancement.
- Ensuring regulatory support for drone usage in agriculture and delivery services.

Expected Outcomes

Increased Economic Participation:

- Enhanced economic independence for women through new job opportunities and entrepreneurial ventures.
- Creation of a skilled workforce proficient in drone technology, contributing to local economies.

Improved Agricultural Practices:

- Increased efficiency in farming operations through the use of drones for tasks like crop monitoring, aerial spraying, and soil analysis.
- Reduction in costs and time spent on traditional farming methods.

Brain Boosters

Golden Jubilee of Coal India Limited

Coal India Limited (CIL), under the Ministry of Coal, marked its 50th Foundation Day on 3 November, 2024 at the CIL Headquarters in Kolkata. This significant event not only celebrated CIL's remarkable contributions to the nation's energy sector over the past five decades but also laid the groundwork for its future initiatives and strategic direction.

About Coal India Limited

- It is a state-owned coal mining company and the single largest producer of coal in the world.
  - **Founded:** November 1975
  - **Headquarters:** Kolkata, West Bengal

Key Functions

- **Coal Mining:** CIL is primarily involved in the mining and production of coal, providing a significant portion of the country's energy needs.
- **Supply Chain Management:** Manages the entire coal supply chain, including extraction, processing, and transportation.

Production and Operations

- **Production Capacity:** CIL has a production capacity of over 600 million tonnes per year.
- **Mining Operations:** Operates more than 300 mines across several states in India, including Jharkhand, Chhattisgarh, Odisha, West Bengal and Madhya Pradesh.
- **Types of Coal:** Produces both thermal coal (for power generation) and metallurgical coal (for steel production).
- **Job Creation:** CIL's operations support employment in mining and related industries, contributing to economic growth and community development.

Environmental and Social Initiatives

- **Sustainability Efforts:** CIL is working towards reducing its environmental impact through initiatives in rehabilitation, afforestation, and waste management.
- **Corporate Social Responsibility (CSR):** Engages in various CSR activities focused on education, healthcare, and community development in mining areas.

Challenges

- **Environmental Concerns:** Faces criticism over environmental degradation, land acquisition issues, and the social impact of mining activities.
- **Transition to Renewables:** As India moves towards a greener energy mix, CIL is exploring diversification into renewable energy projects.

Role in Energy Security

- **Electricity Generation:** Supplies a major portion of the coal required for thermal power plants, supporting India's electricity generation capacity.

Brain Boosters

India's updated National Biodiversity Strategy and Action Plan

India released its updated National Biodiversity Strategy and Action Plan (NBSAP), at the 16th meeting of the Conference of Parties (COP 16) to the Convention on Biological Diversity (CBD).

Key Objectives

Conservation of Biodiversity:

- Protect critical habitats and ecosystems, including forests, wetlands, grasslands, and marine areas.
- Preserve threatened and endangered species through targeted conservation programs.

Sustainable Use of Biological Resources:

- Promote practices that allow for the sustainable extraction and use of biological resources.
- Encourage agro-biodiversity and traditional agricultural practices that enhance food security.

Detailed Components

Biodiversity Assessment:

- Comprehensive inventories and assessments of India's biodiversity, including flora, fauna, and ecosystems.
- Identification of biodiversity hotspots and areas requiring immediate conservation action.

Policy and Institutional Framework:

- Establishing mechanisms for inter-sectoral coordination among various ministries (e.g., environment, agriculture, forestry) to address biodiversity issues holistically.

Action Programs:

- Specific programs targeting various ecosystems:
  - **Forests:** Promotion of community forestry, reforestation, and protection of forest-dependent livelihoods.
  - **Marine and Coastal:** Conservation of marine biodiversity through the establishment of marine protected areas and sustainable fishing practices.
  - **Wetlands:** Restoration and conservation of wetlands to enhance biodiversity and ecosystem services.

Monitoring and Evaluation:

- Development of indicators to measure progress in biodiversity conservation.
- Regular reporting mechanisms to assess the effectiveness of conservation strategies and actions.

Key Strategies for Implementation

Protected Area Network:

- Expansion of protected areas to encompass a wider range of ecosystems.
- Strengthening management practices in existing protected areas, including the involvement of local communities.

Research and Capacity Building:

- Investing in research to fill knowledge gaps related to biodiversity, including ecological studies, taxonomy, and conservation techniques.

Public Awareness and Education:

- Initiatives to raise public awareness about the importance of biodiversity and conservation efforts.

Brain Boosters

Defence Manufacturing in India

PM Narendra Modi and Spanish PM Pedro Sanchez inaugurated the TATA-Airbus aircraft assembly facility complex in Vadodara. The facility will manufacture C-295 aircraft at the TATA Advanced Systems Limited campus. This collaboration will mark India's first private sector final assembly line (FAL) for military aircraft, boosting the nation's aerospace capabilities.

Policy Framework

- **Make in India:** Launched in 2014, this initiative aims to boost domestic manufacturing, including defense. It encourages foreign investment and technology transfer in defense production.
- **Defense Procurement Procedure (DPP):** Regularly updated to promote indigenization, streamline procurement processes, and ensure transparency and efficiency.

Government Initiatives

- **Defence Production Policy:** Focuses on achieving self-reliance in defense manufacturing and enhancing export capabilities.
- **Strategic Partnerships:** The government facilitates collaborations between public sector units (PSUs), private companies, and foreign firms to foster innovation and technology transfer.
- **Atmanirbhar Bharat:** This self-reliance initiative emphasizes indigenous production of defense equipment, encouraging local manufacturers to participate actively in defense supply chains.

Key Defense Products

- **Aircraft:** Development of indigenous fighters like the Light Combat Aircraft (LCA) Tejas, transport aircraft, and helicopters.
- **Missile Systems:** Advanced missile programs like Agni, Prithvi, BrahMos (in collaboration with Russia), and various air-to-air and surface-to-air missiles.
- **Naval Systems:** Indigenous submarines (e.g., Scorpene class) and warships, including aircraft carriers and destroyers.
- **Defense Electronics:** Radars, communication systems, and electronic warfare systems developed by companies like BEL.

Research and Development

- **DRDO (Defence Research and Development Organisation):** The primary agency responsible for defense research and development in India. DRDO develops technologies for missile systems, aircraft, and other defense equipment.
- **Collaborations with Academic Institutions:** Partnerships with universities and research institutions to foster innovation and research in defense technology.

Challenges

- **Bureaucratic Hurdles:** Complex regulatory processes can slow down procurement and project implementation.
- **Technological Gaps:** While progress has been made, India still faces challenges in developing cutting-edge technology independently.
- **Funding and Investment:** Sustaining investment in defense R&D and manufacturing is critical for long-term success.

Brain Boosters

Pradhan Mantri Mudra Yojana

The Finance Ministry has announced an increase in the loan limit under the Pradhan Mantri Mudra Yojana (PMMY) from 10 lakh to 20 lakh. This change, effective from the Union Budget 2024-25 announced on July 23, 2024, aims to enhance funding for aspiring entrepreneurs.

About Mudra Yojana

- **MUDRA:** Micro Units Development & Refinance Agency Ltd.
- It is a financial institution set up by the Government of India under PMMY for development and refinancing micro unit enterprises.
- PMMY aims to provide financial inclusiveness and support to the marginalized and hitherto socio-economically neglected classes.

Need for the MUDRA Yojana

- Limited Access to Credit for Small Businesses
- Promoting Financial Inclusion
- Encouraging Entrepreneurship
- Boosting the MSME Sector
- Supporting Job Creation
- Boosting the Informal Economy
- Strengthening the Entrepreneurial Ecosystem
- Facilitating Economic Growth in Rural Areas
- Supporting Government's "Make in India" Initiative
- Micro Financing Support

MUDRA Loans: Categories

- MUDRA loans now will be offered in four categories namely:
  - **Shishu:** Covering loans upto Rs. 50,000/-
  - **Kishore:** Covering loans above Rs. 50,000/- and up to Rs. 5 lakhs
  - **Tarun:** Covering loans above Rs. 5 lakh and up to Rs. 10 lakhs
  - **Tarun Plus:** Rs. 10 lakh and up to Rs. 20 lakhs

MUDRA App

- **App:** MUDRA MITRA
- It is a mobile phone application available in Google Play Store and Apple App Store, providing information regarding MUDRA and its various products/ schemes.
- It will guide a loan seeker to approach a Banker in availing MUDRA loan under PMMY.
- Users can also access useful loan related material including sample loan application forms in this app.

Mudra Card

- MUDRA Card is an innovative credit product wherein the borrower can avail of credit in a hassle free and flexible manner.
- It provides a facility of working capital arrangement in the form of an overdraft facility to the borrower.
- Since MUDRA Card is a RuPay debit card, it can be used for drawing cash from ATM or Business Correspondent or make purchase using Point of Sale (POS) machine.
- Facility is also there to repay the amount, as and when, surplus cash is available, thereby reducing the interest cost.

Brain Boosters

Towards a TB-Free India

India's dedicated journey towards tuberculosis (TB) elimination has been recognized globally, with a noteworthy 17.7% decline in TB incidence from 2015 to 2023, a rate that is over twice the global average decline of 8.3%, as reported by the World Health Organization (WHO) in its Global Tuberculosis Report 2024.

Strategies and Goals for Ending Tuberculosis in India

- The SDG target 3.3 aims to "End the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases, and combat hepatitis, water-borne diseases, and other communicable diseases by 2030."
- The indicators for TB under this target include:
  - An 80% reduction in the TB incidence rate (new cases per lakh population) compared to 2015 levels.
  - A 90% reduction in the TB mortality rate compared to 2015 levels.
  - Zero TB-affected households experiencing catastrophic expenses due to the disease.
- In India, the National Tuberculosis Elimination Program (NTEP) has been implementing the National Strategic Plan (NSP) for TB Elimination.

National Tuberculosis Elimination Programme (NTEP)

- It aims to reduce the incidence of TB to less than 1 case per 1 lakh population by 2025, with a longer-term goal of eliminating tuberculosis by 2030.

Key Objectives of NTEP

- **Early Diagnosis:** Improve early detection and diagnosis of TB through diagnostic tests.
- **Universal Treatment:** Ensure uninterrupted access to free treatment for all TB patients, including for those with drug-resistant TB (DR-TB) and multidrug-resistant TB (MDR-TB).
- **Contact Tracing and Active Case Finding:** Identify people who have been in contact with TB patients and provide early testing to prevent new infections.
- **Preventive Treatment:** Administer preventive therapy to high-risk groups to prevent the development of active TB disease.
- **Strengthen Surveillance:** Improve TB surveillance systems for better monitoring and tracking of TB cases, treatment outcomes, and monitoring of drug resistance trends.
- **Engage the Private Sector:** Encourage private healthcare providers to adopt government-approved treatment protocols, making sure that all TB patients get treated according to NTEP guidelines.
- **Community and Stakeholder Engagement:** Involve local communities, NGOs, and other stakeholders in awareness campaigns, treatment support, and addressing stigma surrounding TB.
- **Financial Support:** The program ensures that all diagnostic tests, treatments, and necessary follow-ups are provided free of charge to patients through a network of public health institutions

Conclusion

India's comprehensive TB elimination approach is showing positive results, with significant declines in incidence and a strengthened health response framework. With continued emphasis on cross-sector partnerships, innovative care solutions, and community engagement, India is well-positioned to meet its goal of a TB-free nation by 2025.

Brain Boosters

IndiaAI Mission to Promote Responsible AI

The IndiaAI Mission has identified eight Responsible AI projects following the Expression of Interest issued under the Safe and Trusted AI Pillar. Acknowledging the urgent need for robust safeguards to promote the responsible development, deployment, and adoption of AI, these selected projects are focused on building indigenous tools and frameworks.

Promotion of Responsible AI

- To support the vision of Responsible AI, IndiaAI had issued an expression of interest (EOI) to promote responsible AI projects across several critical themes. which included:
  - Machine Unlearning
  - Synthetic Data Generation
  - AI Bias Mitigation
  - Ethical AI Frameworks
  - Privacy-Enhancing Tools
  - Explainable AI
  - AI Governance Testing
  - Algorithm Auditing Tools
- A multi-stakeholder committee was established to provide technical expertise in evaluating the proposals which lead to the selection of eight projects across various themes.

About IndiaAI Mission

The India AI Mission is an initiative aimed at fostering the development and application of artificial intelligence in India. Its primary goals include:

- **Promotion of Responsible AI:** The mission focuses on encouraging ethical AI practices, ensuring transparency, and addressing biases in AI systems.
- **Indigenous Solutions:** It aims to develop tools, frameworks, and guidelines tailored to India's unique socio-economic context, leveraging local datasets.
- **Collaboration:** The mission brings together various stakeholders, including academic institutions, startups, research organizations, and civil society, to collaborate on AI projects.
- **Investment in Innovation:** By supporting research and development, the mission seeks to position India as a global leader in AI technology.

Need of IndiaAI Mission

The India AI Mission is essential for several reasons:

- **Societal Impact:** AI has the potential to address pressing social issues, such as healthcare access, education, and public safety, enhancing quality of life for citizens.
- **Economic Growth:** By promoting AI development, the mission can drive innovation and boost productivity across various sectors, contributing to overall economic advancement.
- **Global Competitiveness:** Establishing a robust AI ecosystem helps position India as a leader in the global AI landscape, attracting investment and talent.
- **Ethical Standards:** The mission emphasizes responsible AI practices, ensuring that technologies are developed and deployed ethically, minimizing biases and promoting fairness.

Conclusion

The IndiaAI Mission is at the forefront of developing Responsible AI technologies in India. The selected projects under this initiative are crucial in ensuring that the AI technologies of the future are developed with accountability, fairness, and societal benefit in mind.

Brain Boosters

Global Coral Bleaching Event Expands

According to the United States National Oceanic and Atmospheric Administration (NOAA), the ongoing fourth global coral bleaching (GCBE4) event that began in January 2023 is now the most widespread and has surpassed the coral bleaching levels of 2014-2017 by over 11 percent.

Key Factors Contributing to Coral Bleaching

Rising Ocean Temperatures:

- The global warming caused by climate change leads to higher sea surface temperatures. When water temperatures rise by just 1-2°C above the normal threshold, corals become stressed and expel the zooxanthellae, leading to bleaching.

Ocean Acidification:

- The increase in carbon dioxide (CO_2) emissions is not only contributing to global warming but also causing oceans to absorb more CO_2.

Pollution:

- Pollution, introduces toxins and excessive nutrients into coral reef ecosystems, further degrading coral health.

Expanding Global Coral Bleaching Events

- Some of the most significant recent global coral bleaching events include:
  - First Global Coral Bleaching Event, 1998
  - Second Global Coral Bleaching Event, 2010
  - Third Global Coral Bleaching Event 2014-2017

Impacts of Expanding Coral Bleaching

- Loss of Biodiversity
- Threats to Livelihoods
- Coastal Protection
- Reduction in Coral Reef Services

What Can Be Done to Address the Crisis?

Mitigating Climate Change:

- The Paris Agreement and other international efforts to limit global warming to below 1.5°C above pre-industrial levels are crucial to preventing further global coral bleaching.

Coral Reef Restoration:

- Efforts are underway to restore coral reefs using techniques such as coral gardening, artificial reefs, and gene editing.

Marine Protected Areas:

- Establishing Marine Protected Areas (MPAs) can help create safe havens for coral reefs, reducing stressors such as overfishing and coastal development.

Raising Awareness and Policy Change:

- Public awareness and policy action at both national and international levels are vital to address the coral bleaching crisis.

Conclusion

The expansion of global coral bleaching events is a stark reminder of the accelerating impacts of climate change on marine ecosystems. As ocean temperatures continue to rise, coral reefs face an increasing risk of degradation and loss. Immediate and sustained efforts are needed to mitigate climate change, protect coral reefs, and support the resilience of these invaluable ecosystems.

Brain Boosters

Centres of Excellence for R&D on Green Hydrogen

The Government of India has invited Proposals for setting up Centres of Excellence (CoE) under Research and Development (R&D) Scheme of National Green Hydrogen Mission. The call for proposals has been issued by Ministry of New and Renewable Energy.

Objective

- To establish world-class Centres of Excellence for Green Hydrogen in India to foster innovation, promote sustainability, thereby enhancing energy independence in the long term.
- These CoEs will accelerate the transition to a low-carbon economy by advancing Green Hydrogen production, storage, and utilization technologies.
- The CoEs will act as focal points for cutting-edge research, skill development, and knowledge dissemination.

About Green Hydrogen

Green hydrogen is hydrogen that is produced through the process of electrolysis using renewable energy sources like wind, solar, or hydropower.

Benefits of Green Hydrogen

- **Clean Energy:** The main advantage is that green hydrogen can be a clean, carbon-neutral fuel, helping to decarbonize high carbon producing sectors.
- **Energy Storage:** Hydrogen can act as an energy carrier, storing excess renewable energy when production is high and releasing it when demand is higher or renewable energy production is low.
- **Applications:**
  - **Transportation:** It can be used in fuel cells for electric vehicles, particularly for heavy-duty transportation like trucks, buses, and ships.
  - **Industry:** It can be used as a feedstock in many industries where hydrogen can replace fossil fuels for heat.
  - **Power Generation:** Hydrogen can be burned in turbines or used in fuel cells to generate

Challenges to Green Hydrogen

- **Cost:** Currently, green hydrogen is expensive due to the cost of electrolyzers and the need for large amounts of renewable energy.
- **Infrastructure:** There is a lack of infrastructure for hydrogen storage, transportation and distribution, which makes scaling up its use challenging.
- **Efficiency:** No process is 100% efficient. So losses occur during electrolysis and in the process of converting electricity to hydrogen and then back to electricity or heat when used.

Conclusion

The government's invitation to set up Centres of Excellence for Green Hydrogen is a significant step toward establishing a robust hydrogen economy in India. By advancing hydrogen technology, India can position itself as a key player in the global green hydrogen market, contributing to both energy security and environmental sustainability.

Places in News

Dar Es Salaam

INS Suvarna, while on its anti-piracy deployment in the Gulf of Aden, made a port call at Dar Es Salaam, Tanzania, from October 19 to 21, 2024.

About Dar Es Salaam:

- Dar Es Salaam, located along the Indian Ocean coast, is Tanzania's largest city and economic capital. Historically, it has served as a vital port and trade center for the region, facilitating commerce and connectivity between East Africa and the global market. The city's strategic location has contributed to its development into an economic powerhouse within the region, making it a critical hub for both regional and international commerce.
- Tanzania is bordered by several countries: Uganda and Kenya to the north, Mozambique to the south, and the Democratic Republic of the Congo to the west.
- Its major rivers, including the Rufiji and Ruvuma, drain into the Indian Ocean, further enhancing its geographic importance.



Algeria

- The President of India, Smt Droupadi Murmu, recently completed her final leg of her State Visits to Algeria.
- The President of India, Smt Droupadi Murmu, recently completed her final leg of her State Visits to Algeria, Mauritania, and Malawi.
- Algeria is the largest country in Africa and the tenth-largest in the world.
- Located in North Africa, it is bordered by the Mediterranean Sea to the north, Tunisia and Libya to the northeast, Niger to the southeast, Mali to the southwest, Western Sahara to the west, and Morocco to the northwest.
- The capital city is Algiers. Algeria has a rich history, influenced by various civilizations, including the Phoenicians, Romans, and Arabs.
- The country gained independence from France in 1962 after a brutal war of liberation.



Mauritania

- The President of India, Smt Droupadi Murmu, recently completed her final leg of her State Visits to Mauritania.
- Mauritania is a country in West Africa, bordered by the Atlantic Ocean to the west, Western Sahara to the north, Algeria to the northeast, Mali to the east and southeast, and Senegal to the southwest.
- The country is characterized by vast deserts, particularly the Sahara, and has a small population concentrated in urban areas like the capital, Nouakchott.
- Mauritania's economy is largely based on agriculture, fishing, and mining, particularly iron ore. The nation has a diverse cultural heritage influenced by Arab, Berber, and African traditions.



Malawi

- The President of India, Smt Droupadi Murmu, recently completed her final leg of her State Visits to Malawi.
- Malawi is a landlocked country located in southeastern Africa, bordered by Tanzania to the north, Mozambique to the east, south, and southwest, and Lake Malawi to the west.
- Malawi is known for its stunning landscapes, including Lake Malawi, one of the largest lakes in Africa, which is a UNESCO World Heritage site.
- The capital city is Lilongwe, while Blantyre is the country's commercial center. Malawi's economy is primarily agrarian, with tobacco, tea, and coffee as key exports.
- The nation is also recognized for its warm and friendly people, often referred to as "The Warm Heart of Africa."



'Cruise India Mission'

- The Union Minister for Ports, Shipping and Waterways, Shri Sarbananda Sonowal launched the 'Cruise India Mission' from Mumbai Port on 1st October 2024. The main objectives of the Mission are to double the number of cruise passengers by 2029 and establish India as a global cruise tourism hub.

Three main cruise sectors that will be covered under the Mission:

- » **Ocean and Ports:** To improve infrastructure for ocean cruises
- » **River and Inland Waterways:** To promote cruise tourism on river and waterways
- » **Islands development:** To develop cruise tourism on islands and highlight their beauty to the world

Cruise India Mission will be implemented in three phases:

- » **Phase 1 (October 1, 2024 – September 30, 2025):** This phase will focus on conducting studies, master planning and building cruise alliances with neighbouring countries.
- » **Phase 2 (October 1, 2025 – March 31, 2027):** This phase will focus on developing new cruise terminals, marinas and destinations to activate high-potential cruise locations and circuits.
- » **Phase 3 (April 1, 2027 – March 31, 2029):** This final phase will focus on integrating all cruise circuits in the Indian subcontinent.

Surgeon Vice Admiral Aarti Sareen: First Woman Director General of AFMS

- Surgeon Vice Admiral Aarti Sareen became the first woman to serve as Director General of the Armed Forces Medical Services (AFMS), making her the 46th DG of AFMS.The Ministry of Defense announced her appointment, emphasizing her responsibility for all medical policy matters in the armed forces.
- Vice Admiral Sareen has had a notable career, serving as the Director General of Medical Services for the Navy and Air Force, as well as the Commandant of the Armed Forces Medical College (AFMC) in Pune.
- She joined the Armed Forces Medical Services in December 1985 and holds an MD in Radiodiagnosis from AFMC.
- Additionally, she is a Diplomate of the National Board in Radiation Oncology from Tata Memorial Hospital and has received training in Gamma Knife Surgery from the University of Pittsburgh.
- Vice Admiral Sareen has been honored with the Ati Vishisht Seva Medal in 2024, the Vishisht Seva Medal in 2021, and multiple commendations for her exceptional service.

The first Kho-Kho World Cup 2025 to be held in India

- The Kho-Kho Federation of India (KKFI) has announced that India will host the first-ever Kho-Kho World Cup in 2025, in partnership with the International Kho-Kho Federation.
- The tournament will feature 16 men's and 16 women's teams from 24 countries across 6 continents.
- To promote the sport ahead of the World Cup, KKFI plans to introduce Kho-Kho to 200 prominent schools in 10 cities and run a membership drive among students. The goal is to register 5 million players before the World Cup to boost the sport's popularity.
- KKFI also aims to include Kho-Kho in the 2032 Olympics, with this World Cup being a key step toward that goal.

USCIRF's Religious Report

- India has recently rejected a report by the US Commission on International Religious Freedom (USCIRF), calling it biased and politically motivated.
- The Ministry of External Affairs (MEA) criticized the USCIRF for misrepresenting facts and urged the organization

to focus on issues within the United States instead.

Key Highlights:

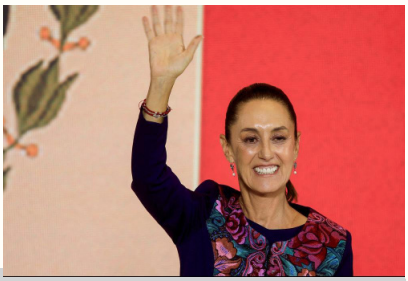
- The USCIRF alleged severe violations of religious freedom in India, including violence and legal changes affecting minorities.
- India has consistently denied visas to USCIRF members, citing interference in its internal affairs.
- The MEA denied the allegations stating that the USCIRF continues to peddle a motivated narrative about India.
- This development highlights ongoing tensions between India and the USCIRF regarding the portrayal of religious freedom in the country.

About US Commission on International Religious Freedom (USCIRF):

- The USCIRF is an independent U.S. federal agency established in 1998 to monitor global religious freedom. It assesses violations, makes policy recommendations to the U.S. government, and raises public awareness about religious persecution.
- The commission operates independently from the State Department but collaborates on related issues.

Claudia Sheinbaum: Mexico's First Female President

- Claudia Sheinbaum, a 62-year-old scientist and former mayor of Mexico City, recently took office, making history as Mexico's first female president.
- Sheinbaum, who has a scientific background, has a PhD in energy engineering. Her victory is a historic turning point for Mexico, as she is the country's first female and first Jewish president.
- During the presidential election, Claudia Sheinbaum has promised that her policies will reduce crime rates in the country.
- Currently, 23 people out of 100,000 are murdered every year in Mexico. During her tenure as Mexico mayor, crime rates in the city fell by 50 percent.



Maritime Exercise Malabar 2024

- Maritime Exercise Malabar 2024 was recently, hosted by India, with participation from Australia, Japan, and the United States.
- Beginning with the Harbour Phase in Visakhapatnam and followed by the Sea Phase, the exercise aimed to enhancing naval interoperability and addressed shared maritime challenges in the Indo-Pacific region.
- Originally a bilateral exercise between India and the U.S. in 1992, Malabar has expanded into a key multilateral event.
- The Indian Navy deployed guided missile destroyers, submarines, and aircraft, while Australia, the U.S., and Japan contribute vessels such as HMAS Stuart, USS Dewey, and JS Ariake, along with their respective naval aircraft. Special forces from all four nations also participate.
- Malabar 2024 focused on anti-submarine warfare, air defense, and surface warfare, facilitated by expert exchanges and maritime domain awareness activities. It was the most comprehensive iteration to date.

10th International Science Festival (IISF) to be held at IIT Guwahati

- The 10th International Science Festival (IISF) will be held in Guwahati. Northeast India will host its first International Science Festival (IISF), which will be held from November 30 to December 3, 2024 at IIT Guwahati.
- The 10th edition of IISF will be a key step in the region's transformation into a hub for scientific and technological innovation, showcasing the government's commitment to the Northeast as a central player in India's development.
- The festival's theme, "Transforming India into an S&T driven Global Manufacturing Hub," supports national initiatives like 'Make in India' and 'Atmanirbhar Bharat,' highlighting the role of emerging technologies such as

Artificial Intelligence, robotics, and biotechnology.

- These innovations aim to boost industrial growth and strengthen India's self-reliance in manufacturing.
- IISF-2024 will provide a platform for scientists, industry leaders, students, and the public to engage in discussions on science-driven economic progress, with a focus on positioning India as a global leader in science, technology, and industrial manufacturing.

WHO Approves First Mpox Diagnostic Test Under Emergency Use Listing (EUL)

- The World Health Organisation (WHO) has approved the first diagnostic test for mpox(formerly known as monkeypox) under its Emergency Use Listing (EUL). The test, named Alinity m MPXV assay, was developed by Abbott Molecular Inc. and is a crucial step in enhancing testing capabilities in countries facing mpox outbreaks.
- Mpox is a viral disease that causes flu-like symptoms, skin rashes, and blisters. The significant outbreaks reported in Africa, particularly in the Democratic Republic of the Congo (DRC), Burundi, and Nigeria.
- Over 30,000 suspected cases have been reported in Africa in 2024, but testing has been limited, with only 37% of cases tested in the DRC.
- The Alinity m MPXV assay is a real-time PCR test that detects the monkeypox virus (clades I/II) from skin lesion samples, providing faster and more accurate diagnosis.
- WHO's EUL procedure accelerates the availability of critical health products during global health emergencies, with more test applications under review. This approval is expected to improve early detection, treatment, and outbreak management.

'Nijut Moina' Scheme

- Chief Minister o Assam Himanta Biswa Sarma, recently initiated the distribution of monthly financial assistance under the 'Nijut Moina' scheme in Assam.
- Chief Minister Himanta Biswa Sarma handed over financial assistance checks to 24,384 eligible girl students from Kamrup (M), Kamrup, and Morigaon districts during a ceremony held in Khanapara.
- 'Nijut Moina' is an ambitious scheme of the Assam government, aimed at providing financial assistance to meritorious and needy girl students of the state. The scheme aims to eliminate child marriage and encourage girls to pursue higher education.
- The scheme was launched on 8th August 2024 as part of a campaign against child marriage.
- The goal of the scheme is to benefit 10 lakh girl students over the next three years. In Assamese, 'Nijut Moina' means 'ten lakh girls.'

'Banjara Heritage' Nangara Museum

- Recently, Prime Minister Narendra Modi inaugurated the 'Banjara Heritage' Nangara Museum at Poharadevi in Maharashtra. The Nangara Museum was conceptualized in 2018 by Sanjay Rathod to showcase the culture, history, and traditions of the Banjara community. Today, it stands as a world-class museum.
- The museum is spread over 16 acres and features a blend of traditional and modern architecture, representing the rich heritage of the Banjara community.
- It has five floors and 13 galleries that display the history, culture, and traditions of the Banjara community.
- The museum includes advanced technologies like a flying theater, moving platform, and rumbling platform, providing a remarkable experience. Information about the history of the Banjara community is available in seven different languages, offering a global standard of experience.
- Poharadevi, located in the Manora taluka of Washim district, Maharashtra, holds great religious and cultural significance for the Banjara community. It is also known as the 'Kashi of the Banjara Community.' It is home to the tomb of Sant Sewalal Maharaj, revered by over 10 crore Banjara people across India, as well as the shrine of Ramraobapu Maharaj.

70th National Film Awards

- President Draupadi Murmu recently presented the 70th National Film Awards at Vigyan Bhavan, New Delhi for outstanding contribution to Indian cinema.
- Veteran actor Mithun Chakraborty was honored with the prestigious Dadasaheb Phalke Award for his remarkable career.
- Rishab Shetty received the Best Actor award for his performance in Kantara, while Nithya Menen and Manasi Parekh shared the Best Actress title for Thiruchitrambalam and Kutch Express.

Other Awards conferred:

Category	Winner	Film
Best Film	Aattam	
Best Hindi Film	Gulmohar	
Best Music Director (Songs)	Pritam	Brahmastra
Best Music Director	AR Rahman	Ponniyin Selvan Part-1
Best Male Singer	Arijit Singh	Kesariya (from Brahmastra)
Best Director	Sooraj Barjatya	Oonchai
Best Child Artist	Shripath	Malikappuram (Malayalam)

Dipa Karmakar Announced Retirement

- India's famous gymnast, Dipa Karmakar recently announced her retirement on social media. Dipa Karmakar is a resident of Agartala, Tripura.
- She represented India in the 2016 Rio Olympics and won a bronze medal in the 2015 Commonwealth Games.
- Dipa is one of the few gymnasts in the world who have successfully performed the famous Produnova vault.
- Dipa created history by winning a bronze medal in the women's vault final at the Glasgow Commonwealth Games in 2014. She became the first Indian woman to achieve this feat.
- Dipa is the first Indian female gymnast to represent the country in the Olympic Games.
- She was also awarded the Padma Shri in 2017, the Major Dhyan Chand Khel Ratna Award in 2016 and the Arjuna Award in 2015.

Ratan Tata

- Indian industrialist and former chairman of Tata Sons, Ratan Tata, passed away in Mumbai on October 9, 2024, at the age of 86.
- Ratan Tata, known for his visionary leadership, transformed the Tata Group from an Indian company to a global group from 1991 to 2012. Under his leadership, the Tata Group's revenue grew from $5.7 billion to nearly $100 billion.
- He played a key role in important acquisitions such as Tata Tea's purchase of Tetley and Tata Motors' purchase of Jaguar Land Rover.
- Apart from business, he was dedicated to social work such as education, healthcare and public welfare, which he pursued through the Tata Trusts.

Predator Drones

- The Cabinet Committee on Security (CCS) has approved major defence deals, including the indigenous construction of nuclear-powered attack submarines and the acquisition of 31 MQ-9B drones from the US, to enhance India's naval and armed forces capabilities.

- The submarines, expected to be built at the Ship Building Centre in Visakhapatnam with private sector involvement, will strengthen India's naval power in the Indian Ocean Region.
- Additionally, the MQ-9B drones, comprising 16 Sky Guardian and 15 Sea Guardian models, will improve India's intelligence, surveillance, and reconnaissance (ISR) capabilities, while also enabling precision strikes in maritime and mountain domains.
- These drones are to be assembled in India under a Foreign Military Sales (FMS) contract.

About MQ-9B Predator drone:

» The MQ-9B Predator drone is an unmanned aerial vehicle (UAV) that can fly for over 40 hours using satellite communication.

» There are two versions: the MQ-9B SeaGuardian, which is designed for maritime use, and the SkyGuardian, which is meant for land operations.

National Maritime Heritage Complex (NMHC)

- The Union Cabinet has approved the development of the National Maritime Heritage Complex (NMHC) in Lothal, Gujarat, to showcase India's 4,500-year-old maritime heritage.
- The project will be executed in two phases.
  - » Phase 1A, currently under implementation with over 60% progress, will include a museum featuring six galleries, including one dedicated to the Indian Navy and Coast Guard, and a replica model of Lothal Township.
  - » Phase 1B will add eight more galleries, a lighthouse museum, and a Bagicha complex with amenities for visitors. Phase 2 will introduce Coastal States Pavilions, a hospitality zone, and recreational parks.

About National Maritime Heritage Complex (NMHC):

- The National Maritime Heritage Complex (NMHC) is being constructed in a historic region of the Indus Valley Civilization, under the Ministry of Ports, Shipping, and Waterways.
- Its primary objective is to showcase India's maritime heritage from ancient to modern times through an edutainment approach, incorporating the latest technology.
- Once completed, the NMHC will be the world's largest maritime museum complex and an international tourist destination.
- The NMHC project is expected to generate around 22,000 jobs, including 15,000 direct and 7,000 indirect positions.

Caracal Breeding and Conservation Centre in Kutch

- The Gujarat government has taken a significant step towards wildlife conservation by announcing the establishment of a Caracal Breeding and Conservation Centre in Kutch. Chief Minister Bhupendra Patel unveiled this initiative during the Wildlife Week celebrations at the Shyamji Krishna Varma Memorial in Mandvi, emphasizing the importance of protecting endangered species and their habitats.
- The centre will be located in the Chadva Rakhal region of Kutch, an area recognized for its rich biodiversity. The government has allocated a budget of Rs. 10 crore for the establishment and ongoing operation of this important facility.
- Its primary focus will be on the protection and breeding of the critically endangered Caracal (Henotaro) species.
- In India, Caracals are listed under Schedule I of the Indian Wildlife Act, indicating their vulnerable status. While they are classified as 'least concern' by the International Union for Conservation of Nature (IUCN) due to larger populations in Africa.



- Currently, only 19 sightings of Caracals have been reported in Gujarat, all within the Kutch district. Of these, only nine have been verified through photographs.
- Caracals are nocturnal animals known for their agility, distinctive ear tufts, and hunting prowess. They typically inhabit dry, arid regions and moist woodlands, often living in small herds. However, habitat loss poses a significant threat to their survival in India, making conservation efforts crucial.
- The Chadva Rakhal region is home to a diverse array of wildlife, including leopards, crocodiles, Indian gazelle, desert foxes, jackals, and numerous bird species. It boasts 28 species of mammals, 28 species of reptiles, and 243 species of plants, highlighting its ecological significance.

China's 'Anaconda Strategy' Against Taiwan

- Taiwan's navy commander, Admiral Tang Hua, has revealed that the People's Liberation Army (PLA) is intensifying its military presence around Taiwan, employing a tactic known as the 'anaconda strategy.'
- This multifaceted approach includes military, psychological, and cyber tactics designed to exert pressure on Taiwan, drawing inspiration from the historical Anaconda Plan of the American Civil War, which aimed to economically suffocate its enemy.
- The PLA is prepared to blockade Taiwan at any moment, posing a significant military threat. Recent statistics show a dramatic increase in Chinese military activities: the number of ships operating near Taiwan surged from 142 in January to 282 by August, while air incursions jumped from 36 to 193 in the same timeframe.
- This strategy not only seeks to exhaust Taiwan's defenses but also employs psychological tactics to create fear and uncertainty, potentially leading Taiwan to make costly mistakes. Political scientist June Teufel Dreyer notes that the anaconda strategy aims to destabilize Taiwanese society while maintaining external pressure.
- Ultimately, China seeks to weaken Taiwan's defenses and assert its dominance over the island, reflecting broader regional ambitions without resorting to immediate military confrontation.

Dragon Drones

- In the ongoing Russia-Ukraine conflict, a new and deadly weapon known as "dragon drones" has emerged, capable of releasing a molten substance called thermite.
- Thermite, a combination of aluminum and iron oxide, burns at an astonishing temperature of 2,427 degrees Celsius and is difficult to extinguish, making it a potent incendiary agent. When ignited, it can penetrate various materials, causing severe burns and extensive damage to both military equipment and personnel.
- Initially deployed by Ukrainian forces to target Russian troop positions by igniting vegetation for cover, the use of these drones has since been adopted by Russian forces as well.
- While thermite has a historical precedent in warfare, including use in both World Wars, its application in modern conflict raises significant ethical concerns.
- Although not explicitly prohibited under international law, the use of thermite against civilian targets is restricted by the Convention on Certain Conventional Weapons, which emphasizes its indiscriminate nature and potential for severe harm.

HAL Achieves Maharatna Status

- Hindustan Aeronautics Limited (HAL) was recently awarded the prestigious Maharatna status. HAL is now 14th Central Public Sector Enterprise (CPSE) in India to receive this recognition. This upgrade was approved by the Finance Minister following recommendations from the Inter-Ministerial Committee (IMC) and the Apex Committee. It marks a significant milestone for HAL in the aerospace and defense sector.

Understanding Maharatna Status:

The Maharatna status was established to provide greater operational and financial autonomy to CPSEs that demonstrate

exceptional performance and potential for global competitiveness. Companies must meet specific criteria to qualify, including:

- **Navratna Status:** The company must have previously held Navratna status.
- **Stock Market Listing:** It must be listed on an Indian stock exchange and comply with SEBI regulations.
- **Financial Performance:** The criteria include:
  - An average annual turnover exceeding Rs. 25,000 crore over the last three years.
  - An average net worth greater than Rs. 15,000 crore during the same period.
  - An average net profit after tax surpassing Rs. 5,000 crore.
- **Global Presence:** The company should have significant international operations.

HAL's Financial Performance:

- For the fiscal year 2023-24, HAL reported a turnover of Rs. 28,162 crore and a net profit of Rs. 7,595 crore, underscoring its role as a leading public sector enterprise in India. This robust financial performance highlights HAL's strategic initiatives within the aerospace industry.

Implications of Maharatna Status:

- The Maharatna status will grant HAL enhanced financial autonomy, allowing it to make significant investment decisions without prior government approval.
- This newfound autonomy is expected to accelerate project implementation, foster innovation, and improve operational efficiency. As a result, HAL is positioned among the most influential public sector undertakings in India, reflecting its strategic importance both domestically and internationally.

5th National Water Awards 2023: Odisha Wins Best State Award

- President Droupadi Murmu conferred the 5th National Water Awards in New Delhi, recognizing significant contributions to water conservation across nine categories. A total of 38 winners were honored, including awards for Best State, Best District, Best Village Panchayat, Best Urban Local Body, and Best Civil Society.



- Odisha secured the first prize in the Best State category, followed by Uttar Pradesh, while Gujarat and Puducherry shared the third spot. The awards come with a citation, trophy, and cash prizes in certain categories.
- President Murmu emphasized the importance of water conservation and highlighted the Jal Jeevan Mission's success in providing tap water connections to over 78% of rural households, up from 17% in 2019. She also raised concerns about India's depleting groundwater resources.
- In other categories, Government Upper Primary School in Sikar, Rajasthan, won first prize for Best School, recognized for its efforts in water harvesting.
- These awards support the government's vision of a Jal Samridh Bharat (Water Prosperous India) through innovative water management efforts.

DG Paramesh Sivamani is the 26th Director General of Indian Coast Guard

- DG Paramesh Sivamani recently assumed office as the 26th Director General of the Indian Coast Guard (ICG).
- With over 35 years of experience, Paramesh Sivamani has held various significant positions both ashore and afloat, commanding major vessels like the Advanced Offshore Patrol Vessel 'Samar'. An alumnus of the National Defence College and Defence Services Staff College, he was promoted to Additional Director General in September 2022.
- His tenure includes notable achievements such as anti-poaching operations, joint exercises with foreign coast

guards, and significant drug seizures. For his service, he has received multiple accolades, including the Tatrakshak Medal and the President Tatrakshak Medal.

KAZIND-2024

- The 8th edition of the India-Kazakhstan Joint Military Exercise, KAZIND-2024 was concluded recently. Conducted from September 30 to October 13, this annual training event aimed to enhance the military capabilities of both nations, particularly in counter-terrorism operations under the United Nations mandate.
- The Indian contingent, comprising 120 personnel from the Kumaon Regiment and other services, and the Kazakhstan contingent, with 60 personnel from the Army Force, Air Defence Force, and Airborne Assault units, conducted joint exercises focusing on operations in semi-urban and mountainous terrains.
- Key tactical activities included area capture operations, response to terrorist actions, establishment of joint command posts, and cordon-and-search operations, which also utilized drones and anti-drone systems.
- KAZIND-2024 promoted interoperability and camaraderie between the armed forces of both countries, enhancing defense cooperation and strengthening bilateral relations.
- The exercise underscores the commitment of India and Kazakhstan to work collaboratively in addressing regional security challenges.

ISRO Chairman S. Somnath receives IAF World Space Award

- Recently on October 14, Indian Space Research Organization (ISRO) Chairman S. Somnath was awarded the International Astronautical Federation (IAF) World Space Award. This award was given to him for the remarkable achievements of the Chandrayaan-3 mission.
- The IAF World Space Award is one of the biggest honors in the field of space exploration. This award is given to individuals or organizations who have made unique contributions in the field of space science, technology and exploration.
- Previous winners of this award include big space agencies like NASA and individuals like Elon Musk, who have made great contributions in the field of space.
- In 2019, ISRO was honored with the IAF World Space Award for the Mangalyaan mission. This mission became the first Asian spacecraft to successfully reach Mars' orbit in its first attempt.

Omar Abdullah took oath as Chief Minister of Jammu and Kashmir

- Omar Abdullah recently took oath as the Chief Minister of Jammu and Kashmir on 16 October 2024.
- National Conference leader Omar Abdullah was sworn in along with the Council of Ministers by Lieutenant Governor Manoj Sinha at the Sher-e-Kashmir International Convention Center in Srinagar.
- His party National Conference won the recently held assembly elections, which were held after a gap of 10 years. In these elections, the National Conference won 42 out of 90 assembly seats.
- Earlier, Jammu and Kashmir assembly elections were held in 2014.

3D-Printed Post Office

- Pune is set to become home to India's second post office, after Bengaluru, constructed using innovative 3D printing technology, with completion expected in under three months.
- Unlike traditional buildings, this new post office will not feature vertical pillars, bricks, or steel, utilizing a unique type of cement specifically designed for 3D printing.
- The site for the new facility has been identified in Sahakar Nagar, although the tendering process is still pending. Operations at the post office are anticipated to commence next year, according to Dattatray Varadhi, Assistant Superintendent of the Pune Region Post Office.

- The first 3D-printed post office in India was inaugurated in Bengaluru last year, completed in just 43 days—two days ahead of schedule—demonstrating significant time savings compared to conventional construction methods, which typically require 6-10 months.
- The 3D printing technique is recognized for being cost-effective and environmentally friendly, where designs are created using computer programs and executed by printers that deposit cement or other materials to shape the structure.

Justice Sanjiv Khanna Appointed as the 51st Chief Justice of India

- Justice Sanjiv Khanna has been appointed as the 51st Chief Justice of India, succeeding Justice D.Y. Chandrachud. Justice Khanna's tenure will be a little over six months, concluding on May 13, 2025.

Significant Contributions Justice Sanjiv Khanna:

- **Electoral Bond Scheme:** In 2024, Justice Sanjiv Khanna was part of the bench that ruled the Electoral Bond Scheme unconstitutional, emphasizing the need for transparency in political funding.
- **Article 370:** He was involved in the five-judge bench that upheld the abrogation of Article 370, which removed Jammu and Kashmir's special status, noting that its removal did not disrupt the federal structure of India.
- **Divorce by Supreme Court:** In 2023, he affirmed the Supreme Court's authority to grant divorces directly under Article 142, based on the concept of "irretrievable breakdown of marriage."
- **RTI for Chief Justice:** In 2019, he ruled that the Chief Justice of India's office could be subject to RTI requests, highlighting the balance between judicial transparency and privacy.

Kaziranga National Park becomes India's second butterfly diversity centre

- Recently Kaziranga National Park, which is now home to over 446 butterfly species, has become India's second butterfly diversity centre after Namdapha National Park in Arunachal Pradesh.



- The "Butterfly Conservation Meet-2024" was organised for the first time in Kaziranga from 27 to 29 September 2024, which was attended by 40 butterfly experts from across the country.
- A new illustrated guidebook on butterflies written by Dr. Jyoti Gogoi was launched. The book documents 446 species of butterflies recorded in Kaziranga, of which 18 are new records for India. These include Burmese Threering, Glassy Cerulean, Dark-bordered Hedge Blue, Andaman Yellow Banded Flat, Ferrar's Cerulean, Great Red-veined Lancer, Peacock Oakblue, Singled, Lined Flash, Yellow-tailed Awlking, White Palm Bob, Dark-dusted Palm Dart, Clavate Banded Demon, Pale-marked Ace, Yellow Onyx, Long-winged Hedge Blue, Ace SP and Dwarf Banded Demon.

Sagar Kavach

- The Indian Coast Guard successfully conducted the Coastal Security Exercise 'Sagar Kavach' on 16-17 October 2024 off the coast of Gujarat and the Union Territory of Daman and Diu.
- Coordinated by the Coast Guard Regional Headquarters in Gandhinagar, this was the second edition of the exercise this year, aimed at strengthening maritime and coastal security by validating Standard Operating Procedures (SOPs).
- The exercise involved various key stakeholders, including the Indian Navy, State Police, Marine Police, Border Security Force (BSF), National Security Guard (NSG), Gujarat Maritime Board (GMB), Intelligence Bureau (IB), and port authorities.
- During the two-day exercise, multiple operational scenarios were simulated to test the coordination and preparedness of participating agencies in maintaining maritime security. This initiative plays a vital role in ensuring coastal defense and addressing threats such as infiltration, smuggling, and maritime terrorism along India's coastline.

Akhil Sheron Wins Bronze at ISSF World Cup Final in Rifle 3-Position Event



- Akhil Sheron secured a bronze medal in the men's 50m rifle 3-position event at the ISSF World Cup Final held at the Dr. Karni Singh Shooting Range in Tughlakabad, New Delhi. This achievement marked India's second medal at the event, following Sonam Maskar's silver in the women's 10m air rifle.
- Hungary's Istvan Peni claimed the gold medal, while Jiri Privertsky from the Czech Republic took the silver. In the women's event, Olympic champion Huang Yuting of China won gold.
- The ISSF World Cup Final 2024, featuring top shooters from across the world, took place from October 13 to 18 in New Delhi. This event highlights India's growing prominence in the international shooting arena.

New Zealand women's team won the 2024 T20 Cricket World Cup title

- New Zealand recently made history, by winning their first Women's T20 World Cup title, defeating South Africa by 32 runs in the final at the Dubai International Cricket Stadium.
- Amelia Kerr was a standout performer throughout the tournament, earning the titles of player of the series and player of the match. Her all-around skills were evident, as she scored a total of 135 runs and took 15 wickets in the series, showcasing her significant impact on New Zealand's success.
- In the final, New Zealand posted a score of 158/5. Amelia Kerr played a crucial role, contributing 43 runs off 38 balls and taking three wickets for 24 runs. South Africa, chasing a target of 159 runs, fell short, finishing at 126/9.
- The Women's T20 World Cup has seen nine editions, with Australia leading with six titles, while England (2009), West Indies (2016), and now New Zealand (2024) have also claimed victories.

India-Oman Bilateral Naval Exercise: Naseem-Al-Bahr 2024

- The Indo-Oman naval exercise Naseem-Al-Bahr, held recently, featured the Indian Navy's INS Trikand and Dornier Maritime Patrol Aircraft alongside Oman's vessel RNOV Al Seeb.
- The exercise occurred in two phases—harbour and sea off Goa's coast.
- The exercise involved Subject Matter Expert Exchanges, joint planning sessions, and social and sports engagements on land. At sea, both navies conducted gun firings, anti-aircraft drills, and tactical maneuvers, along with Replenishment at Sea Approaches and cross-deck helicopter operations.
- Additionally, the Indian Navy's Dornier aircraft provided valuable Over-the-Horizon Targeting (OTHT) data to improve operational effectiveness.
- The exercise successfully strengthened naval interoperability, fostering mutual understanding and cooperation between India and Oman, reaffirming India's commitment to enhancing maritime security in the Indian Ocean Region.

Sport Exclusions in 2026 Commonwealth Games

- Several key sports, including cricket, field hockey, badminton, wrestling, and table tennis, have been excluded from the 2026 Commonwealth Games (CWG) in Glasgow, scheduled from July 23 to August 2. These exclusions represent a significant change in the structure of the event, reducing the number of sports compared to previous editions.
- The 2026 CWG will feature a reduced roster of only 10 sports, including athletics, swimming, 3x3 basketball, track cycling, weightlifting, lawn bowls, artistic gymnastics, netball, boxing, and judo. This marks a substantial reduction from the 20 sports included in the 2022 Birmingham edition.

- The omission of wrestling and shooting, two disciplines where India has consistently excelled, is particularly detrimental. India has won 114 medals in wrestling and 135 in shooting across previous CWG events.
- The removal of field hockey, badminton, and table tennis also diminishes India's medal prospects, as these sports have historically produced significant successes for the nation. This development is expected to challenge India's overall standing in the 2026 CWG.

Cyclone Dana

Cyclone "Dana,"has recently affected to intensify into a severe cyclonic storm by October 23, 2024, with wind speeds reaching up to 120 km/h. The cyclone is predicted to affect Odisha and West Bengal, bringing heavy rainfall and high-speed winds, posing a significant threat to infrastructure and communities in these regions.

About Cyclones:

- Cyclones are large-scale air masses that rotate around a low-pressure center, forming over warm ocean waters with temperatures above 26.5°C. As warm air rises and condenses into clouds, it releases energy that fuels the cyclone.
- Cyclonic storms are categorized based on wind speeds, with severe cyclones reaching between 89 to 117 km/h. Cyclones typically cause torrential rains, strong winds, storm surges, and significant flooding.
- In the Indian Ocean region, cyclones are named according to guidelines set by the World Meteorological Organization (WMO) and the Economic and Social Commission for Asia and the Pacific (ESCAP) to simplify communication.
- Member countries like India, Bangladesh, and others provide names sequentially.

Expansion of News Services in Nepal's Indigenous Languages

- The Rashtriya Samachar Samiti (RSS), Nepal's state news agency, has launched news services in Maithili, Awadhi, Bhojpuri, and Tharu languages, enhancing access to information for diverse linguistic communities.
- The initiative was inaugurated by the Minister for Communications and Information Technology and it aligns with the Ministry's 100-day targets and reinforces Nepal's commitment to its federal structure by promoting multilingualism.
- In addition, Gorkhapatra, Nepal's oldest daily newspaper, introduced a page dedicated to the Ranatharu language..
- In India, Maithili, Awadhi, and Bhojpuri are prominent regional languages spoken mainly in Bihar and Uttar Pradesh, contributing to India's rich linguistic diversity. Tharu, spoken by the indigenous Tharu people, is prevalent in the Terai region.
- These languages reflect shared traditions, customs, and histories, strengthening ties among communities and promoting regional identity, thereby enriching the cultural landscape of both India and Nepal.

New Genus of Jumping Spiders

- A new genus of jumping spiders, Tenkana, has been discovered in southern India. It includes two previously known species and a newly identified species called Tenkana jayamangali.
- The name Tenkana comes from the Kannada word for "south," as the species are found in southern India and northern Sri Lanka. The newly discovered species, Tenkana jayamangali, is named after the Jayamangali river in Karnataka, where it was first found.
- Tenkana spiders belong to the Plexippina subtribe of jumping spiders and are distinct from related groups such as Hyllus and Telamonia.
- These spiders prefer dry, ground-level habitats, unlike their forest-dwelling relatives. They have been found in Tamil Nadu, Puducherry, Karnataka, Telangana, and Andhra Pradesh.
- The research, published in the journal Zookeys, was based on genetic studies and physical examinations. Two species that were previously part of the genus Colopsus have now been reclassified under Tenkana.

Prabowo Subianto Sworn in as Indonesia's Eighth President



- Prabowo Subianto recently sworn in as Indonesia's eighth President, after winning nearly 60% of the vote. He now leads Indonesia, the world's third-largest democracy and the most populous Muslim-majority nation.
- Prabowo, a former special forces commander, has introduced key policies, including a free meal program for schoolchildren. His administration consists of 48 ministers and 58 deputy ministers.
- His presidency follows Joko Widodo's decade-long leadership, which brought significant economic growth and infrastructure development to the country.
- Under Prabowo's leadership, Indonesia is expected to continue with economic reforms and improve social welfare programs.
- Indonesia, the world's largest archipelago with over 17,000 islands, has its capital in Jakarta, and its currency is the Indonesian Rupiah.

18th Pravasi Bharatiya Divas to be held in Bhubaneswar

- The 18th Pravasi Bharatiya Divas will be held in Bhubaneswar from January 8 to 10, 2025 in Odisha.
- Chief Minister Mohan Charan Manjhi has approved this proposal received from the Ministry of External Affairs.
- Pravasi Bharatiya Divas is celebrated to commemorate the return of Mahatma Gandhi to India from South Africa on January 9, 1915.
- India has been celebrating this day since 2003 to honour the contribution of the overseas Indian community. The last Pravasi Bharatiya Divas was held in Indore, Madhya Pradesh.

IMF Maintains India's GDP Growth Forecast at 7% for FY25

- In its latest World Economic Outlook report, the International Monetary Fund (IMF) has retained India's GDP growth forecast for the fiscal year 2024-25 at 7%. The report highlights a projected moderation in growth from 8.2% in 2023 to 7% in 2024, and further to 6.5% in 2025.
- This slowdown is primarily due to the depletion of pent-up demand that built up during the COVID-19 pandemic, as the economy adjusts back to its potential growth levels.
- On a global scale, the IMF expects economic growth to remain steady at 3.2% in both 2024 and 2025. While inflation is declining, projected to fall to 3.5% by the end of 2025, there are still risks to economic stability. These risks include possible escalations in regional conflicts, changes in trade policies, and the chance of monetary conditions remaining tight for an extended period.
- The IMF's report underscores the importance of effective policy measures in India to support economic growth and address vulnerabilities as the country continues its recovery from the pandemic.

Justice Yahya Afridi Appointed as Next Chief Justice of Pakistan



- Justice Yahya Afridi has been appointed as the next Chief Justice of Pakistan by a special parliamentary committee. The committee selected him from among the three most senior judges of the Supreme Court. This decision follows the recent passage of the 26th Constitutional Amendment, which has introduced significant changes in the judiciary.
- Justice Afridi will succeed Justice Mansoor Ali Shah, who was previously in line for the position under the old system.
- The committee's decision will now be presented to the Prime Minister and subsequently forwarded to the President for final approval. This appointment

marks a crucial development in the leadership of Pakistan's judiciary amid ongoing reforms.

Pradhan Mantri Mudra Yojana (PMMY)

- The government has increased the Mudra loan limit under the Pradhan Mantri Mudra Yojana (PMMY) to ₹20 lakh from ₹10 lakh, introducing a new 'Tarun Plus' category to promote entrepreneurship. This enhancement aims to further the Mudra Scheme's goal of funding the unfunded, particularly benefiting emerging entrepreneurs by facilitating their growth and expansion.
- Finance Minister Nirmala Sitharaman announced this change in her July 2024 Union Budget speech, specifying that the increase applies to entrepreneurs who have successfully repaid previous loans under the 'Tarun' category.

About PMMY:

- Launched on April 8, 2015, by Prime Minister Narendra Modi, PMMY aims to provide easy, collateral-free micro-credit of up to ₹10 lakh to non-corporate, non-farm small and micro-entrepreneurs for income-generating activities.
- Loans are issued by member lending institutions, including banks, non-banking financial companies, microfinance institutions, and other financial intermediaries.
- Under the existing scheme, banks provide collateral-free loans in three categories:
  - » Shishu: up to ₹50,000
  - » Kishore: between ₹50,000 and ₹5 lakh
  - » Tarun: up to ₹10 lakh

Indian Football Team Advances to 125th in Latest FIFA Rankings



- The Indian men's football team has achieved a significant milestone in the latest FIFA rankings, securing 125th position. This boost follows their recent 1-1 draw against Vietnam in an international friendly match.
- Under the guidance of new coach Manolo Márquez, the team is still aiming for its first win, having recorded one loss and two draws since his arrival. Despite this, their performances have resulted in an increase of +0.26 points, bringing their total to 1133.78 points.
- In the Asian Football Confederation (AFC) rankings, India has also moved up one spot to 22nd place. The global football landscape remains led by Argentina, which holds the top rank with 1883.5 points, while France, Spain, England, and Brazil round out the top five teams.

MoU between ISRO and DBT

- The Indian Space Research Organisation (ISRO) and the Department of Biotechnology (DBT) have recently signed a memorandum of understanding to collaborate on space biotechnology. This partnership aims to explore various areas, including microgravity experiments and biomanufacturing, which could be vital for future human space missions.
- Key areas of research will include investigating how supplements can mitigate muscle loss in microgravity, studying the growth of microalgae for oxygen production and nutrition, and examining the effects of space conditions on cyanobacteria.
- These studies are particularly relevant as India prepares for its Gaganyaan mission, which includes sending

astronauts to the International Space Station.

National Anubhav Awards Scheme, 2025

- The Government of India has launched the National Anubhav Awards Scheme, 2025, extending eligibility to employees of Central Public Sector Undertakings (CPSUs), including Public Sector Banks, for the first time.
- This initiative aims to collect and showcase the experiences of retiring and retired government employees. The deadline for submitting write-ups on the Anubhav Portal is March 31, 2025.



- Since its inception in 2015, the Anubhav platform has published 10,886 write-ups and awarded 59 Anubhav Awards and 19 Jury Certificates to outstanding submissions.
- The scheme now allows pensioners to submit their experiences within three years of retirement, an extension from the previous one-year limit. Additionally, a new marking system based on various pay levels has been introduced to streamline the assessment process.
- National Anubhav Puraskar Scheme is a scheme launched to honour retired government employees for their experiences. Under this scheme, retired government employees are encouraged to share their experiences. Under this scheme, an award ceremony is organized every year.

Indian Institute of Foreign Trade to Establish First Overseas Campus in Dubai

- The Indian Institute of Foreign Trade (IIFT) will launch its first overseas campus at the India Pavilion in Expo City, Dubai, following a Memorandum of Understanding (MoU). Expected to begin operations in early 2025, the campus will initially offer short- and medium-term training programs, followed by the MBA (International Business) program.
- This initiative aims to benefit the 3.5 million-strong Indian community in the UAE and enhance the IIFT brand's global recognition.
- The MoU strengthens existing bilateral agreements between India and the UAE, including trade mechanisms and the Comprehensive Economic Partnership Agreement (CEPA).

About Indian Institute of Foreign Trade (IIFT):

- Established in 1963 as an autonomous body under the Ministry of Commerce, the Indian Institute of Foreign Trade (IIFT) has achieved Deemed University status and is recognized as one of India's premier business institutions.
- It focuses on foreign trade and is esteemed as an academic center of excellence in international business research, training, and education.

One Liners

1.	Union Minister Sarbananda Sonowal 'Cruise Bharat Mission' from the Mumbai port, aimed at boosting the potential of cruise tourism in the country and doubling of cruise passenger traffic by 2029.
2.	The Maharashtra government officially declared the indigenous cow as "Rajya Mata," recognizing its cultural and economic significance in the state, and promoting its preservation.
3.	The Ministry of Social Justice and Empowerment observed International Day of Older Persons 2024 on 1st October 2024. On December 14, 1990, the United Nations General Assembly voted to establish October 1 as the International Day of Older People as recorded in Resolution 45/106. The holiday was observed for the first time on October 1, 1991.
4.	The Indian Navy delegation participated in EURONAVAL 2024, which took place from November 4 to 7 in Paris Nord Villepinte, France.
5.	Union Minister Prataprao Jadhav launched the Ayush Medical Value Travel Summit 2024 on September 30 in Mumbai. This summit aimed to strengthen India's leadership in Medical Value Travel through Ayush systems and global collaborations. The event was organized by the Ministry of Ayush in collaboration with the Ministry of Tourism, Government of Maharashtra.
6.	The 8th edition of the KAZIND-2024 Joint Military Exercise held in Auli, Uttarakhand. The Exercise between India and Kazakhstan was initiated as 'Exercise PRABAL DOSTYK' in 2016. After the second edition, it was renamed 'Exercise KAZIND
7.	Veteran actor Mithun Chakraborty has been honored with the prestigious Dadasaheb Phalke Award, India's highest distinction in cinema, at the 70th National Film Awards ceremony held in New Delhi's Vigyan Bhawan. The Dadasaheb Phalke Award is given annually to recognize outstanding contributions to the growth and development of Indian cinema. It comprises a Swarna Kamal (Golden Lotus) medallion, a shawl, and a cash prize of 1,000,000.
8.	Kho Kho Federation of India (KKFI) and the International Kho Kho Federation announced that the first-ever Kho Kho World Cup is scheduled to take place in India in 2025. This tournament will feature 24 countries across six continents, showcasing 16 teams in both men's and women's categories.
9.	The 2024 edition of Indo-Pacific Regional Dialogue (IPRD) held in New Delhi from 3 to 5 October, and the theme of the conference is "Resource Geopolitics and Security in the Indo-Pacific." IPRD is the Indian Navy's flagship international conference that addresses maritime security issues in the Indo-Pacific region.
10.	Prime Minister Narendra Modi inaugurated 'Jamaica Marg' in front of the Jamaica High Commission in New Delhi, symbolizing the strength of India-Jamaica diplomatic ties.
11.	Telangana has become the first State, in the country, to get a chapter of NITI Aayog's Women Entrepreneurship Platform (WEP). This initiative is designed to empower women entrepreneurs across various sectors.
12.	The government has reconstituted the Monetary Policy Committee (MPC), with Professor Ram Singh, Economist Saugata Bhattacharya, and Dr. Nagesh Kumar appointed as new members, replacing Ashima Goyal, Shashanka Bhide, and Jayanth R Varma.
13.	The Prime Minister's Internship Scheme was launched in the pilot phase to provide 1.25 lakh internships during the fiscal year 2024-25, with 500 top companies participating. The scheme aims to create 1 crore internship opportunities for young people over the next five years and will be managed through an online portal developed by the Ministry of Corporate Affairs (MCA).
14.	The Union Cabinet of India has indeed approved a Letter of Intent to join the International Energy Efficiency Hub. The International Energy Efficiency Hub was established in 2020 as the successor to the International Partnership for Energy Efficiency Cooperation (IPEEC).
15.	The Conference on Maritime Decarbonization in India, co-hosted by the Ministry of Ports and the Asian Development Bank, held in New Delhi. It emphasized the importance of green shipping and sustainable port operations.

16.	On 3 October 2024, the Union Cabinet approved Marathi, Bengali, Assamese, Pali, and Prakrit as classical languages. Prior to this decision, India had six classical languages, including Tamil, Telugu, Malayalam, Kannada, Sanskrit, and Odia. Tamil was the first language to be granted classical status in 2004.
17.	World Animal Day is observed annually on 04 October to raise awareness about animal welfare. The theme for World Animal Day 2024 is "The world is their home too," emphasizing the need for a shared responsibility for the welfare of animals.
18.	Prime Minister Narendra Modi inaugurated India's first modern and self-reliant gaushala, Lal Tipara Gaushala, with a Bio-CNG plant in Gwalior, Madhya Pradesh, which can produce three tonnes of natural gas per day using 100 tonnes of cow dung.
19.	Claudia Sheinbaum took oath on October 1, 2024, as the first female president of Mexico, succeeding Andrés Manuel López Obrador and will serve a six-year term until 2030.
20.	The Dharti Aaba Janjatiya Gram Utkarsh Abhiyan (DAJGUA) was launched by Prime Minister Narendra Modi on October 2, 2024, from Hazaribagh, Jharkhand. This ambitious scheme has a total outlay of Rs 79,156 crore, with the Central government contributing Rs 56,333 crore and the States contributing Rs 22,823 crore.
21.	The World Health Organization (WHO) has taken a significant step in combating Mpox by approving the first diagnostic test, Alinity m MPXV assay, developed by Abbott Molecular Inc.
22.	World Teachers' Day was observed on 5 October. UNESCO declared October 5 as World Teachers' Day in 1994. The theme of World Teachers' Day 2024 is "Valuing Teacher Voices: Towards a New Social Contract for Education."
23.	Adani Group and Google have joined forces to boost clean energy in India. This partnership aims to support Google's ambitious goal of achieving 24/7 carbon-free energy for its operations worldwide
24.	India has made history by becoming the fourth country to surpass $700 billion in foreign exchange reserves, joining the elite club of China, Japan, and Switzerland.
25.	The Union Cabinet has approved the National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds), aimed at boosting domestic oilseed production and achieving self-reliance (Atmanirbhar Bharat) in edible oils. The Mission will be implemented over a seven-year period, from 2024-25 to 2030-31, with a financial outlay of Rs 10,103 crore.
26.	The International Film Festival and Forum on Environment and Wildlife, 'Vatavaran', held in New Delhi on October 3, 2024, with a crucial theme - "Wetlands for Life".
27.	At the ISSF Junior World Championship in Peru, Indian pistol shooter Divyanshi won her second individual gold medal in the Women's 25m Standard Pistol event.
28.	A Memorandum of Understanding (MoU) has been signed between the Government of Maharashtra and the Sports Authority of India (SAI). The MoU is for the establishment of a National Excellence Center in Kandivali, Mumbai.
29.	DRDO conducted three successful flight tests of its 4th generation technologically advanced very short-range air defense system (VSHORADS) on October 3rd and 4th at Pokhran Field Firing Range, Rajasthan.
30.	Uttar Pradesh CM Yogi Adityanath unveils the new multicolored logo for Kumbh Mela 2025 in Prayagraj The design includes symbols like the Akshay Vat tree, a temple, a seer, a Kalash, and an image of Lord Hanuman.
31.	Nepal's President Ramchandra Paudel appointed Prakash Man Singh Raut as the new Chief Justice.
32.	The Indian Institute of Foreign Trade (IIFT) is set to open its first overseas campus in Dubai by early 2025
33.	India and the UAE will integrate UPI and AANI for seamless cross-border transactions, benefiting over 3 million Indians living in the UAE, following a record $84 billion trade between India and UAE in 2023-24.
34.	Scientists Victor Ambros and Gary Ruvkun won the Nobel Prize in Physiology or Medicine for their discovery of microRNA and its role in gene regulation.

35.	World Post Day, celebrated on October 9, marks the anniversary of the establishment of the Universal Postal Union (UPU) in 1874. The theme for 2024 is "150 years of enabling communication and empowering peoples across nations".
36.	The 3rd edition of the Mindfulness India Summit held on October 17-18, 2024 in Mumbai. The theme is "Thrive in the Age of Disruption", emphasizing the role of mindfulness in leadership, emotional intelligence, and navigating complex business environments.
37.	John J. Hopfield and Geoffrey E. Hinton were awarded the 2024 Nobel Prize in Physics for their contributions to machine learning through artificial neural networks.
38.	The MACE Observatory, Asia's largest and the world's highest Imaging Cherenkov Telescope, was inaugurated on October 4, 2024, in Hanle, Ladakh by Dr. Ajit Kumar Mohanty, Secretary of the Department of Atomic Energy (DAE).
39.	The Union Cabinet approved the development of the National Maritime Heritage Complex (NMHC) at Lothal, Gujarat. This project aims to preserve India's maritime heritage and will be the largest maritime heritage complex globally.
40.	India launched its Study in India campaign at the 20th International Education Show in Sharjah, UAE. The initiative aims to position India as a global education hub and showcases over 590 Indian universities.
41.	The Nobel Prize in Chemistry 2024 was awarded to David Baker, Demis Hassabis, and John Jumper for their work on computational protein design and protein structure prediction.
42.	World Mental Health Day was observed on 10 October 2024, with the theme "Mental Health at Work."
43.	The 2024 Nobel Prize in Literature was awarded to Han Kang, a South Korean writer, for her intense, poetic prose that addresses historical trauma and the fragility of human life. Han Kang, known for her internationally recognized novel The Vegetarian, becomes the first South Korean to receive the prestigious award.
44.	At the 21st India-ASEAN Summit, Prime Minister Narendra Modi announced a 10-point plan to further enhance India-ASEAN cooperation.
45.	Hindustan Aeronautics Limited (HAL) has been upgraded to the 14th Maharatna Central Public Sector Enterprise (CPSE).
46.	International Day for Disaster Risk Reduction Observed annually on October 13. The theme for 2024 was "Empowering the Next Generation for a Resilient Future," focusing on the importance of education in equipping youth to mitigate disaster risks.
47.	The 149th assembly of the Inter-Parliamentary Union (IPU) took place from October 13-17 in Geneva, Switzerland.
48.	India's ranking of 105th on the Global Hunger Index 2024. The Global Hunger Index (GHI) report is published annually by Welthungerhilfe and Concern Worldwide.
49.	Nepali climber Nima Rinzee Sherpa, at just 18 years old, became the youngest person to summit all 14 peaks above 8,000 meters.
50.	The first ship of the two Multi Purpose Vessel project, Samarthak, was launched on October 14, 2024, at L&T, Kattupalli.
51.	The 2024 Nobel Economics Prize was awarded to Daron Acemoglu, Simon Johnson, and James A. Robinson for their studies on how institutions are formed and affect prosperity.
52.	The Nobel Peace Prize was awarded to Nihon Hidankyo, an organization of survivors of the Hiroshima-Nagasaki bombings.

MCQs Based on Current Affairs

1. Consider the following statement with reference Jamaican:

1. Jamaica island covers an area of about 10,990 square kilometers, making it the second-largest island in the Caribbean.
2. Kingston is the capital and largest city, located on the southern coast.
3. Jamaica was colonized by the Spanish in 1492 and later conquered by the British in 1655

How many statements is/ are correct?

A. Only 1
B. Only 2
C. All statements
D. None

2. Consider the following statements:

1. Recently, Britain has agreed to return sovereignty of the all Chagos Islands to Mauritius
2. Britain has controlled the Chagos Islands since 1816.

Which of the above statements is/ are correct?

A. Only 1
B. Only2
C. Both
D. None of the above

3. Consider the following statements with reference to classical languages:

1. Recently, Union Cabinet has recognized five additional languages Marathi, Pali, Prakrit, Assamese, and Bengali as classical languages.
2. Till date, only five language have recognised as a classical language
3. In 2004, Tamil became the first language to recognised as a classical language of India.

How many statements is/ are correct?

A. Only 1
B. Only 2
C. All statements
D. None

4. Consider the following statement:

1. Recently, World Tourism Day was celebrated globally on 27th of September, 2024.
2. The theme for World Tourism Day 2024, was Tourism and Peace
3. World Tourism Organization has celebrated World Tourism Day on September 27 since 1970

How many statements is/ are correct?

A. Only 1
B. Only 2
C. All statements
D. None

5. Consider the following statements:

1. The 10th International Science Festival (IISF) will be held in Guwahati from November 30 to December 5, 2024.
2. Northeast India will host its second International Science Festival (IISF)
3. The theme of the festival is "Transforming India into an S&T driven Global Manufacturing Hub

How many statements is/ are correct?

A. Only 1
B. Only 2
C. All statements
D. None

6. Consider the following statements:

1. Recently, the Union Cabinet approved the National Mission on Edible Oils – Oilseeds (NMEO-Oilseeds) to increase domestic oilseed production and achieve self-sufficiency in edible oils.
2. The mission will be implemented over a seven-year period from 2024-25 to 2030-31, with a financial outlay of 100,103 crore.
3. The mission target is to Increase primary oilseed production from 39 million tonnes (2022-23) to 69.7 million tonnes by 2030-31.

How many statements is/ are correct?

A. Only 1
B. Only 2
C. All statements
D. None

7. Consider the following statements with reference to Similipal National Park:

1. Similipal national park located in Odisha and is notable for having the population of melanistic tigers Black tigers).

2. It forms a crucial part of the Mayurbhanj Elephant Reserve.
3. Since 2010, Similipal National Park has been designated as part of the UNESCO World Network of Biosphere Reserves.

How many statements is/ are correct?

A. Only 1
B. Only 2
C. All statements
D. None

8. Consider the following statements:

1. Recently, The Nobel Prize in Physiology or Medicine for 2024 has been awarded to Victor Ambros and Gary Ruvkun for their groundbreaking discovery of microRNA.
2. The microRNA (miRNA) is a form of small, single-stranded RNA.
3. miRNAs play a critical role in RNA silencing and post-transcriptional regulation of gene expression.

Which of the above statements is/ are correct?

A. Only 1 and 2
B. Only 1 and 3
C. Only 2 and 3
D. All of the above

9. Which organization was formed to promote private sector participation in space activities in India?

A. Antrix Corporation Limited
B. Indian National Space Promotion and Authorization Centre (IN-SPACe)
C. Indian Space Research Organisation (ISRO)
D. New Space India Limited (NSIL)

10. Consider the following statements with reference to Pradhan Mantri TB Mukt Bharat Abhiyaan (PMTBMBA.:

1. Pradhan Mantri TB Mukt Bharat Abhiyaan (PMTBMBA. was launched on September 9, 2021.
2. This program aims to eliminate TB by 2025, five years ahead of the global goal to end TB by 2030.
3. It was first articulated by the Hon'ble Prime Minister at the Delhi End TB Summit in March 2017.

How many statements is/ are correct?

A. Only 1
B. Only 2
C. All statements
D. None

11. Where will the Indian Institute of Foreign Trade (IIFT) establish its first overseas campus?

A. London
B. Dubai
C. Singapore
D. New York

12 .Consider the following statements with reference to the WWF's Living Planet Report 2024:

1. The report reveals a 73% decline in the average size of monitored wildlife populations globally from 1970 to 2020.
2. Freshwater ecosystems have experienced a decline of 85%, while terrestrial ecosystems have declined by 69% and marine ecosystems by 56%.
3. The report highlights that habitat loss is the least significant threat to wildlife populations.

How many statements is/are correct?

A. Only 1
B. Only 2
C. All statements
D. None

13. Consider the following statements regarding Rice Fortification:

1. Rice fortification is defined by the FSSAI as a method to enhance the nutritional profile of rice with minimal health risks.
2. The average per capita rice consumption in India is 10 kg per month.
3. Extrusion is considered the most effective method for producing fortified rice kernels (FRKs).

Which of the above statements is/ are correct?

A. Only 1 and 2
B. Only 1 and 3
C. Only 2 and 3
D. All of the above

14. Consider the following statements regarding the 2024 Nobel Prize in Chemistry:

1. The prize was awarded to David Baker, Demis Hassabis, and John M. Jumper for their contributions to protein studies.

2. David Baker received half of the prize for his work in developing AlphaFold, an AI model for predicting protein structures.
3. Demis Hassabis and John M. Jumper will share the other half of the prize for their development of computational protein design.

How many statements is/are correct?
A. Only 1
B. Only 2
C. All statements
D. None

15. Which of the following statements:
1. Trachoma is a leading cause of blindness worldwide, affecting approximately 150 million people.
2. India was declared itself free from infective trachoma based on the National Trachoma Survey Report conducted from 2014 to 2017.
3. The WHO definition of elimination requires the prevalence of trichiasis to be less than 0.1% in individuals aged 15 years and above.
4. The SAFE strategy adopted by India includes surgery, antibiotics, facial cleanliness, and environmental improvements.

Select the correct answer using the codes given below:
A. Only 1 and 2
B. Only 1, 2, and 4
C. Only 1, 3, and 4
D. All of the above

16. Consider the following statements about Police Commemoration Day:
1. It is observed on October 22 to honor police personnel.
2. The day commemorates the martyrdom of 10 CRPF personnel from an ambush in 1962.
3. The National Police Memorial was dedicated in 2020 by PM Modi.

Which of the above statements is/are incorrect?
A. Only 1 and 2
B. Only 1 and 3
C. Only 2 and 3
D. All of the above

17. Consider the following statements regarding Archery World Cup Final:
1. Deepika Kumari won the gold medal in the women's recurve event.
2. Her medal is India's only medal in the world cup.
3. The event took place in Tlaxcala, Mexico.

Which of the above statements is/are correct?
A. Only 1 and 2
B. Only 2 and 3
C. Only 1 and 3
D. All of the above

18. Consider the following statements regarding the Indo-Oman naval exercise Naseem-Al-Bahr 2024:
1. The exercise was held from October 13-18, 2024, featuring the Indian Navy's INS Trikand and Oman's vessel RNOV Al Seeb.
2. The exercise occurred in three phases: harbour, sea, and air.
3. The primary objective was to enhance naval interoperability and strengthen cooperation between India and Oman.

How many statements are correct?
A. Only 1
B. Only 2
C. All three
D. None

19. Consider the following statements regarding the recent global coral bleaching event:
1. The global coral bleaching event that began in February 2023 has impacted 77% of the world's coral reef areas.
2. Coral bleaching has been reported in 50 countries and territories.
3. The current bleaching event has been exacerbated by the El Niño climate pattern.

How many statements are correct?
A. Only 1
B. Only 2
C. All three
D. None

20. Consider the following statements:
1. Recently, 6th National Water Awards were presented by President of India, Smt. Droupadi Murmu, on October 22, 2024.

2. Odisha received the first prize in the Best State category.
3. 1st National Water Awards were given in 2019.

Which of the above statements is/are incorrect?
A. Only 1 and 2
B. Only 2 and 3
C. Only 1 and 3
D. All of the above

21. Consider the following statements regarding INS Suvarna:
1. Recently, INS Suvarna made a port call at Dar Es Salaam during its anti-piracy deployment in October 2024.
2. INS Suvarna (P52) is a Sukanya-class patrol vessel commissioned on April 4, 1991.
3. Dar Es Salaam, located along the Indian Ocean coast, is Tanzania's largest city and economic capital.

Which of the above statements is/are correct?
A. Only 1 and 2
B. Only 2 and 3
C. Only 1 and 3
D. All of the above

22. When were the first Commonwealth Games held?
A. 1954, Vancouver, Canada
B. 1930, Hamilton, Canada
C. 1978, Edmonton, Canada
D. 2022, Birmingham, England

33. Consider the following statements regarding the recent decision on satellite spectrum in India:
1. Satellite spectrum in India will now be assigned administratively rather than through auctions.
2. The International Telecommunication Union (ITU) manages satellite spectrum allocation globally.
3. The Telecommunications Act, 2023 mandates that all spectrum must be assigned through auctions.

How many statements are correct?
A. Only 1
B. Only 2
C. All three
D. None

24. Consider the following statements:
Statement-I: The Kartarpur Corridor agreement allows only Indian citizens to visit Gurdwara Darbar Sahib in Pakistan without a visa.
Statement-II: The renewed Corridor agreement ensures the corridor will remain operational until 2029, accommodating up to 5,000 pilgrims daily.
Which one of the following is correct in respect of the above statements?
A. Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
B. Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
C. Statement-I is correct, but Statement-II is incorrect
D. Statement-I is incorrect, but Statement-II is correct

25. With reference to the "eShram - One Stop Solution," which of the following statements is/are correct?
1. It is a revamped version of the original eShram portal launched in 2021.
2. The initiative aims to provide social security benefits to formal sector workers.

Select the answer using the code given below:
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

26. Consider the following statements regarding the India-Singapore relationship:
1. India was one of the first countries to recognize Singapore's independence in 1965.
2. The Comprehensive Economic Cooperation Agreement CECA. has resulted in bilateral trade exceeding USD 50 billion in 2023-24.
3. Exercise SIMBEX is army exercise conducted between India and Singapore.

Which of the statements given above is/are incorrect?
A. 1 and 2 only
B. 1 and 3 only
C. 2 and 3 only
D. 1, 2 and 3

27. Consider the following statements regarding the Digital India Initiative:
1. The initiative was launched on July 1, 2016, to transform India into a digitally empowered society.

2. The Department of Electronics and Information Technology DeitY) coordinates the Digital India Initiative.
3. The initiative aim to improving internet connectivity only in rural areas.

Which of the statements given above is/are incorrect?
A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3

28. Consider the following statements regarding Mission Mausam:

Statement-I: Mission Mausam is a government initiative aimed at improving India's weather forecasting capabilities and climate resilience, with a budget of Rs. 2,000 crore over two years.

Statement-II: The mission focuses exclusively on agricultural weather forecasting and does not address climate change impacts or extreme weather events.

Which one of the following is correct in respect of the above statements?
A. Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
B. Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
C. Statement-I is correct, but Statement-II is incorrect
D. Statement-I is incorrect, but Statement-II is correct

29. Which of the following statements are true about the recent study on diamond dust for solar radiation management (SRM)?
1. Diamond dust has been identified as the most efficient material for reflecting solar radiation among several compounds.
2. The study suggests that spraying five million tonnes of diamond dust annually could lead to a temperature reduction of approximately 1.6 degrees Celsius.
3. Diamond dust has more environmental concerns than those of traditional materials like sulphur and calcium.

Select the correct option:
A. 1 and 2 only
B. 1 and 3 only
C. 2 only
D. 1 and 3 only

30. Consider the following statements:
1. India's GDP is projected to grow at 7% in FY 2024-25, making it the fastest-growing major economy.
2. UPI transactions increased from 92 crore in FY 2017-18 to 13,116 crore in FY 2023-24.
3. India has over 200,000 recognized startups as of FY 2023-24.

Determine which of the statements given above is/are incorrect:
A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 3 only

31. Consider the following statements regarding India's solar energy initiatives and import dynamics:
1. India is projected to increase solar imports to $30 billion annually to meet its renewable energy goals by 2030.
2. As of September 2024, India has added 15 GW of solar capacity in 2023-24, bringing the total capacity to 90.8 GW.
3. The majority of India's solar manufacturing relies on domestic production of solar cells and modules.

Which of the statements given above is/are correct?
A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3

32. Consider the following statements regarding cybersecurity:
1. The Information Technology Act, 2000, dealt with cybersecurity and cybercrimes.
2. The Indian Cyber Crime Coordination Centre (I4C. has been established to handle issues related to cybercrime in the country in a comprehensive and coordinated manner.

Which of the statements given above is/are correct?
1. 1 only
2. 2 only
3. Both
4. None

33. Consider the following statements:

1. Recently, Union Cabinet has approval of a 1,000 crore venture capital fund.
2. The fund will be implemented over five year
3. The fund is free from angel tax.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three
D. None

34. Consider the following statements about the Pradhan Mantri Mudra Yojana (PMMY):

1. The Mudra loan limit has been increased to 20 lakh from Rs. 10 lakh.
2. A new 'Tarun Plus' category has been introduced to promote entrepreneurship.
3. The scheme was launched on April 8, 2015 to provide easy, collateral-free micro-credit of up to 10 lakh to non-corporate, non-farm small and micro-entrepreneurs.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three
D. None

35. Consider the following statements regarding the 2024 Sakharov Prize for Freedom of Thought:

1. The Sakharov Prize was awarded to Venezuelan opposition leaders María Corina Machado and Edmundo González.
2. The Sakharov Prize was established in 1998 to honor advocates of civil liberties.
3. The prize is named after Soviet physicist Andrei Sakharov, a prominent advocate for civil liberties and freedoms.

Which of the above statements is/are correct?
A. 1 only
B. 1 and 3 only
C. 2 and 3 only
D. None of the above

36. Consider the following statements regarding the study on semaglutide:

1. Semaglutide has been shown to significantly reduce the risk of developing Alzheimer's disease.
2. Semaglutide's neuroprotective effects include reduction of Beta-Amyloid deposition and improved glucose metabolism.

Which of the above statements is/are correct?
A. 1 only
B. 2 only
C. Both
D. None of the above

37. Consider the following statements with reference to Great India bustard:

1. Recently, a chick of the Great Indian Bustard (GIB. has been born through artificial insemination AI).
2. Great Indian Bustard is an endangered species as per IUCN red list.
3. It is classified as an endemic species in India.

Which of the above statements is/are incorrect?
A. 1 only
B. 1 and 3 only
C. 2 and 3 only
D. None of the above

38. Consider the following statements with reference to Emissions Gap Report 2024:

1. The report is published by UNDP.
2. This report is the 15th edition in a series
3. Report noted that India's greenhouse gas emissions increase of 6.1% in 2023 compared to the previous year.

Which of the above statements is/are correct?
A. 1 only
B. 1 and 3 only
C. 2 and 3 only
D. None of the above

39. Consider the following statements:

1. Recently, Justice Sanjiv Khanna has been appointed as the 51st Chief Justice of India.
2. He was part of the bench that ruled the Electoral Bond Scheme unconstitutional.
3. In 2019, he ruled that the Chief Justice of India's office could be subject to RTI requests.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three

D. None

40. Consider the following statements about India's nuclear-powered ballistic missile submarine (SSBN) program:

1. India currently operates three SSBNs, including INS Arihant and INS Arighaat.
2. The newly launched S- 4 submarine will be equipped with K-4 missiles, capable of striking targets up to 3,500 km away.
3. SSBNs are crucial for India's second-strike nuclear capability, ensuring survivability in case of a first-strike attack.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

41. Consider the following statements about the WHO's Global TB Report 2024:

1. India has recorded a 17.7% decline in TB incidence from 237 cases per lakh population in 2015 to 195 in 2023, which is more than double the global decline of 8.3%.
2. The treatment coverage for TB in India has declined to 72% in 2023, down from 89% in 2015.
3. The government has increased the monthly allowance for TB patients from 500 to 1,000 to provide better nutritional support under Nikshay Poshan Yojana (NPY).

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

42. Consider the following statements about Exercise Garuda Shakti:

1. The ninth edition of Exercise Garuda Shakti held from November 1 to 12, 2024, at Cijantung in Jakarta, Indonesia.
2. The exercise involves personnel from both the Indian Army's Parachute Regiment and the Indonesian Army's Kopassus.
3. The Exercise Garuda Shakti was conducted since 2010.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

43. Consider the following statements about Exercise Vajra Prahar:

1. The 15th edition of Exercise Vajra Prahar conducted in November 2024 at the Orchard Combat Training Center in Idaho, USA.
2. The first edition of Exercise Vajra Prahar was held in 2008.
3. The 14thth edition of the exercise was conducted at the Special Forces Training Center in Bakloh, Himachal Pradesh.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

44. Consider the following statements regarding the Prevention of Money Laundering Act (PMLA):

1. It is an Act to prevent money laundering and to provide for the confiscation of property derived from or involved in money laundering.
2. The Financial Intelligence Unit – India (FIU-IND), under the Department of Revenue, is responsible for investigating the offenses of money laundering under the PMLA.

Which of the statements given above is/are correct?

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

45. Consider the following statements about the Vietnam-India Bilateral Army Exercise, VINBAX 2024:

1. VINBAX 2024 held in Ambala, Haryana, from November 4-23, and marks the fifth edition of the exercise.
2. Personnel from both the Indian Army and Navy are participating for the first time in VINBAX 2024.

3. The exercise is a part of India's efforts to strengthen its Comprehensive Strategic Partnership with Vietnam, established in 2016.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three
D. None

46. Consider the following statements about the International Solar Alliance (ISA):

1. India has been elected President of ISA for a two-year term until 2026, with France as Co-President.
2. ISA's headquarters is located in Haryana, India.
3. Ashish Khanna will succeed Dr. Ajay Mathur as ISA Director General in 2025, further strengthening the organization's global impact.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three
D. None

47. Consider the following statements about the International Allied Health Conference (IAHC) 2024:

1. The Global Allied Health Network (GAHN) was launched at IAHC 2024.
2. The conference was organized by the National University Health System (NUHS) in collaboration with the World Health Organization (WHO).
3. The theme of the conference, "Advancing Allied Health: Diverse in Calling, United in Purpose," focused on the mission of healthcare professionals across various specialties.

Which of the above statements is/are correct?
A. 1 only
B. 1 and 3 only
C. 2 and 3 only
D. None of the above

48. Consider the following statements about India's Aditya-L1 mission:

1. The primary payload of Aditya-L1, the Visible Emission Line Coronagraph (VELC), has enabled precise measurements of Coronal Mass Ejections CMEs).
2. Aditya-L1 is positioned at the Earth-Moon Lagrange point (L1) to study the Sun's coronal dynamics and solar wind acceleration.
3. One of the key objectives of Aditya-L1 is to investigate the impact of solar flares on Earth's power grids and GPS systems.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three
D. None

49. Consider the following statements about the 'Chalo India Campaign':

1. The 'Chalo India Campaign' allows Overseas Citizens of India (OCI) cardholders to nominate up to five foreign nationals for free e-visas.
2. The campaign specifically targets increasing inbound tourism from the United Kingdom.
3. OCI cardholders can register nominations for the 'Chalo India Campaign' through a special online portal.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three
D. None

50. Consider the following statements about the Director General of Police DGP), Uttar Pradesh Selection and Appointment Rules, 2024:

1. The selection committee for the DGP will be chaired by the Chief Minister of Uttar Pradesh.
2. The new rules require that the DGP serve a minimum tenure of two years once appointed.
3. The eligibility criteria for the DGP position stipulate that officers must have at least six months of service remaining before retirement from the date of the DGP vacancy.

How many of the above statements is/are correct?
A. Only one
B. Only two
C. All three
D. None

51. Consider the following statements about the Supreme Court's Landmark Judgment on Private Property:

1. The judgment reaffirmed that the state can acquire private property for any purpose under the doctrine of "Eminent Domain," without the need to justify the purpose.
2. Article 300A of the Indian Constitution ensures that property rights are a legal right, not a fundamental right, and can only be acquired by the state through lawful procedures and with fair compensation.

Which of the above statements is/are correct?

A. 1 only
B. 2 only
C. Both
D. None of the above

52. Consider the following statements about the Supreme Court's ruling on the Uttar Pradesh Board of Madarsa Education Act, 2004:

1. The Supreme Court upheld the constitutional validity of the Madarsa Act, including provisions that allow the Madarsa Board to confer higher education degrees like Fazil and Kamil.
2. The Court emphasized that while madrasas can provide religious education, the state has the right to regulate secular education in these institutions to ensure quality standards.
3. The Court ruled that the Madarsa Act violates the Right to Education (RTE) Act by not adhering to the prescribed standards for secular education.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

53. Consider the following statements about the $200 million loan agreement signed between ADB and India:

1. The loan agreement is part of the Uttarakhand Livability Improvement Project, which aims to enhance urban services in the state.
2. The project is cofinanced by the European Investment Bank and the state government, bringing the total project cost to $465.9 million.
3. The Asian Development Bank ADB. is a regional development bank established on 19 December 1966

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

54. Consider the following statements about the Henley Passport Index, 2024:

1. Singapore holds the top spot in the Henley Passport Index with visa-free access to 195 countries.
2. India ranks 83rd in the Henley Passport Index, with visa-free access to 58 countries.
3. The Henley Passport Index was launched in 2018 and focuses on ranking passports based on the number of countries one can access without a visa.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

55. Consider the following statements about Rohini Nayyar Prize for Rural Development:

1. Anil Pradhan, a 28-year-old social worker from Odisha, received the third Rohini Nayyar Prize for his contributions to rural development.
2. The Rohini Nayyar Prize includes a cash prize of 5 lakh, along with a citation and a trophy.
3. Anil Pradhan is known as the chief designer of Asia's first university rocket team, VSLV.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

56. Consider the following statements about the PM-Vidyalaxmi Scheme:

1. The PM-Vidyalaxmi scheme offers collateral-free and guarantor-free education loans to students admitted to Quality Higher Education Institutions (QHEIs).
2. The scheme includes a financial allocation of 3,600 crore for the period 2024-2029.
3. The central government will provide a 75% credit

guarantee for education loans up to 7.5 lakh under the scheme.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All three
D. None

57. Consider the following statements about Donald Trump's victory in the 2024 U.S. presidential election:

1. Donald Trump won the 2024 U.S. presidential election by securing 295 electoral votes, exceeding the required 270 votes.
2. Kamala Harris received 226 electoral votes in the 2024 election.
3. Trump's victory marks his first non-consecutive term in over a century, making him the 47th President of the United States.
4. JD Vance will be sworn as Vice President alongside Trump on January 20, 2025.

How many of the above statements is/are correct?

A. Only one
B. Only two
C. All four
D. None

58. Consider the following statements about Cyclone Dana.

1. The cyclone hit the states of Tamil Nadu and Kerala.
2. Cyclone Dana was named by Qatar-
3. cyclone is a large air mass that rotates around a strong center of high atmospheric pressure

Which of the above statements is/are correct?

A. Only 1 and 2
B. Only 2
C. Only 1 and 3
D. All of the above

ANSWER

1	A
2	D
3	B
4	B
5	A
6	B
7	B
8	D
9	B
10	A
11	B
12	B
13	B

14	A
15	B
16	D
17	B
18	B
19	B
20	C
21	D
22	B
23	B
24	D
25	A
26	C

27	C
28	C
29	A
30	D
31	A
32	C
33	C
34	C
35	B
36	C
37	C
38	C
39	C

40	B
41	B
42	B
43	A
44	A
45	B
46	C
47	B
48	B
49	C
50	B
51	B
52	A

53	C
54	A
55	B
56	B
57	C
58	C

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