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Compilation of UPSC relevant news from 1st October to 31st October 2024

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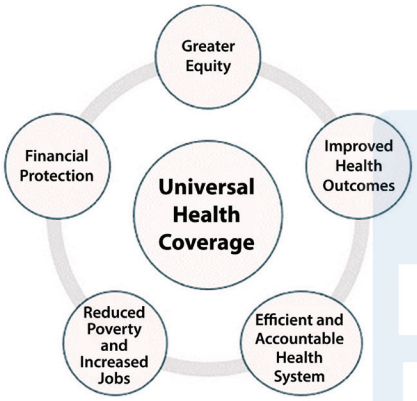
UNIVERSAL HEALTH COVERAGE

Union Health Minister addressed the 77th Session of the WHO Southeast Asia Regional Committee, highlighting India's commitment to a "whole of government" and "whole of society" approach in achieving Universal Health Coverage.

About:

- As per WHO, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
- **Universal Health Coverage (UHC)** means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course **(WHO).**



- Achieving UHC is one of the targets the nations of the world set when they adopted the **2030 Sustainable Development Goals (SDGs) in 2015.**

CONSTITUTIONAL PROVISIONS RELATED TO HEALTH

- The Indian Constitution does not explicitly guarantee a fundamental right to health.
- Due to the absence of an explicitly defined right to health, the Supreme Court of India interpreted it within the framework of Article 21 (Right to Life):
  - **Bandhua Mukti Morcha v. Union of India & Ors:** The Court interpreted the right to health as part of the right to life.
  - **State of Punjab & Ors v. Mohinder Singh Chawla:** The Court affirmed that the right to health is fundamental to the right to life, placing a constitutional obligation on the government to provide health services.
  - **State of Punjab & Ors v. Ram Lubhaya Bagga:** The Court upheld the State's responsibility to maintain health services.
- The Directive Principles of State Policy in Part IV provide a foundation for the right to health:
  - **Article 39(e):** Directs the State to ensure the health of workers.
  - **Article 42:** Requires the State to ensure just and humane working conditions and maternity relief.
  - **Article 47:** Imposes a duty on the State to improve public health, nutrition, and the standard of living.
- Additionally, Articles 243G and 11th Schedule (Entry 23) empower Panchayats and Municipalities to promote public health.

Need of UHC in India:

- **Healthcare Access Inequality:** There is significant disparity in access to healthcare services between rural and urban areas, with rural regions facing a shortage of healthcare facilities and professionals. UHC can ensure equitable access to quality healthcare across all geographies.
- **High Disease Burden:** India faces a dual burden of communicable and Non-Communicable Diseases (NCDs).
  - Communicable diseases like tuberculosis, hepatitis, diarrhoea and influenza (flu) etc. and NCDs like diabetes, hypertension, and heart diseases are on the rise, requiring comprehensive healthcare services that UHC can provide, including preventive care, treatment, and management.
- **Health Workforce Shortages:** India's doctor-population ratio (including both allopathic and AYUSH doctors) stands at 1:834.
  - The WHO recommends a doctor-population ratio of 1:1000 for allopathic doctors.
  - However, there is a significant rural-urban disparity in healthcare, with urban areas having four times more doctors and three times more nurses than rural areas.
  - India needs at least 1·8 million doctors, nurses, and midwives to achieve the minimum density of 44·5 health professionals per 10000 population (currently 21 per 10000) to provide equitable health care *(The lancet report).*
- **Fragmented Health Infrastructure:** India's healthcare infrastructure is often inadequate and fragmented, particularly in primary healthcare. UHC would streamline and strengthen healthcare delivery systems by ensuring better infrastructure, integration, and resource allocation.
- **Out-of-Pocket Expenditure (OOPE) on health in India:** It has reduced from 69.4% in 2004-2005 to 48.21% in 2018-2019, but it remains high, risking poverty for many families.
  - Despite the reduction, India's OOPE remains above the global average of 18.1% (2019, World Bank).

- High OOPE drives 55 million Indians into poverty each year, with over 17% of households facing catastrophic health expenditures annually (WHO, March 2022).

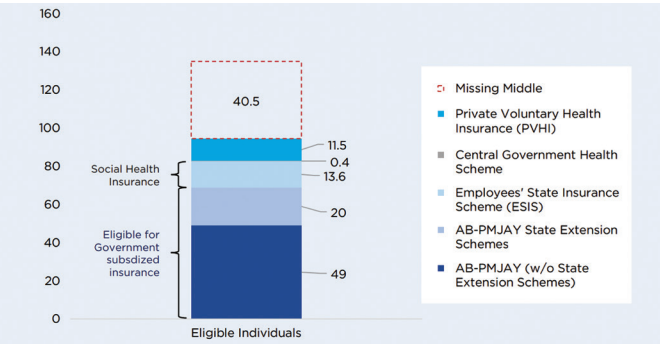
OUT-OF-POCKET EXPENDITURE (OOPE)

- It refers to the direct payments made by individuals or households for healthcare services at the point of use.
- This includes costs for medical consultations, medications, hospital stays, diagnostic tests, and other health-related services that are not reimbursed by insurance or government health programs.

- **Aging Population:** With India's growing aging population, there is an increasing need for long-term care, geriatric services, and management of age-related diseases.
  - 75th round of National Sample Survey 2017-18, indicated that only one-third of the elderly in India utilized health care from public system.
  - UHC can ensure older adults receive appropriate care and support.
- **Public Health Emergencies:** The COVID-19 pandemic highlighted India's vulnerability to public health emergencies. UHC would strengthen public health surveillance systems, preparedness, and response mechanisms to tackle future pandemics and health crises.
- **Boosting Economic Productivity:** A healthy population is more productive. UHC can reduce absenteeism due to illness, improve worker productivity, and contribute to overall economic growth by ensuring a healthier workforce.
- **Aligning with Global Goals:** UHC aligns with the United Nations' Sustainable Development Goal (SDG) 3, which aims to ensure healthy lives and promote well-being for all. Achieving UHC would bring India closer to meeting its SDG targets.

Challenges in Adopting UHC in India:

- **Lack of Universal Insurance Coverage:** While several insurance schemes exist (e.g., Ayushman Bharat), they cover only a fraction of the population.



  - The NITI Aayog report, **Health Insurance for India's Missing Middle**, states that at least **30% of the population**, or **40 crore individuals** (referred to as the "missing middle" in the report), lack any financial protection for health.
  - Expanding these schemes to cover all citizens and integrating them under UHC remains a major challenge.
- **Coordination Between Centre and States:** Health is a state subject in India, meaning states have primary responsibility for healthcare delivery.
  - The lack of coordination between central and state governments can complicate the implementation of UHC, leading to varying levels of coverage and service quality across regions.
- **Political Will and Prioritization:** Adopting UHC requires sustained political commitment and prioritization in policy agendas.
  - Frequent changes in government or leadership, combined with competing demands for resources, can delay progress toward achieving UHC.
- **Low Health Literacy:** Many people in India, especially in rural and marginalized communities, have low health literacy, meaning they are unaware of available health services, preventive care, or the importance of timely medical intervention.
  - UHC adoption will require robust health education and awareness campaigns.
- **Financial Sustainability:** Given India's large population and diverse healthcare needs, ensuring that UHC is financially sustainable over the long term is a major challenge.
- In 2024-25, the Ministry has been allocated Rs 90,659 crore. This is a 13% rise over the revised estimates of 2023-24. India's health expenditure increases to 1.9% of GDP in FY24.
  - However, it is very low compared to USA's 16.57%, France's 11.9% and Japan's 11.4%.
  - Securing continuous funding and efficient allocation of resources is essential to prevent UHC from becoming a financial burden on the state.
- **Urban-Rural Disparities:** Urban areas generally have better healthcare facilities and professionals, while rural areas face chronic shortages.
  - Addressing the urban-rural healthcare divide, both in terms of infrastructure and access to services, is crucial for effective UHC implementation.
- **Regional Variations in Health Needs:** Different regions of India have unique healthcare challenges based on geography, population demographics, and disease prevalence.
  - **Northeast India:** High rates of vector-borne diseases like malaria and Japanese encephalitis due to dense forests and tropical climate; difficult terrain challenges healthcare access.
  - **Western India:** Water scarcity and sanitation issues in states like Rajasthan and Gujarat lead to waterborne diseases, malnutrition, and high maternal mortality, especially in rural and tribal areas.

- **Urban Slums in Metros:** Overcrowding in cities like Mumbai and Delhi leads to a spread of infectious diseases (e.g., tuberculosis) and chronic respiratory issues due to pollution.
- Designing a UHC model that addresses these regional variations while ensuring equity is a complex task.

- **Technological Barriers:** Leveraging technology to streamline healthcare delivery, such as telemedicine or digital health records, is essential for UHC, but many areas, especially rural ones, face connectivity and technological infrastructure challenges.
  - **Connectivity in Rural Areas:**
    - Limited internet access and unreliable power supply in rural regions, such as Bihar and Jharkhand, severely hinder the use of telemedicine and digital health records.
    - The COVID-19 pandemic highlighted these gaps, as lockdowns and social distancing measures made remote healthcare even more essential, but technological limitations restricted access to crucial services.
  - **Infrastructure Challenges in Tribal Regions:**
    - In states like Chhattisgarh and Odisha, inadequate healthcare infrastructure, including a lack of support and training, restricts the use of electronic health records and digital diagnostics.
    - During the COVID-19 crisis, the lack of robust healthcare infrastructure further exposed these vulnerabilities, preventing timely responses to health emergencies.
  - **Low Digital Literacy:**
    - Despite the availability of digital platforms, many rural populations lack the skills or awareness to navigate telemedicine services effectively.
    - The COVID-19 pandemic exacerbated this issue as reliance on digital health services increased, leaving many unable to access virtual consultations or digital health records due to low digital literacy.

STEPS TAKEN TO ACHIEVE THE GOAL OF UHC

- **Ayushman Bharat (Pradhan Mantri Jan Arogya Yojana - PMJAY):** Launched in 2018, PMJAY is the largest health insurance scheme in the world, providing coverage of ₹5 lakh per family per year for secondary and tertiary care to over 100 million vulnerable families.
- **Ayushman Bharat - Health and Wellness Centres (HWCs):** A key component of Ayushman Bharat, the government aims to set up 1.5 lakh HWCs across India to provide comprehensive primary healthcare, including preventive, promotive, and curative services.
- **National Health Mission (NHM):** NHM, which includes the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM), was launched to strengthen the healthcare infrastructure and services, particularly in underserved rural and urban areas.
- **Pradhan Mantri Swasthya Suraksha Yojana (PMSSY):** Aims to improve the quality of medical education and healthcare services by setting up All India Institutes of Medical Sciences (AIIMS) and upgrading government medical colleges.
- **National Digital Health Mission (NDHM):** Launched in 2020, NDHM aims to create a digital health ecosystem that integrates healthcare services, providing citizens with a unique Health ID, electronic health records, and easy access to health services.
- **Mission Indradhanush:** A nationwide immunization program to ensure that children and pregnant women are vaccinated against preventable diseases, targeting high-risk areas and improving overall public health.
- **Jan Aushadhi Scheme (Pradhan Mantri Bhartiya Janaushadhi Pariyojana):** This scheme provides affordable generic medicines through Jan Aushadhi stores, reducing the cost of medicines and making healthcare more accessible.
- **Telemedicine Initiatives (e-Sanjeevani):** The government has promoted telemedicine platforms like e-Sanjeevani to provide remote medical consultations, particularly in rural and underserved areas, reducing the urban-rural healthcare gap.

Way Forward:

- **Expand Insurance Coverage: In Rajasthan**, the **Mukhyamantri Chiranjeevi Yojana** offers health insurance coverage up to Rs10 lakh per family annually and includes coverage for certain critical illnesses. This program has successfully used digital platforms for enrollment, significantly simplifying the process.
  - Building on the success of models like Rajasthan's, a national health insurance scheme could unify and simplify the enrollment process nationwide, incorporating state programs and utilizing digital solutions to reach people in even the most remote areas.
- **Enhance Coordination Between Centre and States:** Establish a robust inter-governmental framework to ensure aligned policies for UHC implementation. Regular consultations among health ministers can help address regional disparities and share best practices.
  - **Also,Fifteenth Finance Commission Chairman N.K. Singh** suggested moving **health from the State List to the Concurrent** List under the Constitution.
  - This shift would allow the Centre more flexibility to implement regulatory changes and enhance collective accountability for healthcare.
  - Additionally, it would enable the rationalization of multiple, fragmented health regulations into a uniform framework, improving sector oversight and coherence.
- **Strengthen Political Commitment:** Foster bipartisan support for UHC to prioritize it in policy agendas regardless of political

changes. Implement long-term healthcare plans with clear milestones to track progress and accountability.

- **Address Cultural and Social Barriers:** Engage local communities in health initiatives to understand their specific needs and tailor services accordingly. Providing cultural competence training to healthcare providers can help reduce biases and improve care for marginalized groups.
- **Integrate the Private Sector:** Develop regulatory frameworks to ensure private healthcare providers maintain quality standards and fair pricing.
  - Encouraging public-private partnerships can enhance service delivery in underserved areas.
- **Improve Health Literacy:** Launch nationwide campaigns to educate the public about available healthcare services and the importance of preventive care. Integrating health education into school curricula can help build a foundation of health knowledge among future generations.
- **Bridge Urban-Rural Disparities:** Invest in healthcare infrastructure in rural areas to ensure equitable access to services. Deploying mobile health units can help reach remote populations and provide essential care.
- **Improve Pharmaceutical Affordability:** Implement price regulation policies for essential medications to ensure affordability and availability. Supporting local pharmaceutical production can further enhance access to low-cost medicines.

Conclusion:

- A healthy population is an empowered population. The lighter the disease burden, the better the country's financial health. Committing to investing in health systems and effectively implementing UHC necessitates political will, substantial investment, and a clear, long-term vision.
- Thus, establishing a coherent policy pathway to execute the national UHC policy consistently across States is imperative for its success.

INTERNATIONAL CASE STUDIES TO ACHIEVE UHC

- **Thailand: Inclusive Health Coverage through a Capitation System**
  - **Approach:** Thailand introduced the Universal Coverage Scheme (UCS) in 2002, aiming to cover its entire population. The UCS is funded primarily through general taxation, with a "capitation" payment system for providers—meaning healthcare providers receive a fixed amount per person, encouraging preventive and primary care.
  - **Outcomes:** Thailand achieved nearly 100% health coverage, reducing out-of-pocket (OOP) expenditure from 34% to 11% of total health spending. Key success factors include political commitment, a strong primary healthcare system, and a robust information system to track patient care.
- **Japan: Mandatory Health Insurance for All**
  - **Approach:** Japan's UHC model, established in 1961, mandates that all citizens and residents enroll in either employer-based insurance or a community-based health insurance plan. Health services are provided by a mix of public and private entities, with the government negotiating service fees to control costs.
  - **Outcomes:** Japan maintains some of the highest health outcomes globally, with a long life expectancy and low infant mortality rates. Out-of-pocket expenses are minimal, and fee regulation has helped manage healthcare costs effectively.
- **United Kingdom: Publicly Funded Health System (NHS)**
  - **Approach:** The UK's National Health Service (NHS) is a tax-funded system providing free healthcare at the point of service to all residents. The NHS model focuses on universal access, with healthcare predominantly delivered by public providers.
  - **Outcomes:** The NHS has enabled the UK to achieve universal health access and good health outcomes. The system's centralized funding and management help to standardize healthcare services across the country.
- **Germany: Social Health Insurance with High Choice and Quality**
  - **Approach:** Germany's healthcare system relies on a social health insurance (SHI) model, where citizens are either mandatorily enrolled in nonprofit "sickness funds" or can opt for private insurance. Financing comes through income-based premiums shared by employers and employees.
  - **Outcomes:** The system provides universal health coverage with high levels of patient choice and satisfaction, leading to positive health outcomes. Germany's system also integrates public-private partnerships, fostering competition and efficiency.
- **Brazil: Decentralized, Rights-Based Healthcare System (SUS)**
  - **Approach:** Brazil's Unified Health System (SUS) provides healthcare as a constitutional right, funded by general tax revenues. The SUS system is highly decentralized, with local governments having significant responsibility for service delivery.
  - **Outcomes:** The SUS has dramatically expanded access to healthcare services, especially in rural and underserved areas. The Family Health Strategy, focused on primary care, has reduced hospitalizations and improved health outcomes for chronic conditions.

16th BRICS SUMMIT

The 16th BRICS summit, hosted by Kazan in Russia, revolved around the theme "Strengthening Multilateralism for Just Global Development and Security."

Kazan Declaration Highlights:

- The summit marked a diplomatic success for Russia, allowing President Putin to counter isolation narratives. Notably, Türkiye, a NATO member, attended for the first time and applied to join BRICS. The Kazan meeting underscored BRICS's ambition to strengthen ties with the Global South and pursue a multipolar world order in global finance and trade.
- **Financial and Economic Cooperation:**
  - **BRICS Payment System:** Russia advocated for a BRICS-led payment system as an alternative to **Society for Worldwide Interbank Financial Telecommunication (SWIFT),** from which Russian banks were excluded in 2022.
  - **BRICS Cross-Border Payment System:** Aimed at reducing trade barriers and ensuring non-discriminatory access, while promoting the use of local currencies.
  - **BRICS Grain Exchange:** An initiative to establish a commodities trading platform within BRICS, with a focus on grain.
  - **BRICS (Re) Insurance Company:** Proposed to support cross-border risk-sharing and insurance initiatives among BRICS nations.
  - **BRICS Clear Depositary:** Developed as an independent system for cross-border settlement and depositary functions.
  - **BRICS Interbank Cooperation Mechanism (ICM):** Facilitates innovative financial approaches for projects, including financing in local currencies.

SWIFT

- **Society for Worldwide Interbank Financial Telecommunication (SWIFT):** A global, trusted messaging system for banks and financial institutions.
- **Founded:** Established in 1973 and headquartered in La Hulpe near Brussels (Belgium).
- **Function:** Provides instructions for processing transactions but does not handle the actual transfer of funds.
- **Governance:**
  - Swift is a cooperative company under Belgian law and is owned and controlled by its shareholders (financial institutions) representing approximately 2,400 Shareholders from across the world.
  - Swift is overseen by the G-10 central banks (Belgium, Canada, France, Germany, Italy, Japan, The Netherlands, United Kingdom, United States, Switzerland, and Sweden), as well as the European Central Bank, with its lead overseer being the National Bank of Belgium.
  - In 2012, this framework was reviewed and the Swift Oversight Forum was established, in which the G-10 central banks are joined by other central banks from major economies: Reserve Bank of Australia, People's Bank of China and Reserve Bank of India, etc.
  - Today, approximately 11,000 member banks across 200 countries and territories use SWIFT.
  - Since its inception in 1973, SWIFT has become essential to the flow of global trade. India's financial system also has access to SWIFT.
- **Predecessor - Telex:** Prior to SWIFT, Telex was the main method for confirming international fund transfers but was discontinued due to slow speed, security issues, and an unstructured message format.

- **Health and Research Initiatives:**
  - **BRICS R&D Vaccine Center:** Announced to promote joint research in vaccine development and address global health challenges.
  - **BRICS Integrated Early Warning System:** Created to monitor and prevent the risks of mass infectious diseases.
- **Environmental Conservation:**
  - **India's International Big Cats Alliance:** India's initiative to protect big cats was acknowledged and supported by the BRICS countries.
- **New Partnership Category:**
  - **BRICS Partner Country Category:** Endorsed to allow broader collaboration with non-member nations. Thirteen new partner countries, including Cuba, Turkey, and Vietnam, were welcomed.

BRICS

- It is an acronym that refers to a group of five major emerging national economies**: Brazil, Russia, India, China, and South Africa.**
- **Origin:** The term **BRIC** was coined by **British economist Jim O'Neill** in **2001** to represent emerging economies.
  - The group began holding annual meetings starting in **2006** on the sidelines of the **UN General Assembly (UNGA),** and its success led to formal summits. BRICS nations have met annually at formal summits since **2009.**
  - **South Africa** was inducted in **2010.**
- **Expansion: Ethiopia, Egypt, Iran, and the UAE** are the four new additions to the BRICS. It is to be noted that Saudi Arabia has accepted the invitation but delayed formal joining.

- The new expanded BRICS represent roughly 45 percent of the world's population and 35 percent of global GDP when measured at purchasing power parity.

Significance of BRICS:

- **Economic Influence:** BRICS represents major emerging economies, contributing significantly to global GDP and trade.
  - The New Development Bank (NDB), established in 2015, has committed $32. 8 billion to 96 infrastructure and sustainable development projects in member countries like Brazil, Russia, India, China, and South Africa.
  - **Development and Infrastructure Projects:**
    - BRICS promotes joint development projects and infrastructure initiatives.
    - The Contingent Reserve Arrangement (CRA), established in 2015 with a total lending capacity of $100 billion, supports member countries facing balance of payments difficulties due to liquidity pressures.
    - CRA provides financial stability and resilience against global economic uncertainties, benefiting member economies during crises.
- **Political Influence:**
  - BRICS serves as a platform for geopolitical coordination and cooperation on global issues. Experts calls it Post American world order and describes BRICS as the fall of west and rise of rest.
  - Joint statements and initiatives by BRICS leaders on reforms in global governance institutions like the IMF and World Bank underscore their influence in shaping global policies.
  - BRICS fosters strategic partnerships and diplomatic cooperation among member countries.
- **Cultural Exchange and People-to-People Ties:**
  - BRICS enhances cultural exchange and people-to-people contacts through various initiatives.
  - BRICS Parliamentary Forum, Film Festival, Youth Summit, and Academic Forum foster mutual understanding and cooperation in cultural, academic, and youth exchanges.
  - These initiatives promote cultural diplomacy and strengthen ties among member countries, facilitating deeper regional integration and collaboration.
- **BRICS Payment System:**
  - BRICS countries aim to establish a payment system as an alternative to SWIFT, reducing dependence on dollar-denominated transactions.
  - The BRICS Payment System seeks to enhance financial autonomy and resilience against external economic pressures.
  - This initiative reflects BRICS' efforts to strengthen economic sovereignty and mitigate risks associated with global financial systems.
- **Security Cooperation:** BRICS fosters security cooperation among member countries. BRICS countries collaborate on counter-terrorism efforts, cybersecurity, etc.
  - BRICS National Security Advisors' meetings focus on counter-terrorism, cybersecurity, and regional stability, enhancing collective security efforts.

Challenges:

- **Diverse Economic Structures:**
  - BRICS countries exhibit diverse economic structures, impacting their ability to coordinate policies effectively.
  - During the 2010s, Brazil and Russia, heavily dependent on commodity exports like oil and minerals, faced economic downturns due to volatile commodity prices. In contrast, China's diversified economy and manufacturing sector provided more stability.
- **Infrastructure and Development Needs:**
  - Varied infrastructure requirements and development disparities within BRICS nations hinder regional integration efforts.
  - Like South Africa's infrastructure challenges, especially in transport and energy, differ significantly from China's advanced infrastructure network.
  - This disparity affects joint development projects under initiatives like the New Development Bank.
- **Financial and Currency Challenges:** Differences in monetary policies and currency exchange rates pose challenges for financial cooperation and stability.
  - For example, fluctuations in the Russian ruble's exchange rate impact trade flows and investment within BRICS. In 2014, the ruble's depreciation due to geopolitical tensions affected intra-BRICS trade and investment activities.
- **External Economic Pressures:**
  - External economic pressures, such as trade disputes and sanctions, affect BRICS economies individually and collectively.
  - Sanctions imposed on Russia and Iran by Western countries have repercussions for BRICS' economic relations and strategic partnerships. This external pressure influences the group's ability to maintain economic cooperation and stability amidst global economic uncertainties.
- **Geopolitical Differences:** Geopolitical alignments and interests among BRICS members can diverge, complicating unified positions on global issues.
  - For instance, India's strategic partnerships with countries like the US and Japan sometimes conflict with China's geopolitical ambitions, influencing BRICS' collective stance on international matters such as climate change agreements or UN reforms.
- **Institutional Coordination:**
  - Coordination among BRICS institutions like the New Development Bank requires effective management and alignment of member state priorities.

- Delays in project approvals by the New Development Bank due to bureaucratic procedures have slowed disbursements for infrastructure projects. As of 2023, only a portion of the committed funds have been disbursed, impacting member countries' development plans.

BRICS AND INDIA

Benefits:

- **Economic Cooperation:** BRICS (Brazil, Russia, India, China, South Africa) represents a significant portion of the global economy. India can use this platform to foster economic cooperation, trade, and investment opportunities among member nations.
  - This can include joint ventures, trade agreements, and initiatives like the New Development Bank (NDB) for infrastructure financing.
- **Political Influence:** As a member of BRICS, India gains a platform to engage politically on global issues such as climate change, terrorism, and global governance reforms. It allows India to align with other emerging economies to push for its interests on international platforms like the United Nations.
- **Cultural Exchange:** BRICS provides a platform for cultural exchange, promoting understanding and collaboration among diverse cultures. India can showcase its rich cultural heritage through events, exchanges, and collaborations in fields such as arts, education, and tourism.
- **Technology and Innovation:** Collaboration within BRICS can accelerate technological advancements and innovation through joint research, technology transfer, and sharing best practices. This can boost India's capabilities in areas such as information technology, space exploration, and renewable energy.
- **Regional Stability:** BRICS plays a role in promoting regional stability and security. India can cooperate with other member nations on issues like counter-terrorism, cybersecurity, and maritime security, which are crucial for regional stability in Asia and beyond.
- **Multilateral Diplomacy:** BRICS provides India with a platform for multilateral diplomacy, enabling it to engage with other major powers outside traditional Western-centric alliances. This enhances India's diplomatic clout and influence on global issues.
- **Strengthening South-South Cooperation:** India views BRICS as a platform for fostering collaboration among developing countries, amplifying their voices in global institutions like the UN and World Bank.

NOTE: As External Affairs Minister S Jaishankar suggested, India could be viewed as a south-western power, a blend of the West and the developing world. Through BRICS, India seems to be mediating between the two identities.

Challenges for India:

- **Varying Agendas:** India's concerns over terrorism and border security may differ from other members like China and Russia, who may prioritize their regional and geopolitical interests over these issues.
- **Geopolitical Rivalry:** China's growing influence within BRICS, especially with the inclusion of countries like **Iran and Saudi Arabia** (which have strong ties with China), raises concerns about BRICS tilting towards a pro-China bloc.
- **Balancing Middle Eastern Alliances:** The inclusion of Iran, Saudi Arabia, and the UAE introduces complexities in India's relationships within the Middle East.
- **Trade Barriers:** Intra-BRICS trade barriers such as tariffs, regulatory differences, and currency issues persist, limiting India's ability to fully capitalize on trade opportunities within the group.

Way Forward:

- **Strengthening Economic Integration:**
  - **Trade and Investment:** Enhance intra-BRICS trade by reducing trade barriers, simplifying customs procedures, and promoting investments. Encourage member countries to invest in each other's infrastructure and industrial projects.
  - **New Development Bank (NDB):** Expand the scope and impact of the NDB by financing sustainable development projects and enhancing support for member countries' economic initiatives.
  - **Promoting Sustainable Development:** Collaborate on renewable energy projects, climate change mitigation, and environmental protection. Share best practices and technologies for sustainable agriculture, water management, and urban development.
- **Enhancing Political and Security Cooperation**
  - **Collective Security:** Develop mechanisms for addressing common security threats such as terrorism, cyber threats, and regional conflicts. Enhance intelligence sharing and joint military exercises.
  - **Global Governance:** Advocate for reforms in global institutions like the United Nations, World Trade Organization, and International Monetary Fund to better reflect the interests of emerging economies.
- **Fostering Technological and Innovation Partnerships**
  - **Joint Research and Development:** Promote collaborative research and development projects in areas such as artificial intelligence, space exploration, and biotechnology.
  - **Digital Economy:** Facilitate cooperation in the digital economy, including e-commerce, digital payments, and cybersecurity. Support startups and innovation hubs across BRICS nations. Enhancing Cultural and People-to-People Exchanges.

- **Educational Exchange:** Increase scholarships, academic exchange programs, and joint research initiatives among BRICS universities and research institutions.
- **Cultural Diplomacy:** Organize cultural festivals, art exhibitions, and sporting events to promote mutual understanding and goodwill among the peoples of BRICS countries.

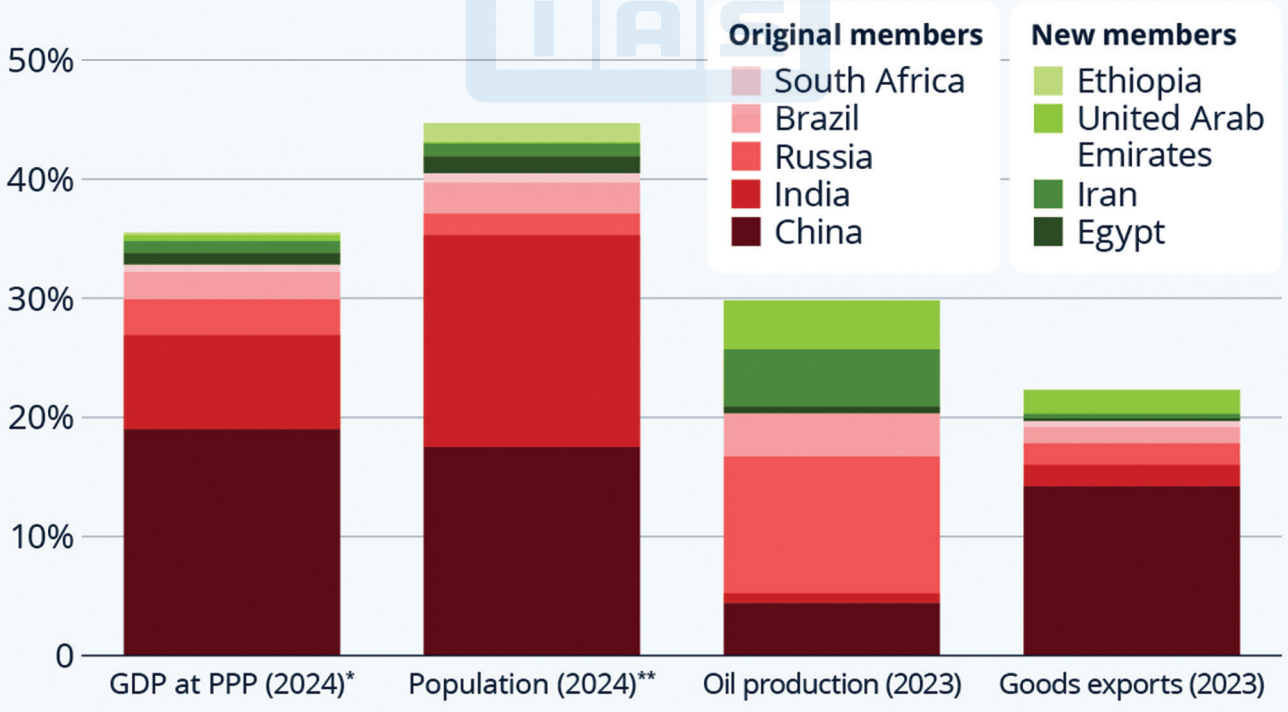
- **Strengthening Institutional Frameworks:**
  - **BRICS Secretariat:** Establish a permanent BRICS secretariat to coordinate activities, monitor progress, and ensure continuity of initiatives.
  - **Regular Summits and Meetings:** Maintain regular summits, ministerial meetings, and working groups to address emerging issues and set strategic priorities.

Conclusion:

- BRICS can strengthen its global influence by enhancing economic integration, promoting sustainable development, and fostering technological cooperation.
- By addressing internal challenges and expanding membership, BRICS can advance its collective goals, ensuring equitable growth and a more balanced global order for emerging economies.
- Greater economic integration among BRICS nations would reduce reliance on Western financial systems and create a resilient intra-BRICS economy.
- Focusing on sustainable development can position BRICS as a leader in addressing global challenges such as climate change and inequality, while technological cooperation in areas like AI and digital infrastructure can boost competitiveness and innovation.
  - Expanding membership would amplify BRICS' global presence, giving emerging economies a stronger voice and advancing a multipolar world order that better reflects diverse global interests.

The Global Clout of the New BRICS

BRICS countries' share of global GDP, population, oil production and goods exports



* IMF estimates as of of April 2024 ** UN estimates, medium variant

Sources: IMF, UN Population Division, Energy Institute, WTO

INDIAN MONSOON PATTERN

States in western and southern India, including Gujarat, Maharashtra, and Tamil Nadu, experienced surplus rainfall. In contrast, northern and northeastern states like Nagaland, Manipur, and Punjab reported significant rainfall deficits.

Reasons Behind:

- **Shifting Monsoon Trough Patterns:** The monsoon trough, a critical rain-bearing system, displayed irregular movement this season. A southward deviation of the trough resulted in heavy rainfall over southern India, while northern and eastern regions experienced dry spells.
  - When the trough shifted north, the monsoon entered a "break" phase, directing rains toward the Himalayan and northeastern regions.
- **Unprecedented Extreme Weather Events:** Cyclone Asna, a rare August cyclone over the Arabian Sea, brought unseasonal heavy rainfall to western India.
  - The monsoon season has been marked by extreme weather patterns, with alternating bouts of intense rainfall and prolonged dry spells.
- **Anticipated Impact of La Niña:**
  - The India Meteorological Department (IMD) forecasts warmer-than-normal temperatures for the rest of September, with some regions likely to face extreme rainfall. The development of La Niña, expected towards the end of the 2024 monsoon season, could further influence weather patterns.
  - Similar to 1999, a strong El Niño followed by La Niña could lead to more frequent cyclonic events and erratic weather conditions.

DETAILS OF MONSOON

Definition:

- A monsoon is a seasonal change in the direction of the prevailing winds in a region.
  - It is caused by the difference in heat capacity between land and the ocean.
  - Monsoons are characterized by wet and dry seasons and are most often associated with the Indian Ocean.

South-West Monsoon: Arabian and Bay of Bengal Branches

- **Arabian Sea Branch:** This branch of the monsoon consists of winds that originate over the Arabian Sea.
- **Bay of Bengal Branch:**
  - The Arakan Hills along the coast of Myanmar cause a significant portion of this branch to be deflected towards the Indian subcontinent.
  - As a result, the monsoon enters West Bengal and Bangladesh from the south and southeast, rather than from the southwest.

Factors Influencing South-West Monsoon Formation:

- **Differential Heating and Cooling:** The varying temperatures between land and water create low pressure over the Indian landmass, while the surrounding seas maintain comparatively high pressure.
- **Shift of the Inter Tropical Convergence Zone (ITCZ):** During summer, the ITCZ shifts over the Ganga plain. This equatorial trough, typically located around 5°N of the equator, is known as the monsoon trough during the monsoon season.
  - The ITCZ is a broad trough of low pressure located in equatorial latitudes, where the northeast and southeast trade winds converge.
  - It runs parallel to the equator but moves north or south in accordance with the apparent movement of the sun.
- **High-Pressure Areas:** A high-pressure zone east of Madagascar, situated at approximately 20°S over the Indian Ocean, influences the intensity and position of the Indian Monsoon.
- **Tibetan Plateau Heating:** The Tibetan plateau experiences intense heating during summer, resulting in strong vertical air currents and the formation of low pressure at around 9 km above sea level.
- **Jet Streams:** The westerly jet stream shifts north of the Himalayas, while the tropical easterly jet stream develops over the Indian peninsula during summer.
- **Southern Oscillation (SO):** Typically, when high pressure dominates the tropical eastern South Pacific Ocean, the tropical eastern Indian Ocean experiences low pressure.
  - However, in certain years, this pattern reverses, resulting in lower pressure in the eastern Pacific compared to the eastern Indian Ocean.
  - This periodic shift in pressure conditions is referred to as the Southern Oscillation (SO).

Implications of unusual Monsoon Pattern:

- **Increased Flood Risk in Southern India:** The southward shift of the monsoon trough has led to excessive rainfall, heightening the chances of floods and urban waterlogging in southern regions.
- **Agricultural Stress in Northern and Eastern India:** Dry spells due to irregular monsoon patterns could severely affect crop yields, potentially threatening food security in these regions.

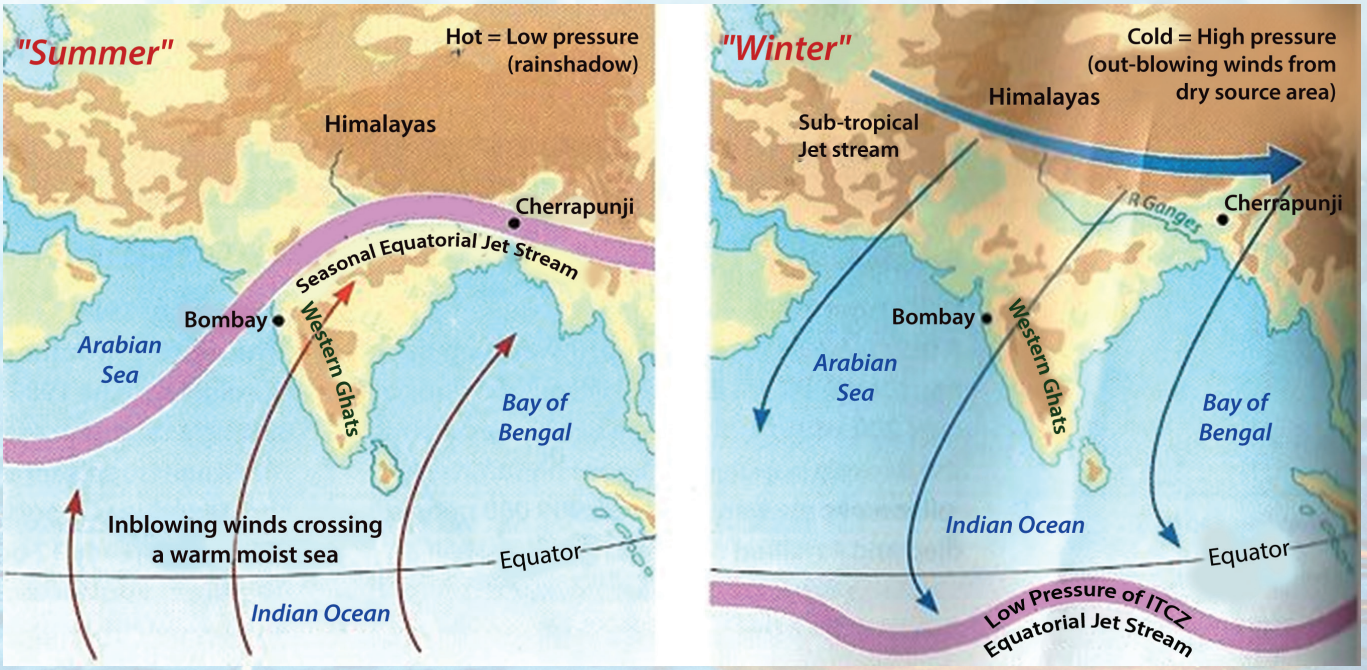
- **Rise in Extreme Weather Events:** Unseasonal Cyclone Asna and erratic rainfall patterns signal an increased frequency of extreme weather events, necessitating improved disaster preparedness.
- **Potential Surge in Cyclonic Activity with La Niña:** The expected onset of La Niña could lead to more frequent and severe cyclones, especially over the Arabian Sea, posing greater risks to coastal communities.
- **Warmer Temperatures and Heatwave Threats:** IMD predicts higher-than-normal temperatures in September, increasing the likelihood of heatwaves and their impact on public health and energy demand.
- **Disruption to Monsoon-Dependent Livelihoods:** The erratic behavior of the monsoon threatens the stability of agriculture and water-reliant industries, affecting millions of livelihoods across India.
- **Strain on Water Resources:** Irregular rainfall and prolonged dry periods could exacerbate water shortages, leading to potential conflicts over water access and over-reliance on groundwater resources.

Way Forward:

- **Building Climate-Resilient Infrastructure:** The unpredictable behavior of the 2024 monsoon season emphasizes the need for adaptive infrastructure that can cope with both excessive rainfall and extended droughts.
- **Enhancing Water Management Practices:** Improved water management strategies are critical to mitigating the effects of irregular monsoon patterns, ensuring sustainable water supply during droughts while preventing floods.
- **Adopting Climate-Resilient Agricultural Systems:** Implementing climate-resilient agricultural techniques is essential to protect crops and maintain food security in the face of increasingly erratic monsoon behavior.
- **Investing in Climate Adaptation:** Governments must invest in climate adaptation measures to safeguard vulnerable communities from both extreme weather events and changing monsoon dynamics.
- **Strengthening Early Warning Systems:** Developing robust early warning systems can help anticipate and prepare for extreme weather events linked to erratic monsoon patterns, enabling timely response to potential floods or droughts.
- **Promoting Rainwater Harvesting:** Expanding rainwater harvesting infrastructure across urban and rural areas can help conserve water during periods of heavy rainfall, which can be utilized during dry spells, thus improving water security.
- **Improving Urban Planning and Drainage Systems:** Cities should invest in sustainable urban planning and modern drainage systems to manage excessive rainfall, reduce urban flooding, and minimize damage to infrastructure and communities.

Conclusion:

- Governments and global institutions must collaborate to tackle the growing challenges posed by climate change, as these disruptions threaten food security and the livelihoods of millions.
- By investing in sustainable practices and innovative solutions, we can safeguard vulnerable populations and promote sustainable development. Proactive measures taken today will be essential in securing a more resilient future for all.



NORTHEAST MONSOON
(Retreating Monsoon)

- **Timeline and Withdrawal Pattern:**
  - **Gradual Retreat:**
    - The **southwest monsoon withdrawal** is more gradual compared to its onset, as opposed to the intense burst seen during the arrival in early June.
    - The process takes about three months to complete, slowly shifting from the north to the south of the country.
  - **Regional Withdrawal:**
    - In **northern India**, the monsoon starts receding from the extreme northwest, such as Rajasthan and Punjab, by mid-September.
    - It progressively moves southward, retreating from the **peninsular regions by October** and fully exiting the country through the **southeastern coast by December**.
    - **Punjab** sees the monsoon arrive in early July, with withdrawal occurring by the **second week of September**.
    - On the **Coromandel Coast**, the monsoon arrives earlier, in the first week of June, and withdraws significantly later in **mid-December**, indicating a more prolonged season due to the region's proximity to the Bay of Bengal.
- **Temperature Changes during the Retreating Monsoon**
  - **Clear Skies and Falling Temperatures:**
    - As monsoon clouds dissipate, **skies clear up significantly**, leading to increased solar radiation during the day but allowing for rapid cooling at night.
    - The **daytime temperatures start to drop sharply**, indicating the beginning of cooler months.
  - **Increase in Diurnal Temperature Range:**
    - Due to the reduced cloud cover, the **difference between day and night temperatures** (diurnal temperature range) increases, especially over the northern plains and central parts of the country.
    - This contrast is heightened as cloudless skies permit more heat loss at night, resulting in cooler nights and warmer days compared to the monsoon season.
- **Pressure and Wind Patterns in the Retreating Monsoon Season**
  - **Shifting Monsoon Trough:**
    - The **monsoon trough**, a low-pressure area that intensifies rainfall during the southwest monsoon, weakens and begins to shift southward.
    - This shift signals a **decrease in rainfall intensity** and a transition towards drier conditions in northern and central India.
  - **Onset of Northeast Monsoon:**
    - Unlike the defined onset of the southwest monsoon, the **northeast monsoon** lacks a clear starting point and is largely shaped by **local pressure conditions**.
    - Winds start reversing direction and flow predominantly from the northeast, bringing moisture-laden winds from the Bay of Bengal towards India's south-eastern coast.
- **Precipitation Patterns during the Retreating Monsoon**
  - **Decrease in Humidity and Cloud Cover:**
    - As the southwest monsoon recedes, the **air becomes drier**, and the cloud cover over most parts of the country reduces.
    - As a result, **most of India experiences significantly reduced rainfall**, especially in central and northern regions where dry conditions start to settle in.
  - **Tamil Nadu's Main Rainy Season:**
    - Interestingly, **October and November serve as the primary rainy season for Tamil Nadu** and parts of Andhra Pradesh, including areas south of the Krishna Delta.
    - Kerala also experiences a secondary rainy season, receiving additional rainfall during these months.
    - This rainfall occurs as the retreating monsoon winds from the northeast **pick up moisture from the Bay of Bengal**, bringing moderate to heavy showers to these south-eastern regions.
    - Tamil Nadu and adjoining areas receive about 60% of their annual rainfall during this period, which is critical for agriculture and water resources in these regions.
- **Significance of the Retreating Monsoon Season**
  - **Agricultural Impacts:** The rainfall during this period in Tamil Nadu and parts of Andhra Pradesh is essential for winter (rabi) crops, especially rice, which is heavily cultivated during these months.
  - **Water Resource Management:** In south-eastern India, rainfall from the northeast monsoon helps replenish rivers, lakes, and reservoirs, playing a crucial role in supporting **drinking water supplies, irrigation, and hydroelectricity production**.
  - **Cultural and Festive Associations:**
    - This season aligns with several harvest and religious festivals in India, including **Diwali** in October/November, which is widely celebrated across the country.
    - The cultural festivities reflect both the **seasonal change** and the **harvest bounty** from the preceding monsoon.
  - **Temperature Transition Towards Winter:**
    - The retreat of the monsoon also paves the way for the winter season, with temperatures gradually dropping across the country, leading to **cold, dry weather** in northern and central India by late November and December.

INDIA-MALDIVES RELATION

Prime Minister Narendra Modi and the President of Maldives comprehensively reviewed the bilateral ties.

Outcomes of the Meet:

- **Bilateral Review:** Indian PM Narendra Modi and Maldivian President Mohamed Muizzu reviewed bilateral ties, emphasizing historical relations and progress made.
- **India's Support:** PM Modi reaffirmed India's commitment to assist Maldives under its 'Neighbourhood First' Policy and Vision SAGAR, with financial aid, including a USD 100 million T-bill rollover.
  - India also extended a USD 400 million bilateral currency swap agreement and INR 30 billion, with further measures to address Maldives' financial challenges.
- **Comprehensive Economic & Maritime Security Partnership:** Both leaders agreed to transform bilateral ties into a people-centric, future-oriented partnership, ensuring stability in the Indian Ocean Region.
- **Trade & Economic Cooperation:** Discussion on a Bilateral Free Trade Agreement.
  - Operationalization of trade settlements in local currencies.
- **Digital & Financial Cooperation:** Focus on digital services, including UPI, Unique Digital Identity, and RuPay services, enhancing e-governance and financial connectivity.
- **Energy Cooperation:** Exploring cooperation in renewable energy projects to help Maldives achieve its NDC goals and participation in the One Sun One World One Grid initiative.
- **Defence & Security Cooperation:**
  - Strengthened maritime security cooperation, with focus on surveillance, disaster response, and operational capabilities.
  - Ongoing projects like the Maldives National Defence Force (MNDF) 'Ekatha' harbour project at Uthuru Thila Falhu to enhance Maldives' defense capacity.
- **Capacity Building:** Expansion of customized training for civil servants, women entrepreneurs, and youth, and establishment of a Start-up Incubator-Accelerator in Maldives.
- **Regional and Multilateral Cooperation:** Strengthened cooperation in regional/multilateral forums like the Colombo Security Conclave (CSC) to ensure a peaceful Indian Ocean Region.

Significance of Relationship:

India has had a robust engagement with the Maldives in various areas, reflecting the depth of the ties.

This cooperation holds significance in several key aspects:

- **Historical and Cultural:** India and Maldives share ethnic, linguistic, cultural, religious, and commercial links steeped in antiquity. The relations have been close, cordial, and multi-dimensional.
  - India was among the first to recognize Maldives after its independence in 1965 and to establish diplomatic relations with the country.
  - The bilateral engagements flourished beginning in the late 1980s when India launched **'Operation Cactus'** to abort a coup in Maldives against Maumoon Abdul Gayoom's autocratic regime.
- **Geostrategic : India's Prime Minister Narendra Modi** called the **Maldives "a valued partner in the Indian Ocean neighborhood"** and said that India-Maldives **"ties are built on a very strong foundation,"** the contours of which **"are defined by shared strategic, security, economic and developmental goals."**
  - The Maldives benefits from Indian assistance, making it a vital component of India's **"Neighbourhood First"** policy and **regional security strategy.**
  - The Indian Ocean consists of vital Sea Lanes through which global trade and energy flow takes place.The Maldives serves as a strategic **"toll gate"** positioned between the Western and Eastern regions of the Indian Ocean.

MALDIVES AS 'TOLL GATE'

Describing the Maldives as a "toll gate" suggests that the country plays a pivotal role in regulating or influencing the movement of trade and energy through the Indian Ocean. Much like a toll gate on a highway, which controls access and requires payment, the implication is that the Maldives has a significant impact on the passage of goods and energy resources in the region.

- **Geopolitical:** India-Maldives relationship holds geopolitical significance as it anchors India's influence in the Indian Ocean region. This relationship assists New Delhi in **countering external powers' inroads and strengthens regional stability.**
  - **First Line of Defense:** Maldives is a **first line of defense** against terrorism, piracy on the high seas, drug trafficking, narcotics, and other maritime crime.
  - **Multilateral Cooperation:** Maldives has been a collaborative partner with India in various regional alliances. It is a participant in the **Colombo Security Conclave (CSC), Indian Ocean Rim Association (IORA), SAARC, and India's SAGAR initiative.**
    - Additionally, Maldives advocates for India's permanent membership in the United Nations Security Council (UNSC).

VARIOUS OPERATIONS RELATED TO MALDIVES

- **Operation Cactus (1988):** The Indian Armed Forces played a crucial role in assisting the then-Maldivian government in thwarting a coup attempt, marking the successful implementation of Operation Cactus.
- **Operation Neer (2014):** India provided swift assistance to Maldives on its request during the Male Water crisis, which erupted due to a fire in the complex of Male Water and Sewerage Company on December 4, 2014.
- **Operation Sanjeevani (2020):** As part of efforts to combat the COVID-19 pandemic, India contributed 6.2 tonnes of essential medicines to the Maldives under Operation Sanjeevani, aiding the country in its response to the health crisis.

- **Geoeconomics:** India and the Maldives share a deep **economic interdependence**. India being a vital trade partner and investor in the Maldives with its **development-led approach** and Maldives is strengthening ties through its **India First Approach.**
  - The bilateral trade has crossed the **USD 300 million** mark for the first time in 2021. India became the Maldives' **third-largest trade partner.**
  - For instance, in November 2022, India provided a financial aid package of **US$ 100 million** in response to a request from the Maldives.
  - India's engagement extends beyond the government, focusing on improving the lives of the Maldivian people. This includes **High Impact Community Projects (HICP)** and financial support for the **Greater Male Connectivity project.**

GREATER MALE CONNECTIVITY PROJECT

- A catalyst for the Maldivian economy
- Largest ever infrastructure project in Maldives
- Funded by USD 400 million LoC & USD 100 million special GoI grant.
- Connects capital Male to Villingili island, Gulhifalhu port & Thilafushi industrial zone through bridges, causeways & roads.

- **Security Cooperation:** The Maldives holds significant importance as a key participant in **regional security architecture** and the **SAGAR (Security and Growth for All in the Region) vision.**
  - India plays a pivotal role in the training of the **Maldivian National Defence Force (MNDF)**, fulfilling approximately 70% of their defense training requirements and also providing a Fast Patrol vessel and a Landing Craft Assault ship, reinforcing maritime security.
  - The India-Maldives security partnership encompasses joint exercises such as **"Ekuverin," "Dosti," "Ekatha,"** and the recent **"Operation Shield"** initiated in 2021.
  - India aims to bolster security cooperation with Indian Ocean island nations and littoral states including Maldives through the initiative known as the **Colombo Security Conclave (CSC).** The security cooperation with countries of the **Indian Ocean Region (IOR)** can help **New Delhi** in achieving the **substantive goal of "Net Security Provider"** in the region.

COLOMBO SECURITY CONCLAVE (CSC)

- It is a **'minilateral' security group that was** established in 2011, comprising **India, Sri Lanka, and the Maldives**, expanded its membership to include **Mauritius** at its fifth national security advisers meeting
  - **Bangladesh and Seychelles**, present as observers, received invitations to join the group.
- This forum, at the **National Security Advisor** (NSA)-level, aims to enhance security in the Indian Ocean region.

- **Tourism and Connectivity:** Recognizing the significance of the tourism sector in the Maldivian economy, India has played a pivotal role in this regard.
  - In 2023, India became the leading source market for Maldives, with more than **1 lakh tourist arrivals** (until June 2023) and a 12% market share.
  - Furthermore, in March 2022, India and the Maldives reached an agreement on an **Open Skies Arrangement,** which enhances connectivity between the two countries.
  - India is involved in the development of the **Hanimaadhoo International Airport** under a credit line, introducing a new terminal capable of serving 1.3 million passengers annually.

OPEN SKY AGREEMENT

It is a negotiated bilateral agreement between two countries, aiming to grant airlines the rights to operate international passenger and cargo services, thereby facilitating the expansion of global flights for both passengers and cargo.

- **Diaspora:** The Maldives hosts a substantial Indian Diaspora (around 25000 Indian nationals), with many Indians contributing significantly to the country's education, healthcare, tourism, and hospitality sectors.

Challenges:

- **Issue of Sovereignty:** India's military presence includes reconnaissance aircraft, military helicopters, and personnel etc.Maldives now argues that this buildup poses a **long-term risk to Maldivian sovereignty.**
- **Radicalisation Trends:**
  - A significant number of Maldivian citizens have joined violent extremist organizations, including the Islamic State (IS).
  - Over the past decade, there has been a consistent increase in individuals from the Maldives joining fundamentalist groups in Pakistan.
  - The growing risk exists that terrorist organizations operating from Pakistan may utilize the Maldives as a base for launching attacks on India and Indian assets.
- **Growing Chinese Footprint:** In the recent past, China's **strategic footprint** in India's neighborhood has increased. **The Maldives** has emerged as an **important 'pearl' in China's "String of Pearls" construct in South Asia.**

STRING OF PEARLS STRATEGY:

- China is allegedly implementing the String of Pearls strategy, establishing a network of both **commercial and military bases** and ports across multiple nations.
- As per Experts,the strategic approach aims to safeguard China's trade interests, given that a substantial portion of its trade traverses critical points such as the **Indian Ocean, the Strait of Hormuz, the Strait of Malacca, and the Lombok Strait.**

  - China included the island nation as a part of its **Belt and Road Initiative (BRI)** during the 2013-18 rule of President Abdulla Yameen.
  - With the resurgence of a **pro-Chinese government** in the Maldives, there is an anticipated reduction in India's diplomatic space in the region. China's enhanced influence poses challenges to India's geopolitical standing.
  - Given the **Maldives's strategic location in the Indian Ocean**, Beijing has been vying for a **maritime base in the atoll** with the primary motive of ensuring the security of its sea lanes, especially the unhindered flow of critically needed energy supplies from Africa and West Asia through the Indian Ocean.
  - Under the influence of the **Middle Kingdom**(China called itself the Middle Kingdom *because it believed itself to be the center of the world*.), Experts argue that Maldives **policy of India First** under the previous government is now gradually transitioning towards **'India Out' policy.**
- **Project Delays Undermine Competitiveness:**
  - Delays in the completion of infrastructure projects diminish the competitiveness of Indian initiatives, creating challenges in presenting viable alternatives to time-efficient Chinese projects.
  - As projects led by India, such as the Greater Malé Connectivity Project, progress slowly, the allure of China's rapid infrastructure support could grow.

Way Forward

- **Diplomatic Engagement:** India should communicate with the newly elected Maldivian government, emphasizing project benefits for the people, like **Hanimadhoo's redevelopment boosting tourism.**
- **Increased Development Assistance:** India must raise development aid to Maldives, focusing on impactful projects for the general population, enhancing goodwill, and countering 'India Out' campaigns.
- **Timely Infrastructure Project Completion:** Ensuring timely completion of projects like the Greater Male Connectivity Project provides credible alternatives to Chinese initiatives, strengthening India's influence.
- **Youth Employment Targeting:** High Impact Community Development Projects (HICPs) in Maldives should prioritize youth employability and entrepreneurship, countering radicalization and extremism threats.
- **Implementation of Project Mausam:** It should provide sufficient space for Maldives to get benefits out of it and boost its economic and infrastructural reliance on India.

PROJECT MAUSAM

- **It is a Ministry of Culture** project to be implemented by **Indira Gandhiji National Centre for the Arts (IGNCA)** as the nodal coordinating agency with support of **Archeological Survey of India and National Museum as associate bodies.**
- At the macro level, it aims to re-connect and re-establish communications between countries of the Indian Ocean world, which would lead to an enhanced understanding of cultural values and concerns;
- At the micro level, the focus is on understanding national cultures in their regional maritime milieu.

Conclusion:

- The strength of the Maldives-India diplomatic relationship has ebbed and flowed based on the ruling party or coalition in power in Malé. **Being a small country, the Maldives may tend to use the China card.**
  - However, it is well aware of India's importance in every sphere of its state of affairs.
- Experts say it is unlikely that Maldives will pursue a policy that alienates New Delhi as the stakes are high. India is an important trade partner relative to China, and the 'India Out' policy looked more a political gambit meant to get votes than a policy intention.

UNIFIL

The United Nations Interim Force in Lebanon (UNIFIL) accuses Israeli Defence Forces (IDF) had deliberately fired on its positions, injuring two peacekeepers and bringing fresh accusations of violations of international law.

About:

- On October 12, 2024, 34 countries contributing troops to the United Nations Interim Force in Lebanon (UNIFIL) issued a joint statement condemning attacks on peacekeepers and urging respect for UNIFIL's mission and safety.
- Although India, with 903 personnel in UNIFIL, was not among the signatories, it expressed full alignment with the statement. India emphasized that the security of peacekeepers is crucial and must be upheld as per existing U.N. Security Council resolutions.

UNIFIL

- UNIFIL is a peacekeeping mission established by the **UN Security Council (UNSC) in 1978,** after Israel invaded Lebanon.
- The UNSC passed **Resolutions 425 and 426**, calling on Israel to withdraw from Lebanon.
- UNIFIL was deployed to Lebanon to fulfill three objectives;
  - Confirming the withdrawal of Israeli forces,
  - Restoring international peace and security,
  - Assisting the Government of Lebanon in ensuring the return of its effective authority in the area.

UN Peacekeeping:

- It was founded in May 1948, when the UN Security Council authorized the deployment of a small number of UN military observers to the Middle East to form the **United Nations Truce Supervision Organization (UNTSO**) to monitor the Armistice Agreement between Israel and its Arab neighbors.
  - It consists of civilians, police and military personnel.
- UN Peacekeeping is guided by **3 basic principles:** Consent of the parties; Impartiality; Non-use of force except in self-defense and defense of the mandate.
- Peacekeeping is flexible and over the past two decades has been deployed in many configurations.
  - There are currently 12 UN peacekeeping operations deployed on three continents.
- Today's multidimensional peacekeeping operations are called upon not only to maintain peace and security, but also to facilitate the political process, Protect civilians, assist in the disarmament, Demobilisation and reintegration of former combatants; support the organization of elections, protect and promote human rights and assist in restoring the rule of law.

FACT SHEET ON UN PEACEKEEPING

- No. of Operations since 1948: 71
- Current Peacekeeping operations: 12
- 1042 experts on Mission
- Total Fatalities in all Peacekeeping Operations since 1948: 4345
- Approved budget from July 2021 to June 2022: $ 6.38 billion.

Significance of UN Peacekeeping:

- **Conflict Resolution:** UN peacekeeping missions are crucial in resolving conflicts and preventing the resurgence of violence in post-conflict regions.
  - For example, the UN Mission in South Sudan (UNMISS) has played a vital role in mediating disputes and supporting peace agreements amidst ongoing civil conflict.
- **Promoting Stability:** They contribute to political stability by facilitating dialogue and supporting the establishment of legitimate governance structures.
  - In the Democratic Republic of Congo (DRC), MONUSCO (UN Organization Stabilization Mission in the DRC) has helped stabilize the country through election support and conflict mediation.
- **Protecting Civilians:** UN peacekeepers protect civilians from violence and human rights abuses, often in volatile and dangerous environments.
  - In Darfur, Sudan, UNAMID (African Union-United Nations Hybrid Operation in Darfur) has safeguarded civilians amidst the Darfur conflict, providing safe havens and humanitarian assistance.
- **Humanitarian Assistance:** They provide crucial humanitarian aid, including food, medical care, and shelter, to affected populations. For instance, UN peacekeepers in Mali (MINUSMA) support humanitarian efforts by ensuring safe access for aid agencies in conflict-affected areas.
- **International Legitimacy:** UN peacekeeping operations have international legitimacy, enhancing their effectiveness in mediating disputes and enforcing ceasefires.
  - The deployment of **UNIFIL (United Nations Interim Force in Lebanon)** along the Lebanon-Israel border illustrates this international endorsement in maintaining peace and stability.

Challenges:

- **Security Risks:** Peacekeepers face significant security risks, including attacks from armed groups, which can undermine mission effectiveness.

- In Mali, peacekeepers under MINUSMA have faced frequent attacks from extremist groups, posing challenges to mission stability.

- **Political Will:** Securing adequate political and financial support from member states is challenging, impacting mission sustainability and resources.
  - The ongoing conflict in Syria has highlighted the difficulties in garnering consensus among UN Security Council members for robust peacekeeping mandates.
- **Complexity of Operations:** Operating in diverse cultural and political contexts requires navigating complex local dynamics and ensuring impartiality. In the Central African Republic (CAR), MINUSCA (United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic) faces challenges in mediating intercommunal violence and supporting political reconciliation.
- **Accountability:** Instances of misconduct and lack of accountability among peacekeepers have damaged the UN's reputation and mission credibility.
  - Reports of sexual exploitation and abuse by peacekeepers in the Democratic Republic of Congo have raised serious concerns about accountability and transparency.
- **Resource Constraints:** Limited resources and logistical challenges hinder the deployment and operational capabilities of peacekeeping missions.
  - In South Sudan, logistical constraints have affected the timely delivery of humanitarian aid and support to remote areas affected by conflict.

Way Forward:

- **Enhanced Training and Capacity Building:** Invest in training peacekeepers in conflict resolution, cultural sensitivity, and humanitarian assistance.
  - Examples include specialized training programs in conflict mediation and human rights protection.
- **Robust Mandates:** Ensure clear and achievable mandates for missions, including protection of civilians and support for political processes.
  - In Libya, UNSMIL (United Nations Support Mission in Libya) works with local stakeholders to promote dialogue and national reconciliation.
- **Strengthened Partnerships:** Forge stronger partnerships with regional organizations, NGOs, and local communities to enhance mission effectiveness.
  - In Somalia, UNSOM (United Nations Assistance Mission in Somalia) collaborates with the African Union and Somali authorities to build institutional capacity and promote peacebuilding efforts.
- **Technology and Innovation:** Utilize technological advancements such as drones and satellite imagery for better situational awareness and security.
  - In the Sinai Peninsula, UN peacekeepers (MFO - Multinational Force and Observers) utilize advanced surveillance **technology to monitor compliance with peace agreements.**
- **Accountability Mechanisms:** Implement rigorous accountability mechanisms to address misconduct and ensure transparency in peacekeeping operations.
  - Initiatives like the UN's Conduct and Discipline Units (CDUs) are essential in investigating allegations of misconduct and maintaining mission integrity.

INDIA'S CONTRIBUTION TO PEACEKEEPING

- An all-female Indian peacekeeping platoon set off for the UN mission in Abyei in January 2023, bolstering security on the Sudan-South Sudan border.
- India has contributed more than 2, 53, 000 troops, the largest number from any country, participated in more than 49 missions and 175 Indian peacekeepers have made the supreme sacrifice while serving in UN missions.
- India has so far provided 17 Force Commanders in various UN missions.
  - India also had the honor of providing two Military Advisors and one Deputy Military Advisor to the Secretary General of the United Nations, two Divisional Commanders and seven Deputy Force Commanders.
- **United Nations Mission in Liberia (UNMIL):** On a special request from the United Nations and direction of the Government of India/Ministry of Home Affairs, a fully formed Female Police Unit (FFPU) was formed with Mahila CRPF personnel in February 2007. This was the first exclusive female team of police to be deployed in any UN peacekeeping force.
- **UNITE AWARE Platform:** India, in collaboration with the UN, has launched the platform to enhance the safety and security of peacekeepers worldwide. The initiative was launched as India assumed the Presidency of the 15-nation UN Security Council for August, 2021.
- **Key Features:**
  - The platform aims to showcase the impact of modern surveillance technology in detecting asymmetric threats.
  - **Situational Awareness Software Programme:** It employs advanced surveillance technology for real-time threat assessments, providing peacekeepers with critical security updates.
  - **Capabilities:** UNITE AWARE accesses live video and satellite imagery, offering early warnings in volatile situations. It also records data on incidents, events, and daily operational activities.
  - **Real-time Monitoring:** The platform enables visualizing, coordinating, and monitoring entire peacekeeping operations in real time.

WEAPONIZATION OF TRADE

The External Affairs Minister of India, S. Jaishankar highlighted that rising globalization along with trade weaponization has resulted in job losses and dissatisfaction in many societies.

About:

- Trade weaponization refers to the **strategic use of trade policies and economic measures** by countries to exert political or economic pressure on others.
- Instead of trade being purely an economic activity aimed at mutual benefit, it becomes a **tool of influence, coercion, or retaliation.**

Tools of Trade Weaponization:

- **Investment Restrictions:** Countries may restrict foreign investments in strategic sectors, such as telecommunications or defense, to protect national security.
  - For instance, the US has banned the sale and import of communications equipment from five Chinese companies, including Huawei and ZTE, citing national security concerns.
  - Other companies on the list include Hikvision, Dahua, and Hytera, known for video surveillance and two-way radio systems.
  - This move reflects growing tensions over technology and cybersecurity.
  - Similarly, China has restricted access to foreign social media platforms like Twitter, Facebook, and Hotmail for over two decades.
  - Through this censorship China aims to control online content and maintain governmental oversight.
- **Boycotts and Embargoes:** Refusing to trade with a country or specific sectors to apply economic pressure and achieve political goals.
  - An example is the US embargo on Cuba, which has been in place for decades to weaken the Cuban regime economically and politically.
  - Similarly, **Australia-China trade war** began when Australia called for an investigation into the origins of COVID-19, which led to strained diplomatic ties. In response, China imposed tariffs and restrictions on Australian exports, targeting goods like barley, wine, coal, and beef.
- **Debt Weaponization:** Using debt as leverage, where a creditor country manipulates the debtor through unfavorable loan terms or by demanding concessions.
  - China's Belt and Road Initiative (BRI) has been criticized for creating "debt traps" in countries like Sri Lanka, where excessive borrowing led to strategic concessions like leasing the Hambantota port.
- **Cyber-Attacks on Trade Infrastructure:** Attacking digital infrastructure linked to trade, such as ports or supply chain networks, to cause economic damage.
  - In 2017, the **"NotPetya"** cyber-attack targeted **Maersk**, a leading shipping firm, causing massive disruptions in global logistics and trade.

CYBER-ATTACKS IN INDIA

- In April 2022, Oil India Limited faced a ransomware attack demanding Rs 57 crore, disrupting systems but not production.
- In October 2020, Mumbai's power grid was attacked, causing widespread outages, with Chinese state-sponsored groups suspected.
- In September 2019, Kudankulam Nuclear Power Plant's administrative network was breached by malware linked to North Korea's Lazarus Group.

- **Blocking Access to Financial Markets:** Cutting off access to international financial systems or institutions to cripple a country's economy.
  - The US sanctions on Iran have restricted its access to SWIFT (Society for Worldwide Interbank Financial Telecommunication), limiting Iran's ability to engage in international trade and finance.
- **Economic Alliances and Trade Blocs:** Forming exclusive trade agreements to isolate or undermine rivals by cutting them off from key markets.
  - The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was seen as a way to reduce Asia's reliance on China by fostering stronger economic ties among member nations.
- **Intellectual Property (IP) Theft:** State-sponsored efforts to steal intellectual property from other nations to gain economic and military advantages.
  - The US has accused China of engaging in IP theft, leading to tariffs and export controls to limit China's access to US technology.
- **Energy Weaponization:** Countries with vast energy reserves manipulate the supply of oil or gas to exert pressure on dependent nations.
  - For instance,Russia has frequently been accused of using its natural gas supplies as leverage over European countries, particularly during political disputes involving Ukraine.

Challenges of Trade Weaponization:

- **Increased Volatility in Global Markets:** The imposition of tariffs, sanctions, and other trade barriers disrupts the flow of goods and capital, causing market volatility.
  - Investors may react to trade disputes with uncertainty, leading to stock market fluctuations, currency devaluations, and changes in commodity prices, which destabilize the global economy.
- **Supply Chain Disruptions:** Global supply chains, especially in sectors like technology and manufacturing, become fragmented due to protectionist measures.
  - For instance, tariffs on raw materials or intermediate goods can slow production and increase costs for businesses dependent on global supply chains, leading to delays and inefficiencies.
- **Rising Costs for Consumers:** Tariffs and trade restrictions increase the prices of imported goods, shifting the burden to consumers.
  - Higher costs for everyday products, from electronics to food, reduce consumer purchasing power, leading to lower economic growth and increased inflationary pressures.
- **Diminished Competitiveness:** Domestic companies that are shielded from international competition may face reduced incentives to innovate or increase efficiency.
  - Protectionism can create an environment where businesses lack the drive to improve, leading to decreased competitiveness on the global stage over the long term.
- **Increased Risk of Trade Wars:** The use of trade as a weapon increases the likelihood of escalating trade wars between nations, which can have widespread economic impacts.
  - Trade wars, such as the US-China trade war, result in a tit-for-tat escalation of tariffs, harming businesses, consumers, and industries across both economies.
- **Impact on Global Development:** Developing countries, which often depend on open markets and foreign investments, are hit hardest by trade weaponization.
  - Tariffs and sanctions can reduce demand for exports from developing nations, limiting their growth potential and exacerbating poverty.
- **Environmental Consequences:** Protectionist measures may lead to an increase in unsustainable domestic production practices, as companies prioritize short-term survival over long-term environmental considerations.
  - In some cases, countries may lower environmental standards to remain competitive, leading to negative effects on climate change and resource depletion.

Way Forward:

- **Regional Trade Agreements (RTAs):** Countries are increasingly turning to regional trade agreements (RTAs) to deepen economic cooperation and reduce dependency on dominant global economies.
  - RTAs like the **CPTPP** and **RCEP** facilitate trade among member nations, creating new markets, enhancing supply chains, and ensuring greater stability in times of global trade tensions, thereby providing alternative avenues for growth.
- **Mineral Security Partnership (MSP):** This initiative seeks to diversify the supply chains of critical minerals, ensuring stable access to key resources.
  - MSP reduces dependence on a few major suppliers of essential minerals like lithium, cobalt, and rare earth elements, which are crucial for clean energy technologies and advanced manufacturing, protecting economies from potential disruptions in supply.
- **Reform of the WTO:** Discussions around reforming the World Trade Organization (WTO) focus on revitalizing its role as a global arbiter of trade disputes and addressing modern challenges.
  - Reforms are intended to strengthen the WTO's dispute resolution mechanism, making it more efficient and capable of handling unilateral trade actions and new forms of protectionism that threaten the multilateral trading system.
- **Indo-Pacific Economic Framework (IPEF):** The IPEF provides a counterbalance to coercive economic practices, promoting fair and rules-based trade in the Indo-Pacific region.
  - By fostering collaboration among like-minded nations, the IPEF seeks to counter economic pressures from countries using trade as a tool of political leverage, while encouraging transparency, sustainability, and equitable growth across the region.
- **Diversification of Supply Chains:** Countries are actively seeking to diversify their supply chains to reduce dependence on any single nation or region.
  - For instance, India is partnering with Australia and other nations to secure access to essential rare earth minerals, reducing reliance on specific countries.
  - India is also reducing dependency on China for APIs through a Production Linked Incentive (PLI) scheme, fostering local Active Pharmaceutical Ingredient (API) production hubs for greater self-reliance.
- **Digital Trade Agreements:** Nations are increasingly negotiating digital trade agreements to facilitate cross-border data flows and set standards for digital economy governance.
  - Agreements like the **Digital Economy Partnership Agreement (DEPA)** between Singapore, Chile, and New Zealand ensure smooth e-commerce, secure data transfers, and protect intellectual property in the digital realm, reducing risks from trade weaponization in tech-heavy sectors.

INDIA-GERMANY RELATIONS

Recently, India and Germany signed multiple treaties and agreements during the 7th India-Germany Intergovernmental Consultations.

Key Highlights:

- **Bilateral Talks on Key Global Issues:**
  - **Russia-Ukraine Conflict:** Prime Minister Modi reiterated India's stance on peaceful conflict resolution and expressed India's willingness to support peace efforts. Chancellor Scholz encouraged India to endorse a political solution to the Ukraine crisis, commending India's stable role in South Asia.
  - **West Asia:** Both leaders stressed the need to prevent further escalation in West Asia and advocated for a ceasefire and a two-state solution as a path to resolve the Israeli–Palestinian conflict.
  - **Indo-Pacific Security and China's Influence:** Modi and Scholz underscored the importance of a rules-based order in the Indo-Pacific, highlighting the need for maritime freedom.
    - The two countries committed to strengthening defense ties, agreeing to address regional security challenges jointly.

MEANING OF RULE-BASED ORDER

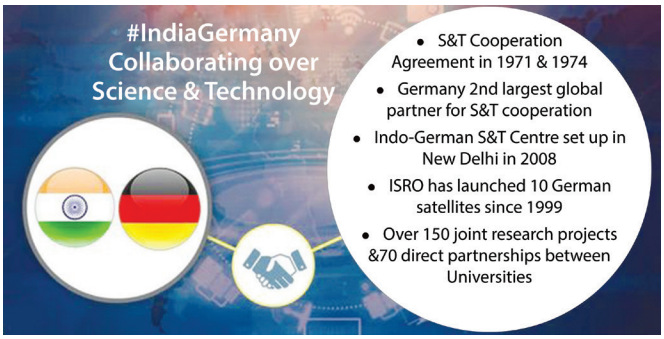
- A rule-based order in international politics refers to a system where global interactions and relations are governed by agreed-upon rules, laws, and norms, typically established through multilateral institutions like the United Nations or the World Trade Organization.
- This framework aims to promote stability, fairness, and predictability in global affairs, encouraging nations to resolve conflicts and cooperate within the bounds of international law.

- **Reform of Global Institutions:** Both leaders emphasized the need for reforms in multilateral institutions like the UN Security Council to more effectively address modern global issues.
- **Expanded Vision of Partnership:** Modi and Scholz highlighted a shift from a "whole of government" to a "whole of nation" approach, indicating a broader and deeper collaboration.
- **Key Announcements and Agreements**
  - **Visa Expansion for Skilled Indians:** Germany will increase its annual visa quota for skilled Indian workers from 20,000 to 90,000, recognizing India's workforce as vital for German economic growth.
  - **Germany's "Focus on India" Strategy:** Germany's strategic "Focus on India" document reflects its commitment to India's workforce and deeper cooperation.
  - **Reducing Dependency on China:** Chancellor Scholz stressed the importance of avoiding "one-sided dependencies" in strategic sectors like critical raw materials, aligning with India as a partner to diversify supply chains.
  - **India as a Manufacturing Hub:** PM Modi promoted India as a hub for global manufacturing, urging German businesses to "Make in India, Make for the World. "
- **Key Areas of Collaboration:**
  - **Legal cooperation:** The Mutual Legal Assistance Treaty (MLAT) on criminal matters aims to boost legal cooperation, enhancing both countries' ability to address security issues.
  - **Green Hydrogen Roadmap:** This collaboration signifies a strong commitment to renewable energy, supporting climate goals for both nations.
  - **Joint Research and Development (R&D):** A Joint Declaration of Intent for R&D in advanced materials highlights a shared focus on technological innovation.

Significance:

- **Historical:** The diplomatic relations between India and Germany were **established in 1951.** Over the decades, these relations have evolved, marked by high-level visits, strategic dialogues, and numerous agreements.
  - The foundation of this relationship is built on shared democratic values, respect for human rights, and a commitment to multilateralism.
- **Political and Strategic Cooperation:** India and Germany engage in regular high-level consultations, including the **Inter-Governmental Consultations (IGC)**, which is a unique **biennial dialogue mechanism.**
  - Both nations reaffirmed their commitment to a **rules-based international order and effective multilateralism,** addressing global challenges such as climate change, terrorism, and economic recovery post-COVID-19.
  - The **G4 nations (Brazil, Germany, India, and Japan)** support each other's bids for **permanent seats on the United Nations Security Council.**
  - India and Germany have a **'Strategic Partnership'** since 2000.
- **Economic interdependence:** Germany is India's largest trading partner within the European Union (EU), with bilateral trade reaching $26 billion in 2022-23.
  - Indian exports to Germany increased to $10. 1 billion, while German exports to India totaled approximately $14. 9 billion.

- **Scientific and Technological Collaboration:** Both countries collaborate extensively in areas such as renewable energy, environmental technology, and digitalisation.



  - The **Indo-German Science and Technology Centre (IGSTC)** plays a pivotal role in fostering joint research and innovation projects.
- **Cultural and Educational Exchanges:** The **Goethe-Institut in India** and the **Indian Council for Cultural Relations (ICCR)** in Germany facilitate cultural exchanges, promoting mutual understanding and appreciation.
  - Additionally, educational collaborations are thriving, with numerous Indian students pursuing higher education in Germany, particularly in engineering and technology fields.
  - Max Muller translated the Upanishads.
  - He also published a collection of Indian fables called Hitopadesha. also published the complete Rig Veda in Sanskrit using manuscripts available in England, found in the collection of the East India Company.
- **Climate Change and Sustainable Development:** Both India and Germany are committed to addressing climate change and promoting sustainable development.
  - However, aligning their approaches and ensuring effective implementation of joint initiatives can be challenging.
  - The **Green and Sustainable Development Partnership** is a step in the right direction, but it requires continuous effort and cooperation.

Challenges:

- **Trade Imbalance:** Despite strong trade ties, there exists an imbalance, with Germany exporting more to India than it imports. This disparity may strain efforts to create a more balanced economic relationship.
- **Visa and Mobility Restrictions:** While Germany has expanded visas for skilled Indian workers, complex visa processes and regulatory hurdles still restrict smoother movement, impacting workforce mobility and talent exchange between the two countries.
- **Differences in Regulatory Standards:** Diverging standards in sectors like pharmaceuticals, technology, and agriculture create barriers for Indian exports to Germany, slowing down trade growth and limiting market access.
- **Dependency on China:** Both nations aim to reduce dependency on China, yet there are challenges in finding reliable alternatives in critical sectors, requiring significant collaboration and trust-building in the supply chain.
- **Energy Transition Challenges:** While both countries share goals for clean energy, differences in energy policy frameworks and the high costs associated with transitioning to green energy sources can slow collaborative progress.
- **Geopolitical Divergences:** India's non-aligned stance and Germany's deep integration in EU policies sometimes lead to differing views on global issues, particularly in relation to Russia and the Indo-Pacific region, affecting strategic alignment.

Way Forward:

- **Enhance Trade Balance and Market Access:** Both countries can work toward addressing trade imbalances by facilitating greater access for Indian exports in Germany and promoting German investments in India. Regular dialogues to address regulatory differences in sectors like pharmaceuticals and agriculture will aid smoother trade flows.
- **Streamline Visa Processes and Talent Exchange:** Simplifying visa processes and creating special work permits for high-skilled professionals would enhance mobility. Expanding academic and vocational training partnerships will also help in building a more adaptable, skilled workforce aligned with industry needs in both nations.
- **Boost Joint R&D and Innovation in Clean Energy:** India and Germany can deepen collaboration in clean energy, especially through research in green hydrogen, renewable energy storage, and efficient grid technologies.
  - Shared funding for joint R&D and technology-sharing initiatives could support both countries' climate goals and advance energy security.
- **Diversify Supply Chains and Reduce China Dependency:** Strengthening partnerships in critical supply chains, particularly for raw materials and technology, will help reduce over-reliance on China.
  - Both countries should encourage bilateral investments in manufacturing and infrastructure to develop resilient alternatives in key sectors.
- **Strengthen Security and Strategic Cooperation:** Regular high-level dialogues and joint military exercises in the Indo-Pacific will enhance trust and regional security cooperation. Germany's increased involvement in regional security, combined with India's strategic interests, could lead to a stronger partnership in tackling shared challenges.
- **Promote Cultural and Educational Exchanges:** Expanding cultural initiatives, academic exchanges, and language programs will foster greater people-to-people connections. Increased awareness and mutual understanding of cultural perspectives can serve as a foundation for stronger diplomatic and economic ties in the long run.

INDIA-CANADA DIPLOMATIC ROW

India has decided to withdraw its High Commissioner and other senior diplomats and officials after the Canadian government named them as "persons of interest" for their alleged role in the killing of pro-Khalistan leader H S Nijjar.

Background:

- **Rising Influence of Khalistani Advocacy in Canada:** The Khalistan movement has gained momentum in Canada, fueled by **a vocal Sikh diaspora** actively advocating for the Khalistan cause. The **proliferation of social media and online propaganda** has further amplified the movement's reach. India has expressed growing concerns about the **presence of Khalistan sympathizers in Canada** and criticized the Canadian government for **failing to take decisive action** against these groups.
- **Escalation of Tensions in September 2023:** Diplomatic relations reached a new low when **Canada's Prime Minister accused India** of involvement in the assassination of a prominent **Khalistani separatist**, a claim India strongly denied. This **allegation reignited tensions**, leading to significant diplomatic fallout between the two countries.
- **Limited Engagement at the G20 Summit 2023:** During the G20 Summit hosted by India in September 2023, India and Canada only interacted briefly on the sidelines. While India held **bilateral meetings with numerous world leaders**, no formal meeting took place between the two countries, reflecting the **strained diplomatic climate**.
- **Suspension of Trade Negotiations:** Ongoing diplomatic tensions have directly impacted **India-Canada trade relations**, leading to the **postponement of Free Trade Agreement (FTA) negotiations**. India has cited **concerns over pro-Khalistan activities** as a key factor behind the decision to pause trade talks.
- **Diplomatic Expulsions and Staffing Reductions:** In response to the escalating situation, **both countries expelled senior diplomats**. Additionally, India has ordered Canada to **reduce its diplomatic staff** in the country, further straining official channels of communication.
- **Visa Restrictions Amid Diplomatic Disputes:** Amid heightened tensions and **unfounded accusations** from Canada, India has **suspended visa processing for Canadians**, including those applying from **third-party countries**. This measure reflects the **deepening diplomatic rift** and has disrupted people-to-people exchanges.
- **Role of Five Eyes Intelligence Network and US Involvement:** The **Five Eyes alliance**—comprising **Australia, Canada, New Zealand, the United Kingdom, and the United States**—has played a role in the situation. The **US Ambassador to Canada** stated that shared intelligence from Five Eyes partners **informed Canada's accusations** against India, further complicating the diplomatic landscape.
- **India's Perspective on the Situation:** India has condemned the **unsubstantiated allegations** from Canada, viewing them as an attempt to **deflect attention from the activities of Khalistani extremists** operating from Canadian soil. India maintains that these elements **pose a direct threat to its sovereignty and territorial integrity**, demanding greater accountability from Canada to curb **terrorist activities and separatist propaganda**.

Significance:

- **Diplomatic Engagement and Political Cooperation:**
  - **Strategic Partnership:** Both maintain a robust partnership, strengthened through ministerial dialogues covering **foreign policy, trade, energy, and financial governance**.
  - **Bilateral Agreements:** Key agreements include the **Air Services Agreement, Extradition Treaty, Nuclear Cooperation Agreement,** and **Social Security Agreement**.
  - **Multilateral Engagement:** Both countries collaborate in **global forums** like the **United Nations, G20, and Commonwealth**, advancing shared global goals.
- **Economic Relations and Trade Dynamics:**
  - **Bilateral Trade:** India ranked as **Canada's 10th-largest trading partner** in 2022, with trade volumes reaching **$12 billion** in 2023.
  - **Trade Composition:** India exports **pharmaceuticals, textiles, machinery, and gems**, while Canada exports **pulses, timber, mining products, and paper**.
    - India has traditionally relied on Canada for most of its pulse imports. However, data from the Department of Consumer Affairs shows a shift in 2023, with Australia and Canada contributing 51.25% and 45.41% of lentil imports, respectively.
    - This year, the roles have reversed, with Australia now providing 66.3% and Canada 26.4% of India's lentil imports.
  - **Foreign Investments:** Canada is the **18th-largest foreign investor in India**, with **$3.3 billion in investments** from 2000 to 2023.
  - **Trade Negotiations:** Ongoing talks on the **Comprehensive Economic Partnership Agreement (CEPA)** aim to enhance trade, investment, and cooperation.
- **Diaspora and Cultural Diplomacy:**
  - **Indian Diaspora:** Over **1.3 million people of Indian origin**, including **NRIs**, make up more than **4% of Canada's population**.
  - **Political Representation:** More than **15 Indian-origin MPs** hold significant roles in Canadian politics, including the **leader of the NDP**.

- **Cultural Recognition:** Canada declared **April as Sikh Heritage Month** in 2019 to honor Indian cultural contributions.
- **Residency Growth:** Indian permanent residencies in Canada increased by **260% from 2013 to 2022**, indicating deeper bilateral ties.

- **Educational Exchange and Academic Collaboration:**
  - **Student Mobility:** India has been the **largest source of international students** in Canada since 2018. In Canada approx. 40% students are Indians.
  - **Academic Cooperation:** The **Shastri Indo-Canadian Institute (SICI)** promotes educational partnerships between both nations.
  - **Scientific Collaboration:** Joint research on **cold climate studies** is conducted by the **Department of Earth Sciences** and **Polar Canada**.
  - **Tourism:** Canada was the source of **5.3% of Foreign Tourist Arrivals (FTAs)** in India in 2021.
- **Technological Innovation and Space Collaboration:**
  - **R&D Programs:** The **IC-IMPACTS initiative** focuses on research in **healthcare, agriculture, and waste management**.
  - **Space Cooperation: ISRO** and the **Canadian Space Agency (CSA)** have signed multiple **MOUs** for satellite tracking and space exploration.
  - **Satellite Launches:** ISRO's commercial arm, **ANTRIX**, launched **nine Canadian nanosatellites**, enhancing space cooperation.
  - **Nuclear Cooperation Agreement (NCA):** Operational since 2013, the NCA enables **uranium exports** from Canada to India, promoting peaceful nuclear collaboration.
  - **Safety Framework:** In 2015, the **Atomic Energy Regulatory Board (AERB)** signed an agreement with the **Canadian Nuclear Safety Commission (CNSC)** to share **nuclear safety and regulatory best practices**.

Challenge:

- **Trade Barriers and Disruptions:** Trade relations are hindered by **tariffs and non-tariff barriers**, and recent **Free Trade Agreement (FTA) negotiations** have stalled. Canada has also raised concerns about **India's restrictions on agricultural imports**, especially on pulse crops like lentils and chickpeas.
- **Human Rights and Diplomatic Tensions:** Canada has criticized India's **treatment of religious minorities**, particularly Sikhs and Muslims, while India has expressed concerns about **attacks on Hindu minorities and religious sites** in Canada. These issues have strained diplomatic relations and complicated political cooperation.
- **Visa Restrictions and Immigration Policy:** Visa processing delays caused by reduced Canadian diplomatic staff have disrupted **student mobility and business travel**, further strained by India's suspension of visas for Canadians. These immigration challenges have weakened people-to-people ties.
- **Geopolitical Divergence on Key Issues:** India and Canada hold differing views on **regional issues** such as Afghanistan, Iran, and Pakistan, complicating bilateral cooperation.
  - **Iran:** Canada has taken a **strong stance against Iran's nuclear program and human rights violations**, while India seeks to maintain **pragmatic relations with Tehran** due to its energy interests and **geopolitical importance for connectivity projects** like the **Chabahar Port**. These differences complicate coordination on regional diplomacy.
  - **Pakistan:** India views Pakistan primarily through the lens of **cross-border terrorism and regional instability**, whereas Canada focuses more on **development aid and diplomacy**. Canada's relative **neutral stance on Kashmir** and its tolerance of **Khalistani activism** further complicate bilateral relations.
- **Khalistan Controversy:** India views the presence and activities of Khalistani separatist groups in Canada as a direct challenge to its sovereignty. Canada's investigation into alleged Indian involvement in the killing of Hardeep Singh Nijjar has further heightened tensions, triggering diplomatic fallout.
  - Public protests in both countries and escalating rhetoric have deepened the divide, making reconciliation efforts more challenging.
  - The issue also complicates efforts to foster trust at a governmental level, impeding diplomatic initiatives.
- **Shift in Canada's Strategic Priorities:** India perceives that Canada's focus has shifted towards **Asia-Pacific alliances**, which may have deprioritized its engagement with India. This shift poses challenges for India, especially given the **geopolitical significance of the Indo-Pacific region** for regional security and economic cooperation.

Way Forward:

- **Revitalizing Diplomatic Dialogue:** Both nations should prioritize high-level diplomatic talks to **address mutual concerns** and **rebuild trust**, ensuring smoother bilateral cooperation across economic, political, and security domains.
- **Finalizing the Comprehensive Economic Partnership Agreement (CEPA):** Accelerating negotiations on CEPA will **enhance trade and investment flows**, unlocking the potential for **diversified economic growth** in sectors like technology, education, and energy.
- **Strengthening People-to-People Ties:** Expanding **student exchange programs, tourism, and cultural initiatives** will further solidify the foundation of **soft diplomacy**, fostering stronger societal connections.
- **Addressing Mutual Security Concerns:** Collaborative efforts on **counter-terrorism, maritime security, and regional stability**—particularly in the **Indo-Pacific**—will ensure both nations align strategically for **regional and global peace**.

PM E-DRIVE SCHEME

The government recently introduced the PM E-DRIVE Scheme to accelerate electric vehicle adoption in India by establishing charging infrastructure and fostering the growth of the EV manufacturing ecosystem across the country.

Key Features:

- **Objectives:**
  - **Financial Incentives for EV Purchases:** The scheme provides upfront subsidies to encourage consumers and businesses to purchase EVs, making them more affordable and accessible.
  - **Development of Charging Infrastructure:** To support the operation of EVs, the scheme emphasizes building a reliable and expansive charging network across key regions, ensuring convenient access to charging stations.
  - **Environmental and Air Quality Improvement:** By promoting EV adoption, the scheme aims to reduce carbon emissions and other harmful pollutants associated with conventional vehicles, thus contributing to a cleaner environment and better air quality in cities.
- **Fund Allocation:**
  - The government has allocated **Rs. 10,900 crore** for the implementation of the PM E-DRIVE Scheme.
  - The scheme is set to run over a two-year period from **2024 to 2026**, with comprehensive funding for vehicle incentives and the establishment of charging infrastructure.
- **Targets:** The scheme targets the widespread use of **electric two-wheelers (e-2Ws)**, **electric three-wheelers (e-3Ws)**, and **electric buses (e-buses).**
- **Nodal Ministry:** The **Ministry of Heavy Industries (MHI)** has been designated as the nodal ministry responsible for the execution of the scheme.
- **Project Monitoring:**
  - The scheme's progress and implementation will be overseen by the **Project Implementation and Sanctioning Committee (PISC)**, an inter-ministerial empowered body led by the **Secretary of Heavy Industries**.
  - This committee will manage all aspects of monitoring, sanctioning, and ensuring the successful execution of the scheme.

Eligible Categories:

- **Electric Two-Wheelers (e-2Ws):**
  - Incentives for ~24.79 lakh e-2Ws with advanced battery technology.
  - Available for both commercially registered and privately owned e-2Ws.
- **Electric Three-Wheelers (e-3Ws):**
  - Targets ~3.2 lakh e-3Ws, including e-rickshaws, e-carts, and L5 vehicles.
  - Only covers commercial-use e-3Ws with advanced batteries; excludes private-use e-3Ws.
- **Electric Ambulances (e-Ambulances):** Rs. 500 crore allocated for e-ambulances for patient transport.
- **Electric Trucks (e-Trucks):**
  - Rs. 500 crore dedicated to promoting e-trucks for low-emission logistics.
  - Eligibility requires a scrapping certificate from MoRTH-approved centers.
- **Electric Buses (e-Buses):** Rs. 4,391 crore allocated for 14,028 e-buses for public transport by State Transport Undertakings.

Benefits of the Electric Vehicles:

- **Environmental Benefits:**
  - **Reduced Air Pollution:** EVs produce zero tailpipe emissions, which helps reduce air pollution in urban areas.
    - For instance, a study by the International Council on Clean Transportation (ICCT) found that switching to EVs could significantly lower particulate matter and nitrogen oxide levels in major cities like Delhi.
  - **Lower Greenhouse Gas Emissions:** Even when accounting for emissions from electricity generation, EVs generally produce fewer greenhouse gases than conventional vehicles.
    - According to the Indian Ministry of Heavy Industries, using EVs can reduce carbon dioxide emissions by up to 37% over their lifetime compared to internal combustion engine vehicles.
- **Economic Benefits:**
  - **Cost Savings on Fuel:** EVs can be cheaper to operate than petrol or diesel vehicles due to lower electricity costs.
    - For example, the average cost of charging an EV is around ₹ 3 - ₹ 4 per kilometer, compared to ₹ 7 - ₹ 8 per kilometer for petrol vehicles.
  - **Job Creation in New Industries:** The growth of the EV sector stimulates job creation in manufacturing, infrastructure development, and services.
    - The government's production-linked incentive (PLI) scheme aims to generate over 1 million jobs in the EV ecosystem by 2025.
- **Energy Security:**
  - India is one of the largest importers of crude oil, leading to economic vulnerability. The transition to EVs can decrease this dependence.
  - The NITI Aayog estimates that electrifying public transport could save India $60 billion in oil imports by 2030.

- **Technological Advancement:**
  - The push for EVs encourages innovation in battery technology, renewable energy integration, and smart grid development.
  - Indian startups like Ather Energy and Ola Electric are leading the charge in creating advanced EVs and charging solutions.
- **Government Incentives:** The Indian government has implemented various incentives to promote EV adoption, such as the Faster Adoption and Manufacturing of Electric Vehicles (FAME) scheme, which offers subsidies for electric two-wheelers, three-wheelers, and buses, making them more affordable for consumers.

India's Electric Vehicle Policy:

- **Aim:** To facilitate smooth growth in the sector and achieve the ambitious target of having EV sales penetration of 30% of private cars, 70% of commercial cars, 40% of buses and 80% of two and three-wheelers by **2030.**
- **National Electric Mobility Mission Plan (NEMMP):** The NEMMP was launched in 2013 with the goal of achieving national fuel security by promoting hybrid and electric vehicles.
- **FAME India Scheme:** The Faster Adoption and Manufacture of Electric Vehicles (FAME) India scheme was launched in 2015 to promote the manufacturing and adoption of EVs.
- **GST Reduction:** The Indian government has reduced the Goods and Services Tax (GST) on electric vehicles from 12% to 5%, making EVs more affordable for consumers.
- **Charging Infrastructure:** The government is working on expanding the charging infrastructure across the country to address range anxiety and encourage EV adoption.
- **Incentives for Manufacturers:** In addition to incentives for consumers, the government provides subsidies and incentives to manufacturers to promote domestic production of EVs and their components.
- **Battery Swapping Policy:** To address concerns about battery charging infrastructure and range limitations, the government is exploring the possibility of implementing battery swapping stations where EV owners can quickly exchange depleted batteries for fully charged ones.
- **PLI Scheme for National Programme on Advanced Chemistry Cell (ACC) Battery Storage** was launched in 2021 to enhance India's manufacturing capabilities for the manufacture of ACC.

Challenges in Adoption:

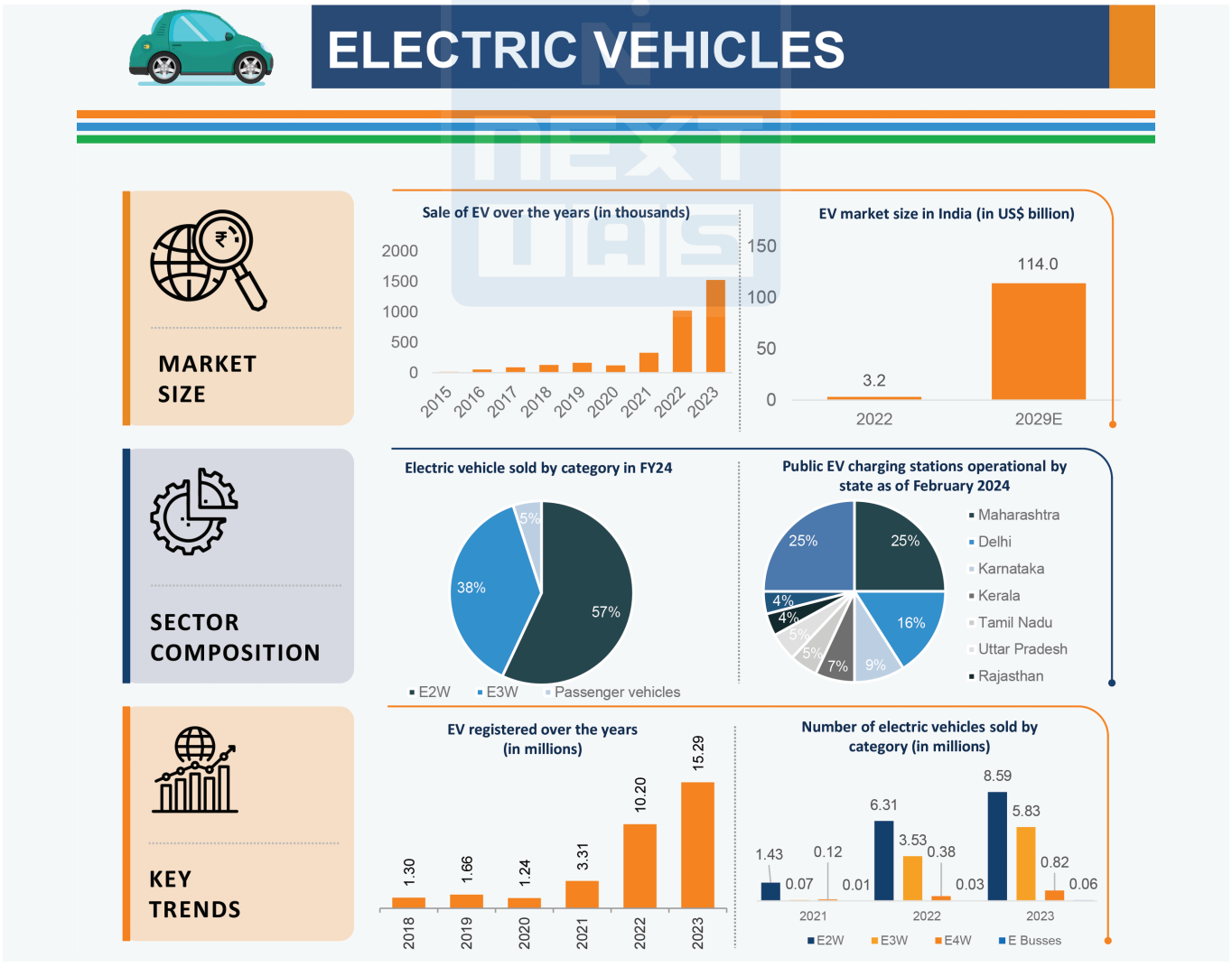
- **High Initial Cost of EVs:** Electric vehicles, especially cars, are often more expensive than their internal combustion engine (ICE) counterparts due to the high cost of batteries, which account for about 30-40% of an EV's price. This price gap limits EV adoption, especially among middle-class consumers.
- **Lack of Charging Infrastructure:** The limited availability of public charging stations is a major obstacle to EV adoption.
  - As per Ministry of Power, **12,146** nos. of public EV charging stations are operational across the country, as on **February, 2024**, far below the needed infrastructure to support mass EV deployment.
  - Inadequate coverage in smaller cities and rural areas leads to "range anxiety" among potential users, discouraging long-distance travel in EVs.
- **Limited Battery Technology and Range:** Most affordable EVs in India have a limited driving range (around 200-300 km on a full charge).
  - Combined with the lack of charging points, this makes EVs less appealing for long-distance drivers or those in areas with inconsistent electricity supply.
  - Battery technology improvements and local manufacturing of batteries are critical to address this issue.
- **Slow Consumer Adoption:** There is still low awareness and acceptance of EVs among the broader Indian population, primarily due to concerns about performance, durability, and lack of after-sales service for EVs.
  - Despite government incentives like the FAME II scheme, many consumers remain hesitant due to unfamiliarity with EV technology.
- **Grid Reliability and Energy Demand:** India's electric grid, particularly in rural areas, faces frequent power outages. The increased energy demand from EV charging could strain the grid further, especially during peak times, unless substantial upgrades are made.
  - The transition to clean energy sources like solar and wind is necessary to ensure sustainable charging solutions.
- **Lack of Skilled Workforce and Supply Chain:** The EV industry in India is still developing, leading to a shortage of skilled technicians for servicing and maintaining electric vehicles.
  - Additionally, the supply chain for critical EV components, such as lithium-ion batteries, is underdeveloped, with India heavily reliant on imports from countries like China, leading to supply risks and higher costs.
- **Battery Disposal and Environmental Concerns:** While EVs help reduce emissions, improper disposal of batteries can cause environmental harm.
  - India lacks proper recycling facilities for lithium-ion batteries, which could lead to hazardous waste issues if not managed responsibly.
  - Ensuring a robust battery recycling ecosystem is critical to avoid environmental downsides.

Way Ahead:

- **Expand Charging Infrastructure:**
  - **Public-Private Partnerships:** Encourage collaboration between the government and private companies to set up more public charging stations, especially in urban areas and along highways.
    - For *example*, partnerships with companies like Tata Power and Fortum have already begun expanding charging networks.

- **Subsidies for Charging Stations:** Provide incentives and subsidies to businesses and homeowners to install charging points, making them more accessible in residential complexes, office buildings, and shopping centers.
- **Battery Swapping Stations:** Promote battery-swapping technology for two- and three-wheelers, where users can exchange depleted batteries for fully charged ones, reducing downtime and addressing range anxiety.

- **Incentivize Local Manufacturing:**
  - **Boost Domestic Battery Production:** Encourage investment in local lithium-ion battery manufacturing under initiatives like "Make in India" and "Atmanirbhar Bharat" to reduce dependence on imports.
    - The government can offer financial support and tax benefits to companies investing in battery production and research.
  - **PLI Scheme for EVs:** Strengthen the Production-Linked Incentive (PLI) scheme for automakers and EV component manufacturers to build a robust EV ecosystem in India.
    - This will not only lower the cost of EVs but also create jobs and develop local expertise.
- **Lower EV Costs and Increase Consumer Incentives:**
  - **Tax Breaks and Subsidies:** Provide more attractive financial incentives, including tax breaks, subsidies, and low-interest loans, to make EVs more affordable.
    - Extending the FAME II scheme and increasing benefits for individual buyers will encourage wider adoption.
  - **State-Specific Incentives:** Various states, like Delhi and Maharashtra, already offer state-level subsidies for EV purchases. Expanding similar schemes to more states and simplifying access to these incentives can further reduce EV costs for consumers.
- **Enhance Battery Technology and Recycling:**
  - **Investment in R&D:** Increase government and private sector investment in research and development for next-generation battery technologies, such as solid-state batteries, to improve the range and lifespan of EVs. This can also reduce reliance on rare earth materials.



ANNUAL SURVEY OF INDUSTRIES FOR 2022-23

Recently, The Annual Survey of Industries (ASI) for 2022-23 has been released by the Ministry of Statistics and Programme Implementation (MoSPI).

About:

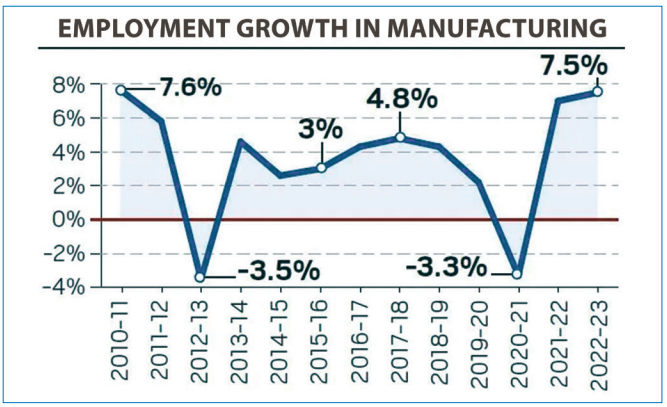
- The **Annual Survey of Industries (ASI)** serves as the primary source for industrial statistics in India.
- Prior to the ASI 2009-10, the survey was conducted annually under the provisions of the **Collection of Statistics Act, 1953**, along with the rules established in 1959.

Key Objectives:

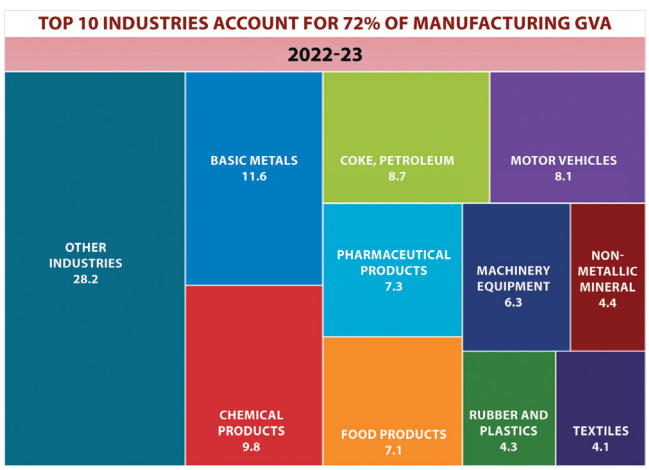
- **Industry Analysis:** ASI provides a detailed look into the manufacturing sector, capturing data on output, value addition, employment, and capital formation.
- **Monitoring Industry Dynamics:** The survey tracks changes over time within the industry, analyzing parameters like production growth, structural shifts, and economic contributions.
- **National and State-Level Data Contribution:** The data collected serves as a crucial input for the National Accounts Statistics, supporting policy-making and economic planning at both national and state levels.

Key Highlights of the ASI Report 2022-23:

- **Employment Growth in Manufacturing:**
  - The ASI indicates a significant growth in manufacturing employment, rising by 7.5% from 1.72 crore in 2021-22 to 1.84 crore in 2022-23, marking the highest growth rate in the last 12 years.
  - The manufacturing sector created 13 lakh jobs in 2022-23, up from 11 lakh in FY22.
- **Gross Value Added (GVA) and Output Growth:**
  - Manufacturing GVA saw robust growth of 7.3%, reaching Rs 21.97 lakh crore in 2022-23, an increase from Rs 20.47 lakh crore in 2021-22.
  - Total industrial input rose by 24.4%, while output grew by 21.5% in the sector, indicating a strong rebound in manufacturing activities.



- **Main Drivers of Manufacturing Growth:** Key contributors to manufacturing growth in 2022-23 included basic metals, coke and refined petroleum products, food products, chemicals, and motor vehicles, together accounting for approximately 58% of total output.
- **Regional Performance:** The top five states for employment were Tamil Nadu, Maharashtra, Gujarat, Uttar Pradesh, and Karnataka.
- **Increase in Number of Factories:** The total number of factories increased from 2.49 lakh in 2021-22 to 2.53 lakh in 2022-23, marking a complete recovery phase post-COVID-19 disruptions.
- **Informal Sector Decline:** The informal sector experienced a 1.5% decline in employment, dropping by 16.45 lakh to 10.96 crore in 2022-23, indicating a trend towards formal employment in manufacturing.
- **Average Salaries:** The average emolument per person increased by 6.3%, reaching Rs 3.46 lakh in 2022-23 compared to the previous year.
- **Capital Investment Surge:** Gross fixed capital formation (GFCF) surged over 77% to Rs 5.85 lakh crore in 2022-23, while net fixed capital formation saw an astounding 781.6% rise to Rs 2.68 lakh crore, providing strong support for sustained manufacturing growth.
  - GFCF refers to investments in produced assets, including second-hand purchases and the production of assets by producers for their own use, minus disposals.
  - Net fixed capital formation is calculated as GFCF minus the consumption of fixed capital.
- **Profits in Manufacturing:** Profits within the manufacturing sector increased by 2.7%, reaching Rs 9.76 lakh crore, reflecting overall positive trends in the industry.



Opportunities for the Manufacturing Sector in India:

- **Government Initiatives and Reforms:**
  - The government has introduced several initiatives aimed at boosting manufacturing, such as the Make in India campaign and the Production-Linked Incentive (PLI) scheme.
  - The PLI scheme offers financial incentives to manufacturers in various sectors, including electronics, automotive, and pharmaceuticals, encouraging local production.
  - For instance, companies like Samsung and Apple have expanded their manufacturing bases in India, contributing to job creation and economic growth.
- **Growing Domestic Market:**
  - India's expanding middle class and increasing disposable incomes present a significant opportunity for manufacturers to tap into a larger consumer base.
  - According to a report by the Brookings Institution, India's middle class is expected to reach 580 million by 2025, creating a surge in demand for consumer goods, electronics, and automobiles.
- **Digital Transformation:** The adoption of Industry 4.0 technologies, including automation, artificial intelligence, and the Internet of Things (IoT), can enhance productivity and efficiency in manufacturing.
- **Export Potential:**
  - India has the potential to become a global manufacturing hub, benefiting from its large workforce and competitive labor costs.
  - The government aims to increase the manufacturing sector's contribution to GDP from around 16% to 25% by 2025, with a focus on exports.

Challenges for the Manufacturing Sector in India:

- **Infrastructure Deficiencies:** Inadequate infrastructure, including poor transportation and logistics, hinders the efficiency and competitiveness of the manufacturing sector.
- **Regulatory Hurdles:** Complex and often changing regulations can create uncertainty for manufacturers and deter investment.
  - For instance, The Goods and Services Tax (GST) implementation initially created challenges for businesses due to compliance issues. Although it has streamlined taxation, manufacturers still face regulatory complexities that can impact operational efficiency.
- **Skill Gaps:**
  - The manufacturing sector faces a shortage of skilled labor, which is essential for adopting new technologies and maintaining competitiveness.
  - For instance, India is currently experiencing a significant shortage of well-trained, skilled workers.
  - It is estimated that **only 2.3% of the workforce** in India has received formal skill training, ***compared to 68% in the UK, 75% in Germany, 52% in the USA, 80% in Japan, and 96% in South Korea.***
  - A substantial portion of the educated workforce lacks adequate job skills, rendering them largely unemployable.
  - Consequently, India needs to prioritize enhancing skill training initiatives to align with employer demands and stimulate economic growth.
- **Environmental Regulations:** Increasingly stringent environmental regulations require manufacturers to invest in cleaner technologies and sustainable practices, which can raise costs.

Way Forward:

- **Enhancing Skill Development:**
  - A skilled workforce is crucial for competitiveness in the manufacturing sector.
  - Expand vocational training and skill development programs in collaboration with industry players.
  - Initiatives like the Skill India Mission can be scaled up to align training with industry needs.
  - The government can also incentivize companies that invest in employee training, ensuring a steady supply of skilled labor.
- **Adopting Industry 4.0 Technologies:**
  - Encourage manufacturers to adopt smart manufacturing practices through incentives and subsidies.
  - For instance, establishing technology parks or innovation hubs can facilitate research and development (R&D) in cutting-edge manufacturing technologies.
- **Promoting R&D and Innovation:**
  - Increase government funding for R&D and provide tax incentives for companies that invest in innovation.
  - Collaborations between universities and industries can also foster a culture of innovation.
  - For example, establishing innovation clusters can help startups and established companies collaborate on new manufacturing techniques.
- **Expanding Access to Finance:**
  - Strengthen financial institutions and provide easier access to loans for small and medium enterprises (SMEs) in the manufacturing sector.
  - Initiatives like the Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE) can be promoted to reduce the financial burden on small manufacturers.
- **Promoting Sustainable Practices:**
  - Encourage manufacturers to adopt green technologies and practices through subsidies and grants.
  - Implementing circular economy principles can reduce waste and improve resource efficiency.
  - Initiatives like the Perform, Achieve, and Trade (PAT) scheme promote energy efficiency in industries, benefiting both the environment and the economy.

GLOBAL HUNGER INDEX 2024

India has been ranked 105th out of 127 countries in the Global Hunger Index (GHI) 2024, placing it in the "serious" category for hunger levels.

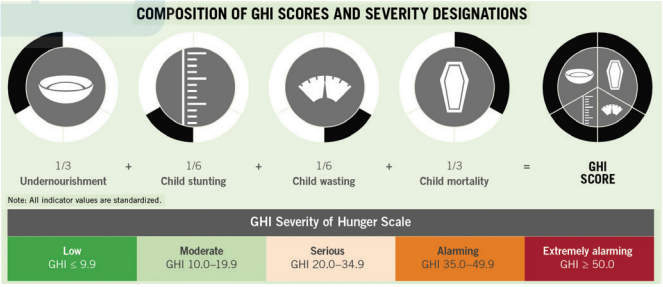
About:

- **Comprehensive Measurement:** The GHI serves as a multidimensional tool that assesses hunger across various levels—global, regional, and national.
  - This comprehensive approach allows stakeholders to gain a deeper understanding of hunger dynamics in different contexts.
- **Raising Awareness:** One of the GHI's primary objectives is to increase public awareness and understanding of hunger issues worldwide.
  - By highlighting the severity and complexity of hunger, it aims to mobilize efforts towards addressing this critical issue.
- **Comparative Analysis:** The GHI provides a systematic way to compare hunger levels between different countries and regions.
  - This comparison helps identify which nations are making progress in reducing hunger and which ones require more urgent attention and resources.
- Published annually by Concern Worldwide and Welthungerhilfe, it acts as a tool for measuring and monitoring hunger on global, regional, and national scales.

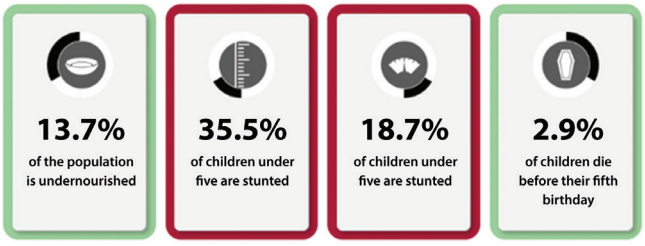
Indicators used in GHI Calculation:

Undernourishment	Child stunting	Child wasting	Child mortality
• Measures inadequate food access, an important indicator of hunger • Refers to the entire population, both children and adults • Is used as a lead indicator for international hunger reduction targets, including Sustainable Development Goal 2 (Zero Hunger)	• Go beyond calorie availability, consider aspects of diet quality and utilization • Reflect children's particular vulnerability to nutritional deficiencies • Are sensitive to uneven distribution of food within the household • Are used as nutrition indicators for SDG 2 (Zero Hunger)		• Reflects that death is the most serious consequence of hunger, and children are the most vulnerable • Improves the GHI's ability to reflect deficiencies of essential vitamins and minerals • Complements stunting and wasting, which only partially capture the mortality risk of undernutrition

- **Undernourishment:**
  - This indicator assesses the share of the population that does not have access to sufficient caloric intake, reflecting the overall food availability and accessibility in a country.
  - A high rate of undernourishment suggests significant food insecurity.
- **Child Stunting:**
  - Stunting is a crucial indicator of chronic malnutrition and reflects long-term nutritional deficiencies.
  - It is defined as the share of children under age five who have low height for their age, reflecting chronic undernutrition.
  - Children who are stunted are at risk for impaired physical and cognitive development, leading to lifelong consequences.
- **Child Wasting:**
  - It is defined as the share of children under age five who have low weight for their height, reflecting *acute* undernutrition.
  - Wasting indicates acute malnutrition, often resulting from sudden food shortages, illness, or both.
  - It is particularly concerning because it signifies immediate health risks, including a higher likelihood of mortality.
- **Child Mortality:**
  - This indicator reflects the mortality rate of children under five years old. It is influenced by factors such as inadequate nutrition, poor health care access, and unhealthy living conditions.
  - A high child mortality rate often indicates a broader public health crisis, highlighting the need for comprehensive health and nutrition programs.



Key Findings:



- **Overall Score:** India's GHI score for 2024 is 27.3, which places it in the "serious" category.
  - This score reflects persistent hunger issues despite some progress in recent years.

- **Child Wasting:**
  - India has one of the highest rates of child wasting globally, a clear indicator of acute malnutrition.
  - The report states that the wasting rate among children under five is 18.7%, which is significantly concerning.
  - **Health Implications:** High levels of child wasting are linked to immediate health risks and increased mortality, highlighting the urgency of addressing acute malnutrition.
- **Child Stunting:**
  - Stunting remains a significant challenge in India, with about 35.5% of children classified as stunted.
  - This statistic points to chronic malnutrition, which has long-term effects on physical and cognitive development.
  - Addressing child stunting is crucial for breaking the cycle of poverty and malnutrition, as stunted children often face educational and health disadvantages later in life.
- **Undernourishment:**
  - Approximately 13.7% of the Indian population is undernourished, indicating a serious problem with food access and availability.
  - This statistic underscores the need for improved food security and nutritional programs.
- **Child Mortality:**
  - The child mortality rate in India stands at 2.9%, meaning that nearly 3% of children do not survive to their fifth birthday.
  - This high rate reflects the impact of inadequate nutrition and poor living conditions on child health.
  - Factors contributing to child mortality include malnutrition, lack of healthcare access, and unsanitary living conditions, all of which must be addressed to improve outcomes for children.
- **Global Undernourishment:** The report notes that South Asia accounts for nearly 40% of the global total of 281 million undernourished individuals, emphasizing the need for concerted regional efforts to address hunger and malnutrition effectively.

Key Government Initiatives:

- **Mid Day Meal Programme:**
  - **Objective:** This flagship programme of the Government of India focuses on enhancing school enrolment, retention, and attendance while simultaneously improving the nutritional status of children.
  - **Target Population:** The programme is implemented in Government, Local Body, and Government-aided primary and upper primary schools across the country.
  - **Nutritional Impact:** By providing meals to schoolchildren, the initiative aims to ensure that children receive adequate nutrition, which is essential for their growth and cognitive development.
- **National Food Security Act (NFSA), 2013:**
  - **Coverage:** The NFSA aims to provide subsidized food grains to a significant portion of the population, covering up to 75% of the rural population and 50% of the urban population, which amounts to about two-thirds of India's total population.
  - **Nutritional Focus:** The Act places a special emphasis on the nutritional support for women and children, addressing food security at the most vulnerable levels.
- **Poshan Tracker:**
  - **Purpose:** Developed by the Ministry of Women and Child Development, the Poshan Tracker is an ICT application designed to enhance governance in nutrition-related initiatives.
  - **Functionality:** It utilizes expanded tables from the World Health Organization (WHO) to provide dynamic assessments of stunting, wasting, underweight, and obesity based on a child's height, weight, gender, and age.
  - **Impact:** This tool enables better tracking and reporting of nutritional status among children, facilitating targeted interventions where needed.
- **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):**
  - **Purpose:** Introduced to alleviate the hardships faced by the poor and needy due to economic disruptions caused by the COVID-19 pandemic.
  - **Food Grain Allocation:** The PMGKAY provides an allocation of free food grains, which is additional to the normal allocation under the NFSA, 2013. This ensures that vulnerable populations have access to essential food supplies during crises.
- **Saksham Anganwadi and Poshan 2.0 (Mission Poshan 2.0)**
  - **Integrated Schemes:** This initiative includes key schemes such as the POSHAN Abhiyaan, Anganwadi Services, and the Scheme for Adolescent Girls, all aimed at directly addressing malnutrition.
  - **Beneficiaries:** The Anganwadi Services target children aged 0-6 years, pregnant women, and lactating mothers, providing a comprehensive support system for maternal and child nutrition.
- **Supplementary Nutrition Provision:**
  - **Forms of Nutrition:** Under the Anganwadi Services scheme, beneficiaries receive supplementary nutrition in the form of hot cooked meals at Anganwadi Centres and Take Home Ration (not raw ration).
  - **Goal:** This initiative aims to ensure that vulnerable populations, especially young children and mothers, receive adequate nutrition to support their health and development.

PANDEMIC FUND PROJECT ON ANIMAL HEALTH SECURITY

Recently, the Ministry of Fisheries, Animal Husbandry, and Dairying introduced the Pandemic Fund Project on Animal Health Security.

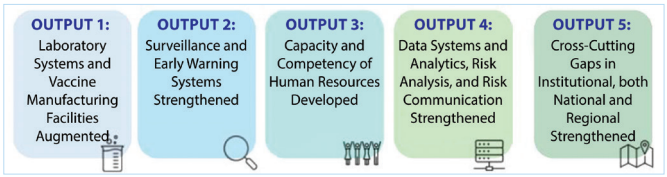
About:

- The **Pandemic Fund Project** emerges from a growing recognition of the interconnectedness of human, animal, and environmental health—often referred to as the **One Health** approach.
- This perspective underscores the importance of strengthening veterinary health systems globally, particularly in light of past pandemics that have originated from animal sources.
- As zoonotic diseases pose significant threats to public health, economic stability, and food security, enhancing animal health infrastructure has become a global priority.
- The **G20 Pandemic Fund** was established in response to the lessons learned from the COVID-19 pandemic, emphasizing the need for preparedness against future health emergencies.
- The fund allocates resources to support initiatives that bolster health systems and improve disease prevention and response mechanisms.

Key Documents Launched:

- **Standard Veterinary Treatment Guidelines (SVTG):**
  - **Purpose:** The SVTG provides a comprehensive framework for veterinary practices across the country.
    - By establishing best practices for the treatment of livestock, it aims to standardize care, enhance animal welfare, and increase productivity in the livestock sector.
  - **Focus Areas:**
    - **Disease Management**: Protocols for treating common livestock diseases.
    - **Antimicrobial Stewardship**: Guidelines on the responsible use of antibiotics to combat the rise of Antimicrobial Resistance (AMR), ensuring that treatment remains effective and safe for both animals and humans.
  - **Expected Outcomes:** Improved health outcomes for livestock, leading to increased productivity and better food security.
- **Crisis Management Plan (CMP) for Animal Diseases:**
  - **Purpose:** The CMP serves as a crucial document for governments and stakeholders involved in animal health. It lays out clear strategies for managing outbreaks of animal diseases, ensuring rapid response to contain and mitigate risks.
  - **Components:**
    - **Risk Assessment:** Identification of high-risk areas and potential disease threats.
    - **Response Protocols**: Step-by-step procedures for outbreak containment, including communication strategies to inform stakeholders and the public.
    - **Coordination Mechanisms**: Frameworks for collaboration among various government agencies, local communities, and international partners.
  - **Significance:** By having a predefined plan, stakeholders can respond swiftly to disease outbreaks, minimizing economic losses and protecting public health.

Objectives and Key Outputs of the Project:



- **Augmentation of Laboratory Systems:**
  - **Activities**: Upgrading existing laboratories and establishing a network of animal health laboratories to enhance diagnostic capabilities.
  - **Impact**: Improved diagnostics lead to quicker identification of diseases, enabling timely interventions and reducing the spread of infections among livestock.
- **Strengthening of Surveillance and Early Warning Systems:**
  - **Activities:** Development of advanced surveillance systems, including sentinel surveillance (monitoring specific populations) and passive surveillance (reporting by veterinarians and farmers).
  - **Impact:** Early detection of diseases allows for proactive measures to control outbreaks before they escalate, safeguarding animal health and food production.
- **Development of Human Resources Capacity and Competency:**
  - **Activities:** Training programs for veterinarians and animal health workers to enhance their skills in disease management, diagnostics, and treatment protocols.
  - **Impact:** A well-trained workforce is critical for effective disease response, ensuring that veterinary professionals are equipped to handle emerging challenges.
- **Strengthening of Data Systems, Analytics, Risk Analysis, and Risk Communication:**
  - **Activities:** Implementation of robust data management systems to collect, analyze, and disseminate information regarding animal health risks.
  - **Impact:** Enhanced data analytics enable better decision-making regarding disease control and public health strategies, fostering a culture of informed risk management.
- **Addressing Cross-Cutting Institutional Capacity Gaps at National and Regional Levels:**

- **Activities:** Initiatives to build institutional frameworks that promote collaboration and resource sharing among various stakeholders involved in animal health.
- **Impact:** Strengthening institutional capacity ensures a coordinated response to health emergencies and supports comprehensive disaster management strategies.

India's Livestock:

- **Diverse Livestock Population:** According to the 20th Livestock Census, India is home to a large and varied livestock population, which includes:
  - **Bovines**: Approximately **303.76 million** head of cattle, buffalo, mithun, and yak provide essential dairy and meat products.
  - **Sheep**: About **74.26 million** sheep contribute wool, meat, and milk, playing an important role in pastoral economies.
  - **Goats**: Roughly **148.88 million** goats are significant for their meat and milk production, especially in hilly and arid regions.
  - **Pigs**: Approximately **9.06 million** pigs support local meat markets and are a source of livelihood for many farmers.
  - **Poultry**: An impressive figure of about **851.81 million** chickens and other birds signifies India's strong presence in the egg and poultry meat market.
- **Global Production Leadership:**
  - **Milk Production**: India is the **largest milk producer in the world,** accounting for more than **22% of global milk production.**
    - This achievement is vital for addressing nutritional needs and enhancing food security, especially in rural areas where milk serves as a major dietary component.
  - **Egg Production:** India ranks **second globally in egg production,** underscoring its ability to provide affordable protein sources to its population and support the livelihoods of poultry farmers.
  - **Meat Production:** The country stands as the **fifth-largest meat producer** in the world, with a growing domestic and international market for livestock products.
- **Growth of the Livestock Sector:**
  - **Compound Annual Growth Rate (CAGR):** The sector recorded a **CAGR of 7.38%** from **2014-15 to 2022-23**, indicative of increasing investments, improved practices, and rising demand for animal products.
  - **Rising Demand:** Factors such as urbanization, population growth, and changing dietary preferences have led to an increased demand for dairy, meat, and eggs, driving the sector's expansion.
  - **Technological Advancements:** The adoption of innovative farming techniques, better breeding practices, and improved veterinary care has led to increased productivity and sustainability in livestock management.

Government Initiatives:

- **Rashtriya Gokul Mission (RGM):** The Rashtriya Gokul Mission focuses on improving the genetic makeup of indigenous livestock breeds through targeted breeding programs. Its objectives include:
  - **Breed Improvement:** Enhancing the productivity of indigenous breeds to meet the growing demand for dairy and meat products.
  - **Increasing Livestock Stock:** Ensuring sustainable growth of livestock populations by promoting quality breeding practices.
  - **Conservation of Indigenous Breeds:** Supporting the preservation of native livestock breeds that are well-adapted to local conditions.
- **E-Pashu Haat Portal:** The E-Pashu Haat Portal serves as a digital platform connecting livestock breeders and farmers. Its key features include:
  - **Quality Germplasm Availability:** Facilitating access to high-quality bovine germplasm, which is essential for improving herd genetics.
  - **Market Linkages:** Providing a marketplace for buying and selling livestock, thus enhancing transparency and efficiency in transactions.
- **National Animal Disease Control Programme:** Launched with a total outlay of **₹13,343 crore,** this program aims to control diseases affecting livestock, specifically Foot and Mouth Disease (FMD) and Brucellosis.

  The main objectives are:
  - **100% Vaccination Coverage:** Ensuring that all cattle, buffalo, sheep, goats, and pigs receive vaccinations to prevent disease outbreaks.
  - **Enhanced Disease Surveillance:** Strengthening surveillance systems to detect and respond to disease outbreaks swiftly.
- **National Livestock Mission:**
  - **Quality Feed and Fodder Availability:** Ensuring that livestock farmers have access to nutritious feed and fodder, which is essential for healthy livestock.
  - **Intensive Livestock Development:** Encouraging smallholder farmers to engage in livestock farming through training and support programs.
- **Animal Husbandry Infrastructure Development Fund (AHIDF):**
  - With a budget of **₹15,000 crore**, this fund aims to boost the dairy sector and increase employment through the following measures:
  - **Support for MSMEs:** Promoting micro, small, and medium enterprises (MSMEs) involved in the processing and value addition of animal products.
  - **Increase in Milk Production and Exports:** Fostering an environment conducive to increasing domestic milk production and enhancing exports.

ECO-SENSITIVE ZONE (ESZ) AROUND GIR FOREST

The Ministry of Environment, Forest and Climate Change (MoEFCC) recently proposed an Eco-Sensitive Zone (ESZ) around the Gir forest.

About:

- **Definition:**
  - Defined in the **National Environment Policy (2006)**, ESZs are areas or zones identified for their **environmental resources of incomparable value**, which need **special attention for conservation**.
  - These zones are protected due to their **landscape**, **wildlife**, **biodiversity**, and **historical or natural significance**.
- **Purpose of Eco-Sensitive Zones:**
  - **Conservation Efforts:** The **Ministry of Environment, Forest, and Climate Change** designates certain areas as ESZs to protect the environment and the **biological integrity** of regions outside protected areas, which may have been negatively impacted by **human activities** or **climate change**.
  - **Special Protection:** ESZs provide a **special designation** for areas rich in environmental resources, ensuring that these zones receive adequate protection from environmental degradation.
- **Origins and Development of the Concept:**
  - **Initial Conception:**
    - The concept of ESZs was first introduced during the **XXI meeting of the Indian Board for Wildlife (2002)**.
    - During this meeting, the **Wildlife Conservation Strategy (2002)** was adopted, with the following key point:
      - Lands within 10 km of national parks and wildlife sanctuaries should be declared eco-fragile zones under the Environment (Protection) Act, 1986 and associated rules.
  - **National Wildlife Action Plan (NWAP) (2002-2016):**
    - This plan emphasized that areas outside protected zones are **crucial ecological corridors** and should be protected to avoid **isolation of biodiversity fragments**.
    - It suggested that **land and water use policies** should aim to protect **ecologically fragile habitats** and **regulate usage** in surrounding areas.
- **Guidelines for Eco-Sensitive Zones:**
  - **National Board for Wildlife (NBWL) Decision:** In line with NBWL's decision, the **Ministry of Environment** issued **Guidelines for Declaration of ESZ** in **2011** to help states propose specific ESZs.
  - **Indicative List of Activities:** The guidelines outlined **three categories** of activities within ESZs:
    - **Prohibited Activities:** Activities that could harm the environment, like mining or deforestation.
    - **Regulated Activities:** Controlled actions, such as certain types of construction, which require special permissions.
    - **Promoted Activities:** Actions that benefit the environment, like **eco-tourism**, **reforestation**, or **conservation projects**.
- **Purpose and Functions of ESZs**
  - **Environmental Protection:** The primary goal is to **protect sensitive ecosystems** and prevent their degradation due to **anthropogenic pressures** (e.g., urbanization, industrialization).
  - **Buffer Zone:** ESZs act as a **buffer or shock absorber** for **specialized ecosystems** (such as **protected areas**, national parks, or wildlife sanctuaries).
    - These zones reduce the impact of harmful activities near sensitive habitats.
  - **Transition Zone:** ESZs serve as **transition areas** between **highly protected areas** (like national parks) and zones with **lesser protection**.
    - This approach helps to balance conservation with sustainable human activities.

Benefits:

- **Protection of Wildlife Habitat:** The ESZ helps safeguard the critical habitat of endangered species like the Asiatic lion, ensuring minimal disturbance to their natural environment.
- **Biodiversity Conservation:** By limiting human activities in the designated area, the ESZ aids in preserving the rich biodiversity of the Gir forest, protecting various plant and animal species.
- **Buffer Against Urbanization:** The ESZ acts as a buffer zone, preventing unregulated urban development and industrial activities near the forest, which could otherwise degrade the ecosystem.
- **Sustainable Development:** The reduced ESZ area strikes a balance between conservation efforts and the needs of local communities, allowing sustainable livelihoods while maintaining environmental protection.
- **Enhanced Ecotourism Opportunities:** With controlled human activity, the ESZ can promote responsible ecotourism, generating income for local communities while raising awareness about conservation.
- **Mitigation of Human-Wildlife Conflict:** By regulating activities in the zone, the ESZ can help reduce human-wildlife conflicts, particularly in areas where animals stray into human settlements.
- **Climate Change Mitigation:** Protecting forests within the ESZ contributes to climate change mitigation by preserving carbon sinks, which help absorb CO2 and regulate the local climate.

ECO-SENSITIVE ZONE (ESZ)

Prohibited Activities

- **Mining Activities:**
  - **Commercial mining** and **stone quarrying** are strictly prohibited in ESZs.
  - These activities pose a **significant threat** to the environment by causing **habitat destruction**, **land degradation**, and **pollution**.
- **Hydroelectric Projects:**
  - Large-scale **hydroelectric projects** are banned in ESZs due to their potential to cause **substantial environmental damage**.
  - These projects often require the **diversion of rivers**, leading to the **flooding of habitats**, displacement of wildlife, and alterations in the natural flow of water systems, which can negatively impact the surrounding ecosystems.
- **Hazardous Materials:**
  - The **handling, storage, or processing** of **hazardous substances** is not allowed in ESZs to prevent the risk of **contamination** and **accidental spills** that could severely impact the environment.
  - Such substances can cause **long-term pollution**, affecting both **terrestrial** and **aquatic ecosystems**, and pose health risks to nearby communities.
- **Effluent Discharge:**
  - The **discharge of untreated effluents** (wastewater from industries or households) is prohibited in ESZs.
  - Untreated effluents can contaminate **water bodies**, soil, and air, leading to the **degradation of natural habitats** and threatening the health of both **wildlife** and **human populations**.
- **Brick Kilns:**
  - The establishment of **brick kilns** is not permitted in ESZs as they contribute to **air pollution** and the **depletion of natural resources** like clay and soil.
  - Brick kilns also emit large amounts of **carbon dioxide (CO2)** and other harmful gases, which can deteriorate air quality and affect both the **environment** and **public health**.
- **Polluting Industries:**
  - Industries known for **high environmental risks** (such as those that produce **chemical waste**, **heavy metals**, or **toxic by-products**) are banned from operating in ESZs.
  - These industries can cause **irreversible damage** to the ecosystem, including **soil contamination**, **water pollution**, and **airborne toxins**, making it critical to restrict their presence in environmentally sensitive regions.

Permitted Activities

- **Farming Practices:**
  - **Agriculture** and **horticulture** are permitted in ESZs, allowing local communities to maintain their traditional livelihoods.
  - These activities involve the **cultivation of crops**, **vegetables**, and **fruits**, which are essential for both **food security** and the **economic well-being** of the local population.
- **Livestock Management:**
  - **Dairy farming** is allowed within ESZs as it supports the **livelihoods of rural communities** and ensures a source of **income** and **nutrition**.
  - This involves the rearing of **cattle** for **milk production** and related dairy activities.
  - Sustainable practices are promoted to prevent overgrazing and ensure the protection of natural resources.
- **Water-Based Farming:**
  - **Aquaculture** (fish farming) and **fisheries** are permissible in ESZs, provided they are conducted in a manner that respects the **fragile ecosystem**.
  - These activities provide important **economic benefits** to local communities and contribute to **food production**.
  - However, it is essential that these practices are managed responsibly to avoid **overfishing**, **water pollution**, and the **depletion of aquatic resources**.
- **Animal Husbandry:**
  - **Poultry** and **goat farming** are allowed in ESZs as these small-scale farming practices are integral to the **subsistence** and **economic stability** of local communities.
  - These activities provide a source of **meat**, **eggs**, and **income**.
  - Sustainable animal husbandry practices are important to ensure that these activities do not negatively impact the **local biodiversity** or lead to environmental degradation.
- **Food Production and Processing:**
  - Small-scale **food-related enterprises**, such as the **processing** and **selling of local agricultural products**, are permitted within ESZs.
  - These activities contribute to the **economic development** of the region while allowing local communities to capitalize on **natural resources** in a sustainable manner.
  - Such enterprises also promote **self-reliance** and help reduce dependence on external resources.

- **Preservation of Ecosystem Services:** The zone helps maintain ecosystem services provided by the forest, such as water regulation, soil fertility, and air purification, benefiting both nature and surrounding communities.

GIR FOREST

Components of the Gir Protected Areas:

- **Gir National Park:** The centerpiece of the **Gir Protected Areas**, known for its diverse wildlife and the presence of the **Asiatic lion**.
- **Gir Wildlife Sanctuary:** Surrounding the national park, this sanctuary provides additional habitat for various species and supports conservation efforts.
- **Paniya Wildlife Sanctuary:** Located adjacent to the Gir region, this sanctuary plays a crucial role in biodiversity conservation.
- **Mitiyala Wildlife Sanctuary:** Another important sanctuary in the area, it contributes to the overall ecological integrity of the Gir ecosystem.

Geographical Overview:

- The **Gir Forests** represent the largest compact track of **dry deciduous forests** in semi-arid western India, covering an area of **1,153.42 sq. km**. Out of this, **258.71 sq. km** has been designated as a **National Park**.
- The forests are characterized by a mix of **deciduous trees**, scrublands, and grasslands, providing a unique habitat for a variety of wildlife.

Significance of the Gir Ecosystem:

- **Habitat for Asiatic Lions:** The **Gir Forests** are renowned as the **last natural habitat** of the **Asiatic lion (Panthera leo persica)**, an endangered species that has been saved from the brink of extinction through extensive **conservation efforts**.
  - **Conservation Status:**
    - **IUCN Red List:** Endangered
    - **CITES:** Appendix I
    - **Wildlife (Protection) Act 1972:** Schedule I
- **Symbiotic Relationship with Lions:**
  - The **Maldharis**, a traditional pastoral community residing in the Gir region, have developed a historical and symbiotic relationship with the lions.
    - The Maldharis, a pastoral community, are primarily involved in cattle breeding and rely heavily on the forest for their livelihood.
  - Their settlements, known as **"nesses,"** are strategically located within the forested areas.
  - The relationship between the Maldharis and the lions is characterized by mutual respect.
  - The community plays a vital role in wildlife conservation efforts, as they understand the behavior of the lions and their ecological needs.

Way Forward:

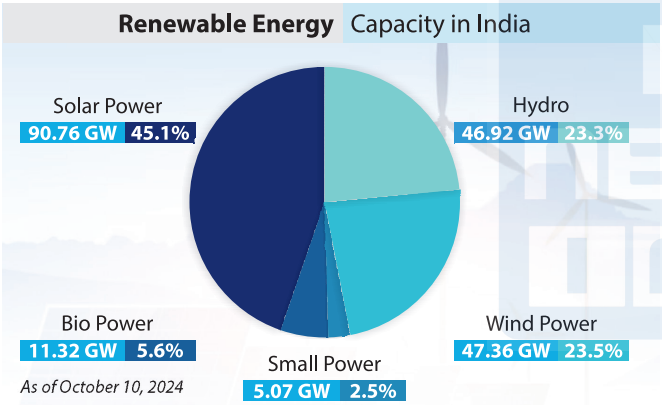
- **Clear Demarcation and Effective Management:** Clearly defining ESZ boundaries is crucial to avoid ambiguity in conservation efforts. Effective management plans, including regular monitoring and zoning regulations, should be established to protect biodiversity and ecosystem health within these zones.
- **Community Involvement and Livelihood Support:** Local communities should be actively involved in the management of ESZs, as they are often the primary stakeholders.
  - Providing alternative livelihood opportunities, sustainable agriculture practices, and eco-tourism initiatives can help support local economies while reducing pressure on sensitive ecosystems.
- **Promoting Sustainable Development Practices:** To minimize ecological damage, development activities within and around ESZs should prioritize eco-friendly practices.
  - Encouraging sustainable infrastructure, renewable energy sources, and waste management systems can protect ESZ integrity while meeting developmental needs.
- **Strengthening Policy and Legal Frameworks:** Robust policies and legal frameworks should be in place to prevent illegal activities such as poaching, deforestation, and encroachment.
  - Regular audits, penalties, and strict enforcement will ensure that these protected areas remain safeguarded.
- **Capacity Building and Awareness Programs:** Conducting awareness programs for local communities and government officials on the significance of ESZs can build a sense of shared responsibility.
  - Training for effective management and conservation practices will empower communities to participate in and support ESZ objectives.
- **Developing Buffer Zones Around ESZs:** Establishing buffer zones around ESZs can help reduce human-wildlife conflict and further protect core conservation areas.
  - These buffers act as transition areas, minimizing habitat fragmentation and mitigating the impact of human activity on sensitive ecosystems.
- **Incentivizing Conservation Efforts:** Governments can introduce incentive schemes for both local communities and businesses that adopt conservation-friendly practices in and around ESZs.
  - Subsidies, tax benefits, and eco-certifications can encourage sustainable activities, helping to align economic interests with conservation goals.
- **Improving Infrastructure for Conservation:** Developing infrastructure for conservation, such as wildlife corridors, fencing, and advanced monitoring systems, can help maintain ecosystem connectivity and protect endangered species.
  - This infrastructure should be designed to have minimal impact on the environment while enhancing habitat protection.

INDIA'S TOTAL RENEWABLE ENERGY CAPACITY CROSSES 200 GW MARK

Recently, India achieved a major milestone as its total renewable energy capacity surpassed 200 GW (gigawatts) in 2024.

Overview:

- **Total Electricity Generation Capacity:**
  - **Current Capacity:** As of October 2024, India's total electricity generation capacity has reached **452.69 GW**. This figure reflects the country's ongoing efforts to enhance its energy infrastructure and meet the growing demands of its population.
  - **Renewable Energy Contribution:** Of this total capacity, renewable energy sources contribute significantly with **201.45 GW**, representing **46.3%** of the overall installed capacity.
    - This indicates a major transition toward cleaner energy, demonstrating India's commitment to sustainable development and environmental stewardship.



Key Renewable Energy Resources:

- **Solar Power:**
  - **Capacity:** Solar energy leads the renewable sector with **90.76 GW** of installed capacity, making it a cornerstone of India's renewable strategy.
  - **Significance:** Given India's geographical advantage, with abundant sunlight throughout the year, solar power offers immense potential for growth.
  - Initiatives like the **National Solar Mission & PM Surya Ghar Muft Bijli Yojana** aim to promote solar energy deployment across the country, making it a key player in reducing greenhouse gas emissions and promoting energy independence.
- **Wind Power:**
  - **Capacity:** Wind power contributes **47.36 GW**, positioning it as a significant source of renewable energy in India.
  - **Potential:** India boasts vast coastal areas and favorable wind conditions, particularly in states like Tamil Nadu, Gujarat, and Maharashtra.
  - The government has been actively encouraging investment in wind farms to harness this potential effectively, thus supporting the transition to a greener energy landscape.
- **Hydroelectric Power:**
  - **Large Hydro Projects:** The contribution from large hydroelectric projects stands at **46.92 GW**, utilizing India's extensive river systems to generate clean energy.
  - **Small Hydro Power:** In addition to large projects, small hydro power adds **5.07 GW**, allowing for localized energy generation, which is particularly beneficial in rural and remote areas.
  - Hydropower is not only a renewable source but also provides a reliable baseload power supply, contributing to grid stability.
- **Biopower:**
  - **Contribution:** Biopower, comprising biomass and biogas energy, contributes **11.32 GW** to the renewable energy mix.
  - **Role:** These projects are vital for leveraging agricultural residues and organic waste, converting them into energy. This not only aids in waste management but also reduces emissions and enhances rural livelihoods by creating additional income streams for farmers.

Benefits:

- **Environmental Benefits:** Reducing fossil fuel consumption lowers greenhouse gas emissions, contributing to global climate change mitigation efforts.
- **Energy Security:** A diversified energy portfolio enhances energy security by reducing dependence on imported fuels, thus shielding the economy from price fluctuations and geopolitical tensions.
- **Sustainable Development:** Transitioning to renewable energy sources supports sustainable development goals (SDGs) by promoting economic growth, improving energy access, and ensuring environmental sustainability.

Leading States in Renewable Energy Capacity:

- **Rajasthan:**
  - **Capacity:** With **29.98 GW** of installed renewable energy capacity, Rajasthan is the leading state in this sector.
  - **Advantages:** The state benefits from vast tracts of arid land and high solar insolation, making it ideal for large-scale solar installations.
  - Initiatives like solar parks have been instrumental in promoting investment and accelerating capacity deployment.

- **Gujarat:**
  - **Capacity:** Gujarat closely follows with **29.52 GW** of renewable energy capacity.
  - **Strengths:** The state has a well-developed infrastructure for solar and wind projects and has implemented policies that encourage private investment.
  - The **Gujarat Solar Park** is a landmark project that showcases the state's commitment to solar energy.
- **Tamil Nadu:**
  - **Capacity:** Tamil Nadu ranks third with **23.70 GW** of renewable energy capacity, primarily from wind power.
  - **Wind Energy Focus:** The state's coastal location and favorable wind patterns make it a hub for wind energy production.
  - The government has supported the development of wind farms through various incentives, leading to substantial investments in this sector.
- **Karnataka:**
  - **Capacity:** Rounding out the top four, Karnataka has **22.37 GW** of renewable energy capacity.
  - **Diversity of Projects:** The state boasts a mix of solar and wind initiatives, with ongoing projects that further expand its renewable energy infrastructure.
  - Karnataka has also been a pioneer in promoting rooftop solar installations, enhancing energy access at the decentralized level.

Key Schemes and Programs:

- **National Green Hydrogen Mission:**
  - This mission focuses on promoting the production and utilization of green hydrogen as a clean energy source.
  - It aims to reduce carbon emissions and enhance energy security while fostering innovation in hydrogen technology.
- **PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan):** Aimed at promoting solar energy generation among farmers, this program supports the installation of solar pumps and grid-connected solar power projects, thus enhancing farmers' incomes and contributing to renewable energy generation.
- **PM Surya Ghar:** This initiative promotes the installation of rooftop solar panels on residential buildings, enabling households to generate their own electricity and contribute to the national grid, thereby reducing reliance on fossil fuels.
- **Production-Linked Incentive (PLI) Schemes:** Targeting solar Photovoltaic (PV) modules, these schemes incentivize domestic manufacturing and aim to increase self-reliance in solar technology, reducing dependency on imports.
- **Notification of Renewable Energy Power Bids:**
  - A trajectory for renewable energy power bids has been established, aiming for **50 GW per annum** by Renewable Energy Implementation Agencies (REIAs) from FY 2023-24 to FY 2027-28.
  - This initiative ensures a steady pipeline of projects to meet future energy demands.
- **Foreign Direct Investment (FDI):**
  - The Indian government has permitted up to **100% FDI under the automatic route** in the renewable energy sector.
  - This policy is intended to attract foreign investment and boost domestic manufacturing capacities.
- **Waivers on Transmission Charges:**
  - There is a waiver of Inter-State Transmission System (ISTS) charges for solar and wind power projects commissioned by **June 30, 2025**, and for green hydrogen projects until **December 2030**.
  - This move aims to reduce the financial burden on renewable projects, encouraging their development.
- **Renewable Purchase Obligation (RPO) Trajectory:** The government has announced a trajectory for Renewable Purchase Obligations until **2029-30**, including separate RPOs for decentralized renewable energy projects, thereby ensuring a structured growth path for renewable energy consumption.
- **Project Development Cell:** A dedicated cell has been established to attract and facilitate investments in the renewable energy sector, simplifying processes and providing necessary support to investors.
- **Standard Bidding Guidelines:**
  - These guidelines have been issued for tariff-based competitive bidding for procuring power from grid-connected solar, wind, and hybrid projects.
  - This standardization aims to ensure transparency and competitiveness in the bidding process.
- **Ultra Mega Renewable Energy Parks:** The government is setting up large-scale renewable energy parks, which will provide the necessary land and transmission infrastructure for developing massive renewable energy projects, thus reducing project development time.
- **Viability Gap Funding for Offshore Wind Projects:**
  - Cabinet approval has been granted for a Viability Gap Funding scheme, facilitating the installation of **1 GW of offshore wind energy capacity** along the coasts of Gujarat and Tamil Nadu.
  - This initiative aims to promote offshore wind energy as a viable renewable source.
- **Electricity (Rights of Consumers) Rules, 2020:** These rules have been implemented to facilitate net metering for installations up to **500 kilowatts**, encouraging individuals and businesses to invest in renewable energy systems.
- **National Repowering and Life Extension Policy for Wind Power Projects, 2023:** This policy aims to optimize existing wind power projects, allowing for repowering and extending the operational life of older installations to enhance energy output.

RISING VULNERABILITIES OF RURAL POOR AMID CLIMATE SHOCKS

Recently, a national-level dialogue on the FAO's report titled "The Unjust Climate" was held in New Delhi, concentrating on multidimensional poverty and climate vulnerabilities in rural areas of the country.

Key Highlights:

- **Economic Losses Due to Extreme Heat:**
  - Each day of extreme heat results in a substantial loss for poor rural households, which experience a **2.4% reduction in on-farm incomes**, **1.1% decline in crop value**, and **1.5% decrease in off-farm income** when compared to their non-poor counterparts.
  - This trend is consistent across India and 23 other Lower Middle-Income Countries (LMICs).
- **Long-Term Temperature Increase:**
  - A **1°C rise** in long-term temperatures is projected to lead poor rural households to increasingly depend on climate-sensitive agriculture, resulting in a staggering **33% decrease in off-farm incomes**.
  - This dependency exacerbates their vulnerability to climate change.
- **Economic Impact of Extreme Precipitation:**
  - Similarly, each day of extreme precipitation contributes to a **0.8% loss in incomes** for poor households relative to non-poor households, primarily affecting their off-farm income.
  - This underscores the financial strain that adverse weather patterns impose on already vulnerable populations.
- **Annual Income Losses:**
  - On average, poor households endure a **5% reduction in total income** annually due to heat stress, while floods account for a **4.4% income loss**.
  - These statistics highlight the disproportionate impact of climate stressors on poorer communities compared to wealthier households.
- **Widening Income Gap:**
  - The combined effects of floods and heat stress result in an income disparity between poor and non-poor households in rural areas, widening the gap by approximately **USD 21 billion** due to floods and **USD 20 billion** due to heat stress each year.
  - This indicates a significant and growing divide driven by climate-related challenges.
- **Adoption of Maladaptive Strategies:**
  - In response to extreme weather events, poor rural households often resort to maladaptive coping strategies, such as the **distress sale of livestock** and redirecting expenditures away from agricultural investments.
  - These measures reflect their immediate survival needs rather than long-term sustainability.
- **Reduced Agricultural Investment:** When confronted with floods and droughts, poor households are compelled to reduce their agricultural investments relative to non-poor households, diverting scarce resources away from production toward meeting immediate consumption needs.
- **Increased Vulnerability:** The use of these maladaptive strategies renders poor households more susceptible to future climate stressors compared to their wealthier counterparts, perpetuating a cycle of vulnerability and dependency.
- **Exclusion of Rural Vulnerabilities:**
  - The climate vulnerabilities of rural populations are largely overlooked in national climate policies.
  - The report highlights that less than **1% of Nationally Determined Contributions (NDCs)** and national adaptation plans (NAPs) from the **24 analyzed countries** specifically mention poor individuals, and only **about 6%** reference farmers in rural communities.
- **Limited Climate Finance for Adaptation:**
  - Only **7.5% of tracked climate finance** in 2017-18 was directed toward climate change adaptation efforts, with less than **3%** allocated to crucial sectors such as agriculture, forestry, and other land uses.
  - This underfunding indicates a significant gap in support for vulnerable communities.
- **Missed Opportunities in Agricultural Policies:**
  - Agricultural policies often fail to address critical issues of gender equality and women's empowerment in the context of climate change.
  - An analysis by the FAO in 2023 revealed that **approximately 80% of agricultural policies** from **68 low and middle-income countries** did not consider the intersection of women's issues and climate change, leading to overlooked vulnerabilities and unaddressed needs.

Adverse Effects of Climate Change:

- **Increased Vulnerability to Extreme Weather:**
  - **Natural Disasters:** Rural areas are often more susceptible to the impacts of extreme weather events such as floods, droughts, and storms.
    - For *example*, the rural poor in India face heightened risks during monsoon seasons when heavy rains can lead to flooding, destroying homes and agricultural lands.
  - **Loss of Livelihoods:** Extreme weather can wipe out crops and livestock, directly impacting the livelihoods of rural communities that depend on agriculture and farming for their income.
- **Crop Failures:** Changes in temperature and precipitation patterns can lead to unpredictable growing seasons and increased pest infestations, resulting in crop failures.

- This is particularly devastating for subsistence farmers who rely on their harvest for both food and income.

- **Rising Food Prices:** As agricultural yields decline due to climate impacts, food prices can increase, making it difficult for low-income rural households to afford basic nutrition.
  - This can lead to malnutrition and adverse health outcomes, particularly for children.
- **Diminished Water Resources:** Climate change can alter rainfall patterns, leading to prolonged droughts and reduced water availability for drinking and irrigation.
  - Rural communities in regions like sub-Saharan Africa often struggle with access to clean water, exacerbated by climate variability.
- **Conflict Over Water:** Scarcity of water resources can lead to conflicts among communities, further destabilizing rural areas and diminishing cooperation that is vital for collective survival.
- **Increased Disease Incidence:** Changing climatic conditions can expand the range of vector-borne diseases (e.g., malaria and dengue) and waterborne diseases (e.g., cholera).
  - Rural populations, often lacking adequate healthcare, are particularly vulnerable to these health threats.
- **Nutritional Deficiencies:** Food insecurity and reduced agricultural productivity can result in malnutrition and related health issues, affecting physical and cognitive development, especially in children.
- **Forced Migration:** Climate-induced events such as flooding or prolonged droughts can displace rural communities, forcing them to migrate to urban areas or other regions in search of better living conditions and job opportunities.
  - This can lead to overcrowding in cities and increased pressure on urban resources.
- **Loss of Community:** Displacement can disrupt social networks and cultural ties, leading to a loss of community identity and support systems that are crucial for resilience.

Measures that can be taken:

- **Implement Adaptive Agricultural Practices:** Encourage the adoption of climate-smart agricultural techniques that enhance resilience to extreme weather events, such as crop rotation, agroforestry, and the use of drought-resistant crop varieties.
  - Providing training and resources to farmers can help them better adapt to changing conditions.
- **Diversification of Livelihoods:** Promote alternative livelihood opportunities that reduce dependence on climate-sensitive sectors like agriculture. This could include skills training for crafts, tourism, and renewable energy jobs.
- **Improve Water Resource Management:** Invest in sustainable water management practices, including rainwater harvesting, efficient irrigation techniques, and watershed management.
  - These practices can help rural communities cope with water scarcity and improve agricultural productivity.
- **Develop Infrastructure:** Build and maintain resilient water supply infrastructure to ensure access to clean drinking water, especially during droughts or floods.
- **Expand Healthcare Access:** Improve healthcare infrastructure and services in rural areas to address climate-related health risks. This includes training healthcare workers to recognize and treat climate-related illnesses and providing access to essential medicines and preventive care.
- **Community-Based Approaches:** Engage local communities in decision-making processes related to climate adaptation and resource management. This can foster ownership and enhance the effectiveness of interventions.

FOOD AND AGRICULTURE ORGANIZATION (FAO)

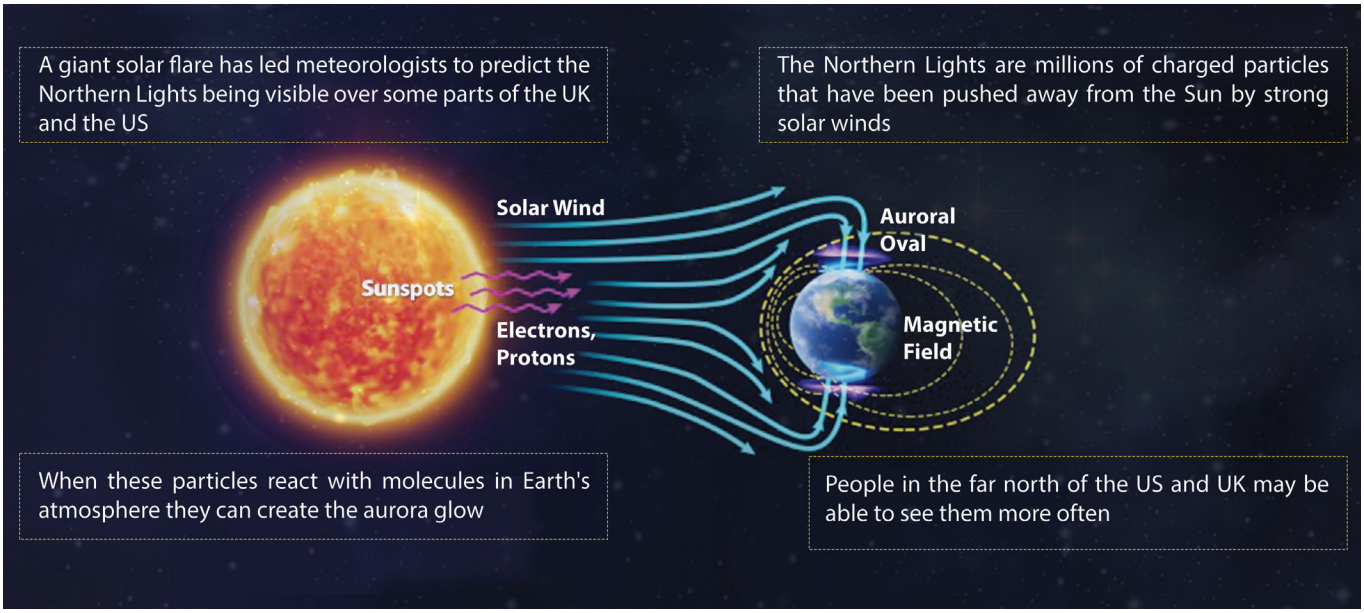
- **Overview:**
  - The FAO is a specialized United Nations (UN) agency leading international efforts to combat hunger and improve global food security.
  - It is the oldest permanent specialized UN agency, established in October 1945.
  - **Headquarters:** Rome, Italy.
  - **Membership:** Currently includes 194 Member States, plus the European Union (as a member organization).
  - **Funding:** FAO receives its funding entirely from member countries.
- **Mandate:**
  - Improve global nutrition levels and agricultural productivity.
  - Enhance the standard of living in rural areas.
  - Contribute to economic growth worldwide.
- **Primary Functions:**
  - **Coordination:** Works with governments and technical agencies on programs related to agriculture, forestry, fisheries, and land and water resource development.
  - **Research and Technical Assistance:** Conducts research and provides technical support to various projects in individual countries.
  - **Educational Programs:** Operates educational seminars and training centers globally.
  - **Information Services:** Maintains data on global production, trade, and consumption of agricultural commodities and publishes research bulletins, yearbooks, and periodicals.
- **Role in Food Crises:**
  - FAO typically does not directly engage in food relief operations in situations of scarcity or conflict.
  - These activities are generally handled by the World Food Program within the UN system.
- **Reports Published:**
  - The State of the World's Forests (SOFO)
  - The State of World Fisheries and Aquaculture (SOFIA)
  - The State of Agricultural Commodity Markets (SOCO)
  - The State of Food Security and Nutrition in the World (SOFI)

AURORA LIGHTS APPEAR IN LADAKH

Recently, auroras were observed in lower-latitude areas, including Hanle and Merak in Ladakh, India.

About:

- **Overview:** An **aurora** is a natural light phenomenon visible in the night sky, particularly prominent in polar regions.
  - Auroras are known for their dynamic waves of colors, such as **green, red, blue, yellow, and purple**, creating patterns that can shift and ripple like curtains in the sky.
  - These colors result from specific interactions between solar particles and atmospheric gases, producing light as they collide.
- **Color Formation:**
  - **Green-Yellow Auroras:** The most common aurora colors are green and yellow, resulting from **charged ions interacting with oxygen atoms** at altitudes below 241 kilometers.
    - The ionized oxygen emits a greenish hue, which becomes more intense as it descends closer to the Earth.
  - **Red and Blue Auroras:** At slightly lower edges of the auroras, **nitrogen atoms** interact with ions, producing shades of **red and blue**. The vividness of these colors varies depending on the level of solar activity and atmospheric conditions.
  - **Purple and Rare Blue Hues:** Although less visible to the naked eye, collisions with **hydrogen and helium atoms** can result in **blue and purple auroras**.
    - These hues are challenging to detect, often appearing during exceptionally intense solar storms or under ideal atmospheric conditions.
- **Geographical Occurrence:**
  - Auroras are generally seen near **polar regions**, specifically close to the **Arctic and Antarctic Circles** (approximately 66.5 degrees north and south of the Equator).
  - The **northern auroras**, known as the **aurora borealis** or **northern lights**, are visible in the Northern Hemisphere, particularly in areas like Alaska, Canada, and Norway.
  - The **southern auroras**, or **aurora australis**, occur in the Southern Hemisphere, often visible from regions like southern Australia, New Zealand, and Antarctica.
- **Cause of Auroras:**
  - **Energetic Particles and Solar Wind:**
    - The **Sun** emits energetic particles, which are continuously carried out into space along with the **solar wind**—a stream of hot, ionized particles.
    - This solar wind moves at supersonic speeds, ranging from **300 to over 1,000 km per second**, and carries the **solar magnetic field** with it.
    - As it approaches Earth, it distorts our planet's magnetic field, creating a comet-shaped region known as the **magnetosphere**.
    - The **magnetosphere** acts as a protective shield, deflecting the majority of these energetic solar particles away from Earth.



- This shield-like barrier helps safeguard the planet from the potentially harmful **radiation** and **charged particles** that accompany the solar wind.
- Although most particles are deflected around Earth, some of them become **trapped within the magnetic field** and are directed toward the polar regions.

- **Role of Trapped Electrons in Creating Auroras:**
  - The trapped particles, especially high-energy **electrons**, are accelerated along Earth's magnetic field lines toward the **polar regions**.
  - Upon reaching the upper atmosphere, these electrons collide with neutral atoms and molecules, producing auroras.
  - During these collisions, the high-energy particles **excite valence electrons** within the neutral atoms, raising them to a higher energy level.
  - As these excited electrons return to their original, lower energy state, they release **photons** (light particles), which we observe as the **shimmering colors of the aurora**.

- **Colors and Atmospheric Composition:**
  - The specific colors of the aurora depend on the type of **atmospheric gas**, the **electrical state** of the gas, and the **energy of the colliding particle**.
  - **Atomic Oxygen** is primarily responsible for the two main aurora colors:
    - **Green:** The green color, with a wavelength of **557.7 nm**, is produced by excited atomic oxygen at lower altitudes (around 100-200 km above Earth's surface).
    - **Red:** The red color, at a wavelength of **630.0 nm**, originates from atomic oxygen at higher altitudes (over 200 km). This color is typically fainter and less common but contributes to the aurora's spectrum, especially during intense solar activity.

HANLE OBSERVATORY

- **Location:**
  - The **Hanle Observatory**, officially known as the **Indian Astronomical Observatory**, is located on **Mt. Saraswati** in the **Nilamkhul Plain** of the Hanle Valley in Ladakh, India, at an altitude of about **4,500 meters**.
  - Managed by the **Indian Institute of Astrophysics**, this observatory is positioned in one of the world's highest and most remote regions, making it an ideal location for stargazing and space research.
- **Recognition and Ideal Conditions:**
  - The observatory is internationally renowned for its **dark, cloudless skies**, which are largely free from light pollution.
  - Due to Ladakh's dry atmosphere and high altitude, Hanle offers clear views of the night sky, a feature recognized by scientists and astronomy enthusiasts worldwide.
- **Observational Capabilities:**
  - Hanle Observatory is equipped with a **2-meter optical infrared telescope**, one of India's most advanced astronomical instruments.
  - This telescope allows astronomers to conduct detailed observations of distant celestial objects, such as stars, galaxies, and exoplanets, making significant contributions to global astronomical research.
  - The site is also pivotal in tracking cosmic phenomena and gathering data on deep-space objects, thanks to its sophisticated imaging and observational equipment.
- **Designation as a Dark Sky Reserve:**
  - This designation aims to protect the pristine quality of night skies by reducing light pollution, thus preserving the area's suitability for astronomical observation.
  - As a result, Hanle has become one of the premier destinations in India for stargazing and astronomical photography, promoting sustainable tourism that respects the natural nightscape.
- **Role in Space Weather Monitoring:** The observatory also plays a crucial role in studying space weather by monitoring solar activity and cosmic rays.
  - This research is vital for predicting solar storms that could impact satellite operations, communication systems, and power grids on Earth.
- **Focus on Exoplanet Exploration:** With its advanced equipment, Hanle is a key site for detecting and characterizing exoplanets around distant stars.
  - This contributes to the growing field of planetary science and helps in the search for potentially habitable planets.
- **Contribution to Cosmology:** Hanle Observatory contributes to cosmological studies by observing distant galaxies and supernovae, offering insights into the evolution of the universe, dark matter, and dark energy.
- **Support for National Astronomy Programs:** The observatory supports major Indian astronomy missions and programs, including initiatives by the Indian Space Research Organisation (ISRO) and research conducted by academic institutions across the country.
- **Astrotourism Hub:** Recognized as a Dark Sky Reserve, Hanle has become a major destination for astrotourism in India, attracting astronomers, photographers, and tourists.
  - Its pristine night skies and unique landscape offer rare stargazing opportunities that encourage sustainable tourism.
- **Role in Climate Research:** Situated in a high-altitude, arid region, the observatory also contributes to atmospheric studies, monitoring air composition and climatic conditions in Ladakh.

CYCLONE DANA

Recently, Cyclone Dana impacted the coastal regions of Odisha and West Bengal, bringing severe weather conditions and prompting emergency preparedness measures in the affected areas.

About:

- **Emergence:**
  - Cyclone Dana is notable for being the **third cyclone** to form in the North Indian Ocean region and the **second** to make landfall along the Indian coast in **2024**, following Cyclone Remal.
  - It marks the **first cyclone** of the post-monsoon cyclone season.
- **Naming:**
  - The cyclone was named **Dana** by **Qatar** as per the protocols of the **World Meteorological Organization (WMO)**.
  - In **Arabic**, "Dana" translates to 'generosity' and is also associated with 'the most perfectly sized, valuable, and beautiful pearl.'
- **Reasons for Intense Rainfall:**
  - **Intense Convection:**
    - The cyclone exhibits **intense convection** in its western sector, which extends into the upper layers of the atmosphere.
    - This process begins when **warm, moist air** rises, cools, and expands, leading to the condensation of moisture into water droplets and the formation of clouds.
    - As the rising air continues to cool and condense, it develops **cumulonimbus clouds**, which are characteristic of thunderstorms and create conditions favorable for heavy rainfall.
  - **Warm Moist Air Influx:**
    - There is a significant influx of **warm, moist air** into the cyclone's core, enhancing convection and resulting in increased rainfall.
    - This influx not only maintains but also intensifies the cyclone, leading to **intense rainfall** over a relatively small area.
  - **Influence of Madden Julian Oscillation (MJO):**
    - The current state of the **Madden Julian Oscillation (MJO)** is conducive to convection, which contributes to heavy rainfall.
    - **The MJO consists of two phases:**
      i. **Enhanced Rainfall Phase:** During this phase, surface winds converge, causing air to rise and resulting in increased rainfall.
      ii. **Suppressed Rainfall Phase:** In this phase, winds converge at higher altitudes, causing air to sink, which leads to reduced rainfall.
    - The dipole structure of the MJO moves from west to east across the Tropics, creating conditions for **more cloudiness and rainfall** during the enhanced phase, and promoting **sunshine and dryness** during the suppressed phase.

Favorable Conditions for Tropical Cyclones:

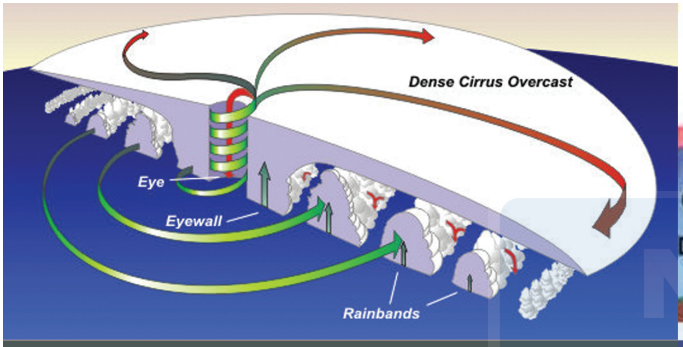
- **Warm Ocean Water:**
  - **Temperature**: Sea surface temperatures need to be at least 26.5°C (approximately 80°F) or warmer. This warm water serves as the primary energy source for tropical cyclones, fueling their development and intensification.
  - **Depth**: Warm water must extend to sufficient depths (at least 50 meters or about 164 feet) to provide enough heat and moisture for cyclone formation.
- **Atmospheric Instability:**
  - **Vertical Wind Shear**: Low vertical wind shear (the change in wind speed and direction with altitude) is essential.
    - High wind shear can disrupt the organized structure of a developing cyclone, preventing it from strengthening.
  - **Upper-Level Support**: A conducive environment in the upper atmosphere is necessary to allow for outflow of air from the cyclone, which helps to maintain low pressure at the surface.
- **Moisture in the Atmosphere:**
  - **High Humidity:** Sufficient moisture in the mid-levels of the atmosphere (about 5,000 to 15,000 feet) is crucial. This moisture contributes to the development of thunderstorms and the release of latent heat, which helps to drive the cyclone.
  - **Convection:** Enhanced convection (the vertical transport of heat and moisture) promotes the formation of thunderstorms, which are essential for cyclone development.
- **Pre-existing Weather Disturbances:**
  - **Tropical Disturbances:** The presence of a pre-existing weather system, such as a tropical wave or low-pressure area, can provide the initial conditions necessary for cyclone formation.
  - **Convergence Zones:** Areas of convergence, where winds from different directions come together, can enhance the development of cyclonic systems.
- **Coriolis Effect:**
  - **Earth's Rotation:** The Coriolis effect, which results from the rotation of the Earth, is necessary for cyclones to develop a rotational structure.
    - Cyclones typically form at least 5 degrees away from the equator, where the Coriolis force is strong enough to initiate rotation.

- **Absence of Dry Air:**
  - Dry air can inhibit the development of tropical cyclones.
  - Cyclones require a moist atmosphere, and the intrusion of dry air can disrupt convection and weaken the system.
- **Favorable Wind Patterns:**
  - **Low-Level Convergence**: Strong convergence of winds at low levels can help to draw in warm, moist air from the ocean surface, further fueling the cyclone's development.
  - **Upper-Level Outflow**: Good upper-level outflow (where the winds move outward from the center of the cyclone) is crucial for allowing the system to grow and intensify.

ADDITIONAL INFORMATION

Tropical cyclones are designated by different names depending on their geographic regions:

- **Typhoons** occur in the China Sea and Pacific Ocean.
- **Hurricanes** are found in the Caribbean Sea and Atlantic Ocean near the West Indian islands.
- **Tornadoes** are referred to in the Guinea lands of West Africa and the southern United States.
- **Willy-willies** are named in the northwestern areas of Australia.
- **Tropical cyclones** are the term used in the Indian Ocean.



TROPICAL CYCLONES

- Tropical cyclones typically form over large bodies of relatively warm water.
- Confined to 10-30 degree N-S of the equator.
- They form only on seas with temperatures more than 26-27 degree C. They dissipate on reaching the land.
- Wind velocity of tropical cyclones is much greater (100-250 kmph) (200-1200 kmph in upper troposphere).
- Greater destruction due to winds, storm surges and torrential rains.
- **Shape:** Tropical cyclones are elliptical in shape. generally move from east to west.

TEMPERATE CYCLONE

- They are formed due to interaction of warm and cold air masses.
- Confined to 35-65 degree N-S of the equator. More pronounced in the Northern hemisphere due to greater
- temperature contrast owing to large expanse of landmass.
- Cyclone formation by frontogenesis, on
- both land and sea.
- **Velocity Typical range:** 30-150 kmph. Less destruction due to winds but more
- due to flooding.
- **Shape:** 'inverted V' & usually move from
- west to east.

DIGITAL ARREST

In his recent "Mann Ki Baat" address, Prime Minister Narendra Modi highlighted the issue of 'digital arrest fraud.'

About:

- He shared an audio-video clip in which a man, dressed as a police officer, asked a victim on the phone to provide their Aadhaar number in order to block a mobile number.
- Digital arrest fraud is an emerging form of cybercrime in India.
- **Meaning:** In digital arrest scams, cybercriminals impersonate law enforcement officials from agencies like the CBI, SEBI, Narcotics Department, or Reserve Bank of India, claiming the victim is implicated in illegal activities, such as drug trafficking or handling a suspicious package.
  - The victims are deceived into staying under continuous visual surveillance through platforms like Whatsapp, Skype or other video conferencing tools until they comply with the criminals' demands.

Concerns:

- **Challenges in Tracking and Prosecuting Offenders:** Many of these scams are conducted by international fraud networks, making it difficult for local law enforcement agencies to trace and prosecute the perpetrators, complicating the path to justice for victims.
- **Erosion of Trust in Digital Communication:** With the rising frequency of such frauds, public trust in legitimate digital communication channels is being eroded, making people more skeptical of genuine messages from authorities or service providers.
- **Irrecoverable Financial Losses:** Victims suffer significant financial losses, which are often impossible to recover, as scammers demand payments through untraceable channels such as cryptocurrencies, gift cards, or wire transfers, making the funds nearly impossible to trace and reclaim.
- **Severe Emotional and Psychological Distress:** The fraudsters exert intense psychological pressure, using intimidating language and threats of severe consequences, such as imprisonment, asset seizure, or deportation.
- **Identity and Data Theft Risks:** Scammers frequently exploit stolen personal information for identity theft, using victims' details to open bank accounts, acquire credit cards, or carry out other fraudulent activities in their names, which can have long-lasting impacts on their financial reputations.
- **Advanced Fraud Techniques Using AI:** The increasing use of artificial intelligence tools like deepfakes and voice modulation technology has made it more challenging to detect and identify fraudulent activities, as scammers can convincingly impersonate authorities.
- **Resource Drain on Law Enforcement:** Digital arrest fraud cases require considerable resources and cross-border cooperation, putting additional strain on law enforcement agencies and diverting attention from other critical areas.

Steps Taken to Address the Concerns:

- **Indian Cyber Crime Coordination Centre (I4C):** Launched under the Ministry of Home Affairs, the I4C has been pivotal in monitoring and analyzing cybercrime, including digital fraud cases. It supports states and Union Territories in cyber investigations and has developed resources and training programs to build capacities in handling cybercrime cases.
- **National Cyber Crime Reporting Portal:** Through *cybercrime.gov.in*, individuals can report cyber fraud cases, including digital arrest frauds. The centralized system enables law enforcement agencies to respond promptly, creating a national database of cybercrime incidents to identify patterns and prevent repeat offenses.
- **Cyber Crime Helpline – 1930:** A dedicated 24x7 helpline provides immediate support for victims of cybercrime, allowing quick response and guidance on securing personal data and potentially recovering funds.

Way Forward:

- **Stay Calm and Verify:** If you receive a suspicious call, stay calm and avoid sharing personal information. Verify the caller's identity through official channels first.
- **Strengthen Cyber Laws:** Amend cyber laws to cover new fraud types like digital arrest scams, with stricter penalties for impersonation and digital extortion.
- **Invest in AI Fraud Detection:** Use AI tools to monitor and detect fraud techniques, like deepfakes, to help law enforcement prevent scams early on.
- **Raise Public Awareness:** Run nationwide campaigns to educate people on common scam tactics, such as threats or demands for immediate payments, and how to recognize red flags.

INTERNATIONAL DAY OF OLDER PERSONS, 2024

Recently, the International Day of Older Persons, is commemorated on 1 October each year.

About:

- **Origin:**
  - The **International Day of Older Persons** is a globally recognized event initiated by the United Nations to acknowledge the contributions of elderly individuals and highlight the challenges they face.
  - The idea for this observance stems from the **Vienna International Plan of Action on Aging**, which was adopted in 1982 during the first **World Assembly on Ageing**.
    - This plan was among the earliest comprehensive global frameworks dedicated to addressing issues related to aging populations, such as health, social inclusion, and quality of life for older people.
- **UN General Assembly Resolution:** In 1990, the United Nations General Assembly formally established **October 1** as the **International Day of Older Persons**.
  - This was done through **Resolution 45/106**, reflecting the increasing global focus on elderly issues as life expectancy rose and fertility rates declined in many parts of the world.
  - This day aims to bring attention to the rights and needs of older persons globally.
- **Objectives:**
  - One of the primary objectives of this day is to raise public awareness about both the opportunities and challenges associated with aging populations.
  - It also seeks to mobilize families, community organizations, and stakeholders to take action to ensure that older people are treated with dignity and respect.
  - The aim is to create societies where older people can age with dignity, participate fully in social life, and receive the care and support they need.
- **Theme for 2024:**
  - The theme for 2024, **'Ageing with Dignity: The Importance of Strengthening Care and Support Systems for Older Persons Worldwide'**, highlights the critical need for robust systems to ensure that older persons receive proper care and support as they age.
  - It emphasizes the role of governments, healthcare providers, and community networks in ensuring the well-being of the elderly and addresses the broader societal responsibility to create age-friendly environments.

Current Demographics of India:

- **2021 Data:**
  - As of 2021, **India** had approximately **138 million elderly persons** aged **60 years and above**, which constitutes around **10%** of the total population.
  - This is a significant figure, reflecting the steady increase in life expectancy in the country, thanks to better healthcare infrastructure, improved nutrition, and more effective public health interventions.
- **Projection for 2050:**
  - By 2050, the number of elderly people in India is expected to almost triple to around **319 million**, making up nearly **19.5%** of the population.
  - This projection signals a major demographic shift, with older individuals forming a much larger proportion of the population.
  - Such a shift will have far-reaching implications for social security systems, healthcare services, and family structures in India.

Reasons for Elderly Population Growth:

- **Increasing Life Expectancy:**
  - One of the main reasons behind the rise in India's elderly population is the increase in life expectancy.
  - In **1970**, the average life expectancy was around **50 years**, but by **2023**, it had risen to **70 years**.
    - This improvement is largely due to better access to healthcare, advancements in medical treatments, improved sanitation, and overall living conditions.
    - As more people live longer, the proportion of elderly individuals grows.
- **Declining Fertility Rate:**
  - Another key factor is the decline in India's fertility rate.
    - Over the years, India's fertility rate has steadily fallen as a result of urbanization, greater access to education, and family planning initiatives.
  - With fewer births per woman, the younger population is shrinking relative to the growing number of older adults.
    - This demographic trend is reshaping the age structure of Indian society, creating new challenges and opportunities.

Challenges Faced by the Elderly Population:

- **Health Issues:**
  - The elderly in India often face a range of **Non-Communicable Diseases (NCDs)**, which have become the leading cause of morbidity and mortality in this age group.
  - Common conditions include **diabetes, cardiovascular diseases**, and **arthritis**, all of which require long-term care and management.
  - The lack of specialized healthcare services and insufficient geriatric care facilities further exacerbate the health challenges for older persons in India.

- **Economic Dependency:**
  - Financial dependency is a major issue for the elderly in India.
    - With only about **30%** of the elderly covered by some form of pension or social security scheme, many older adults rely on their families for financial support.
  - The absence of robust pension coverage, coupled with limited savings, puts many elderly individuals in economically vulnerable situations, especially those from low-income or rural backgrounds.
- **Elder Abuse:**
  - **Elder abuse** is a growing concern, especially in the form of emotional and financial neglect.
  - In some cases, older persons are mistreated by their families or caregivers, leading to feelings of isolation and helplessness.
  - This abuse may be exacerbated by social and economic pressures within households, particularly in low-income or resource-constrained families.
- **Social Isolation:**
  - With the growing prevalence of nuclear families, many elderly people find themselves living alone or without regular interaction with their children and grandchildren.
  - This trend is particularly pronounced in urban areas, where younger generations often migrate to other cities for work or education, leaving their elderly parents behind.
  - Social isolation has been linked to mental health issues such as **depression** and **anxiety** among the elderly, further impacting their quality of life.

Government Initiatives:

- **Senior Able Citizens for Re-Employment in Dignity (SACRED) Portal:** This initiative aims to connect elderly individuals with job opportunities in the private sector, enabling them to remain financially independent and active participants in the workforce.
- **Senior Care Ageing Growth Engine (SAGE):**
  - This program, launched by the Ministry of Social Justice and Empowerment, is designed to promote senior care products and services.
  - By incentivizing businesses that cater to the elderly, the government aims to foster innovation in senior care solutions.
- **National Policy on Older Persons (NPOP):**
  - Formulated in **1999**, this policy serves as a guiding framework for creating programs that promote the welfare of senior citizens.
  - It emphasizes the need for adequate healthcare, social security, and income-generating opportunities for the elderly.
- **Rashtriya Vayoshri Yojana (RVY):** Under this scheme, the government provides physical aids and assisted-living devices to elderly individuals from **Below Poverty Line (BPL)** households who are suffering from age-related disabilities.
- **Atal Vayo Abhyuday Yojana:** This initiative promotes inter-generational bonding through awareness and sensitization programs that engage school and college students, encouraging them to respect and support the elderly in their families and communities.
- **Senior Citizens Savings Scheme (SCSS):** The SCSS is a government-backed savings scheme that provides senior citizens with a steady and secure source of income during their retirement years, offering a safe investment option with regular returns.
- **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY):** Health coverage to all the senior citizens aged 70 and above irrespective of income under the AB PM-JAY.
- **Ayushman Arogya Mandir (AAM):** This initiative integrates traditional health systems like **AYUSH (Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy)** into the mainstream healthcare framework, focusing on preventive, promotive, curative, and rehabilitative care for the elderly through Health and Wellness Centres.

Opportunities:

- **Silver Economy:**
  - The **silver economy** refers to the economic activities associated with the aging population.
  - It encompasses a range of goods and services specifically designed to meet the needs of older adults, such as healthcare products, assistive technologies, and financial services.
  - This demographic, particularly those aged **45-64 years**, is considered one of the wealthiest, creating a lucrative market for businesses focusing on senior care, health services, and wellness sectors.
- **Health and Wellness Industry Growth:**
  - The healthcare needs of older adults represent a significant market opportunity.
    - As healthcare accounts for a large share of elderly consumption, businesses involved in **senior care, health services**, and **wellness** are poised for growth.
  - The rising demand for geriatric care, rehabilitation services, and wellness products is likely to drive innovation and investment in this sector.
- **Elder Care Services:**
  - The increasing elderly population will create greater demand for services such as **home care assistance, nursing homes, retirement communities**, and **assisted living facilities**.
  - This presents opportunities for both public and private sector investments in senior care infrastructure.
- **Senior-Friendly Tourism:**
  - With more disposable income and leisure time, elderly individuals are expected to drive demand for **senior-friendly travel and tourism** services.
  - This includes accessible travel options, tailored tour packages, and accommodations that cater specifically to the needs of older travelers.

EXCEPTION TO MARITAL RAPE

The Supreme Court is presently considering petitions to legally define non-consensual sexual acts within marriage as rape, addressing a critical issue of marital consent and rights.

Historical Context:

- **Colonial Roots and Doctrine of Coverture:**
  - The **Marital Rape Exception (MRE)** in Indian law finds its origins in **colonial English law**.
  - It is influenced by the **"doctrine of coverture,"** a legal principle from English jurisprudence.
    - According to this doctrine, married women had no separate legal identity from their husbands, effectively denying them legal autonomy.
  - The MRE was further shaped by the views of **18th-century English jurist Matthew Hale**, who argued that marriage implied **irrevocable consent** for sexual relations, making it impossible for a husband to rape his wife.
- **Legal Evolution:** While **England abolished the MRE in 1991**, India continues to retain it.

Prevalence of Marital Violence in India:

- **National Family Health Survey-5 (2019-2021):**
  - According to this survey, **nearly one-third of married women** in India have experienced physical or sexual violence at the hands of their husbands.
  - This data points to the **widespread issue of domestic abuse** and highlights the urgent need for legal reforms.
- **Global Statistics on Sexual Assault:**
  - International data indicates that **about three-quarters of all sexual assaults** occur in intimate settings, typically involving a perpetrator familiar to the victim.
  - These statistics underscore the global dimension of the issue, emphasizing the vulnerability of women in domestic spaces.

Section 375 of the Indian Penal Code (IPC) and its Exceptions:

- **Definition of Rape: Section 375 of the IPC** outlines acts that constitute rape, focusing on non-consensual intercourse by a man against a woman.
- **Exceptions:** The law provides two key exceptions:
  - **Marital Rape Exception:** Sexual intercourse by a husband with his wife is not considered rape if she is **18 years or older.**
  - **Medical Procedures:** Acts related to medical or surgical procedures are excluded from the definition of rape.
- **Age of Consent:** The age of marital consent has evolved over time. Originally set at **10 years** during British rule in 1860, it was raised to **15 years in 1940** and later to **18 years** following a 2017 Supreme Court ruling.

Legislation Addressing Marital Rape and Related Abuse:

- **Protection of Women from Domestic Violence Act, 2005:**
  - This act addresses various forms of **marital abuse**, including sexual abuse, but only provides **civil remedies** like protection orders and monetary compensation.
  - There are no provisions for initiating **criminal proceedings for marital rape**.
- **Section 85 of the Bharatiya Nyaya Sanhita (BNS), 2023:** This section addresses **cruelty towards women** but fails to explicitly recognize marital rape as a criminal offense.
- **Section 67 of BNS**:
  - This provision criminalizes non-consensual intercourse by a husband with his wife if they are **living separately**.
  - However, it only applies when the couple has formally or informally ended cohabitation, leaving the core issue of marital rape unaddressed.

Key Court Decisions:

- **Independent Thought v. Union of India (2017):**
  - In this case, the **Supreme Court raised the age of marital consent** from 15 to 18 years.
  - However, the court did not take steps to criminalize marital rape.
- **Joseph Shine v. Union of India (2018):**
  - The court struck down parts of the **doctrine of coverture**, a colonial-era principle that had previously restricted married women's legal rights and autonomy.
  - The ruling emphasized that marriage should not undermine or limit a woman's **bodily integrity or personal autonomy**.
  - The judgment was pivotal in dismantling archaic views that treated women as subservient to their husbands within the marital institution.
- **Hrishikesh Sahoo v. State of Karnataka (2022):**
  - In this case, the **Karnataka High Court** allowed for the prosecution of a husband for **marital rape**, referencing the **2013 Justice J.S. Verma Committee Report**, which had recommended criminalizing marital rape as a critical reform for protecting women's rights.
  - However, the Supreme Court later **stayed this decision**, halting its immediate implementation and leaving the debate over the criminalization of marital rape unresolved at the national level.
- **Delhi High Court Split Verdict (2022):** The **Delhi High Court** delivered a divided verdict on the constitutionality of the **marital rape exception**:

- **Justice Rajiv Shakdher** ruled that the exception violates **Article 21** of the Indian Constitution, which guarantees the **right to life and personal liberty**, including bodily autonomy.
  - He argued that forcing a woman to engage in non-consensual sexual acts infringes upon her dignity and fundamental rights.
- Conversely, **Justice C. Hari Shankar** upheld the marital rape exception, asserting that sexual relations are an essential and legitimate expectation within marriage. He expressed concerns about disrupting the marital framework by criminalizing non-consensual intercourse between spouses.

Union Government's Stand:

- The **Union Government** argued that abolishing **Exception 2 of Section 375** of the Indian Penal Code (IPC), which exempts marital rape from criminalization, could have profound implications for the **institution of marriage**.
- The government emphasized that addressing marital rape requires a **comprehensive, multi-faceted approach**, not just a strictly legal one.
- The Union expressed concerns that criminalizing marital rape might negatively affect **conjugal relationships** and destabilize marital harmony.
  - The affidavit highlighted that the complexities of proving consent in a marital context could lead to potential **misuse of the law**, especially given rapid changes in societal and family dynamics.

MARITAL RAPE: A GLOBAL PERSPECTIVE

- The **United Nations** has strongly advocated for the criminalization of marital rape, urging nations to eliminate legal exceptions that permit non-consensual sex within marriage.
  - The UN emphasizes that "the home is one of the most dangerous places for women," highlighting the pressing need to address marital violence through comprehensive legal reforms.
- **Countries That Have Criminalized Marital Rape:**
  - **United States:** Since **1993**, marital rape has been criminalized in all 50 states. However, the **specific laws and consequences** vary across different states, with some imposing stricter penalties than others.
  - **United Kingdom:** The UK has fully criminalized marital rape, and offenders can face **severe penalties**, including **life imprisonment**.
  - **South Africa:** In **1993**, South Africa declared marital rape illegal, acknowledging it as a serious offense under the law. The country's judicial reforms emphasize the protection of women from violence in all forms.
  - **Canada:** Canada treats marital rape as a **punishable crime**, with no exceptions for perpetrators who are married to the victim.

Arguments against Criminalizing Marital Rape:

- **Impact on Marriage Stability:** Critics argue that criminalizing marital rape could undermine the institution of marriage, as it may lead to an increase in false allegations and marital discord, potentially breaking up families.
- **Misuse of Laws:** There is concern that such a law could be misused, with false accusations used as a tool for harassment or revenge in marital disputes, complicating already strained relationships.
- **Cultural and Social Norms:** Some believe that criminalizing marital rape may not align with traditional beliefs about marital obligations and conjugal rights.
  - They argue that this could lead to unnecessary interference in personal relationships and marital privacy.
- **Existing Legal Provisions:** Opponents point out that there are already laws addressing domestic violence and abuse. They argue that additional legislation may be redundant and could overburden the legal system.
- **Difficulty in Proof:** It can be challenging to provide evidence of non-consent in a marriage, raising concerns about the practicality of implementing the law and ensuring a fair legal process.

Arguments in Favour:

- **Right to Bodily Autonomy:** Supporters argue that marriage should not negate a person's right to bodily autonomy.
  - Every individual, married or not, has the right to consent or refuse sexual activities, making marital rape a violation of human rights.
- **Equality Under the Law:** Criminalizing marital rape ensures that all individuals, regardless of marital status, are equally protected from sexual violence. Exempting marital rape creates a legal double standard and undermines the principle of gender equality.
- **Addressing Gender-Based Violence:** Marital rape is a form of domestic violence and gender-based abuse. Criminalizing it recognizes the serious harm it causes to victims' physical and mental well-being, aligning with global commitments to combat violence against women.
- **International Standards:** Many countries have already criminalized marital rape, following international human rights standards. Bringing Indian laws in line with these norms would strengthen the country's commitment to protecting women's rights.
- **Changing Social Perceptions:** Criminalizing marital rape could help challenge outdated cultural norms that view women as property within marriage and promote the idea that consent is crucial in all relationships, including marriage.
- **Reducing Impunity:** Without criminalization, perpetrators of marital rape are granted impunity, sending a message that sexual violence within marriage is acceptable. Laws criminalizing such acts serve as a deterrent and uphold accountability.

CLASSICAL LANGUAGE STATUS TO FIVE NEW LANGUAGES

Recently, the Union Cabinet has granted recognition to five additional languages as "classical," thereby enhancing the country's roster of culturally important languages.

Background:

- **Establishment of Classical Languages:** On **October 12, 2004**, the **Government of India** introduced the concept of **Classical Languages**, designating **Tamil** as the first language to receive this status.
- **Criteria for Classical Language Status:** The initial criteria established for a language to be classified as **Classical Language** included:
  - **High Antiquity:** The language must possess early texts or a recorded history spanning over **a thousand years**.
  - **Ancient Literature:** There should be a body of ancient literature or texts recognized as valuable heritage by generations of speakers.
  - **Original Literary Tradition:** The literary tradition must be original and not borrowed from another linguistic community.
- **Linguistic Experts Committee (LEC):**
  - In **November 2004**, a **Linguistic Experts Committee (LEC)** was constituted by the **Ministry of Culture** under the **Sahitya Akademi** to evaluate proposed languages for Classical Language status.
  - **Revised Criteria:** The criteria were revised in **November 2005**, leading to the declaration of **Sanskrit** as a Classical Language. The revised criteria included:
    - **High Antiquity:** A recorded history of **1500 to 2000 years**.
    - **Body of Ancient Literature:** Recognition of ancient literature as a valuable heritage.
    - **Original Literary Tradition:** The literary tradition should be original.
    - **Distinctness from Modern Language:** There should be a clear distinction between classical language and its later forms, including possible discontinuity.
- **Languages Declared Classical:** The Government of India has conferred the status of **Classical Languages** to the following languages:
  - **Tamil:** Declared on October 12, 2004.
  - **Sanskrit:** Declared on November 25, 2005.
  - **Telugu:** Declared on October 31, 2008.
  - **Kannada:** Declared on October 31, 2008.
  - **Malayalam:** Declared on August 8, 2013.
  - **Odia:** Declared on March 1, 2014.
- **Proposal for Marathi:** In **2013**, a proposal from the **Maharashtra Government** was received, seeking Classical Language status for **Marathi**.
- **Inter-Ministerial Consultations:**
  - During discussions in **2017** for conferring Classical Language status to Marathi, the **Ministry of Home Affairs (MHA)** suggested revising the criteria to be stricter.
  - The **Prime Minister's Office (PMO)** indicated that the Ministry should explore the eligibility of other languages.
  - **Additional Proposals:** Proposals were also received from **Bihar**, **Assam**, and **West Bengal** for the Classical Language status for **Pali**, **Prakrit**, **Assamese**, and **Bengali.**
- **Revised Criteria by LEC (2024):** The LEC met on **July 25, 2024**, and unanimously revised the criteria again, appointing **Sahitya Akademi** as the nodal agency. The new criteria included:
  - **High Antiquity:** Early texts or recorded history over **1500-2000 years.**
  - **Ancient Literature:** Texts considered a heritage by generations of speakers.
  - **Knowledge Texts:** Inclusion of prose texts, in addition to poetry, along with epigraphical and inscriptional evidence.
  - **Distinctness from Current Forms:** Classical languages should be distinct from their current forms or may exhibit discontinuity from their later offshoots.
- **Recommended Languages:** The committee recommended the following languages for consideration as Classical Languages:
  - Marathi
  - Pali
  - Prakrit
  - Assamese
  - Bengali

Implementation Strategy and Targets:

- **Promotion of Classical Languages:**
  - The **Ministry of Education** has initiated various steps to promote Classical Languages.
  - This includes establishing three **Central Universities** in **2020** specifically for the promotion of the **Sanskrit language.**
- **Central Institute of Classical Tamil:** The **Central Institute of Classical Tamil** was established to facilitate the translation of ancient Tamil texts, promote research, and offer courses for university students and language scholars of Tamil.
- **Centres for Excellence:** Centres for Excellence for the study of **Classical Kannada**, **Telugu**, **Malayalam**, and **Odia** were established under the auspices of the **Central Institute of Indian Languages** in **Mysuru.**
- **Awards and Recognition:** Various **national and international awards** have been instituted to recognize and encourage achievements in the field of Classical Languages, incentivizing scholars and promoting language studies.
- **Benefits Extended:** The Ministry of Education has extended benefits for Classical Languages, which include:
  - National Awards for Classical Languages

- Chairs in Universities
- Centers for the promotion of Classical Languages

Benefits:

- **Increased Funding and Resources:** When a language is declared "Classical," it receives focused government funding and support.
  - This funding is allocated to programs that preserve, document, and promote the language, providing resources for projects such as recording oral traditions, documenting ancient scripts, and publishing historical texts.
  - Financial support also extends to language institutes and organizations dedicated to the language's revival, helping to keep it alive for future generations.
- **Academic and Research Opportunities:** Classical status encourages universities and academic institutions to offer specialized courses and degrees in the language, creating a demand for scholars and linguists to study and research it deeply.
  - Research centers focused on the language are often established, providing a space for translating ancient texts, studying historical documents, and analyzing linguistic evolution.
  - Scholarships and grants are also made available to students and researchers, fostering a new generation of experts in the language and encouraging cross-disciplinary studies related to history, culture, and philosophy.
- **Enhanced Cultural Prestige:** Declaring a language as "Classical" raises its cultural status, acknowledging its rich literary and historical significance.
  - This formal recognition instills a sense of pride among native speakers and descendants of the language, who see their linguistic heritage celebrated and protected.
  - Classical status often brings the language into the limelight nationally and globally, recognizing its influence on art, music, philosophy, and science, and bolstering its role in cultural identity.
- **Support for Language Preservation:** Many classical languages face the threat of extinction or decline due to limited use. Classical status triggers preservation efforts to protect these languages from further erosion.
  - Activities like compiling comprehensive dictionaries, creating digital archives, and recording native speakers become priorities.
  - These efforts help preserve the language's grammar, vocabulary, and idioms, ensuring that its unique linguistic elements are not lost.
- **Global Recognition and Collaboration:** Classical status often garners international recognition, opening doors for collaborations with foreign research institutions, museums, and universities interested in historical and linguistic studies
  - These partnerships can lead to joint translation projects, research exchanges, and participation in global conferences, helping to increase the language's visibility and reach.
  - International scholars, researchers, and students contribute to its study, enhancing the language's profile and expanding its influence.

Other Provisions to Promote LanguageL

- **Eighth Schedule of the Constitution:**
  - It consists of **22 languages** recognized for their significance in the cultural and linguistic diversity of India.
  - **The languages included are:** Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili & Dogri.
- **Article 344(1):**
  - Article 344(1) of the Constitution mandates the **President of India** to constitute a **Commission** every five years to examine the progressive use of the Hindi language.
  - This provision aims to enhance the implementation and promotion of Hindi across the nation.
- **Article 351:** Article 351 stipulates that it is the responsibility of the **Union Government** to promote the spread of the Hindi language, encouraging its use in various domains, including education, administration, and communication.
- **Project ASMITA:**
  - The **Project ASMITA** is an initiative aimed at producing **22,000 books** in various Indian languages over five years.
  - This project focuses on enhancing literary resources in regional languages and making them accessible to a broader audience.
- **New Education Policy (NEP):** The **New Education Policy** emphasizes transforming **Sanskrit universities** into **multi-disciplinary institutions**, aiming to diversify the educational offerings and promote Sanskrit alongside other disciplines.
- **Central Institute of Indian Languages (CIIL):**
  - The **Central Institute of Indian Languages** is dedicated to promoting the four classical languages of **Kannada**, **Telugu**, **Malayalam**, and **Odia**.
  - The institute focuses on research, development of teaching materials, and the overall advancement of these languages.
- **Central Sanskrit Universities Bill, 2019:** The **Central Sanskrit Universities Bill** granted **Central status** to three deemed Sanskrit universities, which include:
  - Rashtriya Sanskrit Sansthan in Delhi
  - Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth in Delhi
  - Rashtriya Sanskrit Vidyapeeth in Tirupati

155TH BIRTH ANNIVERSARY OF MAHATMA GANDHI

Gandhiji Jayanti, observed annually on October 2nd, commemorates the birth anniversary of Mahatma Gandhi, revered as the Father of the Nation.

About:

- **Early Life and Education:**
  - Mahatma Gandhiji was born on **2nd October 1869** in **Porbandar**, a coastal town in Gujarat, India.
  - His father, **Karamchand Gandhi**, was the **Diwan (Chief Minister)** of Porbandar, a princely state in British India.
  - His mother, **Putlibai**, was Karamchand's fourth wife, and she played a significant role in shaping Gandhi's religious beliefs and moral values.
  - Raised in a deeply **religious Hindu family**, Gandhiji adopted **vegetarianism** and practices like **fasting** as a means of **self-purification** from a young age.
- **Marriage and Family:**
  - At the age of 13, Gandhiji married **Kasturba** (or Kasturbai), who was a year older than him.
  - Their first child was born in 1885 but tragically died just days after birth. Despite this early loss, Gandhiji and Kasturba later had **four sons** together.
- **Education:**
  - Gandhiji was an **average student** throughout his school years. Despite some difficulty, he passed his **matriculation exam** from **Samaldas College** in Gujarat.
  - On **4th September 1888**, at the age of 18, Gandhiji traveled to **London** to study law at **University College London**, with the aim of becoming a **barrister**.
- **Civil Rights Movement in South Africa:**
  - Gandhi's fight against racial discrimination began during his stay in **South Africa**.
  - While working there as a lawyer for Indian traders, he personally experienced racial prejudice.
  - The most notable incident was when he was **thrown off a train** in **Pietermaritzburg** for refusing to move from the first-class compartment, despite holding a first-class ticket.
  - This incident and similar experiences inspired Gandhiji to take up the cause of fighting for the rights of Indians and other oppressed communities in South Africa.
- **Activism and Satyagraha:**
  - In **1906**, the **Transvaal government** introduced a law requiring the **Indian population** to register and carry identity cards.
  - Gandhiji responded by organizing a **mass protest** in Johannesburg, urging Indians to use **Satyagraha**, a non-violent method of resistance based on truth and morality.
  - Over a **seven-year struggle**, thousands of Indians were **imprisoned, beaten**, and oppressed for participating in strikes and refusing to comply with the unjust laws.
  - Gandhiji himself was imprisoned several times. Although the government suppressed the protests, the movement ultimately led to negotiations and compromises with the authorities, marking the success of **nonviolent resistance** and laying the foundation for Gandhi's future campaigns.
- **Champaran and Kheda Movements (1916-1918):**
  - Gandhiji returned to India in 1915 and soon became involved in local issues, starting with the **Champaran** and **Kheda** movements in **Bihar** and **Gujarat**, respectively.
  - In Champaran, **British landlords** forced Indian farmers to grow **indigo** (a cash crop) instead of food crops, leading to poverty and famine.
  - Gandhiji led detailed **surveys**, organized **village clean-ups**, and **protests** against the exploitation of farmers, successfully securing a reduction in taxes and improving living conditions.
  - His success in Champaran and Kheda marked his rise as a leader of the Indian nationalist movement.
- **Non-Cooperation Movement (1920-1922):**
  - The **Jallianwala Bagh massacre** in 1919 and the subsequent repression by the British government deeply affected Gandhi.
  - He launched the **Non-Cooperation Movement** in 1920, urging Indians to **boycott British goods**, **institutions**, and **titles**.
  - He also encouraged the use of **khadi**, a hand-spun cloth, symbolizing self-reliance and economic independence.
  - Gandhiji himself wore **traditional Indian dhoti** and spun his own yarn on the **Charkha** (spinning wheel).
  - The movement was immensely successful, garnering support from people across India, including women.
  - However, Gandhiji called off the movement in **1922** after violence broke out in **Chauri Chaura**, Uttar Pradesh, where a police station was set on fire.
  - Gandhi, a staunch advocate of non-violence, was deeply disheartened by the incident and chose to **suspend the movement**.
  - He was arrested in March 1922 and sentenced to six years in prison, though he was released after two years due to health reasons.
- **Salt March and Civil Disobedience Movement (1930):**
  - In **1930**, Gandhiji initiated the **Salt March** (or **Dandi March**) to protest the **British salt tax**.
  - He marched 240 miles from Ahmedabad to Dandi, where he made salt from seawater in defiance of British law.

- This act of civil disobedience sparked widespread protests across the country, with thousands of Indians joining the **Civil Disobedience Movement**.
- The movement gained international attention and forced the British government to negotiate.
- In **March 1931**, Gandhiji signed the **Gandhi-Irwin Pact**, which led to the release of political prisoners and allowed Indians to make their own salt.

- **Quit India Movement (1942):**
  - As World War II progressed, Gandhiji and the Indian National Congress demanded that the British leave India.
  - In **1942**, Gandhiji launched the **Quit India Movement**, calling for **immediate independence**.
  - His slogan, **"Do or Die"**, galvanized the nation, leading to widespread protests and uprisings.
  - The British responded with mass arrests. Gandhiji and the Congress leadership were **imprisoned**, and Gandhi's wife, **Kasturba**, died in detention in 1944.
  - Despite the repression, the Quit India Movement marked a turning point, as it became clear that British rule was unsustainable in the face of growing Indian resistance.
- **Freedom and Partition of India (1947):**
  - After World War II, the British government realized it could no longer maintain control over India.
    - However, the demand for a separate Muslim state, led by **Muhammad Ali Jinnah**, resulted in the **partition** of British India into two nations—**India** and **Pakistan**—in August 1947.
  - Gandhiji was opposed to the partition, as he believed in a united India where **Hindus** and **Muslims** could live in harmony. Despite his efforts to prevent it, partition became inevitable, and it led to mass violence and displacement.
- **Assassination:**
  - On **30th January 1948**, Gandhiji was **assassinated** at **Birla House** in New Delhi.
  - His death marked the end of an era, but his legacy of **non-violence**, **truth**, and **justice** continues to inspire movements for civil rights and freedom around the world.

Teachings of Mahatma Gandhi:

- **Ahimsa (Non-Violence):**
  - Ahimsa, or non-violence, was the cornerstone of Gandhi's philosophy.
  - For him, it extended beyond the mere absence of physical violence. Ahimsa also meant the elimination of all forms of **hatred, jealousy, and malice** from one's heart, replacing them with **love** and **compassion** for all living beings.
  - Gandhiji believed that through Ahimsa, individuals could attain **inner peace** and promote social harmony.
  - He considered it the only ethical path to reach **Truth** (Satya) and saw it as a means of achieving both personal transformation and social justice.

BASIC PRINCIPLES OF GANDHIJI'S EDUCATIONAL PHILOSOPHY

- **Free and Compulsory Education for Seven Years:** Education should be free, universal, and compulsory for children between the ages of 7 and 14.
- **Activity- and Craft-Centered Learning:** Education should focus on productive, manual work, particularly crafts, enabling children to learn through action and practical engagement.
- **Self-Supporting and Self-Sufficient Education:** Given India's financial constraints, Gandhiji aimed for education to be self-sustaining without reliance on state funding.
- **Mother Tongue as Medium of Instruction:** Instruction should be conducted in the child's native language for effective learning.
- **Non-Violence as a Core Principle:** Gandhiji emphasized non-violence as foundational to education, influencing society's politics, economy, and overall moral fabric.
- **Ideal of Citizenship:** Education should instill the qualities of responsible citizenship, fostering a sense of duty and service within children.
- **Life-Integrated Education:** Learning should directly relate to life and its practical applications, ensuring that all subjects are taught through the principle of correlation with real-world contexts.
- **Psychological and Sociological Foundations:** Basic Education must be rooted in an understanding of psychological and social needs, making it progressive and adaptable.
- **Correlation of Knowledge:** One of the most distinctive elements, correlation, entails connecting subjects and knowledge areas to reinforce holistic learning.
- **Emphasis on Cooperation over Competition:** Community activities should cultivate cooperation rather than competition, promoting collective growth and mutual support.

- **Satya (Truth):**
  - For him, Truth was **absolute** and **universal**. He defined it as **"being"**, stating that only Truth exists in reality, and everything else is an illusion.
  - His pursuit of Truth was relentless, whether in personal matters or political struggles, and it influenced his concept of **Satyagraha** (devotion to Truth), where he believed that Truth had the power to defeat injustice without violence..
- **Brahmacharya (Self-Discipline or Chastity):**
  - Brahmacharya, for Gandhi, was not merely about **celibacy** but represented **self-control** and **discipline** in all aspects of life.
  - The literal meaning of Brahmacharya is **"moving toward Brahma,"** which, in this context, represents Truth or the ultimate reality.
  - Practicing Brahmacharya involved the **control of all senses**, not just sexual desires.

- Gandhiji believed that a person following this principle must detach from worldly pleasures and social connections to focus on spiritual growth.
- It also meant abstaining from **excessive indulgence** in any form, whether physical or emotional, as a way to purify the soul and stay focused on higher goals.

- **Asteya (Non-Stealing):**
  - Gandhiji believed that living in **luxury** while others around lived in poverty was, in itself, a form of theft.
  - He stressed that individuals should take only what they **truly need** and refrain from accumulating excess.
  - A person who applied Asteya in their life would lead a **simple** and **modest** lifestyle, avoiding any form of greed.
  - This principle was closely linked to **social equality**, as Gandhiji believed that a person's material wealth should not come at the expense of the less fortunate.
- **Aparigraha (Non-Possession):**
  - Gandhiji urged people to avoid **accumulating unnecessary material possessions**.
  - He believed that having more than what one needs breeds **selfishness** and **attachment**, which hinders spiritual growth.
  - By observing Aparigraha, individuals could simplify their lives, focus on inner growth, and contribute to a more **equitable society**.
  - This principle also aligned with Gandhi's views on **sustainability** and **resource conservation**, as hoarding resources deprived others of their fair share.
- **Sharirashrama (Physical Labour):**
  - Gandhiji believed that every individual, regardless of their status, should engage in **physical labour**.
  - He viewed manual work as essential for earning one's living and contributing to the well-being of society.
  - While intellectuals and artists could use their talents to serve the community, they should still participate in **physical work**, such as **spinning yarn**, to maintain a connection to the common people.
  - Gandhiji practiced what he preached by spinning his own **Khadi** (handwoven cloth) and encouraged others to do the same, promoting **self-sufficiency** and **dignity of labour**.
- **Asvada (Control of Palate):**
  - He believed that food should be consumed **solely** to **nourish** the body and sustain life.
  - Overindulgence in taste, according to him, led to the **stimulation** of other desires, weakening an individual's spiritual resolve.
  - By mastering their palate, individuals could also strengthen their control over other **senses** and impulses, which was essential for the practice of **Brahmacharya**.
  - For him, controlling the desire for food was a step towards mastering the self.
- **Abhaya (Fearlessness):**
  - He believed that fear—whether of death, failure, poverty, or loss—was a major obstacle to **freedom** and **progress**.
  - Gandhiji taught that by cultivating **fearlessness** through **willpower** and **hard work**, individuals could achieve their highest potential and live without being held back by insecurity.
- **Sarva-Dharma-Samanatva (Equal Respect for All Religions):**
  - In a multi-religious country like India, Gandhiji stressed the importance of **respecting all religions**.
  - While people naturally have a strong attachment to their own religion, Gandhiji warned against allowing that attachment to lead to **intolerance** or **disrespect** toward other faiths.
  - He firmly believed that all religions shared the goal of leading humanity toward an **ideal life**, and that different paths could coexist harmoniously.
- **Swadeshi (Duty Towards the Neighbour):**
  - Gandhi's Swadeshi principle emphasized the importance of supporting **local production** and **self-reliance**.
  - He believed that by buying **foreign goods**, Indians were hurting their own economy and depriving local workers, artisans, and craftsmen of a livelihood.
  - Swadeshi urged Indians to buy only **locally made goods** to strengthen the nation's economic independence.
  - Gandhiji believed that if the entire nation followed the Swadeshi principle, it would lead to **social, economic, and political empowerment** for all Indians, making the country self-sufficient and resilient.
- **Asprishyata Nivarana (Removal of Untouchability):**
  - He saw **untouchability** as a deep scar on **Hinduism** and a **moral crime** against humanity.
  - He viewed the practice of treating someone as untouchable due to their birth in a lower caste as **inhumane** and worked tirelessly to **abolish this evil**.
  - Gandhiji referred to those subjected to untouchability as **Harijans** (Children of God) and advocated for their **social integration** and **dignity**.

INTERNATIONAL DAY OF NON-VIOLENCE

- **International Recognition:** Since **2007**, **October 2** has been globally recognized as the **International Day of Non-Violence** by the **United Nations**.
- **Objective:** The day aims to **spread the message of non-violence** through **education** and **public awareness** initiatives.
- **Significance in 2024:** In **2024**, the significance of the day is amplified due to rising **global tensions**, **wars**, and **civil unrest** in various regions.
- **Focus of Events:** Events and discussions held around the world will focus on: Peace-building initiatives, Methods of conflict resolution and Promoting a **culture of dialogue** in place of warfare and violence.
- **Theme for 2024:** The theme for the International Day of Non-Violence 2024 is ***"Fostering Global Peace through Cultural and Educational Exchanges".***

INTERNATIONAL ABHIDHAMMA DIVAS

Recently, the Prime Minister spoke at a ceremony in New Delhi to celebrate International Abhidhamma Divas.

Overview:

- **Celebration and Purpose:**
  - International Abhidhamma Divas is a global observance dedicated to honoring the Abhidhamma, a philosophical cornerstone of Buddhism.
  - This day highlights the Abhidhamma's timeless significance in guiding ethical conduct and mental discipline.
  - It also emphasizes the enduring connection between Buddhism and India, where Buddha's teachings inspire spiritual seekers and promote mindfulness and inner peace.
- **Cultural Relevance:** The occasion serves as a reminder of India's pivotal role in preserving and disseminating the legacy of Buddhism worldwide, acting as a bridge between ancient wisdom and contemporary spiritual practices.

Historical Background and Significance:

- **Commemoration:**
  - Abhidhamma Divas commemorates the day when **Lord Buddha** descended from the celestial realm of **Trāyastriṃśa-devaloka** to **Sankassiya** (now known as Sankisa Basantapur) in Uttar Pradesh.
  - The **Asokan Elephant Pillar**, a historical marker at this site, signifies this important event.
  - According to **Theravāda Buddhist texts**, Buddha spent three months teaching the Abhidhamma to the deities in Tāvatiṃsa, including his mother.
- **Timing:**
  - The celebration coincides with the conclusion of the **first Rainy Retreat (Vassa)** and the **Pavāraṇā festival**, a time when monks and nuns conclude their retreat period with a ceremonial observance.
  - The **Pavāraṇā** festival, which takes place on the full moon day of the 11th lunar month (usually in October), is when monks confess any faults made during the retreat and invite fellow monks to point out any shortcomings.

Teachings of Abhidhamma:

- **Philosophical Framework:**
  - The **Abhidhamma**, or "Higher Teaching" of the Buddha, provides a comprehensive analysis of mind and matter.
  - Unlike the more straightforward teachings found in the **Sutta Pitaka**, the Abhidhamma employs a specialized and analytical approach to explore the nature of reality.
  - It presents a detailed framework for understanding existence, addressing concepts of birth, death, and mental phenomena with precision.
- **Specialized Vocabulary:** To articulate these complex concepts, the Abhidhamma developed a specific vocabulary in **Pali**, forming the foundation of Buddhist philosophy and psychology. Key terms include:
  - **Citta** (consciousness)
  - **Cetasika** (mental factors)
  - **Rūpa** (materiality)
  - **Nibbāna** (final liberation)
- **Teaching Tradition:**
  - Traditionally, it is believed that Buddha first taught the Abhidhamma to the gods in Trāyastriṃśa, including his mother, and later conveyed these teachings to his disciple **Sariputta**, who expanded upon them in the six core books of the **Abhidhamma Pitaka**.
  - These texts address various topics such as moral and mental states, aggregates, relationships, and the path to emancipation, forming a comprehensive system for understanding the mind and fostering spiritual growth.

Abhidhamma Pitaka and Its Components:

- **Structure:**
  - The **Abhidhamma Pitaka** is the last of the three Pitakas that comprise the **Pali Canon**, a foundational scripture of **Theravada Buddhism**.
  - It presents a detailed scholarly analysis of the Buddha's teachings found in the Suttas and addresses various aspects, including philosophy, doctrine, psychology, metaphysics, ethics, and epistemology.
- **Additional Pitakas:** The other two Pitakas of the **Tipitaka** are:
  - **Vinaya Pitaka:** Monastic rules of conduct for monks and nuns in the **Sangha**.
  - **Sutta Pitaka:** Contains the teachings and discourses delivered by Buddha and his close disciples.
- **Seven Books of the Abhidhamma Pitaka:**
  - **Dhammasangani** (Enumeration of Phenomena)
  - **Vibhanga** (Book of Treaties)
  - **Dhatukatha** (Discussion with Reference to the Elements)
  - **Puggalapanatti** (Description of Personality)
  - **Kathavatthu** (Points of Controversy)
  - **Yamaka** (Book of Pairs)
  - **Patthana** (Book of Relations)

IMPORTANT EVENTS IN THE LIFE OF GAUTAM BUDDHA

- **Birth:**
  - Siddhartha Gautama was born in Lumbini (modern-day Nepal) around 563 BCE. According to tradition, his mother, Queen Maya, gave birth while holding onto a tree branch.
  - **Symbol: Lotus Flower**
    - The lotus flower symbolizes purity and spiritual awakening. Just as the lotus rises from muddy waters to bloom beautifully, Siddhartha's life signifies the potential for enlightenment despite worldly suffering and attachments.
    - This symbol reflects the idea that true wisdom and purity can emerge from the complexities of life.
- **The Four Sights:**
  - At the age of 29, Siddhartha ventured beyond the palace walls for the first time. He encountered an old man, a sick person, a dead body, and a wandering ascetic. These sights profoundly impacted him, revealing the realities of suffering and impermanence.
  - **Symbol:** Chariot Wheel
    - The chariot wheel represents the cycle of life and the journey toward enlightenment.
    - It signifies the inevitability of suffering, which is central to Buddhist teachings.
- **Renunciation:** Disturbed by the suffering he witnessed, Siddhartha renounced his royal life and left his palace, family, and material comforts to seek enlightenment. He cut his hair and donned the robes of an ascetic.
- **Ascetic Practice:**
  - Siddhartha engaged in extreme ascetic practices for six years, including fasting and self-denial. He believed that suffering the body would lead to spiritual liberation.
  - However, Siddhartha later realized that extreme asceticism was not the path to enlightenment, leading him to the Middle Way.
- **The Middle Way:**
  - Realizing the futility of extreme practices, Siddhartha adopted the Middle Way—a balanced approach between indulgence and asceticism.
  - This balance is crucial for achieving a deeper understanding of reality and ultimately attaining nirvana.
- **Enlightenment:**
  - At the age of 35, Siddhartha meditated under the Bodhi tree in Bodh Gaya and attained enlightenment, becoming the Buddha, which means **"the Awakened One."**
  - He understood the Four Noble Truths (the truth of suffering, the truth of the cause of suffering, the truth of the end of suffering, and the truth of the path that leads to the end of suffering) and the nature of suffering.
  - **Symbol:** Bodhi Tree
    - The Bodhi tree is a powerful symbol of enlightenment, wisdom, and the awakening of the Buddha.
    - It represents the place where Siddhartha found ultimate truth and insight into the nature of existence, leading to the establishment of Buddhist teachings.
- **First Sermon**
  - After his enlightenment, Buddha delivered his first sermon at Sarnath, known as the "Dhamma Chakra Parivartan." He taught the Four Noble Truths and the Eightfold Path to his first five disciples.
  - **Symbol:** Dharma Wheel (Dharmachakra)
    - The Dharma Wheel symbolizes the teachings of Buddha and the path to liberation.
    - Its eight spokes represent the Eightfold Path, guiding followers toward ethical living, mental discipline, and wisdom.
    - This event marks the beginning of the Buddha's teaching and the formation of the Sangha (community of monks).
- **Parinirvana**
  - Buddha passed away at the age of 80 in Kushinagar, achieving Parinirvana (final nirvana) after his death.
  - This event signifies the end of his earthly existence and the attainment of ultimate liberation.
  - **Symbol:** Stupa
    - The stupa represents the burial mounds built to house relics of the Buddha, symbolizing his enlightenment and teachings.
    - Stupas serve as important pilgrimage sites for Buddhists, embodying the principles of Buddhism and the memorialization of the Buddha's life and teachings.

1 POLITY & GOVERNANCE

NEW STATUE OF "LADY JUSTICE"

The Supreme Court of India has introduced a new statue of "Lady Justice" in its judges' library to reflect a modern interpretation of justice.

About:

- The statue of "Lady Justice" was designed by Vinod Goswami, a muralist and educator from Delhi.
- The statue depicts a saree-clad woman without a blindfold.
  - She holds scales in one hand and a copy of the Constitution of India in the other, replacing the traditional sword.
- **Symbolism:** The absence of a blindfold signifies that **"Law is not blind; it sees everyone equally,"** according to Chief Justice D Y Chandrachud.
  - This new representation aims to convey the importance of impartiality and equality in justice.
  - The statue reflects ongoing legal reforms and the goal of "decolonising" India's legal framework.

ADDITIONAL INFORMATION

- The imagery of **Lady Justice originates from Greek and Roman** mythology, notably represented by Themis and Justitia, who were not traditionally depicted blindfolded.
- The blindfolded image became popularized in the **15th centur**y, originally as a critique of justice.
- The **British Raj introduced the iconography** of Lady Justice in **India,** which continues to be used in courthouses.
  - Historical depictions of Lady Justice can be found in major Indian high courts, sometimes with and sometimes without a blindfold.

APPOINTMENT OF 51ST CJI

Chief Justice of India D.Y. Chandrachud has recommended Justice Sanjiv Khanna to the government for appointment as the 51st Chief Justice of India.

About:

- The Chief Justice of India (CJI), or Chief Justice of the Republic of India, serves as the head of the Supreme Court and is the highest-ranking judicial officer in the Indian federal judiciary.
- **Appointment Process:** While the Indian Constitution does not detail the process for appointing the CJI, Article 124(1) establishes the Supreme Court of India, including a Chief Justice. Under Article 124(2), the President of India is responsible for appointing the CJI.
- **Tenure of Office:** The Constitution does not specify a fixed tenure for Supreme Court judges. However, it stipulates that a judge, including the CJI, shall hold office until reaching the age of 65.
  - Any dispute regarding the judge's age is to be resolved by an authority and procedure determined by Parliament.

Removal of a Supreme Court Judge in India:

- **Grounds and Conditions for Removal:**
  - Under Article 124(4) of the Constitution of India, a Supreme Court judge can only be removed from office on the grounds of ***"proved misbehavior"*** or ***"incapacity."***
  - The order for removal is issued by the President of India, but only after both Houses of Parliament support the motion for removal by a special majority. This means:
    - **A majority of the total membership** in each House (not just those present).
    - A **two-thirds majority** of those members present and voting on the day of the vote.
- **Parliamentary Authority to Regulate the Procedure:** Article 124(5) empowers Parliament to make laws governing:
  - The procedure for presenting an address for the removal of a judge.
  - The processes for investigating allegations and substantiating claims of misbehavior or incapacity.
- **Initiation of the Motion for Removal:** The process of removal begins with a formal notice of motion:
  - The notice must have a minimum of 100 signatories from Members of Parliament (MPs) in the Lok Sabha or 50 signatories from MPs in the Rajya Sabha.

- **The notice is then submitted to:**
  - The Speaker of the Lok Sabha if it is filed by Lok Sabha MPs.
  - The Chairman of the Rajya Sabha (who is also the Vice President of India) if it is initiated by Rajya Sabha MPs.
- **Constitution of an Investigation Committee:**
  - Upon receipt of the notice, the Speaker or Chairman reviews the validity of the motion. If the motion is admitted, they are required to form a three-member committee to investigate the charges against the judge.
  - **The investigation committee comprises:**
    - A senior Supreme Court judge,
    - The Chief Justice of a High Court,
    - A "distinguished jurist" (an individual recognized for their expertise and accomplishments in law).
  - This committee's role is to conduct a thorough investigation into the allegations, ensuring a fair and impartial examination.
- **Committee's Findings and Parliamentary Debate:**
  - After its investigation, the committee submits a report to the House where the motion was first introduced.
  - If the committee finds the charges to be valid, the report moves forward for discussion in that House.
  - The motion for removal is then debated, and a vote is held. For the motion to pass, it must secure a special majority, which means:
    - In the **Lok Sabha** (House of the People), if all seats are occupied, at least 364 members must vote in favor of the motion.
    - In the **Rajya Sabha** (Council of States), a minimum of 164 members is required in a fully-seated House.
  - This special majority ensures that removal decisions are made with substantial consensus rather than a simple majority, reinforcing the gravity and significance of the decision.
- **Passing the Motion in Both Houses and Final Approval:**
  - If the motion for removal is approved by the required special majority in the initiating House, it proceeds to the other House.
  - The second House must also pass the motion with a two-thirds majority of members present and voting.
  - Only after both Houses pass the motion with the special majority can it be sent to the President of India.
  - Upon receipt of the approved motion from both Houses, the President can issue an order for the judge's removal, thereby officially terminating the judge's tenure in the Supreme Court.
- **Judicial Precedents on Appointment:**
  - In the Second Judges Case (1993), the Supreme Court ruled that the CJI should be appointed based on seniority, selecting the Supreme Court's senior-most judge. Later, in the Third Judges Case (1998), the Court clarified that appointing the CJI involves consulting a "plurality of judges."
    - The CJI alone does not have the final say in appointments; instead, the CJI must consult a collegium comprising four senior-most Supreme Court judges. If two of these judges disagree, the recommendation should not proceed to the government.
  - The **"Third Judges Case"** led to the creation of the Collegium system, which has since 1998 guided appointments and transfers in the High Courts and Supreme Court.

SENIORITY PRINCIPLE

- The CJI is typically appointed by selecting the Supreme Court's senior-most judge based on a convention known as the **"seniority principle."** This unwritten rule is respected in legal, intellectual, and judicial circles to help safeguard the judiciary's independence from political influence.
- **Historical Background:**
  - The seniority principle emerged after an instance during Prime Minister Jawaharlal Nehru's tenure, when there was consideration to appoint Justice M.C. Chagla, the Chief Justice of the Bombay High Court, as the Chief Justice of India following the death of the first CJI, H.J. Kania.
  - Although this appointment did not proceed, the incident highlighted the need for a non-political, seniority-based approach to the CJI's appointment.
- **Deviations from the Principle:**
  - Despite its importance, the seniority principle has been set aside on occasion. One notable instance was in 1973, when the Indira Gandhi government appointed Justice A.N. Ray as Chief Justice of India, bypassing Justice Shelat and two other senior judges.
    - This decision was widely criticized as it was perceived as a political move, challenging the judiciary's autonomy.
  - The seniority principle, though not codified, remains a significant convention intended to uphold the judiciary's integrity and reduce political intervention in judicial appointments.

NATIONAL COMMISSION FOR BACKWARD CLASSES (NCBC)

The National Commission for Backward Classes (NCBC) tenders advice to the Union Government for inclusion of certain Castes/Communities from Maharashtra, in the Central List of OBCs.

About:

- It was initially constituted by the Central Govt by the National Commission for Backward Classes Act, 1993 and so far the Commission had been reconstituted 7 times up to 2016.
- The present Commission (8th) has been accorded **Constitutional Status** and constituted through **"The Constitution (One Hundred and Second Amendment) Act, 2018".**
  - **Article 338B** has been inserted, forming a Commission for the socially and educationally backward classes to be known as **National Commission for Backward Classes.**
  - It consists of a Chairperson, Vice-Chairperson and three other Members in the rank & pay of Secretary to the Govt of India.
- **Article 340** of the constitution of India provides for the appointment of a commission to investigate the conditions for the improvement of Socially and educationally backward classes. The President may order to appoint a commission to investigate the conditions and background of backward classes of India.

Powers and Functions:

- **Investigation and Monitoring:** The NCBC investigates and monitors matters related to the safeguards provided for socially and educationally backward classes under the Constitution or any other law. It evaluates the effectiveness of these safeguards.
- **Advisory Role in Socio-Economic Development:** The Commission advises on the socio-economic development of socially and educationally backward classes and assesses their progress under the Union and State governments.
- **Annual Reporting to the President:** The NCBC submits annual reports to the President on the working of the safeguards for backward classes. The President presents these reports to both Houses of Parliament.
- **Communication with State Governments:** If any part of the report concerns a State Government, a copy of the relevant portion is forwarded to the concerned State Government.
- **Additional Functions as Directed by the President:** The NCBC performs other functions related to the protection, welfare, development, and advancement of socially and educationally backward classes, as specified by the President, subject to any laws made by Parliament.
- **Civil Court Powers:** The Commission possesses the powers of a civil court while trying a suit, allowing it to summon witnesses, require document production, and examine evidence.

ADMINISTRATIVE ALLOCATION OF SATELLITE SPECTRUM

The Union Communications Minister confirmed that the spectrum for satellite communication will be allocated administratively, rather than through an auction of airwaves.

About:

- Satellite spectrum refers to the **radio frequencies** used for satellite communications. These frequencies enable satellite-based systems to **transmit data and signals between satellites** in orbit and ground stations.
- Unlike terrestrial spectrum, satellite spectrum operates without national territorial limits and is managed globally by the **International Telecommunications Union (ITU).**
- Satellite spectrum is divided into different frequency bands, each suited for specific types of communication;
  - **L-band (1–2 GHz):** Used for mobile satellite services, GPS, and maritime communication.
  - **S-band (2–4 GHz):** Used for mobile satellite communication, weather satellites, and some satellite TV.
  - **C-band (4–8 GHz):** Primarily used for satellite TV broadcasting and long-distance communication.
  - **X-band (8–12 GHz):** Used for military communication and radar applications.
  - **Ku-band (12–18 GHz):** Common for satellite TV, broadband internet, and fixed satellite services.
  - **Ka-band (26–40 GHz):** Used for high-speed satellite internet, military communications, and high-resolution satellite imagery.

Spectrum Allocation in India:

- **Spectrum for satcom** is part of the first schedule of **The Telecommunications Act, 2023** ("Assignment of spectrum through administrative process").
- **Under Section 4(4)** of the Act, telecom spectrum shall be assigned through auction "except for entries listed in the **First Schedule** for which assignment shall be done by administrative process".
- **Administrative process** under the Act means assignment of spectrum without holding an auction (a bid process for assignment of spectrum).

Purpose of Administrative Allocation:

- **For terrestrial mobile services,** spectrum is exclusive, and is managed only by a single mobile operator in a given geographical area; therefore, this cannot be shared between or amongst operators.
- **In the case of satellites**, the same spectrum is **non-exclusive** in nature, and can be used by multiple satellite operators to serve the same geographical area.
  - The general trend, therefore, is to allocate satellite spectrum administratively.
- **Countries like the US, Brazil, and Saudi Arabia** previously held auctions for satellite spectrum, including orbital slots. However, both the US and Brazil reverted to administrative assignment after finding auctions impractical.

SATELLITE COMMUNICATION (SATCOM) IN INDIA

- India's satcom sector, currently standing at **$2.3 billion** a year and will reach **$20 billion by 2028.**
- **India is ranked fourth** in terms of investments in the sector globally.
- **In India roughly 290.4 million households** are untapped with broadband, which present a strong market opportunity for satellite operators.

Benefits of Satellite Communication:

- **Alternative to ground based communication:** Satcom services use an array of satellites in orbit to provide connectivity on the ground. They do not require wires to transmit data, and are an alternative to ground-based communication, called terrestrial networks, such as cable, fiber, or Digital Subscriber Line (DSL).
- **Wider Coverage:** Satcom can reach remote and rural areas that are inaccessible to terrestrial networks.
- **Resilient Network:** Satellite-based Internet is generally more resilient than terrestrial services due to fewer components on the ground. This makes it less vulnerable to damage from extreme weather events, ensuring more reliable service during crises.
- **Reduced Infrastructure Requirements:** Unlike terrestrial networks, which require extensive physical infrastructure (like cables and towers), satcom can cover vast areas with minimal equipment installation.

INTERNATIONAL TELECOMMUNICATIONS UNION (ITU)

- **It is the United Nations specialized agency** for Information and Communication Technologies (ICTs).
- **Founded in 1865** to facilitate international connectivity in communications networks.
  - **India** has been a member of **ITU since 1869.**
- **Functions:** It allocates global radio spectrum and satellite orbits. It develops the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide.

SC UPHOLDS STATE'S POWER TO REGULATE INDUSTRIAL ALCOHOL

The Supreme Court (SC) upheld that States have the power to tax not just alcoholic beverages, but also 'industrial' alcohol.

About:

- Industrial alcohol is **impure alcohol** that is used as an industrial solvent.
- **Mixing chemicals** such as benzene, pyridine, gasoline, etc. in ethanol, which is produced by fermenting grains, fruit, molasses, etc., — a process that is called **'denaturation'** — turns it into industrial alcohol.
- This makes the alcohol **unfit for human consumption**, and significantly lowers its price.
- It is used to manufacture a **range of products** including pharmaceuticals, perfumes, cosmetics, and cleaning liquids.
- It is sometimes **used to make illicit liquor, cheap and dangerous intoxicants** whose consumption poses severe risks, including blindness and death.

Dispute:

- The dispute arises from two **"overlapping" entries in the Seventh Schedule of the Constitution**, which lays down the **division of lawmaking powers** between the Centre and the states.
  - **Entry 8 of List II (State List)** gives states the power to regulate "the production, manufacture, possession, transport, purchase and sale of intoxicating liquors".
  - **Entry 52 of List I (Union List)** allows the Centre to regulate industries as a whole to the extent.
- The Centre argued that it **"occupied the field"** when it comes to industrial alcohol, and that **states could not regulate the subject.**
- States, on the other hand, argued that **industrial alcohol can be misused to produce consumable alcohol illegally,** which required them to enact legislation.

SC Ruling:

- SC noted that the tax levied on alcohol is a **key component of a state's revenue**, with state governments often adding an additional excise duty on alcohol consumption to further drive up incomes.
- The verdict also provides **clarity on Centre-state relations** when it comes to control over industries.
  - It **affirms the power of states** to pass laws on subjects in the State List, even in the **face of the wide powers granted to the Centre** regarding the control of 'Industries' as a whole.
- The ruling also set aside the **SC's 1990 judgment** in Synthetics & Chemicals Ltd. v State of Uttar Pradesh, which held that **"intoxicating liquor" refers only to potable alcohol** and, therefore, states could not tax industrial alcohol.
- The SC also held that "when there are two possible interpretations of the entries, the **Court must choose the one that maintains the federal balance**".

SEVENTH SCHEDULE

- **Article 246** of Indian Constitution plays a crucial role in defining the **distribution of powers** between the Union government and the State governments.
- It prevents **overlapping or conflicting legislation.**

- **Three Lists:**
  - **Union List:** Contains subjects on which only the Parliament can legislate. Examples include defense, foreign affairs, and atomic energy.
  - **State List:** Contains subjects on which only the State Legislatures can legislate. Examples include police, public health, and agriculture.
  - **Concurrent List:** Contains subjects on which both the Parliament and the State Legislatures can legislate. In case of a conflict, the **Union law prevails.** Examples include education, marriage, and bankruptcy.

MLALAD FUND

The Delhi Cabinet approved a proposal to increase the annual MLA Local Area Development (MLALAD) fund from ₹10 crore to ₹15 crore to accelerate project implementation ahead of the Assembly elections.

About:

- **MLA Local Area Development (MLALAD) fund** allows Members of the Legislative Assembly (MLAs) to allocate funds for development works within their respective constituencies.
- **Purpose:** These funds are meant to address local needs, promote infrastructure development, and enhance the quality of life for residents.
  - They are issued to MLAs for local development such as repairing roads, and streetlights, developing parks, and laying sewer lines in colonies.
- **Process:** Each MLA has the choice to suggest to the Deputy Commissioner of his/her district, to the extent of allocations given from year to year, to be taken up by his/her constituency.
  - The amount provided under MLALAD Scheme is released in the form of Grant-in-aid for utilisation by the districts or local authorities.
  - The unspent amount from the MLALAD fund does not lapse and is allocated to the MLA in the next financial year.

Significance:

- **Empowers Local Development:** The MLALAD fund empowers MLAs to address specific local needs by funding development projects, such as repairing roads, improving streetlights, and enhancing public spaces, which directly impact the quality of life in their constituencies.
- **Promotes Infrastructure Growth:** By allowing funds to be allocated for essential infrastructure projects like sewer lines and park development, the MLALAD scheme plays a crucial role in enhancing the infrastructure in residential areas, promoting sustainable urban development.
- **Flexibility in Fund Allocation:** The scheme provides flexibility to MLAs to recommend projects based on the priorities of their constituencies, ensuring that funds are used in ways that respond to the immediate needs of the local community.
- **Ensures Continuous Utilization:** Unspent amounts under the MLALAD fund do not lapse, allowing the unused portion to be carried forward to the next financial year, ensuring continuity in project implementation and efficient use of resources over time.

NATIONAL COMMISSION FOR PROTECTION OF CHILD RIGHTS (NCPCR)

The National Commission for Protection of Child Rights (NCPCR) has raised concerns by urging a halt to state funding for madrasas unless they adhere to the Right to Education (RTE) Act.

About:

- **Background:** NCPCR is a statutory body set up under the **Commissions for Protection of Child Rights (CPCR) Act, 2005.**It is under the administrative control of the **Ministry of Women & Child Development.**
- **Structure:** This commission has a **chairperson and six members** of which at least two should be women.
- **The Commission's Mandate** is to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective as enshrined in the Constitution of India and also the UN Convention on the Rights of the Child.
  - The Child is defined as a person in the **0 to 18 years** age group.

Functions and Responsibilities NCPCR:

- **Review Safeguards:** Examine and assess existing child rights protections, recommending measures for their effective implementation.
- **Reporting:** Provide regular reports, including an annual report, to the central government on the effectiveness of child rights safeguards.
- **Investigate Violations:** Investigate cases of child rights violations and recommend appropriate legal action.
- **Review Policies:** Regularly assess and evaluate existing policies, programs, and activities related to child rights to ensure they are effective, equitable, and aligned with evolving needs. Identify gaps or areas needing updates and recommend improvements based on current best practices and child welfare standards.
  - This approach would enable more targeted interventions and enhance protection for vulnerable children.

- **Promote Research:** Foster research initiatives that explore various aspects of child rights, including protection, education, health, and well-being.
  - This research can inform policy changes, enhance service delivery, and provide data-driven insights for better resource allocation.
  - Encouraging cross-disciplinary studies will further help in understanding complex issues affecting children's lives.
- **Raise Awareness:** Increase public knowledge of child rights and the protections in place by leveraging media, publications, and educational seminars.
  - Through campaigns and informational resources, dispel common misconceptions and empower communities to recognize and advocate for children's rights.
  - This widespread awareness can foster a supportive environment where children are valued and protected.
- **Inspect Institutions:** Inspect facilities where children are housed or detained, such as juvenile homes, and suggest corrective actions if needed.
- **Handle Complaints:** Investigate complaints and take suo motu action on issues involving deprivation or violation of child rights, including the non-enforcement of child protection laws.

Powers of the NCPCR:

- **In the course of its investigations, the Commission has the powers of a civil court, including:**
  - **Summoning and Examination:** Empowered to summon individuals from any part of India and examine them under oath, allowing for thorough and legally binding testimony.
    - This ensures that witnesses and involved parties can be questioned directly. Such examinations provide valuable firsthand information for case assessments.
  - **Document Production:** Has the authority to require individuals or entities to produce relevant documents essential to a case or inquiry.
    - This measure ensures access to necessary records and aids in verifying information. It supports transparency and accountability in the examination process.
  - **Receiving Evidence:** Can accept evidence in the form of affidavits, simplifying the evidence submission process while maintaining legal validity.
    - This approach enables the inclusion of verified written statements. It is especially useful when direct witness appearances are challenging.
  - **Requisitioning Records:** Authorized to request official records or certified copies from any court or public office to obtain necessary background information.
    - This access ensures that decisions are well-informed and supported by official documentation. It facilitates a comprehensive understanding of cases under review.
  - **Issuing Commissions:** Has the power to issue commissions to conduct examinations of witnesses and documents in other locations.
    - This allows for efficient gathering of information without requiring all parties to appear in person. It is especially helpful in handling cases across regions.
- **After completing an inquiry, the NCPCR can take further actions such as:**
  - Recommending legal proceedings against the responsible parties to the relevant authorities.
  - Seeking directions, orders, or writs from the Supreme Court or relevant High Court.
  - Recommending interim relief for the victim or their family to the appropriate government or authority.

GOVERNANCE

NAMASTE SCHEME

The profiling of Sewer and Septic Tank Workers (SSWs) is being carried out by the Ministry of Social Justice and Empowerment.

About:

According to government data tabled in Parliament:

- Out of all the profiled workers, 68.9% were SC, 14.7% were OBC, 8.3% were ST, and 8% were from the general category.
- Between 2019 and 2023, at least 377 people across the country have died from hazardous cleaning of sewers and septic tanks.

NAMASTE Scheme:

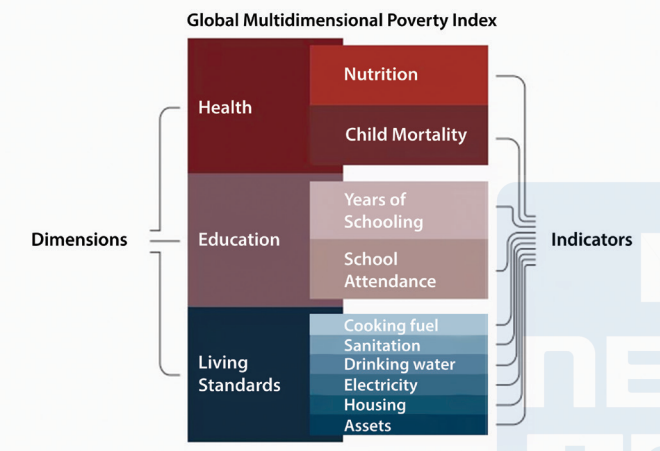
- In 2023-24, the National Action for Mechanised Sanitation Ecosystem (NAMASTE), was brought in to replace the Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS).
- It is a **joint initiative** of the Department of Social Justice & Empowerment and the Ministry of Housing and Urban Affairs.
- It is to be implemented in all 4800+ Urban Local Bodies (ULBs) of the country, during the next three years i.e. **up to 2025-26.**
- **NAMASTE aims to achieve the following outcomes:**
  - Zero fatalities in sanitation work in India;
  - All sanitation work is performed by skilled workers;
  - No sanitation workers come in direct contact with human faecal matter;
  - Sanitation workers are collectivized into SHGs and are empowered to run sanitation enterprises;
  - All Sewer and Septic tank sanitation workers (SSWs) have access to alternative livelihoods.

GLOBAL MULTIDIMENSIONAL POVERTY INDEX 2024

The 2024 Global Multidimensional Poverty Index, is published with the theme of Poverty Amid Conflict.

About:

- MPI is published annually by the UN Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative. The index utilizes 10 indicators across these three dimensions.
- If a household is deprived in one-third or more of these indicators, it is considered multidimensionally poor.



Key Findings:

- **Across 112 countries** and 6.3 billion people, **1.1 billion people (18.3 percent)** live in acute multidimensional poverty.
- **Poor people live in rural areas:** 962 million (83.7 percent) live in rural areas. Around 70.7 percent of all poor people live in rural areas of **Sub- Saharan Africa** (463 million) and **South Asia** (350 million).
- **The five countries** with the largest number of people living in poverty are **India (234 million),** Pakistan (93 million), Ethiopia (86 million), Nigeria (74 million) and the Democratic Republic of the Congo (66 million).
  - Together, these five countries account for **nearly half (48.1 percent)** of the 1.1 billion poor people.
- Approximately **584 million** people under 18 are living in extreme poverty, making up 27.9% of all children globally, compared to 13.5% of adults.
- **Poverty in conflicted regions:** The report noted that 2023 witnessed more conflicts than at any time since World War II causing displacement of over **117 million people.**
- Nearly 40% of the 1.1 billion people live in poverty, approximately **455 million**, are situated in countries experiencing conflict.

Reasons for India's Poor Performance:

- **Regional Disparities:** Rural poverty rates remain high due to inadequate infrastructure, poor service delivery, and limited economic opportunities outside agriculture.
- **Poor nutrition:** India struggles with severe malnutrition, particularly among children.
- **Quality of education:** The quality of education in many government-run schools is poor, leading to insufficient learning outcomes.
- **Water and sanitation:** Poor access to safe drinking water and inadequate sanitation, particularly in rural areas, continues to push many households into multidimensional poverty.
- **Economic setbacks:** The COVID-19 pandemic severely disrupted India's economy, leading to job losses, reduced incomes, and increased vulnerabilities for millions of households.

Government Steps for Poverty Alleviation:

- **National Food Security Act (NFSA), 2013:** It gives legal entitlement to 67% of the population (75% in rural areas and 50% in urban areas) to receive highly subsidized foodgrains.
- **Pradhan Mantri Ujjwala Yojana (PMUY) (2016):** This initiative was introduced to provide LPG (liquefied petroleum gas) connections to women belonging to Below Poverty Line (BPL) families.
- **Ayushman Bharat scheme:** It offers health insurance coverage of up to ₹5 lakh per family per year to shield beneficiaries from the financial burden of expensive medical treatments, thereby preventing them from falling deeper into poverty due to healthcare costs.
- **National Nutrition Mission (POSHAN Abhiyaan):** Launched in 2018, the mission aims to reduce malnutrition by focusing on stunting, undernutrition, and anemia, especially among children, adolescent girls, pregnant women, and lactating mothers.
- **Right to Education Act (RTE):** The RTE Act, enacted in 2009, provides free and compulsory education for children between 6 and 14 years.
- **Swachh Bharat Mission:** The mission aims to achieve universal sanitation coverage by constructing toilets and promoting cleanliness.

DHARTI AABA JANJATIYA GRAM UTKARSH ABHIYAN (DAJGUA)

The Prime Minister launched the Dharti Aaba Janjatiya Gram Utkarsh Abhiyan (DAJGUA).

About:

- The scheme is launched for improving the **socio-economic condition of tribal communities,** by adopting saturation coverage for tribal families in tribal-majority villages and aspirational districts.

- The Abhiyan will cover around **63,843 villages** benefitting more than **5 crore tribal people** in all tribal majority villages and aspirational blocks in 30 States/UTs.
- It envisions **saturation of critical gaps** in social infrastructure, health, education, livelihood.
- The Mission comprises **25 interventions which will be implemented by 17-line ministries.** Each Ministry/Department would be responsible for implementation of schemes related to it in a time bound manner through funds allocated to them under the Development **Action Plan for Scheduled Tribes (DAPST) in the next 5 years.**

Significance:

- **Focus on Tribal Socio-Economic Upliftment:** DAJGUA aims to improve the socio-economic conditions of tribal communities by addressing critical gaps in areas like social infrastructure, health, education, and livelihoods, fostering long-term sustainable development in tribal-majority regions.
- **Wide Coverage and Impact:** The scheme covers approximately 63,843 villages and will benefit over 5 crore tribal people across 30 States and Union Territories, making it a significant initiative for uplifting marginalized tribal populations in India.
- **Comprehensive Government Involvement:** With 25 key interventions to be implemented by 17-line ministries, the Abhiyan ensures a coordinated and multi-sectoral approach to tribal development, leveraging the expertise and resources of various ministries to ensure efficient implementation.
- **Targeted and Time-Bound Implementation:** Each Ministry and Department is responsible for the time-bound execution of schemes under the Development Action Plan for Scheduled Tribes (DAPST), ensuring focused and systematic development efforts over the next five years.

PM YASASVI SCHEME

PM YASASVI Scheme empowers students to reach their full potential and contribute to society.

About:

- The **PM Young Achievers Scholarship Award Scheme for Vibrant India (PM-YASASVI)** aims to uplift students from Other Backward Classes (OBC), Economically Backward Classes (EBC), and Denotified Tribes (DNT) by providing access to quality education.
- It was launched by the Ministry of Social Justice and Empowerment, it integrates previous scholarship initiatives to create a streamlined support system for disadvantaged students.
- **Selection Process:** Candidates are selected based on the YASASVI Entrance Test (YET), conducted by the National Testing Agency (NTA).

Scholarship Types:

- **Pre-Matric Scholarships:** For students in classes 9 and 10, offering an annual allowance of ₹4,000 for families earning below ₹2.5 lakh.
- **Post-Matric Scholarships:** For higher education, with allowances ranging from ₹5,000 to ₹20,000 based on the course.
- **Top Class Education:** Support for meritorious students in top schools and colleges covering tuition and other expenses.
- **Hostel Construction:** Facilities for OBC students to improve access to education.

Objectives:

- It promotes educational empowerment and helps vulnerable groups overcome financial barriers.
- It addresses financial constraints, providing a pathway for educational growth from school to higher education, thus contributing to a more inclusive society. It plays a crucial role in empowering marginalized communities and promoting their participation in the vision of a prosperous India by 2047.

RULE OF LAW INDEX

Recently the Rule of Law Index has been published by the World Justice Project (WJP).

About:

- It has evaluated countries based on **different factors,** including constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice.
- India stands at **98 out of 142 countries.**
- Denmark has secured first rank, followed by Norway, Finland, Sweden, and Germany in terms of law and order.
- **The World Justice Project (WJP):** It is an independent, nonpartisan, multidisciplinary organization working to create knowledge, build awareness, and stimulate action to advance the rule of law worldwide.

RULE OF LAW

- The rule of law is a principle that ensures all individuals, institutions, and government entities are accountable under laws that are fairly applied and enforced.
- It emphasizes equal treatment before the law, upholding justice, and safeguarding rights through impartial legal processes.

NOTE TO READERS

There is a addition of "E-Kranti" component in the Infographic of ***"9 Years of Digital India Initiative"*** feature article (refer e-Magazine Page 19 of October 2024.

2 INTERNATIONAL RELATIONS

IMPACT OF ISRAEL-IRAN CONFLICT ON INDIA

Rising tensions between Israel and Iran are escalating concerns about a regional crisis in the West-Asia and posing significant risks to India's economic stability.

Background:

- The Israel and Iran conflict has reached new heights recently with **Israel's strikes on Hezbollah's military infrastructure in Lebanon**, culminating in the killing of key Hezbollah figures.
- Hezbollah, closely aligned with Iran, retaliates on Israel, increasing the likelihood of a broader regional conflict.
- The involvement of **Iran-backed Houthi rebels in Yemen** further complicates the situation, particularly for global trade routes.

Implications on India:

- **Disruption in Trade Routes:** A full-blown conflict could disrupt the crucial Red Sea shipping route, impacting global trade.
  - **In August 2024,** Indian exports fell by **9%**, largely due to the **Red Sea crisis,** with petroleum exports dropping by **38%.**
  - Indian exporters, especially in petroleum products, are facing increased shipping costs and reduced profitability, particularly in Europe, which accounts for **21%** of India's petroleum exports.
- **Energy Security Risks:** India relies heavily on Middle Eastern oil and gas imports, despite increased purchases from Russia. A war could disrupt key shipping routes like the Strait of Hormuz and the Red Sea.
  - The Strait of Hormuz is a critical choke point for **LNG from Qatar** and **oil from Iraq and Saudi Arabia.** Any disruption here could severely affect India's energy flows.
- **Impact on Oil Prices:** A full-scale conflict would likely drive up global crude oil prices, increasing inflation in India. A $10 increase in oil prices could push up India's current account deficit by 0.3% of GDP, adding pressure on the economy.
- **Longer Trade Routes:** Disruptions in the **Suez Canal and the Red Sea** have forced ships to detour around the **Cape of Good Hope**, increasing shipping costs by **15-20%.**
  - This has particularly impacted labor-intensive industries such as textiles and engineering products in India, which rely on high-volume, low-margin exports.
- **Effect on India-Middle East-Europe Economic Corridor (IMEC):** The conflict could hinder the development of IMEC, a critical project aimed at enhancing connectivity and trade between India and Europe.

Silver Linings:

- **Neutrality of GCC Countries:** Despite the conflict, major Gulf Cooperation Council (GCC) countries like **Saudi Arabia, UAE, Kuwait, and Qatar** remain uninvolved, helping to keep trade with India relatively stable.
- India's trade with GCC countries increased by 17.8% between January and July 2024. Exports to Iran also **grew by 15.2%** during this period.

Conclusion:

- India needs to develop alternative trade routes and strategies to mitigate the risks posed by this conflict. Building stronger ties with neutral players and diversifying energy imports will be crucial in maintaining economic stability during these uncertain times.

19TH EAST ASIA SUMMIT

The Prime Minister of India recently addressed the 19th East Asia Summit (EAS) in Vientiane, Lao PDR.

Key Highlights:

- The PM emphasized that a **free, open, inclusive, prosperous and rule-based Indo-Pacific** is important for the peace and progress of the entire region.
- India stressed that maritime activities should be conducted under the **UN Convention on the Law of the Seas (UNCLOS)** to ensure freedom of navigation and air space.
  - Also a strong and effective **Code of Conduct** should be created.

About East Asia Summit (EAS):

- **Origin:** The origins of EAS dates back to the 1990 proposal for an East Asian Economic Grouping (EAEG).
  - The project was later revived through the **ASEAN Plus Three or APT (China, Japan, and South Korea)** Summit of Heads of State and Government that first met in Kuala Lumpur in December 1997.
  - It eventually found expression through the creation of the **EAS in 2005**, with 16 members. The United States and Russia joined in **2011.**
- **Members:** There are 18 members;
  - **The 10 ASEAN** (Association of Southeast Asian Nations) members**:** Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

- **8 non-ASEAN members:** Australia, China, India, Japan, New Zealand, Russia, South Korea, and the United States.
- **Lead & the Chair position:** ASEAN leads the forum, and the chair position rotates between ASEAN Member States annually.

Significance of East Asian region:

- **Economic Growth:** East Asia is home to some of the world's largest and fastest-growing economies, including China, Japan, and South Korea.
  - The region is known as the **factory of the world.**
- **Diplomatic Hotspot:** As a zone of interaction for major global powers like the US, China, and Russia, the region is critical for international diplomacy and geopolitical negotiations, influencing global peace and stability.
- **Great Power Rivalries:** East Asia is a focal point for great power competition, particularly between the United States and China. The region plays a key role in shaping the dynamics of global power and influence.
- **Strategic Waterways:** The region includes vital shipping lanes such as the South China Sea and the East China Sea, where disputes over territorial claims add to its geopolitical importance.

NEPAL, INDIA AND BANGLADESH ENERGY COOPERATION

Nepal, India and Bangladesh have signed a tripartite agreement to facilitate cross-border electricity trade.

About:

- **Nepal will export** its surplus electricity to **Bangladesh via India** from June 15 to November 15 every year.
  - In the first phase, **Nepal will export 40 MW of hydroelectricity** to Bangladesh **via Indian territory.**
  - The rate per unit of electricity has been fixed at 6.4 cents.
  - Electricity will be exported to Bangladesh via the **Dhalkebar-Muzaffarpur 400 KV transmission line,** with the metering point in **Muzaffarpur.**
- From the export of electricity, Nepal will make an **annual income of around USD 9.2 million.**

India's Energy Cooperation in Neighbourhood:

- India is building **green energy infrastructure** (hydel power plants and solar parks) in **Bangladesh, Bhutan, Nepal and Sri Lanka.**
  - India is connecting these countries' national energy apparatus to India for **exporting excess energy** generated in these nations.
- **India loaned, invested, or extended Lines of Credit** worth US$ 7.15 billion between 2005 and 2023 to further collaboration with its neighbours.
  - Development assistance ranges across cross-border transmission lines, hydel power plants, oil and gas pipelines, and undersea lines for grid integration.
- Resultantly**, electricity trade** among the aforementioned countries has grown from **2 billion units to 8 billion units between 2016 and 2023.**
- **Energy Cooperation with Nepal:** It culminated in the **25-year long-term power purchase partnership agreement** between the two countries, wherein India will annually buy 10,000 MW of hydel energy from Nepal by **2030.**
  - Nepal, currently, has over a hundred hydel power plants and another one hundred and fifty in the pipeline.
  - This massive and rapid hydel power capacity development will lead to a **surplus** that energy-needing neighbouring countries—India and Bangladesh—can utilise.
- **India-Bhutan:** In FY22, India imported 1500 MW of electricity worth US$ 83 million from Bhutan. These imports comprised **70 percent of Bhutan's hydel power generation capacity.**
  - Bhutan is currently also coordinating with multilateral development banks and India, to **increase its installed hydel power capacity** to cater India, Bangladesh and Myanmar.
- **India-Bangladesh:** It involves importing through the **India Bangladesh Friendship Pipeline (IBFP)** and the newly developed electricity transmission network.
  - India is also endeavouring to link Bhutan and Nepal with Bangladesh through Indian territory for greater energy connectivity across South Asia.

Significance:

- **Strengthening Regional Energy Connectivity**:The agreement enhances energy cooperation between Nepal, India, and Bangladesh, establishing a reliable framework for **cross-border electricity trade**.
  - This integration facilitates the flow of surplus hydropower from Nepal to energy-deficient Bangladesh, fostering a more connected and resilient regional energy market.
- **Economic and Energy Security**:For Bangladesh, importing clean energy helps alleviate its energy shortages, while India benefits by enhancing its energy diversification strategy.
  - For Nepal, this agreement opens a new revenue stream, expected to generate **USD 9.2 million annually**, reinforcing its role as a key energy exporter in the region.
- **Boost to Hydroelectric Power in Nepal:**
  - Nepal's export of hydropower via India provides an opportunity to further develop its **vast hydroelectric resources**, with over 100 plants already operational and many more in development.
  - This agreement strengthens Nepal's ambitions to become a regional energy hub by exporting surplus energy to its neighbors.

- **Geopolitical Leverage for India:**
  - India's involvement in facilitating energy trade positions it as a **strategic leader** in South Asia, countering Chinese influence and the Belt and Road Initiative (BRI).
  - By fostering deeper regional cooperation, India enhances its geopolitical standing and promotes stability in its neighboring countries.
- **Advancing Clean Energy Transition:** The agreement supports the broader shift toward **renewable energy** in South Asia by promoting hydroelectric power, reducing reliance on fossil fuels, and contributing to regional climate goals.
  - This aligns with global efforts to transition to greener energy sources, benefiting all participating countries.
- **Foundation for Regional Cooperation:** Beyond energy, the collaboration fosters stronger **economic and diplomatic ties** between the three countries.
  - This energy trade could set the stage for broader regional cooperation in other areas, such as infrastructure and trade, deepening relationships and mutual economic benefits across South Asia.

Conclusion:

- India's energy cooperation with South Asian neighbors is crucial for its foreign policy and energy security. By investing in regional infrastructure and fostering interdependence, India promotes economic growth and counters China's influence.
- Despite challenges like geopolitical tensions, the mutual benefits of energy collaboration are evident. As India grows globally, its energy diplomacy will play a key role in shaping the region's future.

INTERNATIONAL MEDICAL DEVICE REGULATORS FORUM

India has become an affiliate member of the International Medical Device Regulators Forum (IMDRF).

About:

- **IMDRF is a voluntary group** of medical device regulators from around the world.
- **It was established in 2011** to accelerate international medical device regulatory harmonization and convergence, building on the foundational work of its predecessor, the **Global Harmonization Task Force (GHTF).**
- **IMDRF members:** It includes national regulatory authorities from the United States, Australia, Canada, the European Union, Japan, the United Kingdom, Brazil, Russia, China, South Korea, Singapore, and the World Health Organization (WHO).

GLOBAL HARMONIZATION TASK FORCE (GHTF)

- **Formation and Objective:**
  - It was established in 1992.
  - It was a **voluntary group** that included representatives from national medical device regulatory authorities and the medical device industry.
  - Founding members**:** European Union, United States, Canada, Japan, and Australia.
  - The primary goal was to standardize medical device regulations globally in response to the growing need for international harmonization.
- **Geographical Representation:** GHTF divided its representatives into three geographical regions, each with distinct regulatory frameworks: Europe, Asia-Pacific and North America.
- **Role of Regulatory Authorities:** Key regulatory authorities involved included agencies like the **U.S. Food and Drug Administration (FDA)**. These bodies worked together with the medical device industry to create uniform regulatory standards.
- **Successor Organization:**
  - The GHTF was disbanded in **late 2012**.
  - The **International Medical Device Regulators Forum (IMDRF)** replaced the GHTF.
  - Unlike its predecessor, the IMDRF consists solely of **officials from regulatory agencies** worldwide, without direct industry involvement.

INDIA, COLOMBIA SIGNED AUDIOVISUAL CO-PRODUCTION AGREEMENT

India & Colombia have signed the Audiovisual Co-Production Agreement.

About:

- **A co-production** is a joint venture between two or more different production companies for the purpose of producing a feature film, television/web show or series and so on.
  - In the case of an international co-production, production companies from different countries (typically two to three) work together for producing content across different media platforms.
- The agreement is expected to **benefit producers from both the countries** in pooling their creative, artistic, technical, financial and marketing resources for the co-production. It will also lead to **exchange of art and culture** among the two countries.
- Currently, India has co-production treaties with **16 countries,** resulting in 29 projects over the last five years. Colombia is the **17th country** with which India is signing a Co-Production Agreement.

INDIA EXTENDS ITS FIRST-EVER RUPEE DENOMINATED LINE OF CREDIT UNDER IDEAS

India has extended a Line of Credit of ₹ 487.60 crores to Mauritius for a water pipeline replacement project.

About:

- It is the first ₹-denominated credit under the **Indian Development and Economic Assistance Scheme (IDEAS).**
- It aims to replace approximately 100 km of obsolete water pipeline in Mauritius and will be financed by the State Bank of India on concessional terms.
- This initiative reflects India's commitment to socio-economic development in Global South countries, aligning with the needs of its partner nations.

INDIAN DEVELOPMENT AND ECONOMIC ASSISTANCE SCHEME (IDEAS)

- Under this initiative, the Government of India, through the Export-Import Bank of India (Exim Bank), extends Lines of Credit (LoCs) to developing countries.
- These LoCs are used to support developmental and other projects, based on recommendations from the Ministry of External Affairs (MEA). The scheme advances India's political, economic, and strategic interests while also enhancing India's positive image abroad.

ADDITIONAL INFORMATION

The Government of India provides development assistance through **Concessional Lines of Credit (LOCs)** under the **Indian Development and Economic Assistance Scheme (IDEAS)** via the **EXIM Bank of India.**

- Over 300 LOCs worth $32 billion have been extended to 68 countries, funding around 600 projects in various sectors, including railways, roads, agriculture, and healthcare.
- Under the **"Neighbourhood First" policy,** significant LOCs have been allocated to neighboring countries**:** $7.862 billion to Bangladesh, $1.65 billion to Nepal, over $2 billion to Sri Lanka, $745 million to Myanmar, and $1.43 billion to the Maldives.

INDIA AND CHINA REACH BREAKTHROUGH AGREEMENT ON BORDER TENSIONS

India and China have reached an agreement on the "patrolling arrangements" and the resolution of the military stand-off at the Line of Actual Control (LAC). It includes the remaining friction points of Demchok and Depsang.

About:

- After the beginning of the **stand-off in eastern Ladakh in 2020**, India and China had deployed thousands of troops in forward posts along the LAC.
- After negotiations were held in a variety of forums, agreement has been arrived at leading to resolution of the issues.
- Certain mutual agreements have also been made for the **eastern theatre**, especially in the sensitive sectors of Arunachal Pradesh.

The India-China Borders:

- India considers the LAC to be **3,488 km long,** while the Chinese consider it to be only around **2,000 km.**
- **It is divided into three sectors:** the eastern sector which spans **Arunachal Pradesh and Sikkim**, the middle sector in **Uttarakhand and Himachal Pradesh,** and the western sector in **Ladakh.**
- **Western Sector or Aksai Chin Sector:** The region is claimed by the Chinese government **post-1962 war** as an autonomous part of the Xinjiang region which was originally a part of the Indian state of Jammu and Kashmir.
- **Middle Sector:** It is the less disputed section of the Indo-China border but the **recent Doklam standoff and Nathu La Pass trading issues** have brought distress at all levels.
- **Eastern Sector or Arunachal Pradesh: McMahon Line** had differentiated India and China in this sector but in the 1962 war the People's Liberation Army covered 9000 sq. km. area.
  - The announcement of a unilateral ceasefire made them step back on the international borderline.
  - However, China has been claiming that area as their own and recently they have started to **claim the whole of Arunachal Pradesh** as their own.

Reasons behind Chinese Encroachment on Indian Territory:

- **To show its dominance:** China felt that somehow India was not recognising the growing gap in their relative economic status, when China perceived that India was seeking to get closer to the United States (US) to balance China it decided that it needed to demonstrate its power.

- From the Chinese point of view, the basis of this "stability" does not come from settling its border issues with India, **but dominance on the border and deterring Indian challenges.**

- **India's stand on China's Aggressive Foreign Policy:** India sought to challenge the Chinese point of view in many ways.
  - By building up its **border infrastructure** to more effectively maintain a deterrence capacity against the PLA along its borders.
  - By developing a **relationship with the US** which appeared to merge the threats from China's primary and secondary strategic directions.
  - By promoting its ties with exiled Tibetans and maintaining its relationship with the **Dalai Lama.**
  - Challenging China's efforts to develop ties in **South Asia and the Indian Ocean region.**
  - Leading the **global critique of China's Belt & Road Initiative.**
- **Threat to Chinese efforts in the South-Asian region:** China needs to be accepted in its periphery as the foremost economic and military power, before it is taken seriously as a **global power.**
  - In its southwest is India, **equally huge and populous** and with aspirations of its own, and its neighbors most certainly see India as being the **naturally pre-eminent power in South Asia.**
- **India's engagement with Chinese Adversaries:** In recent years, India has developed strong military ties with the country which China believes is its **primary threat, the United States.**
  - China would like to focus on the western Pacific challenge and retain stable ties with India in South Asia.
  - India's constant efforts, however, to upgrade its border infrastructure and strengthen its partnership with the US destabilise China's calculations.

UNITED NATIONS DAY

United Nations Day is observed on October 24th each year.

About:

- The day marks the anniversary of the **United Nations Charter** coming into force in 1945.
- The UN was established post-World War II to promote peace, security, and cooperation among countries. The term "United Nations" was first coined by **Franklin D. Roosevelt** in the Declaration of the United Nations on January 1, 1942.
- The organization started with 51 member states and has grown to 193.
- There are six official languages of the United Nation are as follows**:** Arabic, Chinese, English, French, Russian, Spanish.
- Member States make payments in accordance with an **established scale of assessments.** This scale is determined by the population size, national revenue, and ability of a country to pay.
  - The top **four contributors** are the United States, Japan, China and Germany.

UN's Contribution to the World:

- **Preventing Nuclear Proliferation: International Atomic Energy Agency (IAEA)** was established in **1957** as an autonomous organization within the **United Nations system.**
  - It has been the world's nuclear inspector for more than 50 years.
  - IAEA makes sure that nuclear material under safeguards is solely used for peaceful purposes. More than 180 States currently have safeguards agreements with the Agency.
- **Maintaining Peace and Security:** Over the past 60 years, the **United Nations** has been able to restore quiet, enabling many countries to recover from violence by dispatching peacekeeping and observer teams to the world's troubled regions.
- **Supporting Disarmament:** UN support the disarmament efforts through –
  - The Chemical Weapons Convention-1997 The Mine-Ban Convention-1997, The Arms Trade Treaty-2014.
  - **UN peacekeepers forces** to implement disarmament agreements between warring parties.
- **Promoting Development:** The **Millennium Development Goals** (MDG) have served as a framework for raising living standards, human capabilities, and potential worldwide since 2000.
  - The **UN Children's Fund (UNICEF)** works in more than 150 countries, focusing primarily on child protection, immunization, girls' education, and emergency aid.
  - The **UN Development Programme (UNDP)** supports more than 4,800 projects to combat poverty, encourage good governance, deal with crises, and protect the environment.
- **Economic Development: UN Conference on Trade and Development (UNCTAD**), an organization of the United Nations, assists developing nations in maximizing their trade possibilities.
  - The World Bank has funded more than 12,000 projects in more than 170 countries since 1947 and lends and gives money to developing nations.
- **Global Think Tank:** The **UN Statistics Division** is the centre of the global statistical system, gathering and disseminating data on global economic, demographic, social, gender, environment, and energy trends.

NOTE TO READERS

There is an updation in the "Necklace of Diamond Strategy" Box of the ***"India's Special China Problem"*** feature article (refer e-Magazine Page 30 of October 2024.

3 ECONOMY

INSOLVENCY AND BANKRUPTCY BOARD OF INDIA (IBBI)

The Insolvency and Bankruptcy Board of India (IBBI) recently marked its Eighth Annual Day on October 1, 2024.

About:

- The Insolvency and Bankruptcy Board of India (IBBI) was established on **1st October 2016** under the **Insolvency and Bankruptcy Code (IBC), 2016**.
- It is tasked with the effective implementation of the IBC, which aims to streamline and consolidate the insolvency resolution process for individuals, partnership firms, and corporate entities in a time-bound manner.
- **Key Responsibilities:**
  - **Implementation of the IBC:**
    - IBBI oversees the proper application of the **Insolvency and Bankruptcy Code (IBC)**, which integrates and amends existing laws concerning the insolvency resolution of individuals and businesses.
    - It ensures that the resolution process is conducted within a set timeframe, providing clarity and predictability to stakeholders.
  - **Regulatory Functions:**
    - **Oversight of Professionals and Processes:** The IBBI regulates insolvency professionals, insolvency professional entities, and insolvency professional agencies. It ensures these professionals operate within established guidelines and standards.
    - **Supervision of Information Utilities:** The IBBI monitors information utilities that collect, verify, and disseminate financial information related to insolvency and bankruptcy cases.
    - **Enforcement of Corporate and Individual Insolvency Rules:** The IBBI enforces rules for various processes under the IBC, including corporate insolvency resolution, individual insolvency resolution, corporate liquidation, and individual bankruptcy.
  - **Setting Eligibility Standards:**
    - The IBBI defines the **minimum eligibility requirements** for the registration of insolvency professional agencies, professionals, and information utilities.
    - It also prescribes the **curriculum** for the qualifying examination of insolvency professionals, ensuring that they meet the necessary standards for enrolment.
  - **Information Management:**
    - The IBBI collects and maintains records of all insolvency and bankruptcy cases.
    - It also disseminates information to the public and relevant stakeholders, helping improve transparency and awareness regarding ongoing and past cases.
- **Constitution of the Board:** The IBBI is composed of members appointed by the Central Government, as outlined below:
  - **Chairperson:** The Chairperson is appointed by the Central Government and leads the functioning of the IBBI.
  - **Central Government Representatives: Three members** are appointed from officers of the Central Government, with each representing the **Ministry of Finance**, **Ministry of Corporate Affairs**, and **Ministry of Law**, respectively. These members serve in an **ex-officio** capacity.
  - **Reserve Bank of India Representative:** One member is **nominated by the Reserve Bank of India (RBI)**, also serving in an **ex-officio** capacity.
  - **Other Government Nominees: Five additional members** are nominated by the Central Government. Of these, at least **three must be whole-time members** responsible for overseeing specific functions of the Board.

Aspect	Insolvency	Bankruptcy
Legal Status	Financial condition where an individual or entity cannot meet debt obligations	Formal legal status granted to an insolvent debtor through a court order
Objectives	Focuses on resolving financial distress, rehabilitating entities, and maximizing creditor recovery	Aims to give debtors a fresh start by discharging eligible debts and facilitating rehabilitation
Process	Involves debt restructuring, asset monetization, and management takeover to preserve value	Involves court adjudication, asset liquidation, debt discharge, and legal restrictions
Participants	Includes debtors, creditors, resolution professionals, and adjudicating authorities	Primarily involves the debtor, with courts directing the proceedings

- **Term of Office:**
  - The Chairperson and members (except ex-officio members) are appointed for a term of **five years** or until they reach the age of **65 years**, whichever comes earlier.
  - These members are **eligible for re-appointment**, ensuring continuity and expertise in the Board's functioning.

TRADITIONAL PRODUCTS OF ASSAM TRIBES GRANTED GI TAG

The Geographical Indications Registry in Chennai recently awarded GI tags to eight products from Assam, including traditional food items and varieties of rice beer.

Products Granted GI tag:

- **Bodo Rice Beer Variants:**
  - **Bodo Jou Gwran:**
    - **Bodo Jou Gwran** is a powerful **rice-based alcoholic beverage** with the highest **alcohol content (16.11%)** among the rice beers made by the Bodo community.
    - This variant stands out for its potency and is consumed in various social and cultural settings.
    - It is prepared through a traditional fermentation process using **locally grown rice**.
  - **Maibra Jou Bidwi:**
    - Also known as **Maibra Jwu Bidwi** or **Maibra Zwu Bidwi**, this variant is especially revered among the Bodo tribes.
    - It is served as a **welcome drink** in many ceremonies and is considered a sign of respect and hospitality.
    - The preparation involves fermenting **half-cooked rice (mairong)** with minimal water, and then adding a small amount of **amao**, a local ingredient rich in yeast.
  - **Bodo Jou Gishi:**
    - Another type of **rice beer**, **Bodo Jou Gishi, is also** prepared through fermentation and has long been part of the Bodo people's daily life.
    - It is typically consumed during festivals, communal gatherings, and family celebrations.
    - The preparation of rice beer, especially Jou Gishi, has been passed down through generations and is believed by the Bodo community to have originated from **Lord Shiva**, giving it a **sacred and medicinal value**.
- **Traditional Bodo Food Products:**
  - **Bodo Napham:**
    - **Bodo Napham** is a traditional dish made from **fermented fish.**
    - The preparation involves an **anaerobic fermentation process** in which fish is sealed in a tightly closed container and left to ferment for **two to three months.**
    - Fish preservation is crucial in Bodoland due to its **heavy rainfall** and the seasonal availability of fish.
    - To ensure a year-round supply, the Bodos have developed various preservation methods like **smoking, drying, salting, marination**, and **fermentation**, with Napham being a popular fermented dish.
  - **Bodo Ondla:**
    - **Bodo Ondla** is a unique **rice powder curry** seasoned with **garlic, ginger, salt**, and **alkali**.
    - It is a staple dish in Bodo households, enjoyed during daily meals and special occasions alike.
    - The preparation of Ondla showcases the simplicity and ingenuity of Bodo cuisine, which is rooted in the use of locally available ingredients.
  - **Bodo Gwkha (also known as Gwka Gwkhi):**
    - **Bodo Gwkha** is a traditional dish prepared during the **Bwisagu festival**, which marks the Bodo New Year and the onset of spring.
    - It is an important part of the community's **festive meals** and rituals.
    - The dish, like other traditional Bodo foods, emphasizes the community's connection to their agricultural practices and seasonal cycles.
  - **Bodo Narzi:**
    - **Bodo Narzi** is a **semi-fermented food** prepared from **jute leaves (Corchorus capsularis)**.
    - Rich in **Omega-3 fatty acids**, **vitamins**, and essential minerals such as **calcium** and **magnesium**, this dish is known for its nutritional value.
    - The use of **jute leaves**, a plant commonly grown in the region, illustrates how the Bodo people incorporate local flora into their diet.
    - The semi-fermentation process gives the dish a unique flavor and preserves its nutrients, making it a healthy and traditional food choice.
- **Bodo Aronai:**
  - **Bodo Aronai** is a beautifully woven cloth, measuring **1.5 to 2.5 meters long** and **0.5 meter wide**.
  - Traditionally, **Aronai** is offered as a mark of respect and honor to guests, elders, and dignitaries.
  - The cloth is intricately woven with patterns that reflect the Bodo people's **deep connection to nature**.
  - Designs often include **flowers, trees, mountains**, and **birds**, inspired by the natural surroundings of the community.

GEOGRAPHICAL INDICATION (GI) TAG

- **Definition:**
  - **Geographical Indication (GI)** is a distinct label used to identify products that possess specific qualities, reputation, or characteristics originating from a particular geographical region.
  - It emphasizes the connection between the unique characteristics of goods and their place of origin.

- **Legislation:**
  - In India, GIs are regulated under the **Geographical Indications of Goods (Registration and Protection) Act, 1999**, which aims to offer legal registration and protection for products associated with specific geographical territories.
  - The GI protection in India aligns with global intellectual property norms and is guided by the **WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
  - Additionally, Articles 1(2) and 10 of the **Paris Convention** recognize the protection of industrial property and geographical indications as key components of **Intellectual Property Rights (IPR)**.
- **Types of Products:**
  - The GI tag can be applied to **agricultural**, **natural**, or **manufactured products**, including **handicrafts** and **industrial goods**.
  - These products are valued for their distinct characteristics that are intrinsically linked to the geographical environment in which they are produced.
- **Validity:**
  - Once granted, a GI tag is valid for a period of **10 years**.
  - After this period, the GI tag can be renewed, ensuring the continued protection of the product under this status.
- **Significance and Benefits:**
  - **Legal Protection:** The GI registration provides legal protection for the product, preventing unauthorized entities from using the registered name or marketing similar products under it.
  - **Prevention of Misuse:** Once a GI tag is granted, no person or company can legally sell a similar item under the same name, ensuring the exclusivity of the product's identity.
  - **Boost to Exports:** The GI tag enhances the reputation of a product on a global scale, which in turn promotes its **export potential** by adding credibility and authenticity to the product's quality and origin.
  - **Customer Assurance:** A GI tag offers a level of **trust and assurance** to customers about the **authenticity** and genuine quality of the product, as it signifies that the product adheres to the traditional practices and standards associated with its geographical origin.

MONETARY POLICY COMMITTEE (MPC)

Recently, The Union government appointed new monetary policy committee members with immediate effect.

About:

- **Establishment:**
  - The **Monetary Policy Committee (MPC)** was created following a **Memorandum of Understanding (MoU)** between the Government of India and the Reserve Bank of India (RBI) to implement the new **inflation-targeting monetary policy framework**.
  - The **Reserve Bank of India Act, 1934** was amended by the **Finance Act, 2016**, introducing a statutory and institutionalized structure for the MPC under this framework.
- **Legal Basis:** Under **Section 45ZB** of the amended RBI Act, the **central government** is empowered to establish a **six-member MPC**, which is responsible for formulating India's monetary policy.
- **Function:**
  - The primary responsibility of the MPC is to **fix the benchmark policy rate** (commonly referred to as the **repo rate**) to maintain inflation within the government-specified target range.
  - The MPC replaced the earlier system of decision-making, which relied on the **Technical Advisory Committee**.
- **Composition:** The MPC consists of six members, including:
  - The **Governor of the RBI** (Chairperson).
  - The **Deputy Governor** of the RBI in charge of monetary policy.
  - One member nominated by the **RBI Board**.
  - Three members representing the **Government of India**.
    - The three external members, appointed by the government, serve a term of **four years**.
- **Decision-Making Process:**
  - The MPC operates based on **majority voting** to determine the appropriate monetary policy actions.
  - In case of a tie, the **Governor of the RBI** has a **second or casting vote** to break the deadlock.
  - The **RBI's Monetary Policy Department (MPD)** supports the MPC in formulating policy decisions.
- **Quorum:**
  - For any MPC meeting, the quorum must include at least four members.
  - One of these members must be the Governor, or in the Governor's absence, the Deputy Governor.
- **Binding Nature:** Once the MPC makes its decision, it is **binding on the RBI**, meaning that the RBI is required to implement the committee's policy choices without further amendments.

INSTRUMENTS OF MONETARY POLICY

- **Repo Rate:**
  - The **repo rate** is the interest rate at which the **Reserve Bank of India (RBI)** extends overnight liquidity to commercial banks.
  - This is done against collateral in the form of government securities and other approved assets through the **Liquidity Adjustment Facility (LAF)**.

- By adjusting the repo rate, the RBI influences the cost of borrowing for banks, thereby impacting overall economic activity and inflation.

- **Reverse Repo Rate:**
  - The **reverse repo rate** is the interest rate at which the RBI absorbs excess liquidity from banks on an overnight basis.
  - This is achieved by accepting eligible government securities as collateral under the **LAF**.
  - By altering the reverse repo rate, the RBI can effectively control the money supply in the economy, encouraging or discouraging banks from lending.
- **Liquidity Adjustment Facility (LAF):**
  - The **LAF** encompasses both overnight and term repo auctions, serving as a mechanism for banks to manage their liquidity needs.
  - The primary goal of the term repo auctions is to foster the development of the **interbank term money market**.
    - This helps establish market-based benchmarks for pricing loans and deposits, which ultimately enhances the transmission of monetary policy signals throughout the economy.
  - Additionally, the RBI conducts **variable interest rate reverse repo auctions** as needed based on prevailing market conditions, providing flexibility in liquidity management.
- **Marginal Standing Facility (MSF):**
  - The **Marginal Standing Facility (MSF)** is a mechanism that allows scheduled commercial banks to borrow additional funds from the RBI at a penal interest rate, using their **Statutory Liquidity Ratio (SLR)** portfolio as collateral.
- This facility acts as a **safety valve** for banks facing unexpected liquidity shortages, providing an immediate source of funds and thereby stabilizing the banking system.

NOBEL IN ECONOMICS 2024

Recently, the 2024 Economics Nobel prize was awarded to Daron Acemoglu, Simon Johnson and James A Robinson "for studies of how institutions are formed and affect prosperity."

About:

- **Influence of Institutional Structures:**
  - **Objective:** The research aimed to analyze how different institutional frameworks, particularly in countries colonized by Europeans, shaped their economic trajectories.
  - **Finding:** It concluded that the type of institutions established during colonization significantly affected long-term economic outcomes, highlighting the importance of political and economic institutions over geographical or cultural factors.
- **Impact of European Settlement:**
  - **Mortality Rates:** The study found that in regions where Europeans encountered high mortality rates, they were less likely to settle permanently.
    - Instead, they tended to create extractive institutions that exploited local resources without fostering development.
  - **Long-term Effects:** These extractive institutions often persisted into the modern era, limiting economic growth and opportunities for the local population.
- **Institutional Differences vs. Geography/Culture:**
  - **Core Argument:** The research emphasized that differences in institutional quality—such as the protection of property rights, the rule of law, and political inclusiveness—are critical determinants of economic success, rather than geographical or cultural factors.
  - **Example of Nogales:** The divided city of Nogales, Arizona, and Heroica Nogales, Mexico, served as a case study to illustrate how institutional variations influence prosperity.
    - The U.S. side benefits from greater economic opportunities and political rights, highlighting the importance of robust institutions in fostering economic development.
- **Model of Political Institutions Formation:** The study proposes a model to explain how political institutions are formed and change over time, consisting of three key components:
  - **Conflict Over Resource Allocation:** The first component addresses the conflicts regarding resource distribution and decision-making power within a society, typically between elites and the general populace.
  - **Mobilization of the Masses:** The second aspect highlights that the masses can occasionally mobilize to exert pressure on the ruling elite, indicating that societal power dynamics extend beyond mere decision-making capabilities.
  - **Commitment Problem:**
    - The third component introduces the concept of a commitment problem, wherein elites may be compelled to relinquish some decision-making authority to the general populace.
    - This illustrates the dynamics of power sharing and the potential for democratic development.

NOBEL ECONOMICS PRIZE

- The award is officially known as the **Bank of Sweden Prize in Economic Sciences** in Memory of Alfred Nobel.
- This prize was established in **1968** by the central bank of Sweden as a memorial to Alfred Nobel.
  - He is a **19th-century** Swedish businessman and chemist, is known for inventing dynamite and establishing the five original Nobel Prizes.
- The first winners of the economics prize, in **1969**, were **Ragnar Frisch and Jan Tinbergen.**

NATIONAL ELECTRICITY PLAN (TRANSMISSION)

Recently, the Cabinet Minister for Power and Housing & Urban Affairs launched the National Electricity Plan (Transmission).

About:

- **Integration of Renewable Energy Sources:**
  - **Battery Energy Storage Systems:** The plan emphasizes the integration of **47 GW** of Battery Energy Storage Systems (BESS) to enhance the reliability and flexibility of renewable energy generation.
  - **Pumped Storage Plants:** An additional **31 GW** of Pumped Storage Plants (PSP) will be incorporated to manage energy storage and facilitate load balancing during peak demand periods.
- **Renewable Energy Capacity Goals:**
  - **2030 Target:** The overarching aim is to achieve the transmission of **500 GW** of Renewable Energy Installed Capacity by the year **2030**.
  - **2032 Target:** This capacity is projected to increase to over **600 GW** by **2032**, reflecting a significant commitment to renewable energy sources.
- **Peak Demand Management:**
  - **Future Demand Projections:** The plan aims to meet a projected peak demand of **458 GW** by **2032**, ensuring that the transmission infrastructure is capable of supporting the growing energy needs of the country.
- **Expansion of Transmission Network:** The existing transmission network of **4.85 lakh ckm (circular kilometers)** in **2024** is planned to expand to **6.48 lakh ckm** by **2032**, enhancing the capability to transmit electricity across vast distances.
- **Inter-regional Transmission Capacity:** Inter-regional transmission capacity is planned to increase from the current level of **119 GW** to **168 GW** by **2032**, facilitating better energy distribution between regions.
- **Innovative Elements in the Transmission Sector:**
  - The incorporation of **10 GW** of offshore wind farms demonstrates a commitment to diversifying the sources of renewable energy within the transmission network.
  - **Energy Storage and Management:** The integration of both battery and pumped storage systems will play a crucial role in stabilizing the grid and managing renewable energy variability.
- **Support for Green Hydrogen and Green Ammonia:** The plan aims to address the energy needs of **Green Hydrogen** and **Green Ammonia** manufacturing hubs located in coastal regions, aligning with India's goals for sustainable energy production.
- **International Collaborations:** The plan covers cross-border interconnections with neighboring countries including **Nepal, Bhutan, Myanmar, and Bangladesh**, as well as potential interconnections with nations like **Sri Lanka, Saudi Arabia**, and the **UAE**, enhancing regional energy cooperation and trade.

CENTRAL ELECTRICITY AUTHORITY (CEA)

- **Establishment and Legal Framework:**
  - **Initial Establishment:** The CEA was originally established under the repealed **Electricity (Supply) Act, 1948**. This act laid the groundwork for the regulatory framework governing electricity supply in India.
  - **Transition to Current Legislation:** The functions and responsibilities of the CEA were transitioned to the **Electricity Act, 2003**, which modernized the legal structure and regulatory framework for the electricity sector in India.
- **Composition of the CEA:**
  - **Membership Structure:** The CEA is composed of no more than **14 members**, including a **Chairperson**.
  - **Full-Time Members:** Out of the total members, up to **8 members** are designated as full-time members, who are appointed by the **Central Government**.
- **Core Functions of the CEA:**
  - **Advisory Role:** The CEA plays a crucial advisory role to the **Central Government** on matters related to the **National Electricity Policy**, helping shape the strategic direction of the electricity sector.
  - **Technical Standards:** The authority is responsible for specifying technical standards for the construction of electric plants and electric lines, ensuring safety, efficiency, and reliability in the electricity infrastructure.
  - **Grid Connectivity:** The CEA also focuses on establishing standards for grid connectivity, facilitating a stable and interconnected power system that can efficiently distribute electricity across regions.

HAND-IN-HAND INITIATIVE

Recently, The Food and Agriculture Organization (FAO) has inaugurated the 2024 Hand-in-Hand Investment Forum.

About:

- **Purpose:**
  - **Initiation Year:** The Hand-in-Hand Initiative was launched in **2019** as a flagship program of the **Food and Agricultural Organization (FAO)**.
  - **Focus Areas:** The initiative prioritizes countries and territories facing the highest levels of poverty and hunger.
    - It specifically targets regions with limited national capacities or significant operational challenges due to natural or man-made crises.

- **Goals and Objectives:**
  - **Eradication of Poverty:** The initiative aims to eradicate poverty (aligned with **Sustainable Development Goal 1 - SDG1**) by implementing transformative strategies within agri-food systems.
  - **Ending Hunger and Malnutrition:** It seeks to end hunger and malnutrition (aligned with **Sustainable Development Goal 2 - SDG2**) through improved food systems and nutritional support.
  - **Reducing Inequalities:** The initiative also aims to reduce inequalities (aligned with **Sustainable Development Goal 10 - SDG10**) by empowering vulnerable populations and enhancing their livelihoods.
- **Approach and Methodology:**
  - **Data-Driven Strategy:** The Hand-in-Hand Initiative employs geospatial, biophysical, and socio-economic data along with advanced analytics to identify regions where agricultural transformation can effectively alleviate poverty and hunger.
  - **Targeted Interventions:** The initiative focuses on areas with the greatest potential for:
    - Developing value chains for priority commodities.
    - Building agro-industries and enhancing water management systems.
  - Introducing digital services and implementing precision agriculture techniques.
- **Membership and Participation:**
  - **Global Participation:** As of now, **72 countries** have joined the Hand-in-Hand Initiative, demonstrating a collaborative effort to address hunger and poverty on a global scale.
  - **India's Status:** Notably, **India has not joined** the initiative.

ICTP GALATHEA BAY

Recently, the mega International Container Transshipment Port (ICTP) at Galathea Bay has been designated as the 13th major port.

About:

- **Location**
  - The ICTP is planned to be established at **Galathea Bay**, which is situated on **Great Nicobar Island** in the **Bay of Bengal**.
  - Great Nicobar is part of the **Union Territory of Andaman and Nicobar Islands**.
- **Proximity to Key Waterways:**
  - The island lies about **40 nautical miles from the Malacca Strait**, one of the world's most critical and heavily used international shipping channels.
  - The **Malacca Strait** accounts for approximately **35% of annual global sea trade**, underlining the port's strategic importance.

- **Strategic Location:**
  - The port's location will be pivotal as it sits on the **East-West international trade and shipping route**, placing it close to major transshipment hubs like **Singapore**, **Port Klang** (Malaysia), and **Colombo** (Sri Lanka).
  - This proximity is expected to make the ICTP a key player in regional and global maritime trade.
- **Indo-Pacific Geopolitics:**
  - The region falls within the rapidly changing **Indo-Pacific geopolitical landscape**, an area of growing strategic competition among major global powers.
  - The ICTP's establishment will bolster India's presence and influence in this vital maritime corridor.
- **Transshipment Potential:**
  - The ICTP will act as a critical hub for capturing **transshipment cargo** from India's **eastern coast ports**, as well as from neighboring countries like **Bangladesh** and **Myanmar**.
  - This facility aims to become a major transshipment point, reducing India's reliance on foreign ports.
- **Current Dependence on Foreign Ports:**
  - Presently, nearly **75% of India's transshipped cargo** is handled at overseas ports.
  - This dependency incurs significant costs and limits the efficiency of India's maritime trade operations.
- **Economic Impact:**
  - The ICTP at Galathea Bay is projected to save Indian ports between **$200-220 million annually** in transshipment charges.
  - By offering a more cost-effective and strategically advantageous transshipment solution, the port will enhance India's maritime infrastructure and economic resilience.

2024 INDEX OF ECONOMIC FREEDOM

Recently, the Fraser Institute published the 2024 Economic Freedom of the World Report, evaluating economic freedom across 165 jurisdictions.

Key Highlights:

- **Global Standing:**
  - **Overall Score:** India has an economic freedom score of **52.9**, placing it in the "mostly unfree" category. This score is consistent with the previous year, indicating no significant progress.
  - **Global and Regional Position:** On a global scale, India is ranked **126th out of 184 countries**.
    - Within the **Asia-Pacific region**, it is positioned **26th out of 39 nations**. This ranking underlines that India is underperforming compared to both global and regional economic benchmarks.
- **Economic Reform Progress and Structural Challenges:**
  - **Uneven Reforms:** India has made notable efforts toward market-oriented reforms, but the implementation has been **inconsistent**.
    - While some sectors have seen liberalization and modernization, others continue to suffer from heavy state influence and regulatory inefficiencies.
  - **Legal and Institutional Framework:** The country's **legal infrastructure** is not robust enough to support sustainable economic development.
    - Weaknesses in the legal system undermine property rights and slow the resolution of commercial disputes, affecting business confidence.
- **State Influence in the Economy:**
  - **State-Owned Enterprises (SOEs):** India still has a significant number of SOEs across various sectors, from energy to banking, which leads to inefficient resource allocation and market distortions.
  - **Historical Legacy:** The long-standing impact of failed socialist economic policies has resulted in a tolerance for **government intervention** in the private sector, stifling entrepreneurial activities and innovation.
- **Challenges for Entrepreneurs:**
  - Entrepreneurs face a **complex and burdensome regulatory environment**, making it difficult to start and operate businesses.
    - High compliance costs, lengthy bureaucratic processes, and unclear regulations create barriers to entry and limit economic dynamism.
  - **Labor Regulations:** The labor market remains inflexible. Although reforms have been initiated, the regulatory framework is still evolving, and the **informal sector** accounts for a large share of employment.
- **Monetary Instability:** Inflation and currency stability have been areas of concern. The weakening of monetary stability complicates financial planning for businesses and investors, affecting economic predictability.
- **Rule of Law and Institutional Integrity:**
  - **Property Rights:** India scores **below the global average** in protecting property rights, which deters investment and innovation. The enforcement of property rights is often inconsistent and subject to bureaucratic delays.
  - **Judicial System:** While India's **judicial effectiveness** score is **above average**, the court system remains burdened with a massive backlog of cases, leading to delays in justice delivery.
  - **Government Integrity:** Corruption remains a significant issue, dragging down India's score in government integrity.
    - Nepotism, favoritism, and a lack of transparency in government operations affect public trust and economic efficiency.
- **Taxation:**
  - **Income Tax:** The top individual income tax rate is **39 percent**, which is relatively high and may discourage wealth creation.
  - **Corporate Tax:** The top corporate tax rate stands at **32.4 percent**, affecting the overall competitiveness of Indian firms on a global scale.
  - **Tax Burden:** The **tax-to-GDP ratio** is **7.6 percent**, indicating that tax revenue is low compared to the economic output, which limits government spending on infrastructure and social services.
- **Government Spending and Debt:**
  - **Public Spending:** Government expenditure averages **29.7 percent of GDP** over three years. Public spending has been directed toward social welfare schemes and infrastructure projects.
  - **Budget Deficit:** The government has an average budget deficit of **-10.6 percent of GDP**, which is high and unsustainable in the long run, creating fiscal pressure.
  - **Public Debt:** The total debt stands at **81 percent of GDP**, raising concerns about fiscal responsibility and the ability to manage future economic crises.
- **Regulatory Environment and Business Freedom:**
  - **Business Freedom:** Despite improvements, India's **business environment** remains challenging. While the country scores **above the global average** in business freedom, bureaucratic inefficiencies and regulatory red tape hinder the ease of doing business.
  - **Labor Freedom:** The labor market is becoming more flexible, but further reforms are needed to increase employment opportunities and integrate the informal workforce into the formal economy.
  - **Monetary Freedom:** Inflationary pressures and fluctuating currency values have led to concerns about economic stability, even though monetary freedom remains **above average**.
- **Trade Barriers:**
  - **Average Tariff:** The **average tariff rate** is **11.4 percent**, which is high compared to global standards and restricts international trade.

- **Non-Tariff Barriers:** Over **300 non-tariff measures** are in effect, complicating import and export activities. These barriers can include import licensing, restrictive standards, and bureaucratic hurdles.

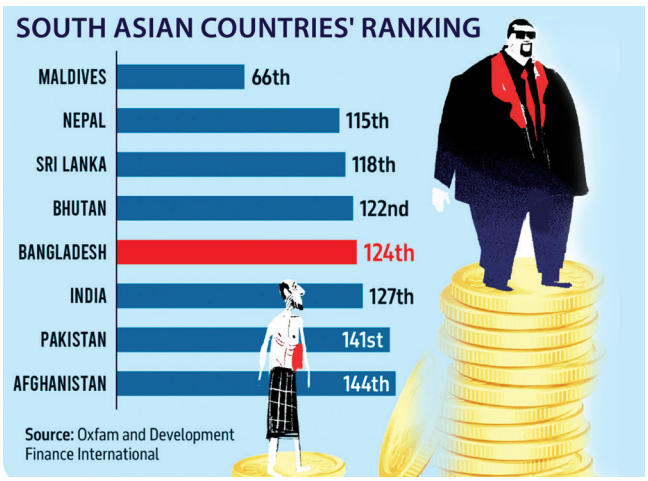
- **Foreign Investment:**
  - While India has relaxed some restrictions on foreign ownership, **investment screening** continues, particularly in sensitive sectors. These measures can discourage foreign investors.
  - **Banking Sector Issues:** The government has undertaken measures to stabilize the banking sector, such as **recapitalizing state-owned banks**, but the prevalence of **nonperforming loans (NPLs)** remains a major challenge.
    - High NPL levels strain bank resources and limit credit availability for businesses.

COMMITMENT TO REDUCING INEQUALITY INDEX

Recently, international non-governmental organizations Oxfam and Development Finance International (DFI) released the Index, which evaluates the commitment of 164 countries to reducing inequality.

Key Highlights:

- **Performance Ranking:**
  - **Top Performers:** Nations like **Norway, Canada, and Australia** continue to lead in terms of performance metrics, excelling in areas such as income equality, social welfare, and quality of life.
  - **Worst Performers:** At the other end of the spectrum, countries like **South Sudan and Nigeria** face significant challenges, particularly in addressing basic human needs and reducing poverty.
  - **India's Position:** India ranks **127th** globally, trailing behind several of its South Asian neighbors, including **Nepal (115th) and Sri Lanka (118th)**.



- **Expanding Divide:** The inequality gap between the **Global North** (developed nations) and the **Global South** (developing and underdeveloped nations) has widened significantly, more so than at any point since **World War II**.
- **Food and Wealth Disparities:** Billions of people across the Global South are grappling with escalating **food prices and hunger**, leading to widespread hardship.
  - Simultaneously, the number of billionaires worldwide has **doubled in the past decade**, highlighting the unequal distribution of wealth.
- **Key Factors Driving Inequality:**
  - **Conflict:** Ongoing wars and civil unrest in various regions have disrupted economic activities, healthcare access, and social stability.
  - **Debt Crisis:** Many low- and lower-middle-income countries are experiencing severe **debt burdens**, limiting their ability to invest in social welfare programs.
  - **Climate Shocks:** Climate change is exacerbating inequality by disproportionately affecting vulnerable populations, reducing agricultural productivity, and increasing the frequency of extreme weather events.
- **Recommendations to Reduce Inequality:**
  - **National Inequality Reduction Plans (NIRPs):** Governments should establish realistic and time-bound plans to address inequality. These plans should include:
    - **Monitoring and Evaluation:** Regular assessments to ensure progress and make necessary adjustments.
    - **Targeted Interventions:** Policies tailored to meet the needs of marginalized groups.
  - **Increased Budget Allocation:**
    - **Healthcare:** It is recommended that nations allocate at least **15% of total public expenditure** to healthcare.
    - **Education:** Education spending should be **20% of the public budget**, ensuring better access to quality education for all, particularly the underprivileged.
  - **Progressive Taxation:** Governments should implement or enhance **progressive taxation** to address income inequality. Taxing the income of the **richest 1%** can generate revenue to fund social services and infrastructure.

DIGITAL INFRASTRUCTURE GROWTH INITIATIVE FOR INDIA FRAMEWORK

The United States, Japan, and South Korea recently unveiled the Digital Infrastructure Growth Initiative for India Framework (DiGi Framework).

About:

- **Partner Agencies:** The initiative to support digital infrastructure development in India involves collaboration among several major international financial institutions:

- **U.S. International Development Finance Corporation (DFC):** A government agency that provides financing for private development projects worldwide.
- **Japan Bank for International Cooperation (JBIC):** A Japanese financial institution supporting international economic and social development.
- **Export-Import Bank of Korea (Korea Eximbank):** A South Korean bank that finances and supports the overseas activities of Korean companies.

- **Objectives:** The primary objective of the collaboration is to bolster digital infrastructure in India. This includes a range of projects across the Information and Communications Technology (ICT) sector, such as:
  - **5G Networks:** Next-generation cellular networks to boost connectivity and enable faster data transfer speeds.
  - **Open RAN (Radio Access Network):** Open and interoperable network solutions to enhance telecom flexibility and reduce dependency on single vendors.
  - **Submarine Cables and Optical Fiber Networks:** Infrastructure projects to improve global and domestic internet connectivity.
  - **Data Centers:** Establishing robust and secure data storage solutions to support growing digital services.
  - **Smart City Infrastructure:** Developing urban infrastructure with integrated technology to improve city management and services.
  - **E-commerce, Artificial Intelligence (AI), and Quantum Technology:** Advancing these technologies to drive economic and social development.
- **Digital Public Infrastructure (DPI) in India:** India has emerged as a global leader in building foundational Digital Public Infrastructure (DPI) under the India Stack framework. The three core components of India's DPI are:
  - **Digital Identification (Aadhaar):** A biometric identity system used for authentication and providing access to services.
  - **Real-time Payment System (UPI):** The Unified Payments Interface has revolutionized digital transactions, making financial exchanges instantaneous and seamless.
  - **Data Sharing Architecture (DEPA):** The Data Empowerment and Protection Architecture enables secure data sharing with user consent, fostering innovation and data-driven services.

Significance of Digital Public Infrastructure:

- **Inclusive Development:**
  - The implementation of DPI has played a crucial role in advancing **financial inclusion**. From 2018 to 2023, India's financial inclusion rate reached **80%**, largely due to DPI-driven initiatives.
  - During the **COVID-19 pandemic**, DPI facilitated **direct benefit transfers (DBTs)** to support **87% of poor households**, ensuring timely aid delivery without intermediaries.
- **Economic Growth:**
  - Countries that incorporate DPI in their financial sectors can accelerate economic growth by an estimated **33%**.
  - India's DPI framework has provided a scalable model for integrating technology into the economy, driving entrepreneurship and innovation.
- **Emission Reduction:** DPI has significant potential in the **climate sector**, as it can expedite emissions control by **5-10 years**. This is possible through implementing DPI for:
  - **Carbon offsets and trading**: Streamlining processes for trading carbon credits to mitigate emissions.
  - **Land Mapping**: Enhancing land use management and conservation efforts.
  - **Weather Monitoring**: Providing real-time data for better climate adaptation and disaster preparedness.

Key Challenges Associated With DPI:

- **Privacy and Security Concerns:** Ensuring the protection of personal data and preventing cyber threats is paramount. Privacy violations, identity theft, and data-driven manipulation are significant risks.
- **Digital Divide:** Bridging the gap between those with access to digital technologies and those without is a major challenge. It includes addressing issues of affordability, digital literacy, and infrastructure availability in remote areas.
- **Institutional Change:** Implementing DPI requires significant changes within public institutions, including updating policies, training staff, and adapting to new technologies.
- **Funding and Investment:** Securing adequate funding and investment for DPI projects is essential. This includes not only initial setup costs but also ongoing maintenance and upgrades.

Measures needed:

- **Integrating Impact Assessments:** To ensure that DPI initiatives are effective and inclusive, it is crucial to integrate impact assessments into their design. It involves evaluating the social, economic, and environmental impacts of DPI projects from the outset.
  - By doing so, policymakers can identify potential issues early and make necessary adjustments to enhance the benefits and mitigate any negative consequences.
- **Ensuring Data Privacy and Security:** As DPI systems handle vast amounts of sensitive data, ensuring robust data privacy and security measures is paramount.
  - It includes implementing strong encryption standards, regular security audits, and transparent data governance policies.
  - Protecting user data not only builds trust but also safeguards against potential misuse and cyber threats.
- **Promoting Inclusivity and Accessibility:** For DPI to be truly transformative, it must be accessible to all segments of society, including marginalised and underserved communities.

4 ENVIRONMENT

HALARI DONKEYS

Recent studies suggest that the endangered Halari donkeys, native to Gujarat's Halar region, are regarded as intelligent animals that collaborate closely with humans.

About:

- **Native Habitat:** The **Halari donkey** is indigenous to the **Halar region** of **Gujarat**, particularly thriving in the **semi-arid landscape** of **Jamnagar** and **Dwarka** districts.
- **Physical Appearance:** The Halari donkey is distinguished by its white color and is notably larger and more resilient than other donkey breeds, making it well-suited to the harsh terrains it inhabits.
- **Social Nature: Halari donkeys** are known for their **social behavior** and their ability to form **close bonds** with humans, often providing critical support for **transportation needs** in rural and pastoral communities.

DISTINCT FROM OTHERS

Halari donkeys are shorter than horse but taller than other normally seen donkey breeds. They look almost like a small horse and have snow white fur. The breed has existed in the Halar region for more than 200 years.

A litre of donkey milk can cost up to Rs 7,000, the costliest in the world.

In Ayurveda, it used to treat skin diseases like eczema and psoriasis

In ancient Egypt, Cleopatra bathed in donkey milk to preserve her legendary beauty and youth

Globally, many firms sell cosmetic products like soaps, skin gels, face wash made from donkey milk as niche products

Donkey milk is rich in vitamins, polyunsaturated fatty acids and contains anti-ageing, antioxidant and regenerating compounds which keep the skin hydrated and prevent wrinkles

Bharwad and Rabari communities used these donkeys to carry luggage during migration

BREED NAMED AFTER A REGION: The donkey breed has derived its name from Jam Sri Halaji Jadeja, said to be the ninth generation grandfather of Jam Sri Rawalji Lakhaji Jadeja, the founder of the Halar region in Saurashtra. Halar was first established with this name by Jam Shri Rawalji Lakhaji, a Jadeja Rajput, in 1540.

- **Key Uses:**
  - **Pack Animal for Pastoralists:** The **Bharwad** and **Rabari** pastoralist communities, which traditionally migrate with their small ruminants, rely on the **Halari donkey** as a **pack animal**.
    - It helps them carry luggage and supplies during their seasonal migrations.
  - **Pottery Work for Kumbhar Community:** In the **Dwarka** region of Jamnagar, the **Kumbhar** (potter) community utilizes the **Halari donkey** for transporting materials related to their pottery work, making it a valuable asset for this artisanal craft.
- **Halari Donkey Milk:**
  - The milk of the **Halari donkey** is prized for its **sweet taste**. The powdered form of this milk is in high demand, with prices exceeding **₹7,000 per kg** in the international market.
  - It is primarily used for **cosmetic purposes**, contributing to its economic value.
- **Conservation Status:**
  - The **Halari donkey** is classified as **endangered**, with its population dwindling to fewer than **500 individuals**.
  - Conservation efforts are critical to preserving this unique breed, which is not only culturally significant but also economically important to the local communities.

ENVISTATS INDIA 2024: ENVIRONMENT ACCOUNTS

The Ministry of Statistics and Programme Implementation (MoSPI) recently published the 7th consecutive edition of "EnviStats India 2024: Environment Accounts."

About:

- The first **EnviStats India report** was released in **2018** based on the recommendations of the **Sir Partha Dasgupta Committee**, which highlighted the importance of integrating environmental accounting into national statistics.
- It is compiled in **accordance with the SEEA** (System of Environmental- Economic Accounting) for standardization.

SYSTEM OF ENVIRONMENTAL-ECONOMIC ACCOUNTING (SEEA)

- **Definition:** It is an internationally agreed **statistical standard** designed to describe the interaction between the **economy and the environment**, while also tracking the stocks and changes in stocks of **environmental assets**.
- **Multidisciplinary Approach:** SEEA aims to integrate perspectives from various disciplines, combining environmental science, economics, and statistics to provide a **comprehensive body of information** for environmental economic accounts.

- This framework allows for **better decision-making** regarding natural resources and their role in economic activities.

Two Components of SEEA: SEEA is composed of two complementary frameworks:

- **SEEA-Central Framework (SEEA-CF):**
  - **Focus:** SEEA-CF focuses on **individual environmental components**, such as **natural resources**, which provide material and space for economic activities.
  - **Key Areas:** This framework tracks the use of resources like **water, energy, minerals, and land**, and measures how these resources contribute to economic outputs and are impacted by economic processes like **pollution or waste generation**.
- **SEEA-Ecosystem Accounting (SEEA-EA):**
  - **Focus:** SEEA-EA is a complementary framework to SEEA-CF, focusing on ecosystems as a whole.
  - **Comprehensive Approach:** It organizes data about **habitats and landscapes**, measures **ecosystem services** (the benefits humans derive from ecosystems), tracks **changes in ecosystem assets** (such as forests, wetlands, or oceans), and links this information to **economic and human activities.**

Key Highlights:

- **Energy Transition:** India has emerged as a **world leader in energy transition**, showcasing significant progress in moving towards cleaner, more sustainable energy sources.
- **Expansion of Protected Areas:** Between **2000 and 2023**, India saw a **72% increase in the number** of total protected areas and a **16% increase in area coverage**, demonstrating the country's commitment to biodiversity conservation and wildlife protection.
- **Mangrove Conservation:** Mangrove coverage in India has grown by **around 8%** from **2013 to 2021**, reflecting enhanced efforts in coastal and marine ecosystem conservation, vital for protecting biodiversity and mitigating climate change impacts.

Significance of EnviStats:

- **Sustainable Resource Management:** EnviStats emphasizes the **sustainable management of natural resources** as key to ensuring **long-term development**.
- **Balancing Growth and Sustainability:** The report stresses the importance of balancing **economic growth** with **environmental sustainability** to ensure future prosperity.
- **Alternative Metrics Beyond GDP:** EnviStats advocates for **alternative ways to measure prosperity and progress**, moving beyond traditional economic indicators like GDP, to include environmental and social well-being.
- **Data-Driven Policy Making:** By providing comprehensive data on environmental assets and their economic implications, EnviStats promotes **evidence-based policymaking**.

PACT FOR THE FUTURE

Recently, the UN General Assembly approved the 'Pact for the Future' during the Summit of the Future held in New York.

Overview of the Pact:

- **Adoption and Purpose:** The Pact was adopted without a formal vote, reflecting a unified global commitment to addressing key global challenges through a new multilateral framework.
  - It aims to create a **"step-change"** in how global governance operates by making it more effective, inclusive, and interconnected.
- **56 Action Points:** The Pact outlines 56 action points that focus on addressing a wide array of global challenges, including Sustainable development by 2030; Climate change; Peace and security; Governance reforms; Gender equality; Needs of future generations and Reinforcing Existing Agreements etc.

Focus of the Summit: "How" to Achieve Change

- **Beyond "What", to "How":** While many existing agreements like the SDGs set out the **"what"**—i.e., the specific targets and goals—this **Summit of the Future** focused on the **"how"**.
  - The emphasis is on finding actionable, collaborative ways to meet global challenges while preparing for the future.
- **Negotiation Process:** The negotiations for the Pact spanned **nine months**, initiated by a "zero draft" released on January 26, 2024, by **Germany** and **Namibia**, who acted as co-facilitators of the summit.
  - The draft underwent **four revisions** based on feedback from diverse stakeholders, ensuring the final document addressed the varied concerns of different nations.
- **Reaffirmation of Multilateralism:** At a time when many countries are questioning the relevance of multilateralism, the Pact reaffirms the global community's commitment to this principle.
  - Multilateralism is vital for addressing global issues that no country can solve alone, such as climate change, pandemics, and security threats.
  - The global landscape is increasingly polarized, with **wealthy nations** focusing on protectionist policies that prioritize national interests.

Concerns About Unilateralism:

- A notable shift towards unilateral actions has been observed in recent years. It was evident during the **2021 UN Environment Assembly**, where countries voiced concerns about increasing inward-looking policies, like **vaccine nationalism** and **trade protectionism.**
  - Such policies not only hamper global cooperation but also hinder efforts to address environmental challenges, which require coordinated international solutions.
- **Triple Environmental Emergency:** UN Secretary-General **António Guterres** described the current global situation as a **"triple environmental emergency"**, referring to the combined

crises of:

- **Climate change:** Rising temperatures and environmental degradation.
- **Biodiversity loss:** The rapid decline of species and ecosystems.
- **Pollution:** The growing burden of waste and harmful emissions. Guterres emphasized that these interconnected issues could only be solved through renewed global cooperation and a collective approach to governance.

Key Elements of the Pact:

- **Strengthening the UN's Role:** The Pact emphasizes the need to bolster the multilateral system with the **UN** at its core.
  - It highlights the importance of giving the UN a more central role in managing global challenges, particularly in the areas of peace, security, and sustainable development.
- **Greater Representation for Developing Nations:** Countries from the **Global South** pushed for increased representation in key international bodies, such as the **UN Security Council** and multilateral development banks.
  - These nations argue that global governance structures need to better reflect the realities of the modern world, where developing countries are major players in the global economy.
- **Financial Support for Climate Action:** The Pact also addresses the urgent need for financial support to help vulnerable nations deal with the impacts of climate change, particularly in terms of **loss and damage** caused by extreme weather events.
- **Sustainable Development and Climate Action: Accelerated Progress Toward SDGs**: The Pact stresses the need for accelerated efforts to achieve the **Sustainable Development Goals (SDGs)**, which include eradicating poverty, promoting health, and ensuring access to education.
  - **Reforms to International Financial Systems:** To support these goals, the Pact calls for **reforms to international financial systems**, which would include fairer lending terms and increased funding for climate resilience programs in developing nations.

Way Forward:

- **Renewed Commitment:** The Pact signifies a renewed commitment to **multilateralism** and collective action at a time of increasing global fragmentation.
  - It seeks to address the interconnected challenges of the modern world, such as climate change, economic inequality, and geopolitical tensions, through a unified global approach.
- **Long-Term Vision:** By addressing not only immediate needs but also the needs of future generations, the Pact outlines a holistic vision for a sustainable and equitable world.
  - This requires countries to work together, pooling resources and expertise, to overcome common challenges.
- **Multilateralism's Relevance:** The Pact attempts to bring **multilateralism** back to the forefront of global governance, emphasizing that no single nation can tackle today's complex problems alone.
  - Through cooperation, the international community can build a future that is more just, equitable, and sustainable for all.

WORLD'S 1ST GLOBAL ECOSYSTEM ATLAS

Recently, the world's first global ecosystem atlas was launched at the 16th Conference of Parties (COP16) to the United Nations Convention on Biological Diversity (CBD).

About:

- **Development:** Created by the Group on Earth Observations (GEO), the Global Ecosystems Atlas is the first tool dedicated to mapping and monitoring ecosystems globally.
- **Objective:** The Atlas aims to transform our understanding and protection of vital natural systems that support life on Earth.
- **Importance of the Atlas:**
  - **Ecosystem Health Monitoring:** It provides critical information about the health of ecosystems and the risks they face, facilitating better decision-making for sustainable management by various stakeholders.
  - **Addressing Global Issues:** The tool is crucial in tackling major environmental challenges, including:
    - Loss of biodiversity
    - Climate change
    - Land degradation
- **Key Features:**
  - **Data Integration:** The Atlas addresses challenges related to inadequate data and coordination among different groups by integrating existing national ecosystem maps and filling gaps with advanced techniques like Earth observation, artificial intelligence, and field data collection.
  - **Global Ecosystem Typology:** By aligning with the International Union for Conservation of Nature's Global Ecosystem Typology, it provides consistent and reliable information across all ecosystem types, including land, freshwater, and marine environments.
- **Utility for Various Stakeholders:**
  - **Governments:** The Atlas serves as a vital resource for policymakers to guide sustainable environmental practices.
  - **Businesses:** Companies can leverage the Atlas to incorporate environmental risks into their business strategies, enhancing corporate sustainability efforts.

- **Local and Indigenous Communities:** The Atlas provides crucial information to help these communities protect and restore their ecosystems.
- **Development Banks and Financial Institutions:** These entities can use the Atlas to inform investments and ensure alignment with sustainability goals.
- **Researchers and Academics:** Open data from the Atlas supports scientific studies, contributing to a deeper understanding of global ecosystems.

GREENHOUSE GAS BULLETIN: WMO

Recently, the World Meteorological Organization (WMO) released the Greenhouse Gas Bulletin.

About:

- **Publication:** The Bulletin has been published annually since 2004 by the World Meteorological Organization (WMO).
- **Focus:** It reports on globally averaged surface mole fractions of three major greenhouse gases (GHGs): carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O).
- **Comparative Analysis:** The Bulletin compares current gas levels with those from the previous year and with preindustrial levels, offering insights into long-term trends.
- **Radiative Forcing:** The Bulletin examines changes in radiative forcing caused by long-lived greenhouse gases (LLGHGs) and assesses the contributions of individual gases to this increase.

Key Highlights:

- **Concentration Levels:**
  - **Carbon Dioxide (CO2)**: Reached 420 parts per million (ppm).
  - **Methane (CH4)**: Reached 1934 parts per billion (ppb).
  - **Nitrous Oxide (N2O)**: Reached 336.9 parts per billion (ppb).
- **Impact of Carbon Dioxide:**
  - CO2 is identified as the most significant greenhouse gas related to human activities, accounting for approximately 64% of the climate warming effect.
  - The primary sources of CO2 emissions are fossil fuel combustion and cement production.
  - The long-term increase in CO2 levels is attributed to fossil fuel use, although short-term variations can occur due to factors such as the El Niño–Southern Oscillation, which affects photosynthetic carbon uptake and fire occurrences.
- **Methane Characteristics:**
  - Methane is recognized as a potent greenhouse gas, remaining in the atmosphere for about a decade.
  - It contributes approximately 16% to the warming effect of long-lived greenhouse gases.
- **Nitrous Oxide's Role:** Nitrous oxide, a substance harmful to the ozone layer, contributes about 6% to the radiative forcing by long-lived greenhouse gases.
- **Trends Over Time:** From 1990 to 2023, radiative forcing from long-lived greenhouse gases has increased by 51.5%, with CO2 accounting for about 81% of this increase.

WMO

- **Nature:** The WMO is a specialized agency of the United Nations (UN).
- **Headquarters:** The organization's headquarters is located in Geneva, Switzerland.
- **Establishment:** The WMO was established in 1950.
- **Membership:** It has a total of 187 Member States, including India, along with 6 Member Territories.

FORMATION DAY OF NDMA

The National Disaster Management Authority will celebrate its 20th Formation Day on Amit Shah to grace 20th Formation Day inaugural ceremony of NDMA on October 28, 2024.

About:

- It is the apex statutory body for Disaster Management in India, established through the **Disaster Management Act, 2005.**
- The Act envisaged the creation of the NDMA, headed by the **Prime Minister,** and **State Disaster Management Authorities (SDMAs)** headed by respective **Chief Ministers**, to spearhead and implement a holistic and integrated approach to Disaster Management in India.

Functions & Responsibilities:

- **Lay down policies** on disaster management,
- **Approve plans** prepared by the ministries or departments of the Government of India in accordance with the National Plan,
- **Lay down guidelines** to be followed by the state authorities in drawing up the State Plan.
- **Coordinate the enforcement and implementation** of the policy and plans for disaster management.

INDIAN WILD ASSES

Recent findings from the 10th Wild Ass Population Estimation (WAPE) in 2024 indicate that the population of Indian Wild Ass has increased by 26.14% over the past four years.

About:

- **Subspecies of the Asian Wild Ass (Equus hemionus):** The wild ass is a subspecies of the **Asian Wild Ass** and primarily inhabits **open dry deciduous forests**.

- It is known for being a **solitary and shy** animal, often found in **low densities** across its range.

- **Description:**
  - This species is identifiable by the **four horns** found exclusively in adult males.
  - It is well-adapted to extreme climates, capable of surviving temperatures ranging from **45-50 degrees Celsius** in Gujarat's **Wild Ass Sanctuary**.
  - Wild asses are also known for their remarkable speed, running at **50-70 kilometers per hour**.
  - Their primary diet consists of **grass** that grows on the **desert islands** within their habitat.
- **Distribution:**
  - Historically, wild asses were found from **Southern India** to **southern Pakistan**, **Afghanistan**, and **southeastern Iran**.
  - However, the current population is concentrated in **six districts of Gujarat:**
    - **Surendranagar:** 2,705
    - **Kutch:** 1,993
    - **Patan:** 1,615
    - **Banaskantha:** 710
    - **Morbi:** 642
    - **Ahmedabad:** 7
- **Ecological Importance:** Wild asses play a critical role in **conserving biodiversity** in their region.
  - Their presence helps **protect various habitats**, benefiting other species such as **hyenas**, **wolves**, **chinkaras**, and **blackbucks**.
- **Threats:** The **harsh climate** and **dynamic landscape** of their habitat pose significant challenges to the survival of the wild ass.
- **Conservation Status:** Wild asses are protected under **Schedule I of the Wildlife Protection Act** and are listed as **"Near Threatened"** by the **International Union for Conservation of Nature (IUCN)**.

GANGES AND INDUS RIVER DOLPHINS

Recently a 8,000-kilometer aquatic survey was carried out by the Wildlife Institute of India (WII) for the assessment of dolphin populations.

Ganges River Dolphin (Platanista Gangetica):

- **Characteristics:** Ganges River Dolphin is essentially **blind and hunts by emitting ultrasonic sounds (echolocation)** waves that bounce off of fish and other prey. Because of the sound it produces when breathing, the animal is popularly referred to as **Susu.**
- **Distribution:** It is distributed in Ganges and Brahmaputra river basins of India, Nepal and Bangladesh. It can only live in freshwater.
- **Threat:** Ganges river dolphin is facing severe threats from water development projects, pollution, hunting and death due to accidental catches in fishing gear.
- **Conservation status:** The Ganges river dolphin is protected under
  - **Schedule 1** of the **Indian Wildlife (Protection) Act 1972,**
  - **Appendix 1** of the Convention on International Trade in Endangered Species (CITES) and
  - **Appendix 1** of the Convention on Migratory Species (CMS).
  - **IUCN status:** Endangered
- **National and State Symbol:** The Ganges river dolphin was designated as a **national aquatic species in 2009** and as the **state aquatic animal of Assam.**

Indus River Dolphin (Platanista minor):

- **Characteristics:** The Indus River Dolphin is also functionally blind and relies on echolocation to navigate and find prey.
  - It is commonly referred to as **Bhulan** in local languages.
- **Distribution:** The Indus River Dolphin is found in the Indus River system in Pakistan and a small population is present in the **Beas River** in India.
- **Threat:** Water diversion projects have significantly reduced its habitat range, confining populations to isolated sections of the river.
- **Conservation Status:** Protected under Schedule I of the Indian Wildlife (Protection) Act 1972 in India.
  - **Appendix I** of the Convention on International Trade in Endangered Species (CITES).
  - **Appendix I** of the Convention on Migratory Species (CMS).
  - **IUCN status:** Endangered
- **State Symbol:** The Indus river dolphin is the state aquatic animal of **Punjab.**

AFRICAN BAOBAB (ADANSONIA DIGITATA)

Recently, South African ecologists conducted new research that challenges the assertion that the African Baobab tree is dying as a result of climate change.

About:

- **General Characteristics:**
  - **Height and Structure:** Baobabs are deciduous trees that range in height from **5 to 20 meters**, making them notable for their significant stature.
    - They possess broad trunks and compact tops, which contribute to their distinctive appearance.
  - **Deciduous Nature:** As deciduous trees, baobabs shed all their leaves during one season, allowing them to conserve water during periods of drought, which is a critical adaptation in their native habitats.

- **Native Regions:** The African baobab *(Adansonia digitata)* is one of the nine species of baobab trees and is indigenous to mainland Africa.
  - It thrives particularly in the **African savanna**, a tropical grassland characterized by warm temperatures year-round, with the highest seasonal rainfall occurring in the summer months.
- **Ecosystem Characteristics:** The African savanna is characterized by a mix of grasses and small or dispersed trees that do not form a closed canopy, allowing sunlight to penetrate to the ground.
- **Oldest Known Angiosperm Tree:** The African baobab is noted for its impressive longevity. Carbon-14 dating has revealed that a specimen in Namibia is about **1,275 years old**.
  - The oldest recorded baobab tree, the Panke baobab in Zimbabwe, reached an age of **2,450 years**.
- **Multifunctional Resources:** Baobab trees can live for thousands of years and provide a multitude of benefits. They offer food, livestock fodder, medicinal compounds, and raw materials for local communities.
  - Their longevity and resourcefulness make them invaluable to the people and wildlife that depend on them.
- **Livestock and Human Use:** The leaves and fruit can serve as fodder for livestock, while the tree itself is often used in traditional medicine for its various health benefits.
- **Climate Change Mitigation:** The ecological role of baobabs extends to mitigating the impacts of climate change by providing essential food and shelter to both animals and humans. Their adaptability and resilience make them crucial players in their environmental context.

DISCOVERY OF NEW GENUS OF JUMPING SPIDERS 'TENKANA'

Recently, a group of arachnologists discovered a new genus of jumping spiders called Tenkana, which is found throughout southern India.

About:

- **Taxonomy and Classification:**
  - **New Genus:**
    - Tenkana is classified under the Plexippina subtribe, which is a group of jumping spiders known for their unique hunting behaviors and jumping abilities.
    - This new classification underscores the evolutionary significance and distinctiveness of Tenkana compared to other closely related genera.
  - **Distinction:**
    - The genus is notably different from related groups such as Hyllus and Telamonia, which belong to the same family (Salticidae).
    - This distinction is based on morphological and behavioral traits that have been identified through scientific study.
- **Etymology:**
  - The name Tenkana is derived from the Kannada word for "south," signifying the geographical area where these spiders are predominantly found.
  - This naming not only reflects the spiders' habitat but also serves to highlight the linguistic and cultural aspects of the region, enriching the scientific nomenclature.
- **Native Regions:**
  - All known species of the genus Tenkana are indigenous to southern India and northern Sri Lanka.
  - This localized distribution points to the ecological specificity and adaptation of these spiders to their environment.
- **Habitat Preferences:**
  - Tenkana spiders are known to favor dry environments, which may include scrublands, open fields, and areas with sparse vegetation.
  - This preference for arid habitats suggests adaptations that allow them to conserve water and thrive in conditions where moisture is limited.
- **Habitat Type:**
  - They primarily inhabit ground habitats, often found among leaf litter, rocks, or soil, which provide camouflage and hunting grounds.
  - This ground-dwelling behavior is typical for jumping spiders, as it aids in ambush predation.
- **Taxonomic Reclassification:** Two species previously classified under the genus Colopsus have been reclassified into the new genus Tenkana:
  - **Tenkana manu:** This species is found in South India and Sri Lanka, contributing to the biodiversity of the region.
  - **Tenkana arkavathi:** Originating from Karnataka, this species highlights the specific ecological niches that Tenkana spiders occupy.
- **Significance**
  - **Biodiversity:**
    - The establishment of Tenkana as a distinct genus enhances the understanding of spider diversity in southern India and northern Sri Lanka.
    - This highlights the importance of regional studies in uncovering the full scope of biodiversity, particularly in underexplored areas.
  - **Ecological Role:**
    - The presence of Tenkana spiders indicates their role in the ecosystem, particularly in pest control, as they feed on various small insects.
    - Their behaviors and ecological functions contribute to the balance of local ecosystems, making them important players in their habitats.

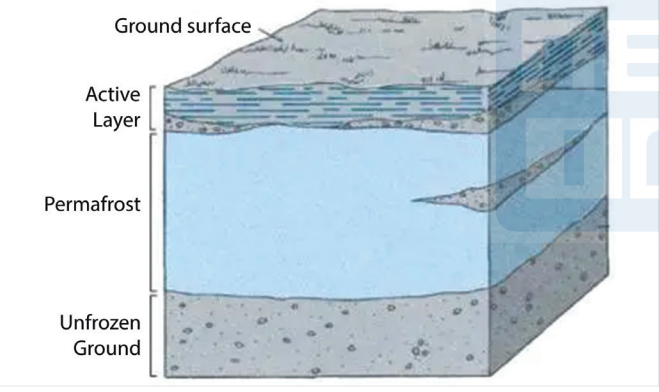
5 GEOGRAPHY

PERMAFROST

Recently, glaciologists stationed at the Himadri research facility in Norway have been conducting in-depth studies to assess the likelihood of disasters resulting from permafrost collapse.

About:

- **Definition:**
  - Permafrost refers to ground that stays frozen—**32°F (0°C) or colder**—for at least **two consecutive years**.
  - It is common in regions with **high mountains** and in **high-latitude areas** near the **North and South Poles**.
  - These permanently frozen grounds are made up of a combination of **soil, rocks, sand**, and **ice**.
  - Despite being frozen beneath the surface, these regions are not always snow-covered.



- **Extent of Permafrost:**
  - Permafrost is widespread in the **Northern Hemisphere**, covering almost **25%** of its land area.
  - It exists in places like **Alaska**, **Canada**, **Siberia**, and parts of the **Arctic Circle**.
  - Although it occurs at both poles, the **Northern Hemisphere** has the most extensive coverage due to larger landmasses.
  - **Permafrost** is vital in maintaining the integrity of ecosystems in these regions.
- **Composition:**
  - Permafrost is not just frozen dirt. It contains layers of **organic carbon**—dead plants and organisms that couldn't decompose due to the cold temperatures.
  - The **upper layers** of permafrost, in particular, contain significant amounts of this **frozen organic material**, while the **lower layers** are made mostly of **mineral-rich soils**.
  - **Active Layer:** On top of the frozen permafrost lies a layer of soil that **thaws during the warmer months** and **freezes again in colder seasons**. This layer is known as the **active layer**. Its thickness depends on the region's climate:
    - In **colder permafrost regions**, the active layer is thin, often just **4 to 6 inches** (10 to 15 cm).
    - In **warmer permafrost zones**, the active layer can reach several **meters in thickness**.
  - Even during summer, areas with **severe cold climates** may experience minimal thawing, keeping the active layer extremely thin.

Impact of Climate Change on Permafrost:

- **Thawing Due to Global Warming:**
  - As global temperatures rise due to **climate change**, permafrost is beginning to **thaw**.
  - This has significant consequences, as thawing permafrost results in the **ice within the ground melting**.
  - As the ice melts, it leaves behind **water** and **soft soil**, destabilizing the land.
  - This process is occurring rapidly in regions where temperatures are rising the fastest, such as the **Arctic**.
- **Impacts on Infrastructure:**
  - One of the most immediate and visible effects of thawing permafrost is the damage it causes to infrastructure.
  - Many communities in **northern regions** are built on permafrost, which, when frozen, is as **hard as concrete**.
  - However, when it thaws, the once-solid ground becomes unstable. **Houses, roads, pipelines**, and other structures built on this frozen foundation can **crack, sink, or collapse** as the ground beneath shifts.
- **Greenhouse Gas Emissions:**
  - A major concern related to thawing permafrost is the release of **greenhouse gases**.
  - When the permafrost is frozen, the **organic carbon** trapped within it cannot decompose.
  - However, as it thaws, **microbes** in the soil begin breaking down this organic matter, releasing gases like **Carbon Dioxide (CO_2)** and **Methane (CH_4)** into the atmosphere.
  - Both of these gases are **potent contributors to global warming**:
    - **Methane**, in particular, is much more effective at trapping heat in the atmosphere than CO_2.
    - This creates a **feedback loop**, where **thawing permafrost releases more greenhouse gases**, which in turn **accelerate climate warming**, causing more permafrost to thaw.

This process can significantly **amplify the effects of climate change**.

- **Release of Ancient Microbes:**
  - Another less understood but potentially serious consequence of thawing permafrost is the release of **ancient microbes**.
  - Some of these microbes have been trapped in the permafrost for **thousands of years**—even up to **400,000 years**—and have remained frozen.
  - As the permafrost thaws, these **bacteria** and **viruses** are **released back into the environment**.
  - Scientists have discovered **pathogens** in thawed permafrost, raising concerns about potential **outbreaks of diseases** that humans or animals might not have encountered for millennia.
  - In some cases, these microbes may cause **new diseases** or revive **long-dormant strains** that could pose a serious health threat to both humans and wildlife.

ATLANTIC MERIDIONAL OVERTURNING CIRCULATION (AMOC)

Recently, 44 leading climate scientists from 15 countries expressed concerns regarding the possible collapse of the Atlantic Meridional Overturning Circulation (AMOC).

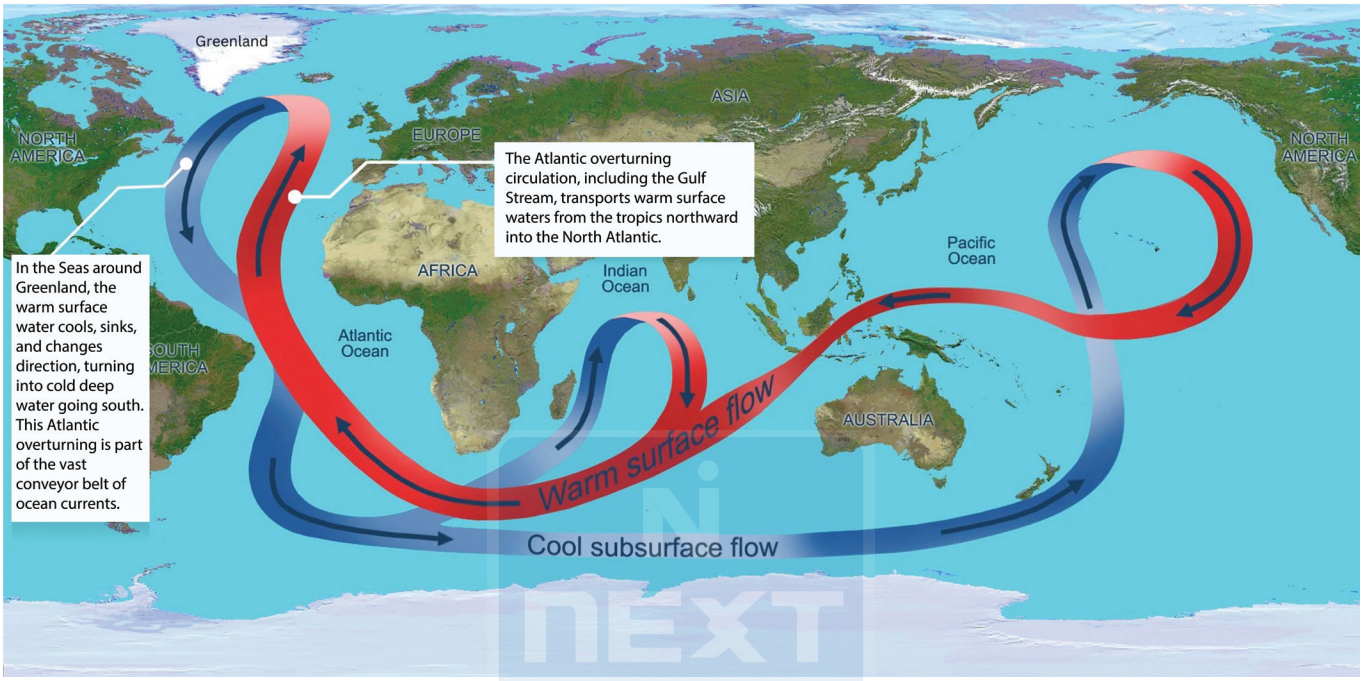
About:

- **Definition:**
  - The AMOC is a system of ocean currents that circulates water within the Atlantic Ocean, facilitating the movement of warm water northward and cold water southward.
  - This circulation plays a critical role in regulating the global climate by distributing heat and nutrients across different regions of the ocean.
- **Components of Ocean Currents:**
  - **Types of Currents:**
    - **Tidal Currents**: Occur near shorelines and are influenced by gravitational forces from the sun and moon.
    - **Surface Currents**: Driven by wind patterns and are typically found in the upper layers of the ocean.
    - **Thermohaline Currents**: These much slower currents occur from the surface down to the seafloor and are driven by variations in water temperature and salinity, collectively known as thermohaline circulation.
  - The AMOC is part of a larger system often referred to as the "global conveyor belt," which interconnects different ocean currents around the world.
- **Circulation Process:**
  - The circulation cycle of the AMOC begins when warm surface water moves toward the polar regions (e.g., via the Gulf Stream in the North Atlantic).
  - As this water cools, it can form sea ice. The process of ice formation excludes salt, resulting in denser, saltier water that sinks to deeper ocean layers.
  - This denser water is then transported southward in the ocean depths.
  - Eventually, the water is drawn back up to the surface in a process known as upwelling, where it warms again, thus completing the circulation cycle.
- **Time Frame of the Cycle:**
  - The entire AMOC cycle is notably slow, taking approximately **1,000 years** for a cubic meter of water to traverse the entire global conveyor belt.
  - Despite this inherent slowness, recent evidence suggests that the AMOC may be experiencing further slowdowns, which could have significant implications for climate patterns and marine ecosystems.
- **Impact of AMOC on Climate:**
  - By transporting warm water from the tropics to higher latitudes, the AMOC helps to moderate climate conditions in various regions, especially in Western Europe and North America.
  - Additionally, the nutrient-rich water brought to the surface through upwelling supports marine biodiversity and productivity.

Challenges to AMOC due to Climate Change:

- **Increased Freshwater Influx:**
  - The Greenland ice sheet is melting at an accelerated rate due to rising global temperatures, contributing large volumes of freshwater into the North Atlantic.
  - This influx of freshwater can disrupt the salinity levels necessary for the AMOC to function properly, as the circulation is driven by differences in water density, which is affected by both temperature and salinity.
  - As glaciers continue to melt worldwide, additional freshwater is added to ocean systems, further impacting the density gradients that drive the AMOC.
- **Changes in Temperature Gradients:**
  - The overall increase in global temperatures affects ocean temperatures, which can alter the heat distribution across the Atlantic.
  - Changes in temperature gradients can weaken the AMOC, as the system relies on a balance between warm, saline water flowing north and cold, less salty water flowing south.
  - **Regional Temperature Anomalies:** Changes in regional climates, such as the warming of the Arctic, can influence the AMOC's strength and stability, leading to unpredictable shifts in oceanic currents.
- **Shifts in Current Patterns**: Climate change can cause shifts in existing ocean currents, which may interact with the AMOC and potentially weaken or destabilize its flow.

- These alterations can create feedback loops that further affect ocean circulation.
- **Increased Storm Intensity**: More intense storms and changing wind patterns can disrupt surface currents and mixing processes critical to maintaining the AMOC.
- **Irreversibility Risks**: There is a risk that once the AMOC reaches a certain tipping point, it may collapse irreversibly, leading to drastic and potentially catastrophic climate changes globally.



LAKE ERIE

Recently, researchers at a laboratory near Lake Erie are investigating the health impacts of toxic algae.

About:

- **Extent:**
  - The Great Lakes are a group of five freshwater lakes located in North America, which include Lake Superior, Lake Michigan, Lake Huron, Lake Erie, and Lake Ontario.
  - The lake in focus is the **fourth largest** among these lakes, emphasizing its significant size and ecological importance.
- **Geographical Location:**
  - This lake serves as a natural boundary between two countries: **Canada** to the north and the **United States** to the west, south, and east.
- **Principal Tributaries:**
  - The lake receives water from several important rivers, which play a vital role in its hydrology and ecology:
    - **Detroit River**: This river is crucial as it carries water from **Lake Huron**, thus linking the two lakes. It is also a significant shipping route and has ecological importance due to its diverse habitats.
    - **Huron River**: Flowing from the upper regions, this river contributes to the lake's water levels and supports various aquatic life.
    - **Raisin River**: Located in Michigan, this river also feeds into the lake, adding to the complex water system that sustains the lake's ecosystem.

- **Discharge:**
  - The eastern end of the lake discharges its waters through the **Niagara River**.
  - This river is famous for the **Niagara Falls**, one of the most iconic natural landmarks in North America.
- **Significance:**
  - The lake is a vital component of the **St. Lawrence Seaway**, which is a system of locks, canals, and channels that enable ships to travel from the Atlantic Ocean to the Great Lakes.
  - This passage facilitates international trade and commerce, allowing goods to move efficiently between Canada and the United States.
  - The Seaway is essential for the economy, especially for the transportation of bulk goods such as grain, iron ore, and coal.

MICROCYSTIN

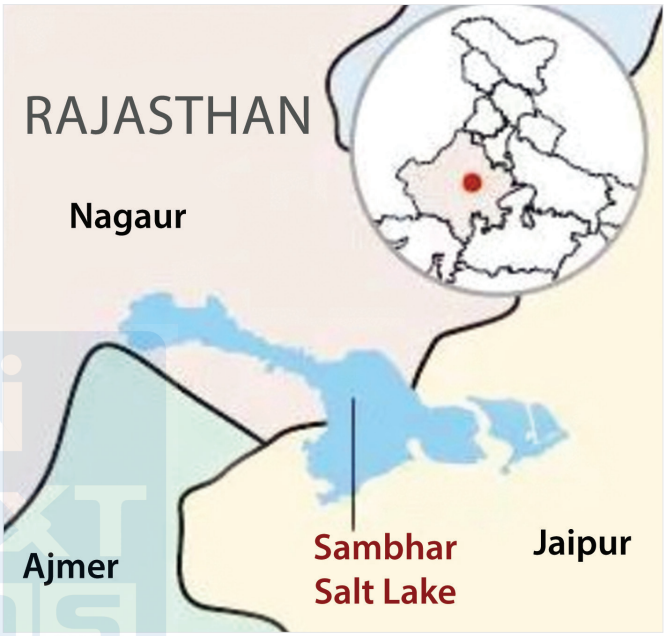
- **Definition:**
  - Microcystin refers to a group of **toxic compounds** produced by certain species of cyanobacteria, specifically those in the **Microcystis** genus.
  - These are single-celled organisms that thrive in freshwater environments, particularly in nutrient-rich waters.
- **Genus:**
  - The **Microcystis** genus encompasses various species known for their ability to form extensive **blooms** under favorable conditions, such as high nutrient levels (nitrogen and phosphorus), warm temperatures, and calm water.
  - These blooms can severely affect water quality, leading to aesthetic and health-related issues.
- **Toxicity:**
  - Microcystin is considered a **potent liver toxin**, capable of causing significant health risks to both humans and animals.
  - It has been linked to liver damage, gastrointestinal illnesses, and other serious health conditions.
  - Additionally, Microcystin is classified as a **possible human carcinogen**, raising concerns about long-term exposure, especially in recreational waters and drinking supplies.
- **Mechanism of Action:**
  - Microcystin exerts its toxic effects by inhibiting the activities of two critical enzymes: **protein phosphatase-1** and **protein phosphatase-2A.**
  - These enzymes are essential for various cellular functions, including cell signaling, regulation of the cell cycle, and maintenance of cytoskeletal integrity.
  - When Microcystin disrupts their activity, it leads to the **disruption of the cytoskeleton network**, causing cell death and impairing normal physiological processes.

SAMBHAR LAKE

Recently, more than 40 migratory birds were discovered dead around Sambhar Lake in the Jaipur district, raising concerns among officials.

About:

- **Location:** Sambhar Lake is located approximately **80 kilometers southwest of Jaipur**, in **east-central Rajasthan**, India.



- **Inland Salt Lake:**
  - Recognized as the **largest inland salt lake in India**, Sambhar Lake represents a significant geological feature formed by the depression of the **Aravalli Range**.
  - Its saline waters and unique ecosystem make it an important natural landmark in the region.
- **Historical Context:**
  - The salt resources of Sambhar Lake were historically exploited by the **Mughal dynasty** from **1526 to 1857**.
  - Subsequently, ownership of the lake was shared between the **Jaipur** and **Jodhpur princely states**, highlighting its historical significance in the region.
- **Ramsar Site Designation:** In **1990**, Sambhar Lake was designated as a **wetland of international importance** under the **Ramsar Convention**.
- **Area Fluctuation:**
  - The area occupied by Sambhar Lake varies seasonally, ranging roughly between **190 and 230 square kilometers**.
  - This fluctuation is influenced by seasonal rainfall and evaporation rates.
- **River Inflows**: Sambhar Lake is fed by six major rivers:
  - Samaod
  - Khari

- Mantha
- Khandela
- Medtha
- Roopangarh

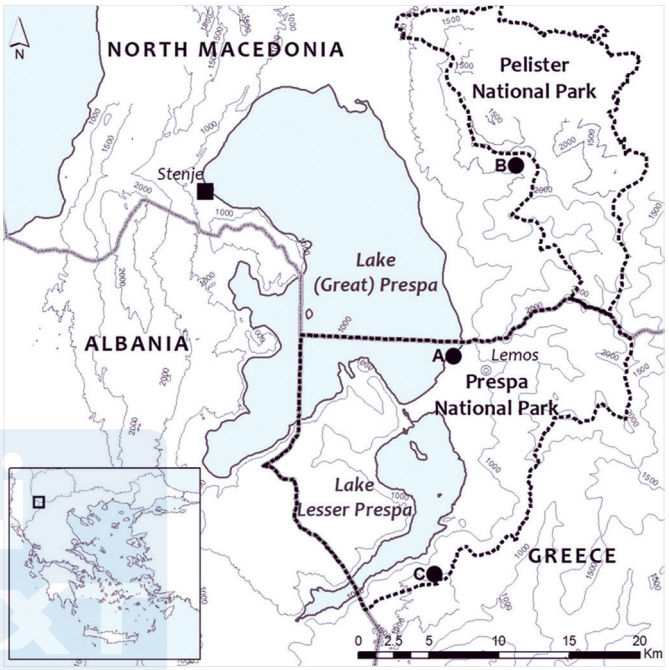
- **Xerophytic Flora:** The vegetation surrounding the catchment area of Sambhar Lake is predominantly of the **xerophytic type**, consisting of plants that are adapted to thrive in dry conditions.
- **Bird Population:**
  - Sambhar Lake is a vital habitat for various bird species, particularly **flamingoes**, **pelicans**, and other waterfowl.
  - Its saline waters provide an ideal environment for these migratory birds, making it an important stopover during their migration.
- **Salt Production:**
  - Sambhar Lake is renowned for its production of **brine and salt**, hosting one of the largest salt manufacturing units in India.
  - The salt extracted from the lake plays a crucial role in both local and national economies, providing livelihoods for many families involved in the salt industry.

LITTLE PRESPA LAKE

Little Prespa Lake is facing severe ecological decline with approximately 430 out of 450 hectares transformed into swamps (it is an area of land permanently saturated, or filled, with water).

About:

- **Location:**
  - **Lake Prespa** is one of the most ancient tectonic lakes in Europe, with an age dating back several million years.
  - It is unique for being the **highest tectonic lake** on the **Balkan Peninsula**, sitting at an altitude of **853 meters** above sea level.
  - Situated on the **Albanian-Greek border**, Lake Prespa is shared by **three countries: Albania**, **Greece**, and **North Macedonia**, making it a significant transboundary water body.
- **Balkan Peninsula:**
  - The **Balkan Peninsula** in southeastern Europe is home to diverse ecosystems, unique geological formations, and a rich cultural heritage.
  - The countries on this peninsula, including Albania, Bulgaria, Croatia, Greece, Moldova, North Macedonia, Romania, Serbia, Slovenia, and Bosnia and Herzegovina.
- **Composition of the Prespa Lakes:**
  - **Great Prespa Lake**, the larger of the two, spans across **Albania**, **Greece**, and **North Macedonia**, acting as a critical ecological resource for all three nations.
  - **Small Prespa Lake**, found entirely within **Greece**, though smaller, plays a vital role in supporting local biodiversity and water systems. It is known for hosting migratory birds and rare species, contributing to regional conservation efforts.
- The **Galicica Mountains** form a natural barrier between **Lake Prespa** and **Lake Ohrid**, creating two distinct ecosystems that have evolved in isolation but are equally vital for regional biodiversity.



Environmental Threats and Challenges:

- **Deterioration of Lake Prespa:**
  - In recent decades, **Lake Prespa** has been subject to **deterioration**. What was once a sprawling lake teeming with life has become a **marshy watering hole** in many areas, as large portions of the lake have either dried up or turned into **swamps**.
  - This transformation has adversely affected local ecosystems, water quality, and the livelihoods of communities that depend on the lake for fishing, agriculture, and tourism.
- **Impact of Climate Change:**
  - The lake is facing mounting environmental pressure due to **climate change**, which is causing significant shifts in regional weather patterns. Some of the most concerning effects include:
  - **Rising temperatures**, which accelerate the evaporation of the lake's water.
  - **Reduced snowfall** during the winter months, limiting the natural replenishment of the lake's water levels.
  - **Decreased precipitation** overall, which diminishes the freshwater inflow that the lake relies on to sustain its size and biodiversity.

- **Human-Induced Water Loss**
  - In addition to climate change, human activity has significantly contributed to the lake's decline.
  - One of the primary causes of water loss was the **diversion of the Devoll River** in the **1970s** for **irrigation** purposes.
  - This diversion deprived **Lake Prespa** of one of its crucial sources of water, causing its levels to drop substantially.
  - The **water mismanagement** in the surrounding region has exacerbated the lake's shrinking, highlighting the need for better **water governance** and cooperation among the bordering countries.

CHAGOS ISLAND

Recently, the United Kingdom (UK) announced that it has reached an agreement to transfer control of the Chagos Islands to Mauritius, concluding decades of dispute and negotiations over Britain's last remaining African colony.

About:

- **Location:**
  - The **Chagos Archipelago** is situated in the **central Indian Ocean**, about **500 km south of the Maldives** and roughly **1,600 km southwest of India**.
  - The archipelago consists of **58 islands**, with **Diego Garcia** being the largest and most significant of them.

- **Colonial History of Chagos:**
  - The **Chagos Islands** were discovered by **Portuguese navigators** in the **16th century**, who mapped and named some of the islands.
  - The **Dutch** explored the islands later but did not establish settlements.
  - The islands subsequently came under **French control**, along with **Mauritius** and **Réunion**. The French brought **enslaved workers** from **Madagascar** and **Mozambique**, followed by **laborers from southern India**, to work on **coconut plantations**.
  - Following the defeat of **Napoleon Bonaparte**, Britain took control of the **Chagos Islands** and **Mauritius** in **1814** as part of its colonial empire.
- **Strategic Importance of Chagos:**
  - **Geostrategic Location:** The Chagos Archipelago's location in the **central Indian Ocean** makes it geopolitically significant for monitoring major shipping routes, ensuring **regional security**, and projecting **military power**.
  - **UK-US Military Base: Diego Garcia**, the largest island in the archipelago, hosts a major **UK-US military base**.
    - It serves as a critical **logistics**, **surveillance**, and **intelligence hub**, supporting military operations in the **Middle East**, **Africa**, and **South Asia**.
  - **Environmental and Biodiversity Significance:** It is home to one of the **largest coral atolls** in the world and possesses rich **marine biodiversity**, making it important for **scientific research** and **conservation efforts**.
- **Chagos Islands Dispute:**
  - **UK Declares Chagos as Overseas Territory:** In **1965**, the UK declared the **Chagos Islands** an **overseas territory** by constituting the **British Indian Ocean Territory (BIOT)**, making Chagos a central part of this new colonial entity.
  - When **Mauritius** gained independence in **1968**, the **UK** refused to return the islands and provided Mauritius a £3 **million grant** for the "detachment" of Chagos.
- **Strategic Military Use of Diego Garcia:**
  - **Diego Garcia** was transformed into a major **UK-US military base**, playing a pivotal role in **US-led military operations** in **Afghanistan** and **Iraq** in the early 2000s.
  - Following the **September 11, 2001** attacks, the island also served as a **CIA interrogation site**.
  - **Mauritius** proposed that the UK lease the islands to the **US** for defense purposes in exchange for an increased **US quota for sugar imports** to boost the Mauritian economy. However, the UK rejected this proposal.
- **International Court of Justice (ICJ) Ruling in 2019:**
  - In **February 2019**, the **ICJ** ordered the **UK** to **return the Chagos Islands** to **Mauritius** "as soon as possible," ruling that Mauritius had been coerced into giving up the islands during colonial negotiations.
  - The **UK** and **Mauritius** reached an agreement in which the UK ceded its claims over the **Chagos Archipelago** while retaining sovereign rights over **Diego Garcia**.

- Mauritius can now implement a **resettlement program** on the islands (excluding Diego Garcia), and the UK has pledged to create a **trust fund** for the displaced **Chagossians**.

INTERNATIONAL COURT OF JUSTICE (ICJ)

- **Nature:** The International Court of Justice (ICJ), also known as the World Court, serves as the principal judicial organ of the United Nations (UN).
  - It resolves legal disputes between states and provides advisory opinions based on international law regarding legal questions submitted to it by authorized United Nations bodies and specialized agencies.
- **Establishment:**
  - The ICJ was established in **June 1945** following the adoption of the **Charter of the United Nations**.
  - It officially began its operations in **April 1946**.
- **Location:** The **ICJ** is based at the **Peace Palace** in **The Hague, Netherlands**. It is the **only one** of the six principal UN organs that is **not located in New York**, United States.
- **Public Hearings:** All **hearings** of the ICJ are **public**, ensuring transparency in its proceedings.
- **Official Languages: French** and **English**.
- **Members:** The court has 193 member states.

- **Role of India:**
  - **India** has consistently supported **Mauritius' claims** over the Chagos Islands and voted in favor of Mauritius at the **UNGA** in **2019**.
  - In recent years, India has sought to deepen ties with Mauritius amid **China's growing influence** in the Indian Ocean, exemplified by India's construction of an **airstrip and jetty** on **Agaléga**, a dependency of Mauritius.

BLUE LINE

Recently, the United Nations reported that Israeli forces have fired upon its peacekeepers stationed near the Blue Line.

About:

- **Origin:**
  - The Blue Line's origins trace back to the **early 20th century**, when Britain and France demarcated boundaries as part of the colonial division of territories in the Middle East.
  - After World War I, **France and Britain established borders between Lebanon, Syria, and Palestine** (which later became Israel), setting the groundwork for today's disputed regions.
- **Establishment by the United Nations:**
  - In 2000, following years of conflict, the **United Nations mapped the Blue Line** to confirm Israel's withdrawal from southern Lebanon, which it had occupied since 1982.
  - This UN-monitored line was intended to ease tensions by creating a **neutral boundary** without formally altering national borders.

- **Border Tensions:**
  - The Blue Line remains an area of **high tension** and frequent confrontations, often involving **Hezbollah** and the **Israeli Defense Forces (IDF)**.
  - Although UN peacekeeping forces monitor the area to prevent escalation, **periodic skirmishes** and disputes are common due to the lack of a mutually recognized international border.
- **International Mediation Efforts:**
  - Numerous diplomatic efforts, primarily led by the **United Nations**, attempt to mediate and de-escalate conflicts along the Blue Line.
  - However, political complexities, including Hezbollah's powerful influence and broader regional tensions, pose challenges to achieving a lasting resolution.

TRITON ISLAND

Recent satellite images show a substantial military buildup by China on Triton Island, the nearest landmass in the contested Paracels archipelago to Vietnam.

About:

- **Location:**
  - Triton Island is a small island that is part of the **Paracel Islands chain**, located in the **South China Sea**.
  - This region is strategically important due to its geographic location and resource potential.

- The island covers an area of approximately **1.2 square kilometers**, making it relatively small.
- It measures about **4,000 feet long** and **2,000 feet wide**, giving it a compact footprint within the vast expanse of the sea.

- **Habitation Status:**
  - Until recently, Triton Island was **completely uninhabited**. Its small size and limited resources contributed to its lack of permanent residents.
  - However, its geographical location makes it a subject of interest in terms of territorial claims and potential military use.
  - The Paracel Islands, including Triton Island, are claimed by several countries, primarily **China**, **Vietnam**, and **Taiwan**.
  - This overlapping claim contributes to the region's **political sensitivity** and tensions between these nations.
- **Strategic Importance:**
  - Despite its uninhabited status, Triton Island plays a significant strategic role due to its location in the South China Sea, an area renowned for its **rich fishing grounds**.
  - The waters surrounding the island are crucial for the fishing industries of the countries that claim sovereignty over the area.
- **Military Significance:**
  - The island's strategic position makes it a point of interest for military operations and monitoring activities in the South China Sea.
  - Control over Triton Island can enhance a country's naval capabilities and extend its reach in this vital maritime region.

SOUTH CHINA SEA

- **Location**: The South China Sea is situated between the Asian continent to the north and the islands of the Philippines and Borneo to the east and south.
- **Trade Route**: The South China Sea is one of the world's busiest maritime trade routes, with a significant portion of global shipping traffic passing through it. Approximately one-third of global maritime trade transits through this sea.
- **Resources**: The region is rich in natural resources, including fisheries, oil, and natural gas reserves.
  - These resources are of vital economic interest to the bordering nations.
- **Territorial Disputes**: The South China Sea is the center of numerous territorial disputes involving several countries, particularly over islands and maritime boundaries. Key areas of contention include the Spratly Islands and the Paracel Islands.
- **China's Claims**: China claims a significant portion of the South China Sea through the "nine-dash line," a demarcation that overlaps with the claims of other countries, leading to tensions and conflicts.
- **Freedom of Navigation**: The United States and other nations conduct freedom of navigation operations in the South China Sea to challenge China's territorial claims and ensure open access to international waters.

6 INTERNAL SECURITY

NAVIKA SAGAR PARIKRAMA II EXPEDITION

Chief of the Naval Staff flagged off the Navika Sagar Parikrama II expedition from Ocean Sailing Node, INS Mandovi, Goa.

About:

- Navika Sagar Parikrama II will be covering **four continents,** through three Oceans and three challenging Capes in 240 days and travelling 23,400 nautical miles.
  - The expedition would be from Goa to Fremantle, Australia and then Fremantle to Lyttleton, New Zealand.
  - It is the first-ever global circumnavigation onboard by two women Naval Officers, marking a significant event.

Significance:

- **Pioneering Women's Achievement:** Navika Sagar Parikrama II marks a historic milestone as the first-ever global circumnavigation by two women Naval officers, symbolizing gender empowerment and the growing role of women in challenging naval and maritime missions.
- **Advancing National Scientific Research:** The expedition collaborates with the National Institute of Oceanography to study marine microplastics and ferrous content, contributing valuable data for environmental conservation and oceanographic research.
- **Strengthening Maritime Capabilities:** By navigating through three oceans and challenging capes, the mission enhances India's naval experience in long-distance sailing, reinforcing the country's maritime preparedness and exploration capabilities.
- **Global Diplomacy and Engagement:** Covering four continents, the expedition promotes India's maritime diplomacy, fostering goodwill and international cooperation through engagements at various global ports, furthering India's soft power influence.

IRON DOME ANTI-MISSILE SYSTEM

Israel's Iron Dome anti-missile system has intercepted rockets after Iran fired a series of ballistic missiles.

About:

- Iron Dome was developed with Israel Aerospace Industries and was deployed in **2011.**
- It is a **short-range,** ground-to-air, air defence system that includes a radar and interceptor missiles, which **track and neutralise rockets or missiles** aimed at Israeli targets.
  - It is used for countering rockets, artillery & mortars (C-RAM) as well as aircraft, helicopters and unmanned aerial vehicles.
  - The defense system has a range of **70 kilometers.**

AIR DEFENSE SYSTEMS AROUND THE GLOBE

- **United States:**
  - **Patriot:** A long-range, all-weather system designed to intercept tactical ballistic missiles, cruise missiles, and advanced aircraft.
  - **Terminal High Altitude Area Defense (THAAD):** A system designed to intercept short, medium, and intermediate-range ballistic missiles during their terminal phase.
- **Russia:**
  - **S-400:** A long-range air defense system capable of engaging various aerial threats, including aircraft and ballistic missiles.
  - **S-500:** An advanced system designed to target hypersonic missiles and aircraft.
- **France:**
  - **SAMP/T:** A medium-range air defense system that integrates with various radar and missile systems.
- **South Korea:**
  - **KAMD (Korea Air and Missile Defense):** A comprehensive system incorporating various layers of air defense, including the THAAD and PAC-3 systems.
- **India:**
  - **Prithvi Air Defence (PAD):** This exo-atmospheric interceptor targets incoming ballistic missiles at high altitudes, between 50 km and 80 km above the earth.
    - PAD is a two-stage missile, with a solid-fueled first stage and a liquid-fueled second stage, capable of neutralizing missiles with ranges up to 2,000 km.
  - **Advanced Air Defence (AAD):** Serving as the endo-atmospheric layer, AAD intercepts ballistic missiles within the atmosphere at altitudes of 15 km to 30 km.
    - It is a single-stage, solid-fueled missile designed to engage targets that penetrate the PAD layer, providing a secondary line of defense.

31 MQ-9B DRONES

The Cabinet Committee on Security (CCS) approved the purchase of 31 MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial Vehicles (UAV) from General Atomics of the U.S.

About:

- The **MQ-9B Predator drone** is an unmanned aerial vehicle (UAV) known for its **High Altitude Long Endurance (HALE)** capabilities, able to fly for more than 40 hours, using satellite technology for navigation and operations.
- The **MQ-9B SeaGuardian** is a specialized, **maritime-focused version** of the SkyGuardian remotely piloted aircraft system (RPAS), designed for naval missions.
- Of the **31 MQ-9B Predator drones** being acquired, the **Indian Navy** will receive 15 **SeaGuardian** drones, while the **Indian Army** and the **Indian Air Force** will each receive eight of the **land-focused SkyGuardian** version.

Significance:

- **Enhanced Surveillance Capabilities:** The MQ-9B drones will provide the Indian military with advanced surveillance capabilities, allowing for real-time monitoring of vast areas.
  - Their ability to operate at high altitudes and for extended periods enables persistent intelligence gathering, crucial for assessing threats and making informed strategic decisions.
- **Improved Maritime Security:** With the deployment of the SeaGuardian variant, the Indian Navy can strengthen its maritime security operations.
  - These drones can conduct anti-piracy missions, monitor fishing activities, and safeguard territorial waters, thus enhancing India's ability to protect its maritime interests and ensure maritime domain awareness.
- **Asymmetric Warfare Advantage:** The MQ-9B's advanced technology allows for asymmetrical warfare strategies, enabling India to counter potential adversaries effectively.
  - By employing drones for reconnaissance and precision strikes, the military can maintain a strategic edge without the need for large troop deployments, minimizing risks to personnel.
- **Interoperability with Allied Forces:** The introduction of MQ-9B drones enhances India's interoperability with allied nations, particularly in joint exercises and operations.
  - This aligns with India's goal of fostering stronger defense ties with countries like the United States and other regional partners, promoting collaborative security efforts in the Indo-Pacific region.
- **Cost-Effective Operations:** The long endurance and versatility of the MQ-9B drones make them a cost-effective solution for military operations.
  - Their ability to conduct various missions—surveillance, reconnaissance, and potentially strike operations—reduces the need for multiple platforms, thereby optimizing resource allocation and operational efficiency within the armed forces.

CABINET COMMITTEE ON SECURITY (CCS)

- **Members:** It is chaired by the Prime Minister, the CCS has the ministers for Finance, Defence, Home Affairs and External Affairs as its members.
- **Functions:** It is responsible for debates, discussions and appointments of/ in the national security bodies.
  - Major decisions with respect to the significant appointments, issues of national security, defence expenditure of India are taken by CCS.
  - Besides dealing with defence related issues, the CCS also brainstorms on issues relating to law and order and internal security, and policy matters concerning foreign affairs on security-related issues.
  - It also considers matters relating to atomic energy.

ANACONDA STRATEGY

Taiwan's navy commander recently claimed that the People's Liberation Army (PLA) is using an 'Anaconda Strategy' to squeeze the island nation.

About:

- It refers to a military strategy aimed at slowly encircling and cutting off an enemy's resources, effectively "Squeezing" them into submission without direct confrontation.
- The strategy was proposed by Union General **Winfield Scott** during the early stages of the **American Civil War.**
  - **The primary objective** of this strategy was to suffocate the Confederacy economically and militarily, similar to how an anaconda snake coils around and asphyxiates its prey.
- **China's 'anaconda strategy'** against Taiwan reportedly involves a mix of military maneuvers, psychological tactics, and cyber warfare to eventually weaken Taiwan's defenses.

Implications of China's 'Anaconda Strategy' Against Taiwan:

- **Heightened Military Tensions:** The gradual encirclement and pressure exerted by the PLA through military maneuvers and surveillance could significantly escalate tensions in the Taiwan Strait, increasing the risk of military conflict and instability in the region.
- **Psychological Impact on Taiwan:** China's use of psychological tactics, including constant military presence and threats, could undermine the morale of Taiwan's population and its military forces, creating a sense of vulnerability and insecurity.
- **Strained International Relations:** China's strategic encirclement of Taiwan is likely to strain its relations with countries supporting Taiwan, including the U.S., Japan, and other regional allies, potentially leading to diplomatic and military responses that could further polarize the Asia-Pacific region.

- **Disruption of Taiwan's Economy:** The economic "squeeze" component of the strategy, including potential blockades or control of critical trade routes, could severely disrupt Taiwan's economy, particularly its exports, which are vital for industries such as semiconductors, affecting global supply chains.
- **Cybersecurity Threats:** The use of cyber warfare as part of this strategy could compromise Taiwan's critical infrastructure, destabilizing its economy, communication systems, and national security, while also setting a precedent for similar tactics in other global conflicts.

Possible Strategies for Taiwan to Counter China's 'Anaconda Strategy':

- **Strengthening Military Alliances:** Taiwan can enhance its security by deepening military ties with key allies such as the United States, Japan, and other regional powers.
  - This could involve joint military exercises, intelligence sharing, and defense agreements to deter Chinese encirclement.
- **Diversifying Economic Dependencies:** To mitigate the economic impact of potential blockades, Taiwan can diversify its trade partnerships and supply chains by engaging more actively with countries beyond its immediate region, reducing its reliance on any single route or market.
- **Enhancing Cybersecurity:** Taiwan can invest heavily in cybersecurity infrastructure to defend against China's cyber warfare tactics.
  - Strengthening digital resilience will protect critical infrastructure, communications, and sensitive government and defense systems from Chinese cyberattacks.
- **Bolstering Domestic Defense Capabilities:** Taiwan should continue to modernize its military, focusing on asymmetric warfare strategies such as advanced missile defense systems, anti-ship capabilities, and submarine warfare, which can effectively deter or slow down Chinese military encirclement efforts.
- **International Diplomacy and Public Relations:** By increasing diplomatic outreach and publicizing China's 'Anaconda Strategy,' Taiwan can rally international support and pressure against China's actions.
  - Taiwan's focus on soft power, such as promoting democratic values and human rights, can strengthen its global standing and isolate China diplomatically.
- **Psychological Resilience Programs:** To counter China's psychological tactics, Taiwan can strengthen national morale through public campaigns emphasizing resilience, national unity, and a strong defense posture, ensuring that the population is mentally prepared to resist long-term pressure from China.

FOURTH NUCLEAR-POWERED BALLISTIC MISSILE SUBMARINE

India's fourth nuclear-powered ballistic missile submarine (SSBN), codenamed S4* was launched in Visakhapatnam.

About:

- **Indigenous SSBN S4* Equipped with Advanced Missile Systems:**
  - The newly launched SSBN submarine, referred to as S4*, has approximately 75% indigenous components.
  - S4* is armed exclusively with 3,500 km-range K-4 nuclear ballistic missiles, deployable through vertical launch systems.
  - Unlike the first of its class, INS Arihant, which carries 750 km-range K-15 nuclear missiles, S4* and its recent predecessors are upgraded to carry only K-4 missiles.
- **Operational Endurance and Limitations:**
  - As a nuclear-powered vessel, the SSBN can remain at sea indefinitely, limited only by food supplies, crew endurance, and maintenance needs.
  - INS Arihant and INS Arighaat, already on deep-sea patrols, reinforce India's sea-based nuclear deterrence capabilities.

DIFFERENCE BETWEEN DIESEL-ELECTRIC SUBMARINE AND NUCLEAR SUBMARINE

Feature	Diesel-Electric Submarine	Nuclear Submarine
Power Source	Diesel engines and electric batteries	Nuclear reactor
Range	Limited range, needs to surface frequently for air	Virtually unlimited range, can stay submerged for months
Speed	Slower, especially underwater	Higher sustained speeds underwater
Stealth	Silent on battery power but must surface to recharge	Can remain submerged, thus more stealthy
Operational Duration	Limited by fuel and battery life	Limited only by crew endurance and supplies
Example	INS Kalvari - Scorpène class	INS Arihant - Arihant class

- **Naming Conventions and Class Evolution:**
  - India's SSBN naming convention started with the leased submarine INS Chakra (S1), followed by INS Arihant (S2), INS Arighaat (S3), and INS Aridhaman (S4).
  - The S4*, being the latest addition, is expected to be the final submarine of this class with a formal name still pending.
  - The next class of Indian SSBNs will be approximately 12,000 tons—double the displacement of the Arihant class—and will carry nuclear missiles with ranges exceeding 5,000 km.
- **Strategic Focus on Sea-Based Deterrence:**
  - The current government prioritizes submarine-based nuclear deterrence due to the perceived vulnerability of aircraft carriers to China's long-range missiles, such as the Dong Feng-21 and Dong Feng-26.
  - Nuclear-armed and nuclear-powered attack submarines have therefore been prioritized over a third aircraft carrier for the Indian Navy.

NOBEL PEACE PRIZE

Japanese atom bomb survivors' organisation Nihon Hidankyo has won the Nobel Peace Prize for its "efforts to achieve a world free of nuclear weapons".

About:

- From the **immediate thermal and shock effects** to long term environmental damage, a nuclear detonation exacts terrible human costs.
- Weapons available today are **many times more devastating than the ones detonated in Japan in 1945.**
- **Concerns:** Over the first 9 weeks of a nuclear explosion, it is estimated that roughly 10% of deaths will be due to the effects of radiation, with 90% deaths being due to thermal injuries or blast effects.
  - However, the effects of radiation will manifest themselves in the **form of various cancers and genetic damage** over the coming years and generations.

Nuclear Disarmament:

- Disarmament refers to the **act of eliminating or abolishing weapons** (particularly offensive arms) either unilaterally or reciprocally.
- It may refer either to **reducing the number of arms, or to eliminating entire categories of weapons.**

Nuclear Powers in the World:

- There are **nine countries** recognized as possessing nuclear weapons.
- These countries are often referred to as "**nuclear-armed states" or "nuclear powers."**
- United States, Russia, China, United Kingdom, France, India, Pakistan, North Korea and Israel.

Treaties Related to Nuclear Disarmament:

- **Treaty on the Non-Proliferation of Nuclear Weapons (NPT):** Signed in **1968** and entered into **force in 1970,** the NPT aims to prevent the spread of nuclear weapons and promote disarmament.
  - It divides the world into nuclear-weapon states (NWS), recognized as possessing nuclear weapons at the time of the treaty's signing, and non-nuclear-weapon states (NNWS), which agree not to develop or acquire nuclear weapons.
  - The treaty also requires NWS to pursue disarmament negotiations in good faith.
- **Treaty on the Prohibition of Nuclear Weapons (TPNW):** Adopted by the United Nations in **2017** and opened for signature in 2018, the TPNW aims to prohibit the development, testing, production, stockpiling, stationing, transfer, use, and threat of use of nuclear weapons.
  - It represents a significant step towards nuclear disarmament, although it has not been signed by nuclear-armed states.
- **Comprehensive Nuclear-Test-Ban Treaty (CTBT):** Opened for signature in **1996**, the CTBT aims to ban all nuclear explosions for both civilian and military purposes.
  - While the treaty has been signed by **185** countries and ratified by **170**, it has not entered into force as nuclear-armed states must ratify it to become operational.
- **Outer Space Treaty:** This multilateral agreement entered into force in 1967 and bans the siting of weapons of mass destruction in space. All nine states believed to have nuclear weapons are parties to this treaty.

DRAGON DRONES

A new deadly weapon known as the "dragon drone" has surfaced in the Russia-Ukraine war.

About:

- Dragon drones release a substance called **thermite**, **a mixture of aluminum and iron oxide,** developed a century ago to weld railroad tracks.
- When ignited (with the help of an electrical fuse), thermite triggers a **self-sustaining reaction** that is quite difficult to extinguish.
- Dragon drones tend to be **low-flying** because thermite is more effective when it's in close contact with the target.
- It can **burn through almost anything**, from clothes to trees to military-grade vehicles, and can even burn underwater. On humans, it causes **severe burns and bone damage**.

Significance:

- **Destructive Power:** Thermite burns at extremely high temperatures, capable of melting through armor, military vehicles, buildings, and even causing damage underwater.
  - Its use in drone warfare introduces a new level of lethality, particularly in urban and battlefield environments.
- **Psychological Impact:** The unpredictability and low-flying nature of these drones make them difficult to detect and counter, increasing fear and uncertainty on the battlefield.
  - The severe burns and injuries they cause further amplify their psychological toll on soldiers and civilians.
- **Tactical Flexibility:** Dragon drones can strike with precision and are highly adaptable to various terrain and target types, including human personnel, equipment, or fortifications.
  - Their ability to operate close to the ground enhances the effectiveness of thermite in concentrated areas.
- **Escalation of Warfare Technology:** The use of thermite in drones represents a new phase in drone warfare, where the fusion of old and new technology results in a more versatile and dangerous weapon.
  - This signals an escalation in the weaponization of drones, prompting concerns about the future of warfare and international security.
- **Difficult to Counter:** Traditional defenses against drones may prove less effective against dragon drones due to their low altitude and the self-sustaining nature of thermite, which is resistant to fire suppression and can continue burning even underwater.

INS SAMARTHAK

The Indian Navy celebrated a significant milestone with the launch of Samarthak.

About:

- It is designed for various roles, including towing, launching and recovering targets, operating unmanned vehicles, and testing indigenous weapons.
- It is the first vessel under the **Multi-Purpose Vessel (MPV) project at L&T Shipyard in Kattupalli.**

Significance:

- **Boost to Indigenous Defense Manufacturing:** The launch bolsters India's defense sector by encouraging domestic production of critical maritime assets, reducing reliance on foreign suppliers. This fosters industry growth, job creation, and economic benefits.
- **Strengthening National Security:** Homegrown shipbuilding enhances India's ability to protect its maritime borders independently, equipping the Navy with advanced, domestically produced vessels. This approach boosts readiness against regional threats.
- **Technological Innovation and Expertise Development:** Investment in indigenous projects advances marine engineering and defense tech, fostering innovation. It also positions India as a potential exporter of defense technology.
- **Economic Impact and Employment Generation:** Domestic shipbuilding projects stimulate local industries and supply chains, creating jobs and contributing to GDP growth. This benefits manufacturing, electronics, and heavy industries.
- **Geopolitical Influence and Strategic Autonomy:** A self-sufficient Navy strengthens India's role as a security provider in the Indian Ocean, enhancing its global influence and allowing for independent strategic decisions.
- **Environmental and Operational Efficiency:** Control over ship design and production enables eco-friendly, efficient technologies tailored to India's needs, supporting sustainable naval operations and long-term cost-effectiveness.

EUROPEAN SKY SHIELD INITIATIVE (ESSI)

Switzerland has officially joined the European Sky Shield Initiative (ESSI)

About:

- It is a collaborative project aimed at building a **unified air and missile defense system across Europe.**
- The initiative was introduced by **German Chancellor Olaf Scholz** in August 2022, following Russia's invasion of Ukraine.

Significance:

- **Enhanced Collective Defense:** The ESSI strengthens collective defense by uniting European nations under a coordinated air and missile defense system.
  - This shared approach enables faster response times to potential threats.
  - It also demonstrates a commitment to mutual protection among member states.
- **NATO Integration:** ESSI aligns with NATO's integrated air and missile defense objectives, enhancing security for Europe and its allies.
  - This synergy with NATO reinforces defense structures already in place. It also allows NATO to leverage additional resources and coordination from ESSI members.
- **Resource Optimization:** By pooling resources, ESSI reduces the cost burden on individual countries for air defense infrastructure and technology.
  - Member states can share advanced defense systems and technology, maximizing efficiency.
  - This cooperative model also encourages innovation through shared expertise.
- **Strategic Response to Security Threats:** This initiative offers a comprehensive defense approach to counter potential aerial threats in the face of geopolitical challenges posed by Russia.

- **Enhanced Interoperability:** ESSI improves interoperability among European nations' air defense systems, allowing them to operate cohesively.
  - Standardized defense practices and shared protocols ensure smooth coordination.
  - This cohesion strengthens Europe's overall defense capabilities.
- **Strengthening European Unity:** ESSI fosters a sense of solidarity and shared responsibility among European countries in defense matters.
  - This collaboration reflects a unified stance on safeguarding European airspace.
  - It also deepens trust and cooperation among member nations, strengthening European unity.

MILITARY EXERCISES

MALABAR-2024

The maritime exercise Malabar 2024, the most comprehensive version of all editions so far, commenced at Visakhapatnam, India.

About:

- The Malabar series of exercises began as an **annual bilateral** naval exercise between **India and the United States** in 1992.
  - However, it has evolved into a key multilateral event aimed at enhancing interoperability, fostering mutual understanding, and addressing shared maritime challenges in the Indian Ocean and Indo-Pacific region.
- **Japan** joined the naval exercises in 2015 and **Australia rejoined** the exercise in 2020 after having last participated in 2007.

EXERCISE KAZIND

The 8th edition of the India-Kazakhstan Joint Military Exercise, KAZIND-2024, commenced at the Surya Foreign Training Node in Auli, Uttarakhand.

About:

- It aims to enhance joint military capabilities for counter-terrorism operations in sub-conventional scenarios, particularly in semi-urban and mountainous terrains.
- India and Kazakhstan initiated their joint exercise, **"Exercise PRABAL DOSTYK,"** in 2016.
  - Following its second edition, it was renamed "Exercise KAZIND" and expanded to a company-level drill.
  - In 2023, it advanced further into a bi-service exercise with the addition of an Air Force component.

EXERCISE NASEEM-AL-BAHR

The Indian Navy and the Royal Navy of Oman recently concluded a bilateral naval exercise, 'Naseem-Al-Bahr' off the coast of Goa.

About:

- **Initiated in 1993,** the exercise was conducted in **two phases:** the harbour phase and the sea phase.
- The exercise reaffirms India's commitment to constructive collaboration and mutual growth with like-minded nations in the **Indian Ocean Region**.

ADDITIONAL INFORMATION

- Oman is a crucial pillar of **India's West Asia Policy** and its oldest regional strategic partner.
- Also, Oman is the **first Gulf country** with which all the three wings of India's defense forces hold joint exercises.
  - The exercise **Eastern Bridge** is conducted between the **Air Force** of the two countries, while the exercise **Al-Najah** is conducted between the **Army** of the two countries.

SIMBEX 2024

The 31st edition of the Singapore India Maritime Bilateral Exercise (SIMBEX) began in the Eastern Naval Command at Visakhapatnam.

About:

- SIMBEX, which began as **'Exercise Lion King'** in 1994, holds the distinction of being the **longest continuous naval exercise** that the Indian Navy has with any other country.
- SIMBEX 2024 will be conducted in **two phases** - the Harbour Phase at Visakhapatnam and the Sea Phase in the Bay of Bengal.
- This year's edition aims to further strengthen the strategic partnership between India and Singapore by enhancing interoperability, improving maritime domain awareness, and fostering cooperation to address common maritime challenges.

ADDITIONAL INFORMATION

The Singapore Army and Indian Army conduct bilateral exercises **Bold Kurukshetra** and **Agni Warrior**.

7 SCIENCE & TECHNOLOGY

BharatGen

"BharatGen" world's first government-funded multimodal LLM initiative launched by the Ministry of Science & Technology.

About:

- **Aim:** To revolutionize public service delivery and enhance citizen engagement by developing foundational models in language, speech, and computer vision.
- **Implementation:** By IIT Bombay under the National Mission on Interdisciplinary **Cyber-Physical Systems (NM-ICPS)**
- **Key Features of BharatGen:**
  - Multilingual and multimodal foundation models.
  - Building and training based on India-centric datasets.
  - Open-source platform for fostering AI research and innovation.
- The project is expected to be **completed by 2026**, with ongoing research, development, and scaling of AI applications.

Significance:

- **Empowering Multilingual AI Representation:** BharatGen will develop AI models that address both text and speech, ensuring representation of India's diverse linguistic landscape, capturing the unique nuances of Indian languages often overlooked in global AI systems.
- **Strengthening Data Sovereignty:** By using India-centric datasets, BharatGen emphasizes data sovereignty, giving India greater control over its digital resources and narratives, reducing dependency on foreign AI models.
- **Democratizing AI Access:** BharatGen will make AI accessible across government, education, and private sectors, extending AI benefits to underserved Indian languages and communities, fostering inclusivity in technological advancements.
- **Boosting AI Research and Innovation:** By providing an open-source platform, BharatGen will encourage AI research and innovation in India, helping build an ecosystem that supports cutting-edge AI development tailored to Indian needs.
- **Advancing Atmanirbhar Bharat:** Aligned with the vision of Atmanirbhar Bharat, BharatGen focuses on developing AI technologies domestically, contributing to self-reliance in AI infrastructure and strengthening India's position in the global AI landscape.

LARGE LANGUAGE MODELS (LLMS)

- These are very **large deep learning models** that are **pre-trained on vast amounts of data.**
- LLMs use **machine learning techniques** to recognize, interpret, and generate human languages or other complex data.
- Their capabilities also extend to **handling structured and unstructured data**, including speech, images, and other multimodal inputs, which enhances their utility in fields like customer service, healthcare, and education.

GENERATIVE AI (GENAI)

- It is an Artificial Intelligence (AI) technology that automatically generates content in response to prompts written in natural language conversational interfaces.
- Rather than simply curating existing web pages, by drawing on existing content, GenAI actually produces new content.
- The content can appear in formats that comprise all symbolic representations of human thinking: texts written in natural language, images (including photographs to digital paintings and cartoons), videos, music and software code.
- GenAI is trained using data collected from web pages, social media conversations and other online media.
  - It generates its content by statistically analysing the distributions of words, pixels or other elements in the data that it has ingested and identifying and repeating common patterns.
- In November 2022, OpenAI released ChatGPT (Chat Generative Pre-trained Transformer) to the public.

FLUORESCENT NANODIAMONDS (FNDs)

In a recent study published in Nature Communications, physicists from Purdue University in the U.S. reported floating Fluorescent Nanodiamonds (FNDs) in a high vacuum and spinning them very fast.

About:

- They are nanometre-sized diamonds made of carbon nanoparticles, produced in a high temperature and high pressure process.
- FNDs are stable under light and aren't toxic to living things, so they have many applications in high-resolution imaging, microscale temperature sensing, and correlative microscopy, among others.

- In biology, scientists use FNDs to track cells and their progeny over long periods.

Applications:

- **High-Resolution Imaging:** FNDs are used in super-resolution microscopy to visualize structures within cells at a nanoscale level, surpassing the diffraction limit of light and providing more detailed images of biological processes.
- **Microscale Temperature Sensing:** FNDs can detect temperature changes at the microscale with high precision.
  - They are particularly useful in studying thermal processes within cells or tissues without causing damage to the biological samples.
- **Correlative Microscopy:** In this technique, FNDs are combined with other forms of microscopy (like electron microscopy and fluorescence microscopy) to correlate data from different imaging methods, offering more comprehensive insights into cellular structures and functions.
- **Cell Tracking and Progeny Monitoring:** FNDs are used to label cells and track their movement, division, and differentiation over extended periods without harming the cells. This application is valuable in stem cell research, cancer research, and developmental biology.
- **Drug Delivery and Bio-Sensing:** Due to their non-toxicity and stable fluorescent properties, FNDs can be conjugated with drugs or biomolecules and delivered to specific sites within the body.
  - Additionally, they can act as sensors for detecting biological signals, such as the presence of certain proteins or biomarkers.

CHARON

The James Webb Space Telescope has detected carbon dioxide and hydrogen peroxide on Charon, Pluto's largest moon.

About:

- Pluto, previously the ninth planet, was reclassified as a dwarf planet in 2006 after the discovery of similar objects beyond Neptune in the **Kuiper Belt.**
  - The Kuiper Belt is a region of space located **beyond the planet Neptune,** extending from approximately 30 to 55 astronomical units (AU) from the Sun.
  - It is home to a vast collection of icy bodies and dwarf planets, including Pluto, and is considered part of the outer Solar System.
- **Charon, discovered in 1978,** is Pluto's largest moon, with a diameter of approximately 1,200 kilometers, making it about half the size of Pluto. Charon and Pluto engage in a distinctive orbital dance, rotating around a central point.

JAMES WEBB SPACE TELESCOPE (JWST)

- The James Webb Space Telescope is the largest and most powerful space telescope, designed to study the early universe by detecting infrared light.
- Webb differs from the Hubble Telescope, which primarily observes visible and ultraviolet light.
- Webb can detect galaxies obscured by dust or too distant for Hubble to observe, allowing a deeper look into star formation and cosmic evolution.

NOBEL PRIZE IN PHYSICS 2024

John Hopfield and Geoffrey Hinton were awarded the 2024 Nobel Prize in Physics for their foundational contributions to machine learning using Artificial Neural Networks (ANNs).

John Hopfield's Contribution:

- John Hopfield, a professor at Princeton University, developed the Hopfield network, a type of recurrent neural network that processes information based on Hebbian learning. It enables the storage and reconstruction of images and patterns.
- The Hopfield network is inspired by the physics of magnetic atoms, with neurons mimicking atoms' energy-minimizing behavior to complete patterns or denoise images.
  - His 1982 paper laid the foundation for using statistical physics in modeling neural circuits.
- The Hopfield network finds patterns by lowering its overall energy, comparing distorted or incomplete input to saved patterns.

Geoffrey Hinton's Contribution:

- Geoffrey Hinton, a professor at the University of Toronto, adapted the Boltzmann machine for cognitive tasks and created the restricted Boltzmann machine (RBM).
- It uses statistical physics to recognize features in data and learns by recognizing patterns and generating new examples of the data on which it was trained, playing a significant role in machine learning's current growth
- His work led to the development of deep learning ANNs, with layers of neurons capable of complex tasks.

DEFINITION

- **Machine Learning:**
  - Machine learning is a branch of AI that enables computers to learn from data and improve their performance over time without explicit programming.
  - It uses algorithms to identify patterns, make predictions, or perform tasks based on input data. Machine learning is applied in areas like recommendation systems, speech recognition, and autonomous vehicles.

- **Artificial Neural Network (ANN):**
  - An artificial neural network (ANN) is a computing system inspired by the structure of the human brain, consisting of interconnected layers of nodes or neurons.
  - Each neuron processes information and passes it to others, mimicking how biological neurons transmit signals.
  - ANNs are used in image recognition, natural language processing, and other complex tasks by learning patterns from data.

NOBEL PRIZE IN PHYSICS

- Alfred Nobel mentioned physics first in his 1895 will, reflecting its high status at the time.
- In the late 19th century, physics was considered the foremost science, a view Nobel likely shared given his own research ties to physics.
- The Nobel Prize in Physics is awarded by the Royal Swedish Academy of Sciences in Stockholm, Sweden.

Applications:

- **Material Development:** Machine learning models are used to design new materials by predicting their properties and behaviors efficiently.
- **Biology and Medicine:** Neural networks aid in diagnosing diseases, drug discovery, and personalized medicine by identifying patterns in vast datasets.
- **Chemistry:** Machine learning models predict molecular structures and reactions, accelerating research and discovery in chemistry.
- **Finance:** Artificial neural networks optimize stock market predictions, risk assessment, and algorithmic trading.
- **Physics:** AI models are applied to simulate physical systems and solve complex equations in fields like quantum mechanics and astrophysics.
- **Health Technology:** Neural networks power medical imaging tools, improving diagnostic accuracy in radiology and pathology.

Concerns:

- **Misinformation Spread:** Tools like ChatGPT can generate large volumes of false information, complicating efforts to distinguish truth from fiction.
- **Job Displacement:** AI has the potential to replace human jobs, leading to unemployment and economic shifts.
- **Loss of Control:** There are risks of AI systems evolving beyond human understanding or control.
- **Bias in AI Models:** Machine learning systems may inherit and amplify biases present in their training data.
- **Security Threats:** AI could be misused for malicious purposes, such as developing deceptive cyberattacks or enhancing surveillance technologies.

ADDITIONAL INFORMATION

- In 2023, the prize went to Pierre Agostini, Ferenc Krausz, and Anne L'Huillier for their contributions to attophysics.
- The 2024 Physiology/Medicine prize was awarded to Victor Ambros and Gary Ruvkun for their discovery of microRNA.

NOBEL PRIZE IN CHEMISTRY 2024

It was awarded to David Baker "for computational protein design" along with Demis Hassabis and John M. Jumper "for protein structure prediction".

About:

- **Proteins** are large, complex molecules that play many critical roles in the body.
  - They are made up of smaller units called **amino acids,** which are linked together in long chains.
  - There are **20 different types of amino acids,** and the specific sequence in which they are arranged determines the protein's structure and function.
- **In 2003, David Baker,** a professor at the University of Washington, succeeded in using these blocks to design a new protein that was unlike any other protein.
  - Since then, his research group has produced one imaginative protein creation after another.
- **In 2020, Demis Hassabis and John Jumper** developed an **AI model called AlphaFold2,** as part of Google's DeepMind project, that was able to predict the structure of virtually all the 200 million proteins that researchers have identified.

Significance:

- **Understanding Biological Functions:** Predicting protein structures helps uncover how life operates at a molecular level, deepening our knowledge of biological processes.
- **Advancing Disease Research:** It aids in identifying the causes of diseases, such as genetic disorders and neurodegenerative diseases, by studying protein misfolding and malfunction.
- **Combating Antibiotic Resistance:** The ability to analyze proteins provides insights into how bacteria develop resistance to antibiotics, helping in the creation of more effective drugs.
- **Biotechnology Innovations:** Custom-designed proteins are revolutionizing medicine, enabling the development of specialized enzymes, targeted therapies, and synthetic vaccines that address complex health challenges.
  - These proteins can be engineered to interact precisely with biological systems, paving the way for more effective treatments for diseases that were once difficult to target, like cancer, genetic disorders, and infectious diseases.

- **Environmental Impact:** Protein research contributes to sustainable solutions, like microbes engineered to decompose plastics and reduce environmental pollution.

NOBEL PRIZE

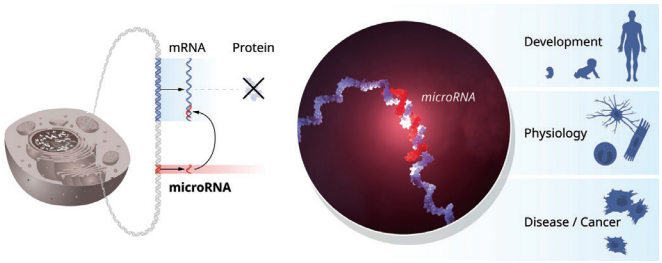
- Since 1901, the Nobel Prize has been awarded in the fields of physics, chemistry, physiology or medicine, literature and peace, while a memorial prize in economic sciences was added in 1968.
  - In 1895 Alfred Nobel gave the largest share of his fortune to a series of the Nobel Prizes.
- From Stockholm, the Royal Swedish Academy of Sciences confers the prizes for physics, chemistry, and economics, the Karolinska Institute confers the prize for physiology or medicine, and the Swedish Academy confers the prize for literature.
- The Norwegian Nobel Committee based in Oslo confers the prize for peace.
- The Nobel Foundation is the legal owner and functional administrator of the funds and serves as the joint administrative body of the prize-awarding institutions, but it is not concerned with the prize deliberations or decisions, which rest exclusively with the four institutions.

NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2024

The Nobel Assembly at Karolinska Institutet in Stockholm, Sweden, awarded the 2024 Nobel Prize in Physiology or Medicine to Victor Ambros and Gary Ruvkun for their groundbreaking discovery of microRNA and its essential role in regulating gene expression after transcription.

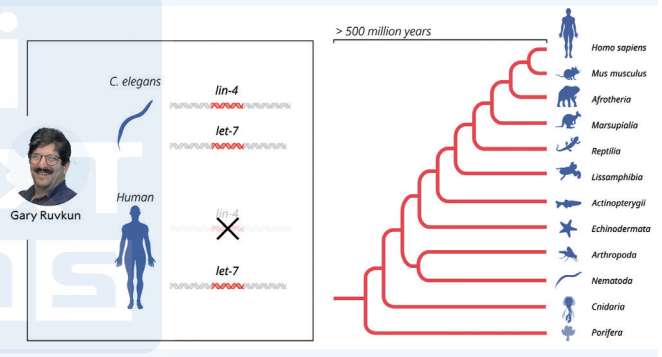
About:

- Ambros and Ruvkun embarked on their research using the **C. elegans roundworm** model to explore how tissues develop over time. Their work focused on identifying genetic factors responsible for abnormalities in the worm's development.
- The scientists examined two mutant strains of C. elegans: **lin-4** and **lin-14**. These strains exhibited irregularities in their genetic programming, prompting the researchers to uncover how one gene might affect the other.
- **Ambros' Discovery:** lin-4 MicroRNA
  - Ambros discovered that **lin-4** appeared to inhibit the activity of **lin-14** but wasn't sure how.
  - After **cloning lin-4**, he identified a **small RNA molecule** in lin-14 mRNA. This interaction confirmed that **lin-4 microRNA binds to lin-14 mRNA**, effectively halting protein production.



LIN-4 AND LIN-14

- **Lin-4** is a microRNA discovered during research on developmental timing in the nematode *Caenorhabditis elegans*. It was the first identified member of a class of non-coding RNAs known as microRNAs (miRNAs), which play a key role in gene regulation.
- **Lin-14** is a heterochronic gene that governs the timing of developmental processes in *Caenorhabditis elegans*. Heterochronic genes are responsible for regulating the timing of cell and tissue development in organisms.



Significance of their Discovery:

- **A New Class of Gene Regulators:** The discovery revealed the existence of **microRNAs**, small RNA molecules that regulate gene expression without encoding proteins.
- **A Universal Mechanism:** Ruvkun's team later identified **let-7**, another microRNA, which was found to be present across **the entire animal kingdom**, demonstrating the universal importance of microRNAs.
- **Abundant and Essential Molecules:** MicroRNAs are now known to be **abundant in all multicellular organisms** and play critical roles in controlling gene expression.
- **Key to Understanding Cellular Function:** This discovery has transformed the field of molecular biology by revealing how cells fine-tune gene expression, affecting development, disease, and even cancer biology.
- **Impact Across Biology and Medicine:** MicroRNAs have become crucial tools in disease research, including cancer treatment and regenerative medicine, where controlling gene activity is vital.

MAJOR ATMOSPHERIC CHERENKOV EXPERIMENT (MACE) OBSERVATORY

The Major Atmospheric Cherenkov Experiment (MACE) Observatory has been inaugurated at Hanle, Ladakh.

About:

- It is the largest imaging Cherenkov telescope in Asia.
- It is the highest Cherenkov telescope in the world, situated at an altitude of ~4,300 m.
- It is an indigenous project built by BARC with support from ECIL and other Indian industry partners.

Significance:

- The telescope will advance India's role in cosmic-ray research and study high-energy gamma rays to better understand the universe's energetic events like supernovae, black holes, and gamma-ray bursts.
- It promotes scientific research while contributing to the socio-economic development of Ladakh.
- It will complement global observatories, furthering India's contributions to multi-messenger astronomy and strengthening international collaborations in space research.
- The project is part of India's pioneering efforts in cosmic-ray research, following the legacy of Dr. Homi J. Bhabha, and will serve as a beacon for future astrophysical explorations.

BIOPOLYMERS

The Union Minister inaugurated India's first demonstration facility for biopolymers at Jejuri in Pune (Maharashtra).

About:

- The facility is a demonstration of India's commitment to transitioning from fossil-based plastics to eco-friendly alternatives, addressing the global plastic pollution crisis.
- **India's Growing Bioeconomy:** India's bioeconomy has grown to more than US $150 billion in 2023 and is projected to reach US $300 billion by 2030.
  - Earlier, the government has approved the **BioE3 Policy (Biotechnology for Economy, Environment, and Employment)**, aimed at promoting sustainable growth against the backdrop of climate change and resource depletion.

Biopolymer:

- They are the materials derived from biological sources such as fats, vegetable oils, and sugars, which offer several advantages over traditional synthetic polymers, which are typically made from petrochemical sources.
- Biopolymers decompose naturally in the environment, primarily through the action of bacteria, leading to minimal environmental pollution.

Significance:

- **Environmental Sustainability:** Unlike synthetic polymers, which are made from non-renewable petrochemical sources, biopolymers are derived from renewable biological materials. This reduces dependence on fossil fuels and contributes to more sustainable production processes.
- **Biodegradability:** One of the most important features of biopolymers is their ability to decompose naturally through bacterial action. This helps reduce long-term environmental pollution, especially in the context of plastic waste accumulation, as biopolymers break down much faster than synthetic polymers.
- **Carbon-Neutral Cycle:** When polymers degrade, they release carbon dioxide (CO_2) into the atmosphere. However, this CO_2 can be absorbed by the crops or biomass used to produce new biopolymers, creating a closed carbon cycle that helps mitigate the environmental impact of greenhouse gas emissions.
- **Potential for Diverse Applications:** Biopolymers can be used in various industries, including packaging, agriculture, medicine, and textiles, offering a versatile, sustainable material that can replace synthetic plastics in many areas.

HABER-BOSCH PROCESS

The Haber-Bosch process transformed agricultural practices and played a significant role in feeding the growing global population.

About:

- **The Haber-Bosch process** is a crucial industrial method for **synthesizing ammonia** from nitrogen and hydrogen gasses.
- **The process involves** the reaction of nitrogen (N_2) from the air with hydrogen (H_2), derived from natural gas or other fossil fuels, to produce ammonia (NH_3).
  - The gases are mixed and passed over the **catalyst at high temperatures** and pressures, facilitating the formation of ammonia.
- Ammonia produced is also a **precursor for various chemicals**, including nitric acid and explosives.

Need for the Process:

- Nitrogen (N_2) makes up approximately **78% of the Earth's atmosphere,** existing primarily as diatomic nitrogen molecules.
- However plants cannot utilize atmospheric nitrogen directly; they need reactive forms of nitrogen, such as **ammonia (NH_3), ammonium (NH_4^+), or nitrates (NO_3^-)**, for their growth and development.

NATURAL NITROGEN SOURCES

- **Lightning** can break the N_2 bond, producing nitrogen oxides, which then combine with water to form nitric acid (HNO_3) and nitrous acid (HNO_2), contributing reactive nitrogen to the soil. However, this natural replenishment is limited.
- **Certain bacteria, such as Azotobacter and Rhizobia**, can fix atmospheric nitrogen, but their contribution is insufficient to meet the demands of modern agriculture.

The Role of the Haber-Bosch Process:

- **Increases Fertilizer Supply:** By producing ammonia on an industrial scale, it ensures the availability of nitrogen fertilizers, essential for enhancing soil fertility and increasing crop yields.
- **Global Food Security:** The ability to produce nitrogen fertilizers in large quantities has significantly contributed to food security, enabling the world to sustain its growing population.

Concerns:

- **Excessive Nitrogen Application:** In many countries, the application of nitrogen fertilizers exceeds 50 kg per capita annually, far more than the average adult's body nitrogen content of 1-2 kg.
- **Nutrient Runoff:** Surplus nitrogen from fertilizers runs off into freshwater and coastal waters, **causing eutrophication**.
- **Soil Acidification:** The extra reactive nitrogen leach into the soil, leading to acidification. This alters soil chemistry, negatively affecting soil health and reducing its fertility over time.
- **Air Pollution:** Nitrogen fertilizers release **Nitrous Oxide (N_2O)**, a potent greenhouse gas that contributes to climate change.

CAENORHABDITIS ELEGANS

A study on Caenorhabditis elegans found that small changes to the gene that controls the way that cells respond to nutrients around them led to the worms doubling their lifespan.

About:

- C. elegans is a **nematode** (roundworm)—a member of the phylum Nematoda.
- It is a non-hazardous, non-infectious, non-pathogenic, non-parasitic organism.
- It plays a role in **soil ecosystems,** feeding on bacteria and contributing to **nutrient cycling.**
- It is widely **used in studies** of aging, neurodegenerative diseases, and the effects of various genetic mutations. Researchers can easily manipulate its genetics and observe the effects on development and behavior.

FLUE GAS DESULFURISATION (FGD)

The Punjab government could incur a penalty due to delays in the timely installation of Flue Gas Desulphurisation (FGD) systems in Thermal Power Plants (TPPs) throughout the state.

About:

- **Flue Gas Desulphurisation** is a set of technologies used to **remove Sulfur Dioxide (SO_2)** from exhaust flue gases of **fossil-fuel power plants** and other industrial processes.
- The FGD systems — to control Sulphur Dioxide (SO_2) emissions — was mandated by the Ministry of Environment, Forest and Climate Change (MoEF&CC) across India in **2015.**

Significance of Flue Gas Desulfurisation (FGD):

- **Reduces Air Pollution:**
  - FGD systems play a vital role in reducing air pollution by removing sulfur dioxide (SO_2) from the exhaust gases of thermal power plants and industrial facilities.
  - This is essential in lowering the overall emissions of harmful pollutants that contribute to respiratory diseases and environmental degradation.
- **Improves Public Health:**
  - SO_2 emissions are known to cause various respiratory problems and aggravate conditions such as asthma and bronchitis.
  - By limiting SO_2in the atmosphere, FGD systems contribute to healthier air quality, benefiting the overall public health of communities near industrial zones.
- **Helps Meet Environmental Regulations:**
  - The Ministry of Environment, Forest, and Climate Change (MoEF&CC) mandated FGD systems in 2015 to bring down SO_2 emissions in India, especially from thermal power plants. Installing FGD systems helps industries comply with these national regulations, avoiding penalties and aligning with global environmental standards.
- **Protects Ecosystems:**
  - High levels of sulfur dioxide in the air can lead to acid rain, which has detrimental effects on soil, water bodies, vegetation, and wildlife.
  - FGD systems contribute to the protection of ecosystems by reducing acid rain precursors, promoting biodiversity, and sustaining agriculture.
- **Supports India's Climate Goals:**
  - Reducing emissions from power plants is a step towards achieving India's climate commitments.
  - By controlling SO_2 emissions, FGD installations are part of India's broader efforts to transition towards cleaner energy sources and sustainable development, enhancing India's global environmental standing.

- **Promotes Cleaner Technology Adoption:**
  - The push for FGD implementation encourages the adoption of cleaner and more sustainable technologies in the energy sector.
  - This aligns with a global shift towards green technologies, potentially opening new opportunities for investment and innovation in pollution-control mechanisms within the industry.

EUROPA CLIPPER

NASA has launched the Europa Clipper, to investigate Jupiter and its moon, Europa.

About:

- The Europa Clipper is the largest spacecraft Nasa has built for planetary exploration.
- It will take five- and-a-half years to reach its destination, and Clipper will approach Europa at a distance of just 25 km from its surface.
- The spacecraft has **massive solar panels** to generate sufficient power required for the long distance between Jupiter and the Sun.
- The main body of the spacecraft has **nine scientific instruments** including radar to penetrate Europa's icy shell, cameras to map its surface, and devices to analyze its atmosphere and composition.

ADDITIONAL INFORMATION

- Europa was discovered by **Galileo Galilei in 1610,** alongside three other moons **(Io, Ganymede, and Callisto)**, collectively known as the **Galilean moons.**
- Europa is covered by an ice sheet estimated to be **15 to 24 km** thick.
- Beneath this ice sheet, scientists believe there could be a subsurface ocean, possibly up to 120 km deep. It is making Europa a prime candidate for the search for extraterrestrial life within our solar system.

OTHER JUPITER MISSIONS

Mission Name (Agency)	Key Objectives
Pioneer 10 (NASA)	First flyby of Jupiter, study magnetic field and radiation
Pioneer 11 (NASA)	Follow-up observations of Jupiter and its moons
Voyager 1 (NASA)	Detailed study of Jupiter's atmosphere, moons, and magnetosphere
Voyager 2 (NASA)	Similar objectives to Voyager 1
Galileo (NASA)	Orbital study of Jupiter and its moons; atmospheric probe
Cassini (flyby) (NASA/ESA/ASI)	Flyby en route to Saturn; gravity assist
New Horizons (flyby) (NASA)	Flyby en route to Pluto; study of Jupiter's magnetosphere
Juno (NASA)	Study of Jupiter's atmosphere, magnetic field, and gravity

DISEASES

SILICOSIS

There is a pattern emerging in Panna's mining communities, where silicosis often goes undiagnosed and mistaken for TB.

About:

- **Silicosis is a lung disease** caused by inhaling fine silica dust, often found in industries such as mining, construction, and stone cutting.
- It leads to **inflammation and scarring of the lungs**, making it difficult to breathe.
- **Symptoms** can include coughing, shortness of breath, and chest pain, which may develop years after exposure.
  - **Chronic Silicosis:** Develops after long-term exposure to low levels of silica dust.
  - **Accelerated Silicosis:** Occurs with higher levels of exposure over a shorter period.
  - **Acute Silicosis:** Results from extremely high exposures over a brief period, leading to severe lung damage.
- **Silicosis isn't contagious** as it is not caused by a virus or bacteria.
- There's **no cure for silicosis** because the lung damage can't be reversed.

MURINE TYPHUS

Recently, a Kerala man was diagnosed with the bacterial disease murine typhus.

About:

- Also known as **endemic typhus,** flea-borne typhus or flea-borne spotted fever.
- Caused by **flea-borne bacteria Rickettsia typhi.**
- It is transmitted to humans through the bites of infected fleas. Once a flea is infected, it can spread the disease for the rest of its life.

- Murine typhus is **not spread from one person to another.**
- Found worldwide, primarily in **tropical and subtropical climates** where rats and rat fleas are present.
- **Symptoms:** Fever, chills, headache, and rash.
- **Treatment:** There is no vaccine currently available against the disease.

DIPHTHERIA

Recently, Children in the Deeg district of Rajasthan died due to diphtheria.

About:

- It is a **highly contagious, infectious disease** caused by a bacterium called ***Corynebacterium diphtheriae.***
  - It affects **children from newborns to 16 years** of age.
  - The bacteria most commonly infects the **respiratory system.**
  - It makes a toxin that kills healthy tissues in the respiratory system.
- **Symptoms:** Sore throat, fever, chills, swollen lymph nodes, skin sores, and weakness.
- **Treatments:** Antibiotics and an antitoxin that neutralizes the diphtheria toxin. A vaccine is available.
  - It is covered under the Universal **Immunization Program in India.**

SMART INSULIN FOR DIABETES

Scientists have developed a "smart" insulin, named NNC2215, that responds in real-time to blood sugar changes.

About:

- NNC2215 features an "on-and-off switch" within the insulin molecule itself.
- It contains a ring structure and a glucoside that keeps insulin inactive when blood sugar is low. When glucose levels rise, glucose replaces the glucoside, activating the insulin.
- **Effectiveness:** NNC2215 has shown to be as effective as human insulin in lowering blood glucose in animal trials (rats and pigs).

Diabetes:

- Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood glucose.
  - It affects over half a billion people worldwide, causing nearly seven million deaths annually.
- **Types of Diabetes:**
  - **Type 1** Diabetes characterized by the pancreas not producing enough insulin, often starting in childhood.
  - **Type 2** Diabetes involves cells becoming resistant to insulin, requiring higher production from the pancreas.
- **Current Treatment:** Patients use synthetic insulin, which requires constant monitoring to prevent dangerous fluctuations in blood sugar levels.

MECHAZILLA

SpaceX successfully landed its Starship rocket using a new structure called "Mechazilla."

About:

- It is a 400-ft rocket-catching structure at SpaceX's Starbase in South Texas.
- It is equipped with two large mechanical arms, nicknamed "chopsticks," designed to catch the Super Heavy booster midair.
- It is custom-built to catch the heaviest flying object ever made, weighing about 250 tons.

Importance of Mechazilla:

- This innovative landing technique reduces wear and tear on the booster and minimizes the time required to prepare it for subsequent launches.
- By enabling quick refurbishment and reuse, Mechazilla significantly lowers launch costs and enhances the sustainability of space missions.

EGYPT DECLARED AS 'MALARIA-FREE COUNTRY

The World Health Organization (WHO) has certified Egypt as malaria-free.

Historical Context:

- Malaria has been documented in Egypt since 4000 B.C.E., with historical genetic evidence found in mummies. The disease was particularly concentrated in **Nile river communities due to favorable mosquito breeding conditions**.

Malaria:

- Malaria is a life-threatening disease, is caused by the Plasmodium parasite and transmitted through bites from infected **female Anopheles mosquitoes.**
- It is most prevalent in tropical and subtropical regions, including **sub-Saharan Africa, Southeast Asia, and South America.**
- The most deadly species is **Plasmodium falciparum, but Plasmodium vivax** is the most widespread.
- After entering the human body, the parasite **multiplies in the liver and then infects red blood cells**

- **Symptoms:** Fever, headache, chills, Fatigue, confusion, seizures, difficulty breathing, jaundice, and dark urine.
- **Prevention Strategies:**
  - **Vector Control:** Key strategies include insecticide-treated nets (ITNs) and indoor residual spraying (IRS), though resistance to insecticides is emerging.
  - **R21/Matrix-M Vaccine:** Recommended in October 2023, further enhancing prevention efforts.
  - **Chloroquine:** Effective for P. vivax in sensitive regions, often supplemented with Primaquine to prevent relapses.

ADDITIONAL INFORMATION

- Certification is granted when a country can prove that indigenous malaria transmission has been interrupted nationwide for at least three consecutive years and has the capacity to prevent re-establishment.
- Egypt is the **second country, after Cabo Verde**, to achieve this status in 2024 and the fifth in Africa.

Global and Indian Efforts:

- **Global Malaria Program:** Launched by WHO with a strategy to reduce malaria incidence and mortality by 90% by 2030.
- **E-2025 Initiative:** Aimed at halting malaria transmission in 25 countries by 2025.
- **India's National Vector-Borne Disease Control Programme (NVBDCP):** Focuses on multiple vector-borne diseases, including malaria, through integrated measures.

INDIA ELIMINATED TRACHOMA: WHO

The World Health Organisation (WHO) has declared that India has eliminated Trachoma as a public health problem becoming the third country in the South-East Asia Region to achieve this milestone.

About:

- It is a disease of the **eye** caused by infection with the **bacterium Chlamydia trachomatis.**
- It is **contagious,** spreading through contact with the eyes, eyelids, nose or throat secretions of infected people, if left untreated it causes **irreversible blindness.**
- WHO has termed Trachoma as a **neglected tropical disease** and according to its estimates around 150 million people worldwide are affected by Trachoma and 6 million of them are blind or at risk of visually disabling complications.

India's Effort:

- Trachoma was amongst the leading causes of blindness in the country during 1950-60.
- The Government of India launched the **National Trachoma Control Program** (1963) and later on Trachoma control efforts were integrated into India's **National Program for Control of Blindness (NPCB)**.
- **WHO-SAFE strategy** was implemented throughout the country wherein SAFE stands for Surgery adoption, Antibiotics, Facial hygiene, Environmental cleanliness etc.
- As a result, in 2017, India was declared free from infectious Trachoma. However, surveillance continued for trachoma cases in all the districts of India from 2019 onwards till 2024.

WORLD POLIO DAY

Every year October 24 is observed as World Polio Day, established by Rotary International, to commemorate the birth of Jonas Salk, who led the first team to develop the vaccine against the disease in the 1950s.

About:

- It is a highly infectious disease caused by a **virus** that invades the **nervous system** and can cause total paralysis in a matter of hours.
- **Transmission:** Through **person-to-person** spread mainly through the faecal-oral route or, less frequently, by a common vehicle (e.g. contaminated water or food) and multiplies in the intestine.
- **Vulnerability: Mainly children under 5 years** of age. However, anyone of any age who is unvaccinated can contract the disease. Its symptoms are fever, fatigue, headache, vomiting, stiffness of the neck and pain in the limbs.
- **Prevention and cure:** There is **no cure** for polio, it can only be prevented. There are **two vaccines available:** oral polio vaccine and inactivated polio vaccine.
- India was certified **polio-free in March 2014** and continues to be so.

POLIO VACCINES

Oral polio vaccine (OPV)	Inactivated polio vaccine (IPV)
Given through oral drops	Given through injection
Contains a weakened form of one, two or three serotypes of poliovirus	Contains inactivated strains of all three types of wild poliovirus
Can be easily administered by anyone	Needs to be administered by a trained health worker
Helps stop polio spreading between children	Doesn't stop polio spreading between children
Used as the main preventative treatment against polio	Used with OPV to provide further protection from polio

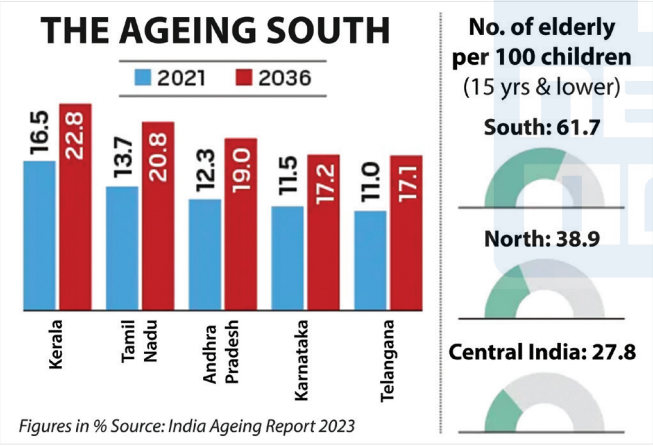
8 SOCIETY

SOUTH INDIA'S AGEING POPULATION

Recently, the Chief Minister of Andhra Pradesh highlighted the declining fertility rate in southern states, noting it has fallen to 1.6, significantly below the national average of 2.1.

About:

- **Declining Fertility Rates:** Southern Indian states like Andhra Pradesh, Tamil Nadu, and Kerala have already reached or are **nearing replacement-level fertility (2.1 children per woman)**. For instance:
  - **Andhra Pradesh** achieved this in 2004.
  - **Kerala** reached this level as early as 1988.
  - These states have significantly **lower fertility rates compared to Northern India**, contributing to slower population growth.



- **Aging Population:** With **lower fertility rates and increasing life expectancy**, the population in Southern India is aging rapidly:
  - **Kerala's 60+ population is projected to rise from 13% in 2011 to 23% by 2036.**
  - Andhra Pradesh and Tamil Nadu are also witnessing a similar demographic shift, creating a growing proportion of elderly residents.
- **Population Growth Contribution:** Southern states are projected to **contribute only 9% to India's total population growth from 2011 to 2036**. In contrast, Northern states like Uttar Pradesh and Bihar will account for a much larger share of India's future population growth.
- **Internal Migration and Workforce:** Due to declining birth rates and a shrinking working-age population, Southern states are **becoming more reliant on migrants from Northern India** to fill labor shortages and maintain economic growth.
- **Impact on Political Representation:** Slower population growth in Southern India raises concerns about political representation. After the delimitation of constituencies, Southern states might lose some parliamentary seats, while more populous Northern states like Uttar Pradesh and Bihar may gain representation.
- **Economic and Healthcare Strain:** The growing elderly population in Southern states is expected to increase healthcare expenditures and place further demands on social security systems.

WORLD MENTAL HEALTH DAY

Recently, World Mental Health Day was observed on October 10. Established in 1992 by the World Federation for Mental Health, it promotes awareness and mental well-being.

About:

- **Focus on Mental Health and Employment:**
  - The theme for **2024**, **"Mental Health at Work,"** emphasizes the critical connection between mental health and the workplace.
  - It highlights that with approximately **60% of the global population** engaged in some form of employment, addressing mental health in the workplace has become imperative for the well-being of employees and overall organizational health.
- **Importance of Safe Work Environments:**
  - Creating **safe and inclusive work environments** can significantly promote mental well-being among employees.
  - Conversely, poor working conditions, job insecurity, and high-stress environments can lead to substantial mental health risks, including increased anxiety, depression, and burnout.

Prevalence of Mental Health Issues in India:

- **Mental Disorders in the Population:**
  - According to a 2017 report, **14.3%** of India's population, which translates to approximately **197.3 million people**, was affected by some form of **mental disorder**.
  - According to the **National Mental Health Survey (NMHS) 2015-16**, approximately **10.6% of adults** in India suffer from mental disorders.
- **National Suicide Rate:** In **2022**, India recorded a **suicide rate of 11.6** per **100,000** people.
  - This statistic reflects not only the severity of mental health challenges but also the need for effective intervention and support mechanisms.

- **Access to Mental Health Treatment:**
  - The **National Mental Health Survey of 2016** revealed a concerning **treatment gap**, with **80.4%** of individuals suffering from common mental disorders not receiving any form of treatment.
  - This gap highlights barriers to accessing mental health care, including stigma, lack of resources, and inadequate services.
- **Government Spending on Mental Health:**
  - The government allocates a mere **0.06%** of its total health expenditure to mental health services.
  - This minimal investment reflects a broader trend of underfunding mental health initiatives, which can adversely affect the quality and accessibility of care.
- **Availability of Mental Health Professionals:**
  - India faces a significant shortage of mental health professionals, with only **0.75 psychiatrists** per **100,000** people.
  - This lack of qualified professionals limits the ability to provide adequate mental health care and support for those in need.
- **Awareness Levels in Rural and Disadvantaged Areas:** Mental health awareness remains low, particularly in **rural areas** and among **disadvantaged communities**.
  - Mental morbidity is higher in urban areas, with **13.5%** in metropolitan regions, compared to **6.9%** in rural areas and **4.3%** in urban non-metro areas.
- **Impact on Life Quality:**
  - The **World Health Organization (WHO)** estimates that India experiences **2,443 Disability-Adjusted Life Years (DALYs)** per **100,000** people due to mental health problems.
  - DALYs represent the total number of years lost due to ill health, disability, or early death, indicating a substantial impact of mental health issues on the overall health of the population.
- **Projected Economic Impact:**
  - The WHO projects that India will incur an economic loss of **$1.03 trillion** due to mental health conditions from **2012 to 2030**.
  - This significant figure highlights the economic burden of mental health issues, not only on individuals but also on society and the economy as a whole.
- **Adolescents' Mental Health:** The **NCERT's Mental Health and Well-being of School Students Survey** shows a concerning rise in poor mental health among adolescents, exacerbated by the COVID-19 pandemic, with **11%** of students reporting anxiety, **14%** feeling extreme emotions, and **43%** experiencing mood swings.

Government Initiatives for Improved Mental Health:

- **National Mental Health Survey (NMHS):** Conducted by the **National Institute of Mental Health and Neurosciences (NIMHANS)** in Bengaluru in **2016**, revealing that around **10.6%** of adults over the age of 18 suffer from mental disorders.
- **District Mental Health Programme (DMHP):** A key component of the **National Mental Health Programme (NMHP)**, the DMHP has been launched in **767 districts**, providing services such as **suicide prevention**, **workplace stress management**, **life skills training**, and counseling in schools and colleges.
- **Facilities and Services Offered:** District hospitals, Community Health Centres (CHCs), and Primary Health Centres (PHCs) offer a range of services, including outpatient care, counseling, psychosocial interventions, continued care for severe mental disorders, medication, outreach programs, and ambulance services.
- **Upgrading Health Centres:** Over **1.73 lakh** Sub Health Centres (SHCs) and PHCs have been upgraded to **Ayushman Arogya Mandirs**, integrating mental health services into their care packages.
- **Centres of Excellence:** The government has sanctioned **25 Centres of Excellence** to enhance student intake in postgraduate departments in mental health specialties and provide tertiary-level treatment facilities.
- **Strengthening Postgraduate Departments: 47 postgraduate departments** in mental health across **19 government medical colleges** have been strengthened, with mental health services provisioned in **22 newly established AIIMS**.
- **Government-run Mental Hospitals:** There are **47 government-run mental hospitals** in India, including three central institutions:
  - **National Institute of Mental Health and Neuro Sciences**, Bengaluru.
  - **Lokopriya Gopinath Bordoloi Regional Institute of Mental Health**, Tezpur, Assam.
  - **Central Institute of Psychiatry**, Ranchi
- **National Tele Mental Health Programme (NTMHP):**
  - The government launched the **National Tele Mental Health Programme (NTMHP)** on **October 10, 2022**, aimed at improving access to quality mental health counseling and care.
  - **Operational Tele MANAS Cells:** As of **October, 2024**, **53 Tele MANAS Cells** are operational across **36 states and union territories**, with over **14.5 lakh calls** handled on the helpline number, reflecting the growing demand for mental health support.

BANJARA VIRASAT MUSEUM

Recently, the Prime Minister inaugurated the Banjara Virasat Museum in Pohardevi, Washim, Maharashtra, showcasing the rich heritage of the Banjara community.

About:

- **Museum Structure:**
  - The museum is a **four-story structure** with **13 galleries** that vividly showcase the rich cultural heritage of the **Banjara community**.

- These galleries are dedicated to portraying the **Banjara legacy** through **portraits of Banjara community leaders** and highlighting key moments in the **Banjara movement**.
- The museum serves as an important cultural and historical center for preserving the community's identity and contributions.

- During his visit to **Washim**, the **Prime Minister** paid floral tributes to the memorials of **Sant Sevalal Maharaj** and **Sant Ramrao Maharaj**, both of whom are revered as spiritual leaders of the Banjara community.

ADDITIONAL INFORMATION

- **Sant Sevalal Maharaj** and **Sant Ramrao Maharaj** are deeply respected figures within the **Banjara community**.
- They are celebrated for their spiritual teachings and efforts to improve the social and moral conditions of the community.
- These leaders have been instrumental in preserving the Banjara culture, advocating for justice, and providing guidance to the community for generations.

Origin of the Banjara Community:

- **Etymology:** The term **Banjara** is derived from two Sanskrit words:
  - **Vanaj** meaning **trade**
  - **Jara** meaning **travel**
    - This reflects their traditional role as **nomadic traders** who travelled from one region to another, playing an important part in local economies by supplying essential goods, particularly to rural and interior areas.
- **Historical Role in Trade:**
  - The Banjara people also sometimes served as a **vital supply chain** for villages.
  - Hundreds of years ago, they distributed essential commodities such as **salt**, **grains**, and **other necessities** to remote and hard-to-reach villages.
    - They functioned as the primary merchants for these goods, travelling across vast distances.
  - Despite their nomadic lifestyle, Banjaras had a **connection to the land**, especially in agricultural regions where they traded goods.
    - Their role as **commercial nomads** meant that they were critical to maintaining the economy of rural India long before modern transportation and distribution systems existed.

Historical Resistance and the Criminal Tribes Act:

- **Rebellion Against British Colonial Rule:**
  - During the British colonial period, the Banjara tribe, like many other tribal communities in India, played a significant role in resisting British rule.
  - The British sought to **seize their lands** for plantations and other purposes, while also attempting to **enrol the Banjara people as labourers**.
  - The Banjaras were among the tribal communities that **revolted against British oppression**, often leading guerrilla-style resistance in various regions.
- **Criminal Tribes Act of 1871:**
  - As a result of their resistance, the British government passed the **Criminal Tribes Act (CTA) of 1871**.
  - The act allowed British authorities to heavily regulate and monitor the movements of these tribes, often subjecting them to imprisonment, forced resettlement, and other forms of surveillance.
  - This stigmatization deeply affected the Banjara community's social standing, leading to decades of marginalization and loss of their traditional livelihoods.
- **Denotification and the Habitual Offenders Act of 1952:**
  - After India gained independence in 1947, the **Criminal Tribes Act was repealed** in the early 1950s.
    - However, the stigma remained, as many former criminal tribes, were placed under the **Habitual Offenders Act of 1952**.
  - Although the criminal tribe designation was officially lifted, the Banjara community continued to face challenges in being fully integrated into mainstream Indian society, both socially and economically.

Geographic Distribution:

- **Roots in Rajasthan and Spread Across India:**
  - The Banjara community originally traces its roots to **Rajasthan**, but over the centuries, they have migrated and spread to several states across India.
  - Due to their extensive migration and trade networks, they are now found in many parts of the country, including **Andhra Pradesh**, **Karnataka**, **Maharashtra**, **Madhya Pradesh**, and **Gujarat**, among others.
- **Local Names in Different States:** Due to the diversity of Indian languages and regional customs, the Banjara people are known by different names in various states. For example:
  - In **Andhra Pradesh**, they are called **Lambada** or **Lambadi**
  - In **Karnataka**, they are referred to as **Lambani**
  - In **Rajasthan**, they are known as **Gwar** or **Gwaraiya**
- **Language and Dialect:**
  - The language spoken by the Banjara community is called **Gorboli**, also known as **Gor mati Boli** or **Brinjari**.
  - This is an **independent dialect** belonging to the **Indo-Aryan language family**, making it part of a broader linguistic group that includes many North Indian languages.
  - **Gorboli** is distinct from the dominant languages of the regions in which Banjaras now live, and it plays an important role in maintaining the community's sense of unity and heritage.

9 CULTURE & HISTORY

POUMAI NAGA TRIBE

Recently, the Poumai Naga tribe of Purul village in Manipur's Senapati district made a major commitment to wildlife conservation by prohibiting the hunting, trapping, and killing of wild animals and birds within their territory.

About:

- **Geographical Distribution and Demographics:**
  - The **Poumai Naga tribe** is primarily found in the **Senapati district** of **Manipur**, which accounts for **95.7%** of their population. A smaller portion of the tribe is located in **Nagaland**.
  - The Poumai Naga people predominantly live in rural areas, forming one of the oldest and largest Naga communities in **Manipur**.
  - Their villages are scattered across the hilly terrains of the region, where they have lived for centuries, preserving their cultural traditions and agricultural lifestyle.
- **Historical and Cultural Significance:**
  - As one of the largest **Naga tribes**, the **Poumai Naga** have a rich cultural history. Their traditions date back centuries, making them an important part of the Naga ethnic group, which comprises several tribes spread across the northeastern states of India.
  - The Poumai are deeply rooted in their customs, ceremonies, and unique ways of life, which are passed down through generations.
  - They have long been considered one of the most significant contributors to Naga identity, with a distinct **ethnic identity** that sets them apart.
- **Language:**
  - The language spoken by the tribe is known as **"Poula,"** which serves as a key cultural identifier.
  - **Poula** is part of the **Tibeto-Burman language family**, widely spoken across Poumai villages.
- **Religious Beliefs:**
  - The Poumai Naga tribe largely follows **Christianity**, which has had a profound impact on their societal norms, moral values, and community activities.
  - Missionary efforts in the region during the 19th and 20th centuries led to a widespread conversion to Christianity, which transformed many aspects of Poumai society, from education to governance and lifestyle.
  - Despite their adoption of Christianity, the Poumai people still retain aspects of their traditional practices, especially in festivals and cultural events that blend indigenous beliefs with Christian faith.
- **Economic Activities:**
  - **Agriculture** is the primary livelihood of the Poumai people, and it has been so for generations.
    - They cultivate crops such as rice, maize, and millets in the fertile valleys and terraces of their hilly homelands.
  - Farming techniques have evolved, and **shifting cultivation**, which was once common among the tribe, has significantly declined.
  - Historically, the Poumai were known for producing **Pouli (pottery)** and **Poutai (salt)**.
  - Their expertise in these crafts made them respected among neighboring tribes.
  - **Pottery** was essential for storing food, water, and cooking, while **salt production** was vital for both sustenance and trade in ancient times.
  - These traditional skills helped the tribe establish trade relationships with other communities in **Manipur** and **Nagaland**.
- **Festivals and Cultural Celebrations:**
  - **Laonii**, one of their most important festivals, is celebrated after the rice transplantation period.
    - This festival brings together the entire community to celebrate their agricultural success and express gratitude to their gods for a good harvest.
  - **Other notable festivals include:**
    - **Paonii:** Celebrating the success of the agricultural year and the sowing of seeds.
    - **Donii:** Marking communal unity.
    - **Rounii:** A festival related to seasonal changes and preparation for the harvest.
    - **Loukanii** and **Thounii:** Celebrated for village bonding and renewal of social ties.
    - **Taithounii:** Another important cultural festival with roots in agriculture.
- **Social Structure and Occupation:**
  - The **Poumai Naga society** is organized around villages, each of which has its governing body that oversees communal activities, land distribution, and dispute resolution.
  - The tribe follows a traditional system of governance that emphasizes collective decision-making and harmony among villagers.

NATIONAL MARITIME HERITAGE COMPLEX (NMHC)

Recently, the Union Cabinet sanctioned the establishment of the National Maritime Heritage Complex (NMHC) in Lothal, Gujarat.

About:

- **Initiative by the Ministry of Ports, Shipping & Waterway (MoPSW):**
  - The **Ministry of Ports, Shipping & Waterway (MoPSW)** is leading the development of a **Lighthouse Museum** aimed at showcasing India's rich maritime heritage, which dates back **4,500 years**.
- **Funding and Construction:**
  - The **Directorate General of Lighthouses and Lightships (DGLL)**, operating under MoPSW, will provide funding for the construction of the museum.
  - This museum is set to become the **tallest lighthouse** in the world, reflecting India's historical connection to maritime activities and navigation.

Significance of Lothal:

- **Historical Context:**
  - **Lothal** is recognized as one of the southernmost sites of the **Harappan civilization**, located in the **Bhal region** of **Gujarat**.
  - It is believed to have been established around **2,200 BC**, making it a significant archaeological site.
- **Maritime Innovation:**
  - Lothal is renowned for having the **world's earliest known dock**, which facilitated maritime trade and connectivity.
  - The dock linked the city to an ancient course of the **Sabarmati River**, illustrating the advanced engineering skills of the Harappan people.
- **UNESCO World Heritage Site:** In **April 2014**, Lothal was nominated as a **UNESCO World Heritage Site**, recognizing its global significance and the need for preservation due to its historical and archaeological importance.
- **Discovery:** The site was discovered in **1954** by **S.R. Rao**, whose work brought to light the remarkable achievements of the Harappan civilization.
- **Other Harappan Sites:** Apart from Lothal, **Surkotada** and **Dholavira** are other notable Harappan sites located in Gujarat.

DR. A.P.J. ABDUL KALAM

Recently, the Prime Minister paid tribute to Dr. A.P.J. Abdul Kalam, the 11th President of India, on his birth anniversary.

About:

- **Birth and Early Life:**
  - Born on **October 15, 1931**, in Rameswaram, Tamil Nadu, Dr. A.P.J. Abdul Kalam is commemorated on his birth anniversary as **National Innovation Day** and **World Students' Day**.
  - He graduated in Science from **St. Joseph's College, Trichy**, in 1954 and specialized in **Aeronautical Engineering** at the **Madras Institute of Technology (MIT)** in 1957.
- **Presidential Tenure:**
  - Dr. Kalam served as India's **11th President** from 2002 to 2007.
  - His leadership was marked by significant contributions to science and technology in India, and he earned the title **"Missile Man of India"** for his role in developing successful missile programs.
- **Honorary Doctorates:** He received **honorary doctorates** from 48 universities and institutions, both in India and internationally, recognizing his significant contributions to science and education.
- **Awards Received:** He was honored with several prestigious civilian awards, including:
  - Padma Bhushan (1981)
  - Padma Vibhushan (1990)
  - Bharat Ratna, India's highest civilian award (1997)
- **Literary Contributions:** Dr. Kalam was also a prolific author, with notable works including:
  - Wings of Fire
  - India 2020: A Vision for the New Millennium
  - My Journey
  - **Ignited Minds:** Unleashing the Power Within India
  - Indomitable Spirit
  - Guiding Souls
  - Envisioning an Empowered Nation
  - Inspiring Thoughts
- **Death:** Dr. A.P.J. Abdul Kalam passed away on **July 27, 2015**, in Shillong, Meghalaya.
- **Contributions to Science and Technology:**
  - **Pioneer in Fiberglass Technology:** Dr. Kalam was an expert in **fiberglass technology**, leading a team at **ISRO** to design and develop composite rocket motor cases.
  - **Satellite Launch Vehicle (SLV-3):**
    - As Project Director, he played a critical role in developing India's first **indigenous Satellite Launch Vehicle (SLV-3)**, which successfully launched the **Rohini satellite** into near-Earth orbit in July 1980, establishing India as a member of the **Space Club**.
    - He was instrumental in the evolution of **ISRO's launch vehicle program**, particularly with the **PSLV configuration**.

- **Indigenous Guided Missiles:**
  - After two decades at ISRO, he took charge of developing **Indigenous Guided Missiles** at **DRDO** and served as the Chief Executive of the **Integrated Guided Missile Development Programme (IGMDP)**.
  - His efforts led to the successful weaponization of strategic missile systems and the **Pokhran-II nuclear tests**, which established India as a nuclear power.
- **Medical and Healthcare Innovations:** Collaborating with cardiologist **B. Soma Raju co-developed** the **Kalam-Raju Stent**, a cost-effective coronary stent for heart disease, which reduced the prices of imported stents in India by over 50%, making healthcare more accessible.
- **Light Combat Aircraft Project:**
  - Dr. Kalam was significantly involved in the **Light Combat Aircraft project** and was associated with avionics.
  - He became the first Indian Head of State to fly a fighter plane and designed India's first indigenous hovercraft, **Nandi**, which can traverse land, water, mud, and ice by creating an air cushion beneath it.
- **Additional Contributions:**
  - Dr. Kalam was committed to enhancing rural prosperity through the **PURA (Providing Urban Amenities to Rural Areas)** initiative, advocating for science and technology's role in rural development.
  - He promoted the concept of a **World Knowledge Platform**, emphasizing the synergy of core competencies among organizations and nations to address the challenges of the 21st century.

MERA HOU CHONGBA

The Mera Hou Chongba Festival 2024 was recently celebrated in Imphal, showcasing the rich cultural heritage of the region.

About:

- **Purpose and Significance:**
  - Mera Hou Chongba is an annual festival aimed at reinforcing the cordial relationships between indigenous communities residing in the hills and those in the valleys of the region.
  - It is unique in that it serves as a platform for both hill and valley indigenous communities to come together and celebrate their shared heritage.
- **Historical Background:** The festival has its roots dating back to the time of **Nongda Lairen Pakhangba** in the **1st Century C.E.**, showcasing its deep historical significance and cultural continuity in the region.
- **Timing:**
  - The festival is celebrated every year in the month of **Mera**, which typically falls in **September/October**.
  - This timing aligns with local agricultural and seasonal patterns, marking a time of harvest and community gathering.
- **Participation:** The festival witnesses active participation from all village chiefs, known as **Khullakpas**, along with people from the surrounding hill areas.
- **Royal Involvement:** Notably, officials from the royal palace share the same platform as multiple village chiefs from various communities, including Mao**, Kabui, Zeme, Kom, Liangmei**, and others.
- **Main Activities:** The key functions of the Mera Hou Chongba festival include:
  - **Exchange of Gifts:** A significant ritual involves the exchange of gifts between the King and the village chiefs, symbolizing mutual respect and cooperation among the communities.
  - **Cultural Performances:** The festival features vibrant cultural shows, showcasing traditional dances, music, and arts that reflect the rich heritage of the participating communities.
  - **Sports Events:** Various sports competitions are organized, promoting friendly rivalry and physical fitness, further enhancing community bonds.

75 YEARS OF BHARATIYA ADIM JATI SEVAK SANGH (BAJSS)

Recently, President Droupadi Murmu participated in an event in New Delhi marking the 75th anniversary of the Bharatiya Adim Jati Sevak Sangh.

About:

- **Established**: The organization was founded on October 24, 1948, in Delhi.
- **Founder**: Thakkar Bapa, also known as Amritlal Vithaldas Thakkar, was the visionary behind this establishment.
- **Founder-President**: Dr. Rajendra Prasad, India's first President, was appointed as the Founder-President of BAJSS.
- **Primary Objective**: The main aim of BAJSS is to uplift and promote the welfare of tribal and marginalized communities throughout India.
- **Core Focus Areas:**
  - **Combating Poverty**: BAJSS works to alleviate poverty within tribal populations through livelihood support and sustainable development projects.
  - **Tackling Illiteracy**: The organization promotes education and literacy to empower tribal societies and reduce disparities in access to learning opportunities.
  - **Improving Health**: Addressing health challenges in tribal areas is another priority, with programs focused on providing basic healthcare and promoting awareness of hygiene and nutrition.

Thakkar Bapa (Amritlal Vithaldas Thakkar):

- **Background:**
  - **Birth**: Thakkar Bapa was born on November 29, 1869, in Bhavnagar, Gujarat.
  - **Professional Life**: He worked as a civil engineer both in India and internationally before dedicating his life to social work and reform.
- **Inspiration and Influences:**
  - **Mahatma Gandhi's Ideals**: Thakkar Bapa was deeply influenced by Mahatma Gandhi's principles of truth and non-violence.
  - This inspiration led him to prioritize social service and the upliftment of vulnerable populations.
- **Contributions to Freedom Struggle and Social Reform:**
  - **Active Participation in the Independence Movement**: He was actively involved in India's freedom struggle, using his influence to advocate for the rights of the marginalized.
  - **Advocacy for Compulsory Primary Education**:
    - In 1918, Thakkar Bapa played a pivotal role in the drafting and presentation of the Compulsory Primary Education Bill to the Bombay Legislative Council.
    - His efforts underscored the importance of education for all children, especially those from underprivileged backgrounds.
  - **Support for Dalits and Marginalized Groups:**
    - **Establishment of Harijan Sevak Sangh**: In 1932, Thakkar Bapa helped establish the Harijan Sevak Sangh, an organization aimed at improving the social and economic conditions of Dalits.
    - This initiative was crucial in addressing the caste-based discrimination prevalent in society and advocating for the upliftment of the Harijan community (a term used for Dalits).
- **Literary Contributions:**
  - **Book - Tribes of India:** Thakkar Bapa authored *Tribes of India*, published in 1950. The book offers a comprehensive look at the diverse cultures, traditions, and challenges faced by India's tribal communities.

NATIONAL MISSION FOR MANUSCRIPTS

Recently, the Union Ministry of Culture announced plans to revive the National Mission for Manuscripts (NMM) and is considering establishing an autonomous body.

About:

- **Background:**
  - The National Mission for Manuscripts is an initiative of the Ministry of Culture, aimed at the preservation, documentation, and dissemination of India's extensive manuscript heritage.
  - It was officially launched in 2003, with a mission to uncover, document, conserve, and make accessible the country's vast and diverse manuscript collection.
- **Implementing Bodies:**
  - The mission is implemented by the Department of Culture.
  - The Indira Gandhiji National Centre for the Arts (IGNCA) acts as the nodal agency overseeing its activities and ensuring effective implementation.
- **Objectives:**
  - The mission is committed to the conservation of manuscripts and sharing the valuable knowledge contained in them.
  - Its motto is "conserving the past for the future," reflecting its focus on preserving India's manuscript heritage while making it available for scholarly and public use.
- **Scope and Collection:**
  - India is estimated to hold around five million manuscripts, possibly the largest collection in the world.
  - Approximately 70% of these manuscripts are written in Sanskrit, highlighting the cultural and linguistic richness of the collection.
- **Manuscript Resource and Conservation Network**: The mission has established over 100 Manuscripts Resource Centres (MRCs) and Manuscripts Conservation Centres (MCCs) across India to facilitate its goals.
- **Key Achievements:**
  - **Documentation:** The mission has documented approximately 5.2 million manuscripts from various regions of India.
  - **Conservation:** It has successfully conserved around 90 million folios of manuscripts, ensuring their preservation for future generations.
  - **Digitization:** The mission has digitized 3.5 lakh manuscripts, encompassing about 3.5 crore pages.
    - These digitized manuscripts are crucial for preserving the content and making it widely accessible.
  - **Workshops and Training**: Over 100 conservation workshops have been conducted, aimed at training professionals and raising awareness about manuscript conservation techniques.
  - **Web Portal Access**: The mission has uploaded about 1.4 lakh manuscripts on its web portal, with 75,000 manuscripts made freely available for researchers and the public.
  - **Publications**: Since its inception, the mission has published more than 100 books, contributing significantly to the study and understanding of India's manuscript heritage.

SOHRAI PAINTING

Recently, the Prime Minister gifted a Sohrai painting to Russian President Vladimir Putin at the BRICS summit.

About:

- Sohrai is an indigenous mural art form with roots tracing back to ancient times.
  - The term "Sohrai" is derived from "soro," meaning "to drive with a stick," which reflects cultural traditions associated with this art.

- **Historical Significance:**
  - Sohrai art dates back to the Meso-chalcolithic period (9000-5000 BC), highlighting its deep historical and cultural relevance.
  - The Isko rock shelter, located in the Barkagaon area of Hazaribagh, features ancient rock paintings that closely resemble traditional Sohrai paintings.
- **Themes and Inspiration:**
  - The art primarily draws inspiration from natural elements, including forests, rivers, and animals, which are central to the cultural landscape of the communities that practice it.
  - This form of expression connects the artists deeply with their environment and reflects their symbiotic relationship with nature.
- **Artistic Techniques:**
  - Sohrai paintings are created by tribal (Adivasi) women using natural substances such as charcoal, clay, and soil.
  - The very origins of Sohrai art are rooted in primitive cave paintings, showcasing a long-standing tradition of mural artwork.
- **Geographical Practice:**
  - This art form is predominantly practiced by indigenous communities in Jharkhand, Bihar, Odisha, and West Bengal.
  - It is specifically associated with tribal groups like the Kurmi, Santal, Munda, Oraon, Agaria, and Ghatwal tribes.
- **Cultural Recognition**: The Hazaribagh region in Jharkhand has been awarded a Geographical Indication (GI) tag for Sohrai art, recognizing its unique cultural and regional identity.
- **Characteristics**: Sohrai paintings are known for their vibrant colors, intricate patterns, and symbolic motifs. The artwork stands out for its aesthetic richness and cultural depth.
- **Sohrai Festival:**
  - The annual Sohrai festival celebrates the harvest season and the onset of winter.
  - It is a time when these traditional paintings are created and displayed, emphasizing themes of prosperity and natural abundance.

BIRTH ANNIVERSARY OF LAL BAHADUR SHASTRI

Recently, the Prime Minister commemorated the birth anniversary of former Prime Minister Shri Lal Bahadur Shastri.

About:

- **Birth and Early Life:**
  - Lal Bahadur Shastri was born on **October 2, 1904**, in **Mughal Sarai**, a small town in **Uttar Pradesh**.
  - He was born into an ordinary family, which instilled in him the values of simplicity and service to society from a young age.
  - His father, **Shri Ramdhar**, was a school teacher, and his mother, **Shri Mangi Lal**, raised him with strong moral values.
  - He pursued his education at **Kashi Vidyapeeth**, where he earned a degree in philosophy.
- **Social Service:**
  - After completing his education, Shastri dedicated himself to social service through the **Servants of People Society**, an organization established by **Lala Lajpat Rai** to promote social reform and uplift the marginalized sections of society.
  - His involvement in this society underscored his commitment to serving the community and advocating for the rights of the underprivileged.
- **Political Involvement:**
  - Shastri became an active participant in the **1930 Civil Disobedience Movement**, which sought to challenge British rule through non-violent resistance.
  - His participation in this movement marked the beginning of his long political career.
  - In **1930**, he was appointed the **General Secretary** of the **Allahabad District Congress Committee** by **Jawaharlal Nehru**, demonstrating his growing prominence within the Indian National Congress and the broader freedom struggle.
  - In **1937**, Shastri was elected to the **legislative assembly of the United Province**, reflecting his increasing influence in regional politics.
  - His election was a testament to his dedication to representing the voices of the people and addressing their concerns within the framework of the political system.
- **Quit India Movement:**
  - During the **Quit India Movement** of **1942**, which called for an end to British rule, Shastri's activism intensified. His outspoken opposition to colonial policies infuriated the

British authorities, leading to his imprisonment multiple times.
- His experiences during this tumultuous period further solidified his resolve to fight for India's independence.

- **Post-Independence Career:**
  - Following India's independence in **1947**, Shastri was appointed a minister in the **Uttar Pradesh state government**, where he focused on various developmental initiatives.
  - **He later served in the Union Cabinet in several key ministries:**
    - As Minister of **Railways and Transport** (1952-1956), he implemented policies that improved the efficiency and safety of rail services.
    - As Minister of **Industries** (1957-1961), he focused on promoting industrial growth and self-sufficiency in various sectors.
    - As Minister of **Home Affairs** (1961-1963), he dealt with issues of national security and internal stability.
  - He resigned from his position as Railway Minister after the **Mahbubnagar Rail accident**, demonstrating his accountability and commitment to public safety.
  - He became the **second Prime Minister of India** on **June 9, 1964**, following the death of **Jawaharlal Nehru**. He served until **January 11, 1966**, during which he faced significant challenges.
  - **His tenure was marked by two critical events:**
    - The **1965 war with Pakistan**, which tested India's military readiness and diplomatic strategies. Shastri's leadership during this conflict bolstered national pride and unity.
    - The **Green Revolution**, aimed at increasing food production to address food security issues in India.
  - He is remembered for his famous slogan "**Jai Jawan, Jai Kisan**", which inspired both the military and agricultural sectors during a time of national crisis.
- **Agricultural Policy:**
  - India faced acute food shortages in the early 1960s, heavily relying on the **1954 Public Law (PL) 480** agreement with the **United States** for food aid.
  - This dependency highlighted the urgent need for agricultural reform.
  - During his tenure, India imported about **15 million tonnes** of grains between **1960 and 1963**, a situation exacerbated by the **Indo-Pak war** in **1965**.
  - In response, he championed the **Green Revolution**, which involved introducing high-yielding varieties of crops, improved irrigation systems, and modern farming techniques to boost agricultural productivity.
- **Green Revolution:**
  - Under his leadership, the Green Revolution gained momentum as agriculture was recognized as crucial for India's economic stability and self-sufficiency.
  - The establishment of the **Commission for Agricultural Costs and Prices (CACP)** during his administration ensured farmers received **MSP** for their crops, promoting fair compensation and stabilizing farmers' income.
  - His government also passed the **National Agricultural Products Board Act**, further supporting agricultural development.
  - The formation of the **Food Corporation of India (FCI)** in **1965** under the **Food Corporations Act, 1964**, played a significant role in managing food supply and distribution.
- **White Revolution:**
  - He also played a vital role in the **White Revolution**, which aimed to make India self-reliant in milk production.
  - This initiative was crucial for improving nutritional standards and providing livelihood opportunities for dairy farmers.
  - He established the **National Dairy Development Board** in **1965**, promoting cooperative dairy farming and enhancing milk production across the country.
  - This initiative significantly increased milk availability and contributed to rural development.
- **Posthumous Recognition:**
  - Lal Bahadur Shastri passed away on **January 11, 1966**, while in Tashkent, Uzbekistan, shortly after signing the **Tashkent Agreement** with Pakistan.
  - In recognition of his exemplary service to the nation, he was posthumously awarded the **Bharat Ratna**, India's highest civilian honor, in **1966**.

TASHKENT AGREEMENT

- **Background:**
  - The **Tashkent Agreement** was signed on **January 10, 1966**, following the **1965 Indo-Pak War**.
  - The agreement was a significant diplomatic effort to restore peace and stability in the region after the conflict, which had arisen primarily over territorial disputes in **Kashmir**.
- **Signing Parties:**
  - The agreement was signed by **Prime Minister Lal Bahadur Shastri** of India and **President General Ayub Khan** of Pakistan.
  - The meeting took place in **Tashkent**, the capital of **Uzbekistan**, then part of the Soviet Union, under the auspices of the Soviet leadership, which facilitated the discussions.
- **Cease-Fire Line:**
  - One of the primary objectives of the Tashkent Agreement was to reaffirm the **Cease Fire Line** that existed prior to **August 5, 1965**.
  - This line marked the boundaries between Indian and Pakistani forces in the disputed region of **Kashmir**, which had been a longstanding point of contention between the two nations.

- **Withdrawal of Armed Personnel:**
  - The agreement mandated that **all armed personnel** of both countries would withdraw to the positions they held before the conflict began on **August 5, 1965**.
  - This withdrawal was to be completed by **February 25, 1966**, ensuring a return to the status quo ante prior to the war.
- **Non-Interference Principle:** Both nations committed to establishing relations based on the principle of **non-interference** in each other's internal affairs.
- **Diplomatic Relations:** The agreement stipulated that the **High Commissioner of India to Pakistan** and the **High Commissioner of Pakistan to India** would return to their respective posts, thus restoring the normal functioning of diplomatic missions.
- **Vienna Convention Compliance:**
  - Both governments agreed to adhere to the **1961 Vienna Convention on Diplomatic Relations**, which outlines the framework for diplomatic conduct and the rights and responsibilities of diplomatic missions.
  - This commitment underscored the importance of international diplomatic norms in their relationship.
- **Communications Restoration:**
  - There was an emphasis on restoring **communications** between the two countries, which would help in reconnecting the societies and improving the overall relationship.
  - This included restoring transportation links and facilitating easier movement across borders.
- **Prisoner of War Repatriation:**
  - The agreement included provisions for the **repatriation of prisoners of war** (POWs) held by both sides.
  - This was a significant humanitarian aspect, addressing the plight of those captured during the conflict and reaffirming a commitment to human rights.

100 YEARS OF SURREALISM

The year 2024, marks 100 years of Surrealism, an art and literature movement in which unusual or impossible things are shown happening.

About:

- Surrealism is an influential **20th-century art and literary movement** known for depicting strange or impossible scenarios, often blending the dreamlike with reality.
- It aimed to unlock the power of the subconscious mind, **liberating thought from the confines of reason** and conventional logic.
- **Origins of Surrealism:** The roots of Surrealism can be traced to the **Dada movement**, an anti-establishment art movement, developed around 1915. However, there are some fundamental differences between the two.
  - **Its formal birth** is traced to the publication of the **surrealist manifesto in October 1924** by French poet and writer Andre Breton.
- **Prominent artists and artworks:** One of the most prominent artists of Surrealism were;
  - Spanish artist Salvador Dalí,
  - German painter and sculptor Max Ernst,
  - Belgian artist René Magritte and
  - Spanish Catalan modernist Joan Miró

Relevance of Surrealism:

- **Cultural Influence:** Surrealism continues to shape contemporary art, film, and literature by challenging conventional perceptions of reality and encouraging exploration of the subconscious mind.
- **Psychological Exploration:** The movement's focus on dreams, the irrational, and the subconscious remains influential in modern psychology, particularly in creative therapy and understanding human emotions.
- **Artistic Freedom:** Surrealism promotes breaking free from traditional artistic constraints, inspiring new generations of artists to push the boundaries of creativity and embrace experimentation.
- **Societal Commentary:** By blending fantasy and reality, surrealist works often offer profound critiques of societal norms and structures, resonating with current discussions on political and social issues.
- **Cross-Disciplinary Impact:** Surrealism's principles have transcended visual arts, influencing architecture, advertising, digital media, and even virtual reality, expanding its relevance across multiple fields.
- **Influence on Popular Culture:** Elements of Surrealism frequently appear in popular media, such as video games, music videos, and fashion, where its themes create unique, immersive worlds that attract and captivate audiences seeking escapism and depth.
- **Identity and Self-Expression:** Surrealism's focus on exploring the subconscious has become significant in conversations on personal identity and self-expression, especially within movements that explore gender fluidity, psychological introspection, and alternative expressions of the self.
- **Philosophical Inquiry:** Surrealism remains an engaging platform for philosophical exploration of existence, consciousness, and reality, encouraging deeper inquiry into the nature of human experience and the thin boundary between the real and the imagined.

10 MISCELLANEOUS

70TH NATIONAL FILM AWARDS

President Droupadi Murmu presented the 70th National Film Awards, honoring the winners across various categories for their outstanding contributions to Indian cinema.

About:

- **National Film Awards** are the most prestigious awards, which are announced annually to **honor the best filmmaking talent** across the country.
- **It aims** at encouraging the production of films of aesthetic and technical excellence and social relevance.
- The awards are given in **three sections** – Features, Non-Features and Best Writing on Cinema.

History:

- The awards were first presented in **1954** and were known as the **'State Awards**'. Earlier, only best films in different regional languages were recognised and awarded.
- Separate awards for artists and technicians were **instituted in 1968** for the films of **1967.**
- **Nargis Dutt** and **Uttam Kumar** being the first actress and actor to get the Best Actress and Best Actor Awards respectively.

Key Recipient of the Awards this Year:

- **Best Feature Film:** Aattam (The Play)
- **Best Non-feature film:** Ayena (Mirror)
- **Best Actor:** Rishab Shetty (Kantara)
- **Best Actress:** Nithya Menen (Thiruchitrambalam) and Manasi Parekh (Kutch Express)
- Veteran actor **Mithun Chakraborty** was honored with the **Dadasaheb Phalke Lifetime Achievement Award** for the year **2022.**

150 YEARS OF UNIVERSAL POSTAL UNION

Year 2024 commemorates the 150th anniversary of the Universal Postal Union (UPU).

About:

- **The Universal Postal Union** is a United Nations specialized agency and the postal sector's primary forum for international cooperation.
- **Origin:** On **9 October 1874**, 22 countries signed the **Treaty of Bern**, creating the General Postal Union.
  - Later it became known as the Universal Postal Union.
- **Member countries:** The UPU has **192 member** countries.
  - Any member country of the United Nations may become a member of the UPU.
  - Any non-member country of the United Nations may become a UPU member provided that its request is **approved by at least two-thirds of the member** countries of the UPU.
- **Headquarters:** Berne, Switzerland.
- **Consists of 4 bodies:**
  - **The Congress:** It is the supreme authority; meets every four years.
  - **The Council of Administration:** It supervises its activities and studies regulatory, administrative, legislative and legal issues.
  - **The Postal Operations Council:** It is the technical and operational mind of the UPU and consists of 48 member countries, elected during Congress.
  - **The International Bureau:** It provides logistical and technical support.

WORLD POST DAY

- World Post Day is annually observed across the globe on 9th October.
- It was first declared at the UPU Congress in Tokyo in 1969 to highlight the essential role of postal services globally.
- **Theme for 2024:** 150 years of enabling communication and empowering peoples across nations

NOBEL PRIZE IN LITERATURE 2024

South Korean author Han Kang has been awarded the 2024 Nobel Prize in Literature by the Swedish Academy in Stockholm for her "intense poetic prose" that delves into historical traumas and the fragility of life.

About:

- Established by **Alfred Nobel** in his will, which dedicated the bulk of his fortune to the creation of the **Nobel Prizes**. Nobel is best known for **inventing dynamite.** The first **Nobel Prizes were awarded in 1901.**
- The awards ceremony takes place in **Stockholm, Sweden**, for all categories except the Peace Prize, which is **presented in Oslo, Norway.**

- Since 1974, the Nobel Prizes **cannot be awarded posthumously**, except in cases where the recipient dies after the prize has been announced.

MUSANED PLATFORM

Saudi Arabia launched the Musaned Platform to ensure wage protection and human rights of expat workers.

About:

- It is a comprehensive electronic platform to **facilitate the recruitment process of domestic workers**, enhance the protection of rights for all parties involved, and inform employers and domestic workers of their rights and responsibilities.
- **The platform will benefit** workers from 10 African countries, including Sudan and Ethiopia, and nine Asian countries such as India and Bangladesh, the platform enhances transparency and accountability.

Key Features:

- **Foreign workers** in the domestic (household) work sector can **check the existing employment contracts** and follow updates in a dedicated Musaned labor app.
- It also **allows foreign embassies to have "view access"** on the system on all the details related to their citizens working in Saudi. The Musaned platform can be linked with contract insurance and health benefits.

SHIROMANI GURDWARA PARBANDHAK COMMITTEE (SGPC)

The Shiromani Gurdwara Parbandhak Committee (SGPC) elections, mandated to be held every five years, were last conducted in 2011.

About:

- **The Shiromani Gurdwara Parbandhak Committee (SGPC)** is an important Sikh religious organization responsible for **managing and overseeing the affairs of Sikh gurdwaras** (places of worship) in the state of Punjab, as well as other parts of India and abroad.
- **Origin:** The SGPC was created in response to demands by Sikhs for control over their religious institutions, which were under the influence of **corrupt mahants (priests) appointed by the British** colonial government.
  - The SGPC operates under the **Gurdwara Act of 1925**, which grants it authority to manage Sikh religious affairs and institutions.
- It is a democratically elected body with members elected by Sikh voters. The SGPC also plays a key role in promoting Sikh teachings and spreading awareness about Sikhism.

SNOW LEOPARD (PANTHERA UNCIA)

Recently, International Snow Leopard Day was celebrated on October 23.

About:

- **Scientific Classification:** Snow leopards are classified as either ***Panthera uncia*** or ***Uncia uncia*** within the family Felidae.
  - They are recognized as large, long-haired Asian cats.
- **Habitat:** Snow leopards inhabit the high mountains of northern and central Asia, including the Himalayan region.
- **Elevation:** They are typically found in high alpine areas, primarily above the tree line, at elevations reaching up to 18,000 feet.
- **Distribution:** Their range spans 12 countries, including: China, Bhutan, Nepal, India, Pakistan, Russia and Mongolia.
- **Presence in India:** In India, snow leopards are found in several states, including:
  - **Western Himalayas:** Jammu and Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, and Sikkim.
  - **Eastern Himalayas:** Arunachal Pradesh.
- **Features:**
  - **Size:** The average adult snow leopard measures between 1,000 to 1,300 mm from nose to tail.
  - **Fur and Markings:** They have thick fur that is grey with yellow tinges, featuring solid spots on the head, neck, and lower limbs, and rosettes over the body.
  - **Tail:** Snow leopards possess very long, thick tails, which aid in balancing on rocky terrain and can be wrapped around their bodies for warmth.
  - **Physical Adaptations:** Their short forelimbs and long hind limbs enhance agility, allowing them to jump as much as 50 feet in length.
  - **Social Behavior:** Snow leopards are solitary animals, with the only prolonged social interactions occurring while females are raising their cubs.
- **Conservation Status:**
  - **IUCN Red List:** Snow leopards are classified as Vulnerable.
  - **CITES:** They are listed in Appendix I, indicating they are at risk of extinction.

ADDITIONAL INFORMATION

- **Project Snow Leopard (PSL):** Launched in 2009, PSL aims to conserve snow leopards and their habitats through community involvement and sustainable conservation practices. It focuses on balancing wildlife protection with local livelihoods in Himalayan regions.
- **Global Snow Leopard and Ecosystem Protection Program (GSLEP):** India participates in GSLEP, an international initiative to protect snow leopards across 12 countries. It emphasizes transboundary collaboration and habitat preservation.

11 DATA RECAP

Out of Pocket Health Expenditure:

- While the figure has improved over the years to **48.21 per cent** in 2018-2019 from **69.4 percent** in 2004-2005, according to the National Health Accounts, it still remains high. This runs a severe risk of pushing people into poverty.
- High OOPE on health is impoverishing some **55 million Indians annually**, with over 17 per cent households incurring catastrophic levels of health expenditures every year, a World Health Organization report from March 2022 estimated.

BRICS:

- **Origin:** The term BRIC was coined by British economist Jim O'Neill in 2001 to represent emerging economies. South Africa was inducted in 2010.
- **Expansion of BRICS:** Ethiopia, Egypt, Iran, and the UAE are the four new additions to the BRICS. It is to be noted that Saudi Arabia has accepted the invitation but delayed formal joining.
- The new, expanded BRICS represent roughly 45 percent of the world's population and 35 percent of global GDP when measured at purchasing power parity.

India-Germany Relation:

- Germany is India's largest trading partner within the European Union, with bilateral trade reaching $26 billion in 2022-23.
- Indian exports to Germany increased to $10. 1 billion, while German exports to India totaled approximately $14. 9 billion.

India-Canada Relation:

- India ranked as Canada's 10th-largest trading partner in 2022, with trade volumes reaching $12 billion in 2023.
- India exports pharmaceuticals, textiles, machinery, and gems, while Canada exports pulses, timber, mining products, and paper.
- Canada is the 18th-largest foreign investor in India, with $3. 3 billion in investments from 2000 to 2023.
- Over 1. 3 million people of Indian origin, including NRIs, make up more than 4% of Canada's population.
- Indian permanent residencies in Canada increased by 260% from 2013 to 2022, indicating deeper bilateral ties.

India-Maldives:

- The bilateral trade has crossed the USD 300 million mark for the first time in 2021. India became the Maldives' third largest trade partner. For instance, in November 2022, India provided a financial aid package of US$ 100 million in response to a request from the Maldives.
- In 2023, India became the leading source market for Maldives, with more than 1 lakh tourist arrivals (until June 2023) and a 12% market share.

ASI Report 2022-23:

- The ASI indicates a significant growth in manufacturing employment, rising by 7.5% from 1.72 crore in 2021-22 to 1.84 crore in 2022-23, marking the highest growth rate in the last 12 years.
- The manufacturing sector created 13 lakh jobs in 2022 23, up from 11 lakh in FY22. Manufacturing GVA saw robust growth of 7.3%, reaching Rs 21.97 lakh crore in 2022-23, an increase from Rs 20.47 lakh crore in 2021-22.
- Total industrial input rose by 24.4%, while output grew by 21.5% in the sector, indicating a strong rebound in manufacturing activities.
- Gross Fixed Capital Formation (GFCF) surged over 77% to Rs 5.85 lakh crore in 2022-23, while net fixed capital formation saw an astounding 781.6% rise to Rs 2.68 lakh crore, providing strong support for sustained manufacturing growth.

Global Hunger Index (GHI):

- India has been ranked 105th out of 127 countries in the GHI 2024, placing it in the "serious" category for hunger levels,
- The report states that the wasting rate among children under five is 18.7%, which is significantly concerning.
- Stunting remains a significant challenge in India, with about 35.5% of children classified as stunted.
- Approximately 13.7% of the Indian population is undernourished, indicating a serious problem with food access and availability.
- The child mortality rate in India stands at 2.9%, meaning that nearly 3% of children do not survive to their fifth birthday.
- The report notes that South Asia accounts for nearly 40% of the global total of 281 million undernourished individuals.

Total Electricity Generation Capacity:

- As of October 2024, India's total electricity generation capacity has reached 452.69 GW.
- Of this total capacity, renewable energy sources contribute significantly with 201.45 GW, representing 46.3% of the overall installed capacity.
- Solar energy leads the renewable sector with 90.76 GW of installed capacity, making it a cornerstone of India's renewable strategy.
- Wind power contributes 47.36 GW, positioning it as a significant source of renewable energy in India.
- The contribution from large hydroelectric projects stands at 46.92 GW, utilizing India's extensive river systems to generate clean energy. In addition to large project small hydro power adds 5.07 GW.
- Biopower, comprising biomass and biogas energy, contributes 11.32 GW to the renewable energy mix.

Test Yourself

Objective Questions

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Mains Questions

PAPER-I

1. Discuss the important events in the life of Gautama Buddha, highlighting their significance in shaping his teachings and their impact on the spread of Buddhism. ***(15 Marks, 250 Words)***

2. Discuss the significance of granting classical language status to Indian languages, and evaluate its impact on cultural preservation, academic research, and regional identity. ***(10 Marks, 150 Words)***

3. Examine the key teachings of Mahatma Gandhi, and assess their relevance in contemporary global and Indian contexts. ***(10 Marks, 150 Words)***

4. Examine the characteristics of the Indian monsoon pattern, its significance for agriculture, and the challenges posed by changing monsoon dynamics in the context of climate change. ***(15 Marks, 250 Words)***

5. Explain the phenomenon of aurora, its causes, and its significance in the study of Earth's atmosphere and space weather. ***(15 Marks, 250 Words)***

6. Analyze the formation and impact of cyclones in the Indian Ocean region, and discuss the measures to mitigate their effects on vulnerable coastal areas. ***(10 Marks, 150 Words)***

7. Discuss the challenges posed by India's growing elderly population, and evaluate the policies and programs aimed at addressing their healthcare, social, and economic needs. ***(15 Marks, 250 Words)***

8. Examine the issue of marital rape in India, analyzing the legal, social, and cultural challenges, and discuss the need for legal reforms to protect women's rights. ***(10 Marks, 150 Words)***

PAPER-II

9. Discuss the challenges and opportunities in achieving Universal Health Coverage (UHC) in India, considering factors like financial constraints, infrastructure gaps, and equitable access to quality healthcare. ***(10 Marks, 150 Words)***

10. Analyze the recent diplomatic row between India and Canada, exploring its causes, implications for bilateral relations, and potential pathways to resolution. ***(15 Marks, 250 Words)***

11. Examine the key areas of cooperation between India and Germany, and assess how this partnership contributes to both countries' strategic and economic interests. ***(10 Marks, 150 Words)***

12. Examine India's role and contributions in UN Peacekeeping missions, and analyze how these efforts align with India's foreign policy objectives and global peace aspirations. ***(10 Marks, 150 Words)***

13. Analyze the concept of weaponization of trade, highlighting its impact on global trade dynamics and the strategic challenges it poses for emerging economies like India. ***(10 Marks, 150 Words)***

14. Discuss the significance of BRICS in reshaping global governance and economic order, and evaluate its role in promoting the interests of emerging economies. ***(15 Marks, 250 Words)***

PAPER-III

15. Discuss the objectives and impact of the PM e-Drive Scheme on promoting electric mobility in India, and evaluate its role in achieving sustainable transportation goals. ***(15 Marks, 250 Words)***

16. Evaluate the importance of the manufacturing sector in India's economic growth, employment generation, and export potential. Discuss challenges and suggest measures to enhance its contribution. (10 Marks, 150 Words)

17. Discuss the key government initiatives aimed at addressing hunger issues in India, and evaluate their effectiveness in achieving food security and improved nutrition for vulnerable populations. ***(15 Marks, 250 Words)***

18. Explain the concept of Eco-Sensitive Zones (ESZ) in India, and analyze their role in balancing environmental conservation with developmental needs. ***(10 Marks, 150 Words)***

19. Assess India's progress in expanding its renewable energy capacity, highlighting key achievements, challenges, and the role of renewable energy in achieving climate goals. ***(15 Marks, 250 Words)***

20. Discuss the properties, types, and applications of biopolymers, and evaluate their role in promoting sustainability and reducing environmental impact in various industries. ***(15 Marks, 250 Words)***