

**AUGUST 2024**

# BELIEVERS MANTRA



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## India is the 2nd Largest Aluminium Producer in the World

### Context

India has continued to show robust growth in the production of key minerals and non-ferrous metals in the first quarter (Q1) of the fiscal year 2024-25. This growth follows record production levels in the fiscal year 2023-24, highlighting the country's strong mineral production capabilities and its significant position in the global market.

### Key Highlights:

- **Mineral Production Growth:**
  - Iron ore production increased by **9.7% from 72 million metric tons (MMT) in Q1 FY 2023-24 to 79 MMT in Q1 FY 2024-25.**
  - Limestone production rose by **1.8% from 114 MMT in Q1 FY 2023-24 to 116 MMT in Q1 FY 2024-25.**
  - Manganese ore production increased by **11% from 0.9 MMT in Q1 FY 2023-24 to 1.0 MMT in Q1 FY 2024-25.**
- **Aluminium Production Growth:**
  - Primary aluminium production grew by **1.2%**, from **10.28 lakh tons (LT) in Q1 FY 2023-24 to 10.43 LT in Q1 FY 2024-25.**
  - India is the **2nd largest producer of aluminium** in the world.

### Global Rankings:

- India is the 2nd largest producer of aluminium.
- India is the 3rd largest producer of limestone.

- India is the 4th largest producer of iron ore.

### Significance:

- **Economic Activity:** The continued growth in mineral production, especially iron ore, limestone, and aluminium, indicates strong demand in user industries such as steel, cement, energy, infrastructure, construction, automotive, and machinery.
- **Global Position:** India's significant rankings in the global production of aluminium, limestone, and iron ore underscore its importance in the global mineral and metal markets.
- **Industrial Growth:** The robust production growth supports the development and expansion of key industrial sectors, contributing to overall economic growth.
- **Supply Chain Stability:** Increased production levels help ensure a stable supply of critical raw materials for various industries, enhancing India's industrial capabilities and economic resilience.

## VIRAASAT- honouring India's handloom tradition

### Context

“VIRAASAT”, an exhibition celebrating the 10th National Handloom Day, commenced at Handloom Haat in Janpath, New Delhi, on 3rd August 2024.

- Organized by the **National Handloom Development Corporation Ltd (NHDC)** under the Ministry of Textiles, the event will run until 16th August 2024.
- This exhibition aims to **honour India's handloom tradition** and



provide market connectivity to weavers and artisans.

## Key Highlights

- **Exhibition Details:** The exhibition is open to the public from 11 am to 8 pm, featuring handloom products from various exotic locations in India.
- **Activities and Stalls:** The event includes 75 stalls for handloom weavers and artisans, workshops on natural dyes, kasturi cotton, design and exports, live loom demonstrations, folk dances, and regional cuisines.
- **Prime Minister's Appreciation:** During the 112th episode of Mann ki Baat, the Prime Minister praised the handloom artisans and encouraged people to share photos of local products on social media with the hashtag '#MyProductMyPride'.
- **Historical Context:** National Handloom Day commemorates the Swadeshi Movement launched on 7th August 1905, which encouraged indigenous industries and handloom weavers.
  - The first National Handloom Day was celebrated on 7th August 2015 by Prime Minister Narendra Modi in Chennai.

## Importance to India

- **Cultural Heritage:** The handloom sector symbolizes India's rich and varied cultural heritage, employing 35 lakh people directly or indirectly, making it the second-largest employer after agriculture.
- **Economic Contribution:** Handloom weaving is integral to socio-economic development, contributing significantly to the economy and providing livelihoods to millions of artisans and weavers.

- **Unique Products:** Handloom products such as Banarasi, Jamdani, Baluchari, Madhubani, Kosa, Ikkat, Patola, and many others, are renowned globally for their exclusive weaves, designs, and traditional motifs.

## Need for Such a Move

- **Empowering Artisans:** The exhibition aims to protect the handloom heritage, empower weavers, and enhance their financial stability by improving market access.
- **Sustainable Development:** Promoting sustainable development in the handloom sector ensures environmental conservation while supporting artisans' livelihoods.
- **Market Identity:** Government initiatives like branding high-quality products with zero defects and zero environmental impact help create a distinct identity for handloom products, ensuring they are genuinely handcrafted.

## Way Forward

- **Promoting Handloom Products:** Continued support for exhibitions like "VIRAASAT" can boost the market for handloom products and increase earnings for the handloom community.
- **Government Schemes:** Expanding and effectively implementing government schemes to support handloom artisans can enhance the sector's growth and sustainability.
- **Public Awareness:** Increasing public awareness about the value of handloom products and encouraging the purchase of these items can help sustain the handloom tradition.
- **Technological Integration:** Integrating modern technology with traditional handloom practices can

improve efficiency and innovation in the sector, ensuring its long-term viability.

## Eco-Friendly Steps in the Coal Sector

### Context

The Union Minister of Coal and Mines, Shri G. Kishan Reddy, highlighted eco-friendly initiatives in the coal sector during a written reply in the Rajya Sabha. These measures aim to mitigate environmental impact, especially concerning water pollution and sustainable resource use, in coal and lignite mining areas.

### Key Highlights

#### 1. Water Pollution Control Measures:

- Mine discharge water is treated through sedimentation in mine sumps and surface sedimentation ponds/settling tanks before discharge.
- Quality of mine water and workshop effluent is regularly monitored and tested as per norms through NABL accredited laboratories before reuse and discharge.

#### 2. Community Use of Treated Mine Water:

- Over the last five years, 18,513 Lakh Kilo Liters (LKL) of treated mine water has been provided for community purposes by Coal/Lignite PSUs.
  - CIL: 13,805 LKL (Domestic: 6309 LKL, Irrigation: 7496 LKL)
  - NLCIL: 1774 LKL (Domestic: 613 LKL, Irrigation: 1161 LKL)
  - SCCL: 2934 LKL (Domestic: 88 LKL, Irrigation: 2846 LKL)
- Treated mine water is also offered to state governments of coal-

bearing states for community utilization.

#### 3. Eco-Friendly Initiatives:

- Greening initiatives like bio-reclamation and plantation in and around mining areas.
- Development of eco-parks and mine tourism sites.
- Utilization of overburden (OB) through OB processing plants and M-sand plants.
- Implementation of energy efficiency measures, including:
  - Replacement of conventional lights with LED lights.
  - Installation of energy-efficient air conditioners, super fans, electric vehicles, and efficient water heaters.
  - Use of energy-efficient motors for pumps and auto-timers in street lights.

### Significance

- **Environmental Protection:** These measures help in reducing the environmental impact of coal mining by treating water pollution, reusing treated water, and enhancing green cover.
- **Community Benefits:** Treated mine water provided for domestic and irrigation purposes supports local communities, especially in water-scarce regions.
- **Sustainability:** Adoption of energy-efficient technologies and sustainable practices promotes resource conservation and reduces carbon footprint.
- **Economic Development:** Development of eco-parks and mine tourism sites can boost local

economies and provide alternative livelihoods in mining areas.

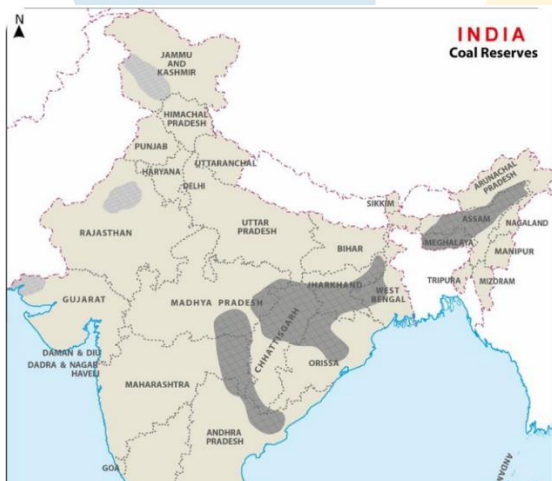
- Government Commitment: The initiatives underscore the government's commitment to balancing industrial activities with environmental sustainability and community welfare.

### Coal Sector in Indian Economy:

- The Indian coal sector is **one of the eight core sectors** significantly contributing to the country's economic development.
- India has four grades of coal:
  - Lignite
  - Bituminous
  - Sub-Bituminous
  - Anthracite (Anthracite is the highest grade).

### Geographical Distribution:

- Over **70%** of India's coal reserves are located in the **South-Central region**, specifically in **Odisha, Chhattisgarh, and Jharkhand**.



### Production and Global Standing:

- India is the **second-largest producer of Anthracite** globally, following **China**.

- India holds nearly a **9%** share of **global coal** production.

### Economic Contribution:

- The mining sector, including coal, contributes over **2%** to India's total GDP.

### Imports and Exports:

- In FY 2023, coal accounted for an estimated **8% of India's major imports**.
- India **exports coking coal** to neighboring countries such as **Nepal, Bangladesh, and Bhutan**.

### About Coal Controller's Organization (CCO):

- The CCO was established in **1975** under the Coal Mines (Conservation and Development) Act, 1974.
- Ministry: It operates under the **Ministry of Coal**.
- Headquarters: The CCO is headquartered in **Kolkata**, with field offices in Dhanbad, Ranchi, Bilaspur, Nagpur, Sambalpur, Kothagudem, and Asansol.

## Nutritional deficiency amongst the poor

### Context

The National Sample Survey Office (NSSO) recently released a detailed report based on the Household Consumption Expenditure Survey (HCES) for 2022-23. This report, along with unit-level data on household consumption expenditure (HCE), provides insights into the quantities of various food items consumed by households and the total value of consumption for different food and non-food items.

- This analysis aims to understand the nutritional levels of households, particularly the poorer sections of society, by converting the quantities of consumed food items into their total calorific value and comparing the estimated per capita daily calorie intake with the average per capita daily calorie requirement for a healthy life.

and productivity, leading to economic losses.

- **Social Equity:** Ensuring that all sections of society, especially the poorest, have access to adequate nutrition is a matter of social justice. It helps in reducing inequality and promoting inclusive growth.

### Dimensions of the Article:

- What is the Issue?
- Why address nutritional deficiency?
- About the Household Consumption Expenditure Survey (HCES): 2022-23
- Implications from the HCES

### About the Household Consumption Expenditure Survey (HCES): 2022-23

- The HCES collected detailed data on household consumption patterns, focusing on both food and non-food items.
- The survey aimed to provide a comprehensive understanding of the **consumption behavior of households** across different expenditure classes. Key aspects of the survey include:

### What is the Issue?

- The primary issue highlighted by the HCES is the significant nutritional deficiency among the lower expenditure classes in India.
- Despite various government efforts and welfare programs, a substantial proportion of the population still fails to meet the basic nutritional requirements for a healthy life.
- This deficiency is more pronounced in rural areas than in urban areas, but it remains a critical concern nationwide.

- **Calorific Value Calculation:** The survey data was used to convert the quantities of consumed food items into their total calorific value. This helped in estimating the per capita daily calorie intake of household members.

### Why address nutritional deficiency?

- **Health and Well-being:** Adequate nutrition is essential for maintaining good health, physical development, and cognitive function. Malnutrition can lead to various health issues, including stunted growth in children, weakened immune systems, and increased susceptibility to diseases.
- **Economic Productivity:** A healthy population is more productive, contributing positively to the economy. Malnutrition can reduce work capacity

- **Expenditure Classes:** Households were categorized into 20 expenditure classes, each comprising 5% of the population, ranging from the poorest to the richest. This categorization enabled a detailed analysis of consumption patterns across different economic strata.

- **Poverty Line Definitions:** The analysis referenced various committees, including the Lakdawala, Tendulkar, and Rangarajan Committees, to define the poverty line (PL) based on household monthly



per capita consumer expenditure (MPCE). These definitions helped in identifying the poor and understanding their consumption patterns.

### Implications from the HCES:

- **Caloric Intake Shortfall:** The analysis revealed that the average per capita daily calorie intake (PCCI) for the poorest 5% and the next poorest 5% in both rural and urban areas falls **far short of the average daily per capita calorie requirement (PCCR)**. This indicates a **severe nutritional deficiency** among these sections.
- **Threshold MPCE:** The all-India threshold total MPCE necessary for adequate nutrition and minimum non-food expenditure was estimated to be **₹2,197 for rural areas** and **₹3,077 for urban areas**. However, if the non-food expenditure of the poorest 10% is considered, the threshold increases, indicating a higher proportion of the population struggling to meet their basic needs.
- **Proportion of Poor:** Based on these thresholds, the proportion of poor or deprived individuals was estimated to be 17.1% in rural areas and 14% in urban areas. This proportion increases significantly when considering higher non-food expenditures, highlighting the widespread issue of poverty and deprivation.

### Suggested Measures

- **Targeted Nutritional Programs:** The government should implement nutritional schemes specifically targeted at the poorest sections of society. These programs should focus on providing adequate

nourishment to improve health outcomes.

- **Increase Public Spending on Nutrition:** There is a need for increased public spending on nutrition-related programs. This could involve expanding existing schemes like the Public Distribution System (PDS) and integrating them with targeted nutritional interventions.
- **Awareness Campaigns:** Raising awareness about the importance of nutrition and healthy eating habits is essential. Educational campaigns can help households make better dietary choices within their economic constraints.
- **Monitoring and Evaluation:** Regular monitoring and evaluation of nutritional programs are crucial to ensure their effectiveness.
- **Addressing Non-food Expenditures:** Along with focusing on nutrition, the government should also address other essential non-food expenditures like education, healthcare, and housing.

## National Institutional Ranking Framework (NIRF) 2024 rankings

### Context:

The National Institutional Ranking Framework (NIRF) 2024 rankings were released, showcasing the top educational institutions in India across various categories. The rankings, based on parameters defined by NIRF, highlight the best institutions in engineering, management, medical sciences, and other fields.

### Key Highlights:

- **IIT-Madras** has been ranked as the best educational institution in India for the sixth consecutive year and retained the top position in engineering for the ninth year.
- **Indian Institute of Science (IISc)**, Bengaluru continues to be the top university and research institution, holding these positions since 2016 and 2021, respectively.
- **IIM-Ahmedabad** is the top management institute for the fifth consecutive year, and **AIIMS, New Delhi** is the top medical institution for the seventh consecutive year.
- **IIT-Bombay** is ranked as the best institution for innovation, followed by IIT-Madras and IIT-Delhi.
- **New Categories Introduced:** The 2024 rankings included three new categories: open universities, skill universities, and State public universities.
- **Top Colleges:** Hindu College and Miranda House, both from New Delhi, secured the top two positions in the colleges category.

### What is NIRF?

- The National Institutional Ranking Framework (NIRF) is an initiative by the Ministry of Education, Government of India, launched in 2015 to rank higher education institutions in the country.
- NIRF ranks institutions based on parameters such as teaching, learning, and resources, research and professional practices, graduation outcomes, outreach and inclusivity, and perception.
- The rankings are released annually, covering various categories such as overall, engineering, management, pharmacy, medical, law, architecture, and more.
- 

### Way Forward:

- The Ministry of Education is considering including "sustainability" as a criterion in future NIRF rankings to promote eco-friendly practices in educational institutions.
- To enhance the comprehensiveness of the rankings, the Centre is exploring the possibility of including institutions from neighboring countries in the NIRF rankings.
- Continued emphasis on improving the quality and diversity of education across institutions will be crucial, with increased participation and competition expected in the coming years.

## Organic Farming

### Context

Recently, the Union Home and Cooperation Minister Amit Shah highlighted the significance of organic farming for the health of 140 crore Indians.

- It was discussed during the signing of a Memorandum of Understanding (MoU) between the **National Co-operative Organics Ltd. (NCOL)** and **Uttarakhand Organic Commodity Board (UOCB)** in New Delhi.

### Key Highlights

- The union minister urged to transform towards organic farming stating that fertilizers are the source of many ailments such as hypertension, diabetes, thyroid disorders, and even cancer.
- A Memorandum of Understanding (MoU) was signed between **National Co-operative Organics Ltd. (NCOL)** and the **Uttarakhand Organic Commodity Board (UOCB)** to boost organic farming in India.

- Additionally in-order to check the quality concerns, **NCOL**, in **collaboration with Amul**, will be establishing a network of international-standard laboratories across India to certify organic land and products which will help provide consumers with reliable organic products under the **'Bharat' and 'Amul' brands**.
- The NCOL will also ensure that profits from organic products will be **directly transferred to farmers' bank accounts**.

### What is Organic Farming?

- It is a method of farming that incorporates the idea that a healthy soil is the foundation for healthy crops.
- It **avoids the usage of synthetic substances** like **fertilizers, pesticides and GMO's (Genetically modified organisms)**.
- It **builds on three fundamentals: Building fertile soil, Organic Pest control and Using local resources**.
  - **Building fertile soil:** Organic farmers use **compost, animal manure, green manures, and crop rotations** to maintain healthy soil. They also use **clover and legumes** to "fix" nitrogen.
  - **Pest control:** Organic farmers use biological, cultural, and genetic controls to minimize pest damage. Biological controls use natural enemies of pests, like predatory insects and parasitoids. Cultural controls, like crop rotation, disrupt pest cycles.
  - **Using local resources:** Organic farming uses locally adapted methods and resources.
- **Sikkim** became the **first State in the world** to become fully organic in **2016**.
- **Exports:** Major organic exports of India include- **flax seeds, sesame,**

**soybean, tea, medicinal plants, rice and pulses.**

### Government Initiatives to Promote Organic Farming

- **Mission Organic Value Chain Development for North East Region (MOVCD):** It is a Central Sector Scheme which was launched by the **Ministry of Agriculture and Farmers Welfare** in 2015. It is a sub-mission under National Mission for Sustainable Agriculture (NMSA) for implementation in the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.
  - It aims to develop **certified organic production** in a value chain mode to link growers with consumers and to support the development of the entire value chain.
- **Paramparagat Krishi Vikas Yojana (PKVY):** It launched in 2015. Under PKVY, Organic farming is promoted through adoption of organic villages by cluster approach and Participatory Guarantee System (PGS) certification.
- **Participatory Guarantee System (PGS):** PGS is a process of certifying those organic products, that stays in compliance with the quality standards. PGS Green is given to chemical free produce under transition to 'organic' which takes 3 years.
- **Zero Budget Natural Farming:** It is one of the methods of chemical-free agriculture drawing its roots from the traditional Indian practices.
- **Agri-export Policy 2018:** It focuses on Marketing and promotion of **"Produce of India"** which has positively impacted the organic farming in India.

### Way Forward

Harnessing the global demand for organic products can help India position itself as a

leading exporter. Meanwhile, it also helps the people reduce their risk of being affected by the harmful synthetic substances that is prevalent in these days' farming. However, the government should focus on providing necessary policy support and financial incentives for farmers to switch to organic farming.

## Cashless treatment for victims of road accidents

### Context

The Ministry of Road Transport and Highways has initiated a pilot scheme to provide cashless treatment for victims of road accidents caused by motor vehicles.

- This scheme, implemented in Chandigarh and Assam, is in collaboration with the National Health Authority (NHA) under the Ayushman Bharat Pradhan Mantri-Jan Arogya Yojana (AB PM-JAY).

### Key highlights

- **Pilot Scheme Launch:** The scheme is currently being piloted in Chandigarh and Assam.
- **Cashless Treatment:** Eligible road accident victims receive cashless trauma and polytrauma care at empanelled hospitals.
- **Coverage Limit:** The scheme covers treatment costs **up to ₹1.5 lakh** for a maximum period of **7 days** from the date of the accident.
- **Administrative Framework:** The scheme is administered under the Motor Vehicle Accident Fund, constituted under Section 164B of the Motor Vehicles Act, 1988, and funded as per the Central Motor Vehicles (Motor Vehicle Accident Fund) Rules, 2022.

- **Collaborative Implementation:** NHA, along with local police, empanelled hospitals, State Health Agency, National Informatics Centre, and General Insurance Council, is responsible for the program's implementation.
- **Universal Support:** The scheme provides support irrespective of the accident's location, as mandated by the Motor Vehicles Act, 1988.

### Significance:

- **Immediate Medical Assistance:** Ensures timely and adequate medical treatment for road accident victims, potentially saving lives and reducing the severity of injuries.
- **Financial Relief:** Offers significant financial support to accident victims and their families by covering treatment costs up to ₹1.5 lakh.
- **Streamlined Process:** Simplifies and accelerates the medical care process through cashless transactions, reducing the burden on victims and their families.
- **Pilot to Nationwide Implementation:** Successful implementation of the pilot scheme in Chandigarh and Assam could lead to a nationwide rollout, enhancing road safety and emergency medical care across India.
- **Collaborative Effort:** Demonstrates effective coordination between multiple agencies and stakeholders, including the Ministry of Health & Family Welfare and local authorities, to address road accident trauma comprehensively.

## Implementation of Green National Highway Corridor Project



## Context

The Government of India and the World Bank have signed an agreement to implement the Green National Highway Corridors Project (GNHCP), covering a total length of 781 km across Himachal Pradesh, Rajasthan, Uttar Pradesh, and Andhra Pradesh.

- The project is funded by a **US \$500 million loan** from the **World Bank** against a total project cost of US \$1288.24 million (Rs. 7,662.47 crore).

## Key Highlights

- **Project Scope:** Construction of 781 km of green highways in Himachal Pradesh, Rajasthan, Uttar Pradesh, and Andhra Pradesh.
- **Funding:** US \$500 million loan from the World Bank, with a total project cost of US \$1288.24 million.
- **Completion Date:** The project is scheduled to be completed by May 2026.
- **Green Technologies:** Use of cement-treated sub-base, reclaimed asphalt pavement, lime, fly ash, waste plastic, and bio-engineering measures for slope protection.
- **Climate Resilience:** Emphasis on climate resilience and the conservation of natural resources.
- **Sustainable Practices:** Techniques like hydroseeding, bamboo plantation, and geocell applications for slope protection.

## Significance:

- **Environmental Impact:** The use of green technologies and bio-engineering solutions will reduce carbon emissions and conserve natural resources during construction and operation.

- **Improved Connectivity:** The project aims to provide smooth, all-weather roads, enhancing connectivity to inner regions and facilitating socio-economic development.
- **Economic Growth:** Improved infrastructure will boost trade, connectivity, employment opportunities, and inclusive growth, bringing remote areas closer to mainstream economic activities.
- **Innovative Engineering:** Demonstrates the adoption of sustainable and innovative engineering practices in infrastructure projects, setting a precedent for future developments.

## National Policy on Traffic Management for Critical Services

### Context:

Urban planning, including traffic management for critical services, is primarily a State subject in India.

- The **Ministry of Housing and Urban Affairs** has issued several guiding policies to help manage urban transport and traffic congestion.
- Key legislative frameworks such as the **Motor Vehicles Act, 1988**, and **Central Motor Vehicles Rules (CMVR), 1989**, also stipulate provisions for traffic management, especially for emergency vehicles.

### Highlights:

- **State Responsibility:** Urban planning and traffic management are managed by State Governments, Urban Local Bodies (ULBs), and Urban Development Authorities.
- **Guiding Policies:** The Ministry of Housing and Urban Affairs has issued

the National Urban Transport Policy (2006), Metro Policy (2017), and Transit Oriented Development Policy to promote sustainable transport solutions.

- **Legislative Frameworks:**

- **Motor Vehicles Act, 1988:** Section 194E mandates penalties for failing to yield to emergency vehicles.
- **CMVR, 1989:**
  - Rule 108 (1) (iv) allows red lights with purple glass on ambulances.
  - Rule 108 (4) allows multi-colored lights on designated emergency vehicles.
  - Rule 119(3) permits specific sound signals for emergency and construction vehicles.
- **Motor Vehicles (Driving) Regulations, 2017:** Regulation 27(2) gives emergency vehicles right of way when using multi-toned horns and flashers.

**Significance:**

- **Enhanced Traffic Management:** The policies and regulations aim to streamline traffic management, particularly for emergency response vehicles, ensuring timely access to critical services.
- **Legal Accountability:** The legislative provisions enforce legal accountability, with penalties for non-compliance, thereby promoting adherence to traffic rules.
- **Sustainable Urban Transport:** The guiding documents foster sustainable urban transport development, reducing congestion and improving overall urban mobility.

- **Improved Emergency Response:** The prioritization of emergency vehicles through clear regulations ensures quicker response times, potentially saving lives during critical situations.

**MARKET LINKAGES OF TRIBAL COOPERATIVES**

**Context**

The Ministry of Tribal Affairs, through TRIFED, is implementing the 'Pradhan Mantri Janjatiya Vikas Mission' (PMJVM).

- This scheme provides **backward linkages** by empanelling tribal artisans for procurement of their products and forward linkages through market sales via 'Tribes India' outlets, e-commerce portals, and other channels.

**Key Highlights:**

- **Procurement and Sales Data:**
  - **2021-2022:** Procurement - Rs 2900.33 lakhs, Sales - Rs 4342.32 lakhs
  - **2022-2023:** Procurement - Rs 1520.31 lakhs, Sales - Rs 3574.09 lakhs
  - **2023-2024:** Procurement - Rs 1804.16 lakhs, Sales - Rs 3607.22 lakhs

**About 'Pradhan Mantri Janjatiya Vikas Mission' (PMJVM):**

- **Nature of Scheme:** A **Central Sector Scheme** with 100% Grant-in-aid from the Government of India to TRIFED.
- **Coverage:** All States and UTs with notified or migrated tribal populations from 2021-22 to 2025-26.
- **Implementing Agencies:** TRIFED at the central level, with State

Implementing Agencies (SIAs)  
nominated by State Governments.

- **Funding:** Provided to TRIFED based on proposals submitted to the Ministry of Tribal Affairs.
- **Scope:** Establishing marketing mechanisms for tribal products, value addition of MFPs/non-MFPs, and improving tribal livelihoods.
- **Database Management:** Digitization and automation of scheme activities for real-time monitoring.
- **Administrative Expenses:** Funding includes salaries and establishment costs for TRIFED employees.

#### **Major Activities Supported under PMJVM:**

- MSP fixation and procurement of non-timber MFPs.
- Infrastructure development, including Haat Bazars and storage facilities.
- Value addition to tribal products.
- Setting up Van Dhan Vikas Kendras (VDVKs) and Van Dhan Producer Enterprises (VDPEs).
- Marketing and sale of tribal products.
- Advertisement and branding through festivals, exhibitions, and melas.
- Skill and entrepreneurship development.
- Geo-tagging and geographical indicators of tribal products.
- IT and e-commerce platform development.
- Surveys and R&D.

#### **Implementation Mechanism:**

- TRIFED will be the central nodal agency, signing MoUs with the Ministry of Tribal Affairs and State Nodal Departments annually.

- Annual Action Plans will be prepared and submitted for grant release.
- An MFP Pricing Cell will fix MSPs for MFPs, with revolving funds provided for procurement if market prices fall below MSP.
- Infrastructure projects will be approved by a Project Appraisal Committee.
- Financial support for VDVVKs and VDPEs will be provided, with specific allocations for various activities.
- TRIFED will develop a portal for tribal products and impart training for capacity building.
- Special attention will be given to Aspirational Districts, PVTGs, and land title holders under FRA 2006.

#### **Significance:**

- **Economic Empowerment:** Enhances livelihood opportunities for tribal communities by providing a robust marketing mechanism.
- **Sustainable Development:** Promotes value addition and sustainable practices in the procurement and sale of tribal products.
- **Digital Inclusion:** Encourages digitization and automation for efficient management and real-time monitoring of scheme activities.
- **Capacity Building:** Focuses on skill development and entrepreneurship among tribal populations, fostering long-term economic growth.
- **Inclusivity:** Prioritizes support for vulnerable groups, ensuring inclusive development and participation in economic activities.

## Supreme court: States can sub-classify Scheduled Castes (SCs) for quotas.

### Context:

In a landmark judgment, the Supreme Court of India, in a **6:1 majority ruling**, allowed states to sub-classify Scheduled Castes (SCs) notified in the Presidential List for providing preferential treatment in public employment and education.

- This decision by a seven-judge Constitution Bench, headed by Chief Justice of India D.Y. Chandrachud, emphasized the need to address inequalities within the SC community.

### Key Highlights:

- **Sub-Classifications Permitted:** States can sub-classify SCs and STs based on varying levels of backwardness within the 15% reservation quota.
- **Empirical Basis:** Sub-classification must be based on empirical data and historical evidence of systemic discrimination, not arbitrary or political reasons.
- **No 100% Reservation:** The court clarified that 100% reservation for any sub-class is not permissible, and state decisions on sub-classification are subject to judicial review.
- **Creamy Layer Principle:** The principle, previously applied to Other Backward Classes (OBCs), should now also apply to SCs and STs. States must identify and exclude the creamy layer within these groups from reservation benefits.
- **First Generation Reservation:** Reservation benefits are to be limited to the first generation. If any generation has taken advantage of reservation and achieved a higher status, the benefit

would not be logically available to the second generation.

### What is the Judgment About?

- The Supreme Court ruled that states are **constitutionally allowed to sub-classify SCs and STs to provide better support for the most disadvantaged groups**.
- This ruling permits states to sub-classify SCs within the reservation quota to ensure that affirmative action benefits reach those who are truly disadvantaged.
- The judgment also calls for the implementation of the creamy layer principle for SCs and STs to exclude affluent individuals from reservation benefits.

### Need for Such a Move:

- Systemic discrimination and varying levels of backwardness among SCs and STs prevent some members from advancing.
- The sub-classification aims to address these disparities by tailoring reservation policies to more effectively support the most disadvantaged within these groups.
- The introduction of the creamy layer principle ensures that reservation benefits are not monopolized by relatively affluent members of these communities.

### Significance:

- **Enhanced Equality:** Ensures that the most disadvantaged within SCs and STs receive the intended benefits of affirmative action.
- **Focused Upliftment:** Tailors reservation policies to address specific needs and disparities within SCs and STs, promoting substantive equality.



- **Preventing Misuse:** Judicial review and empirical basis requirements prevent political misuse of sub-classification and ensure fairness.

### Arguments Against the Decision:

- **Potential for Political Misuse:** Critics argue that sub-classification could be exploited by political parties to expand their vote banks, leading to favoritism and the further entrenchment of political divisions within SC and ST communities.
- **Complexity and Administrative Challenges:** Implementing sub-classifications requires detailed empirical studies and historical evidence, which could be logistically complex and resource-intensive. There are concerns about the capacity of state governments to carry out these studies effectively.
- **Fragmentation of Unity:** Sub-classifying SCs and STs might lead to fragmentation within these communities, weakening their collective bargaining power and unity. It could create new intra-group hierarchies and tensions.
- **Dilution of Affirmative Action:** There is a fear that introducing the creamy layer principle could dilute the impact of affirmative action policies. It might reduce the overall number of individuals who can benefit from reservations, potentially excluding those still facing significant social disadvantages.
- **Potential Legal Challenges:** The decision might lead to a slew of legal challenges and litigations from various groups within SCs and STs, contesting their sub-classification status, which could bog down the system and delay benefits.

- **Historical Precedent:** Some critics cite historical precedent, arguing that the Constitution's framers intended for SCs and STs to be treated as homogeneous groups in terms of reservation benefits. They believe sub-classification undermines this original intent.

### Way Forward:

- **Empirical Studies:** States should conduct detailed empirical studies to identify varying levels of backwardness within SCs and STs.
- **Policy Formulation:** Develop clear policies to implement the creamy layer principle for SCs and STs, ensuring exclusion of affluent individuals.
- **Monitoring and Review:** Regular monitoring and judicial review of state decisions on sub-classification to prevent misuse and ensure effectiveness.
- **Awareness and Training:** Create awareness and provide training to implement the new policies effectively at all administrative levels.

## Role of Governors

### Context

Recently, while addressing a conference of Governors, PM Modi emphasized the role of Governors as an effective bridge between the Centre and State governments, particularly in the context of tribal welfare.

### Constitutional Provisions:

- **Article 153** explicitly mandates the presence of a Governor for each State, allowing the appointment of one individual as Governor for multiple States.

- The President appoints the Governor through a warrant under their hand and seal, with the Governor serving at the pleasure of the President, as stated in Articles 155 and 156.
- **Article 161** empowers the Governor to grant pardons, reprieves, and similar measures. However, the Supreme Court clarified that the Governor's sovereign power to pardon aligns with the consensus of the State government, emphasizing the government's advice as binding for the Head of the State.
- **Article 163** establishes a council of ministers led by the Chief Minister to aid and advise the Governor in performing duties, excluding situations where discretion is permitted.

### The Discretionary powers:

- The appointment of a Chief Minister in the absence of a clear majority in the state legislative assembly
- Addressing no-confidence motions
- Dealing with the failure of constitutional machinery in the State (Article 356)

#### Article 200:

- Article 200 of the Indian Constitution delineates the procedure when a Bill from the Legislative Assembly is presented to the Governor for assent.
- The Governor can **either assent, withhold assent, or reserve the Bill** for the President's consideration.
- Additionally, the Governor has the authority to return the Bill with a message, requesting reconsideration by the House or Houses.
- In the **Purushothaman Nambudiri v State of Kerala case**, the Supreme Court clarified that a pending bill awaiting the Governor's assent

doesn't lapse upon the dissolution of the House.

- The absence of a time limit in Articles 200 and 201 indicates the framers' intention to prevent bills awaiting assent from lapsing.
- Article 200's second provision grants the Governor the discretion to refer a bill to the President if it potentially infringes upon the High Court's powers. The process for presidential assent is outlined in Article 201.
- In the Shamsheer Singh case, the Court affirmed that the Governor's authority to reserve bills for the President's consideration is a manifestation of discretionary power.

#### Article 201:

- Article 201 specifies that when a Bill is reserved for the President's consideration, the President may either assent to or withhold assent from the Bill.
- The President can also direct the Governor to return the Bill to the State Legislature for reconsideration.

#### Article 361:

- Under Article 361 of the Constitution, the Governor enjoys complete immunity from court proceedings for any actions taken in the exercise of their powers.

### India-U.S. ties testimony to changing world: Jaishankar

#### Context:

External Affairs Minister S. Jaishankar highlighted the consistent and non-partisan nature of the India-U.S. relationship over the past 25 years, despite public debates and occasional friction. His remarks come in the wake of Prime Minister Narendra Modi's visit to Russia and recent comments

from U.S. Ambassador Eric Garcetti on the importance of strategic alignment.

### Key Highlights:

- **Consistent Relationship:** Despite occasional divergences, the India-U.S. relationship has remained steady and non-partisan for 25 years. This stability underscores the resilience and mutual commitment to strengthening ties, irrespective of the political climate in either country.
- **Changing Dynamics:** The relationship reflects the changing global landscape, with both countries adapting to new strategic realities. This adaptability is crucial in navigating the complex international environment and ensuring both nations can address emerging challenges effectively.
- **Historical Trajectory:** Opportunities for strengthening ties existed in the 1940s-50s and post-1962 war with China, with significant strides made during Narasimha Rao's tenure. This historical context provides a foundation for understanding the current depth of the partnership.
- **Continuous Adaptation:** There is a continuous emphasis on updating and refreshing the strategic framework to keep pace with evolving global scenarios. This approach ensures that the relationship remains relevant and effective in addressing contemporary issues.

### Importance to India

- **Strategic Partnership:** The strong and evolving India-U.S. relationship is crucial for India's strategic interests and global positioning. This partnership helps India enhance its defense capabilities and maintain its strategic autonomy while navigating complex geopolitical landscapes.

- **Economic Benefits:** Collaboration with the U.S. has significant economic implications, contributing to India's market growth and technological advancements. Joint initiatives in sectors like defense, semiconductors, and space technology open avenues for innovation and economic progress.
- **Global Influence:** A robust partnership enhances India's influence on global platforms, enabling it to play a pivotal role in addressing international issues. This influence is vital for India's aspirations as a global leader and a key player in international diplomacy.

### Need for Such a Move

- **Adapting to Global Changes:** With shifting global dynamics and changing American interests, it is imperative for India to maintain and strengthen its strategic partnerships. This adaptation ensures that India can effectively respond to new global challenges and opportunities.
- **Addressing Challenges:** Collaboration with the U.S. helps India tackle global challenges such as security threats, economic instability, and technological gaps. Joint defense initiatives, such as the supply of advanced defense equipment and technology transfer, bolster India's defense readiness and technological competence.
- **Leveraging Mutual Benefits:** The partnership offers mutual benefits, with both countries deriving strategic, economic, and technological advantages from the relationship. For instance, the collaborative efforts in jet engine production and semiconductor manufacturing not only strengthen India's defense capabilities but also foster self-sufficiency and reduce dependency on foreign imports.

## Detailed Insights

- **Strengthening Defense Ties:** India and the U.S. have witnessed deepening military cooperation in recent years. The U.S. has supplied a range of advanced defense equipment to India, including C-130 and C-17 Globemaster transport aircraft, AH-64E Apache attack helicopters, CH-47 Chinook and MH-60R multi-role helicopters, P-8I maritime patrol aircraft, and M777 ultra-light howitzers. This collaboration highlights the mutual commitment to addressing shared security concerns.
- **Indo-Pacific Concerns and Long-term Defense Partnerships:** A primary area of shared concern between India and the U.S. is the expanding influence of China in the Indo-Pacific region. The U.S. aims to gradually reduce India's defense partnership with Russia, fostering a more robust India-U.S. defense alignment. The recently announced joint initiatives in jet engine production, semiconductors, and space technology present a unique opportunity for India to develop its indigenous defense industry.
- **India's Path to Technological Competence:** Collaborative efforts in jet engine production, semiconductor manufacturing, and space technology bolster India's defense capabilities and provide avenues for technological advancements. Developing a robust defense industry allows India to reduce dependency on foreign imports and foster self-sufficiency, which is crucial for long-term strategic autonomy.

## Way Forward

To continue this positive trajectory, it is essential for both nations to:

- **Adapt to Global Changes:** Regularly update the strategic framework to respond to global shifts and maintain the relevance of the partnership.

- **Enhance Collaboration:** Focus on areas of mutual interest, such as defense technology, economic cooperation, and regional stability, to maximize benefits.
- **Promote Mutual Understanding:** Foster deeper engagement at various levels of government and society to build stronger, more resilient ties.

**An unstated shift- an acknowledgement of the breakdown between GDP growth and jobs**

### Context:

In a post-Budget interview, Finance Secretary T.V. Somanathan revealed a significant shift in the Modi government's economic policy with the announcement of a new employment-linked incentive (ELI) scheme.

- This initiative aims to nudge industries towards employing more labor rather than relying heavily on automation.
- The scheme proposes financial incentives for companies to hire new employees.
- This policy marks a departure from previous approaches, reflecting a broader recognition of the limitations of the traditional GDP-focused growth model and a need for more direct job creation strategies.

### Dimensions of the Article:

- What is the Issue?
- Need to Address This Issue
- Why Use Less Automation and More Labour?
- Concerns with the ELI Scheme
- What Should the Government Do?



## What is the Issue?

- The primary issue at hand is the **persistent unemployment and underemployment problem** in India, despite various economic policies aimed at stimulating growth.
- The traditional approach, rooted in the **Washington Consensus**, has emphasized production efficiency and GDP growth under the assumption that these would naturally lead to job creation and improved living standards.
- However, this trickle-down model has not delivered the expected employment outcomes. Initiatives like 'Make in India', corporate tax cuts, and the Production Linked Incentive (PLI) scheme have not resulted in substantial job creation.
- Instead, companies have often preferred investing in automation and equipment over hiring more workers.

## Need to Address This Issue

- Addressing the issue of unemployment is crucial for several reasons.
- Firstly, a significant proportion of the Indian population remains unemployed or underemployed, leading to economic disparity and social unrest.
- Secondly, high unemployment rates can erode public trust in government policies and exacerbate political instability.
- Lastly, ensuring adequate job creation is vital for sustaining economic growth and improving the overall quality of life for the average citizen.
- The ELI scheme represents a shift in recognizing that GDP growth alone is insufficient if it does not translate into job creation.

## Why Use Less Automation and More Labour?

- The rationale behind encouraging industries to use less automation and more labor is rooted in addressing the capital-labor imbalance.
- Automation, while increasing productivity, often leads to job losses and exacerbates income inequality.
- By incentivizing labor over automation, the government aims to create more employment opportunities, thereby improving economic inclusion and stability.
- This approach aligns with the broader objective of enhancing the living standards of the median citizen by ensuring that economic growth translates into tangible benefits for the wider population.

## Concerns with the ELI Scheme

- Despite its noble intentions, the ELI scheme has faced criticism from various quarters.
- Some experts argue that **financial incentives alone may not be sufficient to compel companies** to hire more employees. They point out that companies might not prioritize hiring simply because of the financial benefits if it does not align with their overall business strategy.
- Additionally, there are concerns about the **potential impact on productivity and global competitiveness**.
- Neo-liberal economists fear that prioritizing labor over technology could render Indian companies less efficient and less competitive on the global stage.

## What Should the Government Do?

To ensure the success of the ELI scheme and address the broader employment challenge, the government should consider the following measures:

- 1. Strengthening the ELI Framework:** Clearly define the parameters and conditions under which companies can avail of the ELI benefits. This includes setting transparent criteria for job creation and ensuring that the scheme targets sectors with high employment potential.
- 2. Monitoring and Evaluation:** Establish robust mechanisms for monitoring and evaluating the effectiveness of the ELI scheme. Regular assessments can help identify issues early on and make necessary adjustments to the policy.
- 3. Supportive Infrastructure:** Develop supportive infrastructure to facilitate labor-intensive industries. This includes investing in skill development programs to ensure that the workforce is adequately trained and capable of meeting industry demands.
- 4. Balanced Approach:** While promoting labor, the government should also ensure that technological advancements are not entirely sidelined. A balanced approach that integrates labor and technology can enhance productivity while creating jobs.
- 5. Public Awareness and Engagement:** Engage with industry stakeholders and the public to build support for the ELI scheme. Public awareness campaigns can highlight the benefits of the policy and encourage broader participation.

## Conclusion

- The ELI scheme marks a bold and necessary shift in India's economic policy, recognizing the limitations of the trickle-down model and the need

for direct job creation strategies. By incentivizing companies to hire more employees, the government aims to address the persistent unemployment issue and promote economic inclusion.

- While the scheme faces challenges and criticisms, its success will depend on effective implementation, continuous monitoring, and a balanced approach that integrates labor and technology.
- Moving forward, a comprehensive and cohesive strategy that prioritizes job creation and supports economic growth is essential for ensuring the well-being and prosperity of all citizens.

## 39% TB cases found during T.N. TB survey had no symptoms

### Context:

A TB prevalence cross-sectional survey was conducted in Tamil Nadu from February 2021 to July 2022 by the National Institute for Research in Tuberculosis (ICMR-NIRT), Chennai.

- The survey aimed to improve TB detection methods and highlighted the importance of chest X-rays in identifying TB cases, including subclinical cases that exhibit no symptoms.

### Key Highlights:

- 1. Survey Findings:** Among 130,932 participants, 244 microbiologically confirmed TB cases were identified. Notably, 39% of these cases had no symptoms, indicating subclinical TB.
- 2. Detection Methods:** Chest X-rays proved crucial, as 92.6% of TB cases had X-ray abnormalities. Molecular tests (CBNAAT) detected

91.8% of cases, while smear microscopy detected only 50.4%.

- 3. Symptomatic vs. Asymptomatic:** Among symptomatic TB cases, CBNAAT diagnosed 89% compared to 50% by smear microscopy. Subclinical cases, which would have been missed without chest X-rays, accounted for a significant portion of detections.
- 4. State Recommendations:** The study recommends prioritizing chest X-rays for early detection and upscaling molecular tests to enhance TB case yield.
- 5. National Comparison:** The findings align with the National TB Prevalence Survey (2019-2021) which reported 42.6% of bacteriologically positive TB cases without symptoms.

### Tuberculosis:

- TB, caused by **Mycobacterium tuberculosis**, is a treatable and curable disease with a long history dating back to 3000 BC in Egypt.
- Spread through the **air when infected individuals cough or sneeze**, TB commonly affects the **lungs** but can also impact other organs.
- Multi-Drug Resistant Tuberculosis (MDR-TB) and Extensively Drug Resistant Tuberculosis (XDR-TB) pose significant health threats.
- The **BCG vaccine**, developed in 1921, plays a crucial role in TB prevention. Initially introduced in India in 1948, BCG became part of the National TB Control Programme in 1962.
- Besides TB protection, the vaccine safeguards against respiratory infections, mycobacterial diseases,

and serves as immunotherapy for certain cancers.

- Interestingly, BCG's efficacy varies geographically, demonstrating higher efficiency in countries farther from the equator.

### Government Schemes for TB Patients:

- 1. National Tuberculosis Elimination Program (NTEP):** Aims to eliminate TB in India by 2025 through early diagnosis, complete treatment, and addressing the social determinants of TB.
- 2. Nikshay Poshan Yojana:** Provides nutritional support to TB patients, offering a financial incentive of INR 500 per month during treatment.
- 3. TB Harega Desh Jeetega Campaign:** Focuses on community engagement, awareness, and mobilization to end TB.
- 4. Universal Immunisation Programme (UIP):** Includes the BCG vaccine to prevent TB among children.

### Suggested Measures:

- 1. Enhanced Screening:** Use chest X-rays as a preliminary screening tool alongside molecular diagnostics to detect subclinical TB.
- 2. Modernized Forecast Models:** Develop Kerala-specific weather forecast models to address unique topographical and seasonal challenges.
- 3. Increased Resources:** Allocate ample resources and personnel to institutions like the Institute for Climate Change Studies in Kottayam for better weather prediction and TB detection models.
- 4. Active Case Finding:** Improve active case finding in high-risk

groups by including chest X-rays to increase detection rates.

### Way Forward:

- 1. Policy Implementation:** Implement the study's recommendations to prioritize chest X-rays and upscale molecular tests in the State TB programme.
- 2. Integrated Approach:** Combine symptom screening, chest X-ray examinations, and molecular tests for comprehensive TB detection.
- 3. Public Awareness:** Increase awareness about subclinical TB and the importance of early detection to reduce transmission.
- 4. National Strategy:** Align State efforts with national TB elimination goals, ensuring that all high-risk and vulnerable populations are adequately screened and treated.
- 5. Research and Development:** Continue research to refine TB detection methods and address challenges posed by subclinical TB and global climate change impacts on health.

## Subclassification of SCs: A Progressive Step Towards Substantive Equality

### Context

The recent Supreme Court judgment, which allows States to classify Scheduled Castes (SC) into groups and give preferential treatment to the weaker and more backward among them, marks a significant step in this progression.

- By a majority of 6:1, the Court has rejected the notion that SCs

constitute a single homogeneous class, thus overturning a 2005 Constitution Bench judgment (E.V. Chinnaiah vs AP) that had declared such classifications unconstitutional.

### Dimensions of the Article:

- What is the Issue?
- Need to Address This Issue
- What is Subclassification under SCs?
- Concerns
- Advantages

### What is the Issue?

- The primary issue at hand is the recognition and accommodation of the varying degrees of backwardness within the Scheduled Castes.
- The recent Supreme Court verdict acknowledges that **SCs are not a homogeneous class**.
- Under the Presidential List, they share a common constitutional status, but significant differences exist in their levels of advancement.
- Historical and empirical evidence supports this differentiation, as not all SC communities have benefited equally from affirmative action policies.

### Need to Address This Issue

- Addressing this issue is crucial for **achieving substantive equality**. The idea of treating all SCs as a single class **overlooks the diverse levels of backwardness** and the varying socio-economic conditions within these communities.
- By recognizing these differences, the State can provide **more targeted and effective affirmative**



**action**, ensuring that the most disadvantaged groups within the SC category receive the support they need.

### What is Subclassification under SCs?

- The Supreme Court's judgment allows States to **further classify SCs into sub-groups and extend preferential treatment to the weaker sections** among them. This subclassification aims to ensure that the benefits of affirmative action reach those who are most in need.
- It is based on the understanding that while all SCs share a history of untouchability, the extent of their social and economic backwardness varies significantly.
- This approach aligns with the principle that the weakest should receive the benefits of affirmative action and not be overshadowed by those who are relatively more advanced.

### Concerns

- **Implementation Challenges:** Applying the 'creamy layer' concept, traditionally used for Other Backward Classes (OBCs), to SCs may pose challenges. The norms for determining the creamy layer among SCs cannot be identical to those for OBCs, as the socio-economic conditions differ.
- **Uniformity and Fairness:** There are concerns about maintaining uniformity and fairness in the implementation of this subclassification. Ensuring that the criteria for identifying the most backward sections are applied consistently across different States is crucial to avoid disparities.

### Advantages

- **Targeted Affirmative Action:** Subclassification allows for more targeted affirmative action policies, ensuring that the benefits reach the most disadvantaged groups within the SC category. This approach can lead to more effective and meaningful social justice.
- **Enhanced Representation:** By focusing on the weaker sections within SCs, subclassification can enhance the representation of these groups in education, employment, and other areas, helping to bridge the gap between the more and less advanced sections.
- **Promotion of Substantive Equality:** This judgment reinforces the concept of substantive equality, moving beyond formal equality to address the actual socio-economic conditions and historical disadvantages faced by different groups within the SC category.

### Conclusion:

The Supreme Court's judgment allowing States to classify SCs into sub-groups and provide preferential treatment to the weaker sections marks a significant step towards achieving substantive equality. By recognizing the diverse levels of backwardness within the SC category, this approach can lead to more targeted and effective affirmative action policies. However, it is essential to address the implementation challenges and ensure consistency and fairness in the application of subclassification. With the right steps, this judgment can deepen social justice and enhance the representation of the most disadvantaged groups within the SC category.

**PM marks 5 years of abrogation of Articles 370 and 35(A)**

## Context

On August 5, 2024, Prime Minister Narendra Modi marked the five-year anniversary of the abrogation of Articles 370 and 35(A) of the Indian Constitution.

- These articles had granted special autonomy to Jammu and Kashmir. The abrogation aimed to integrate Jammu and Kashmir and Ladakh fully into India, promising progress and prosperity for the regions.

## Key Highlights:

1. **Historical Decision:** Prime Minister Modi described the abrogation of Articles 370 and 35(A) as a watershed moment in India's history, initiating a new era of progress for Jammu and Kashmir and Ladakh.
2. **Constitutional Implementation:** The abrogation ensured the **full implementation of the Indian Constitution in Jammu and Kashmir and Ladakh**, aligning with the vision of the nation's founding figures.
3. **Enhanced Opportunities:** The move brought security, dignity, and opportunities for women, youth, backward classes, tribal communities, and marginalized groups in the regions, who had previously been deprived of development benefits.
4. **Anti-Corruption Measures:** The abrogation aimed to eliminate the corruption that had plagued Jammu and Kashmir for decades, promoting transparency and good governance.
5. **Government Commitment:** Prime Minister Modi reaffirmed the government's dedication to working for the aspirations of the people in Jammu and Kashmir and Ladakh, promising continued efforts to fulfill their needs and aspirations.

## About Article 370:

- **Part of the Constitution:** Article 370 is the first article in Part XXI of the Indian Constitution, titled 'Temporary, Transitional, and Special Provisions'.
- **Special Autonomy for J&K:** It exempted Jammu and Kashmir (J&K) from the application of the Indian Constitution (except for Articles 1 and 370) and allowed the state to have its own Constitution.
- **Legislative Restrictions:** It limited the Indian Parliament's legislative powers concerning J&K, requiring mere "consultation" with the state government for extending central laws on subjects listed in the Instrument of Accession (IoA).

## Timeline:

### Abrogation of Article 370:

- **Revocation Date:** On August 5, 2019, the Indian government revoked nearly all provisions of Article 370.
- **Presidential Order:** On the same day, the President issued The Constitution (Application to Jammu And Kashmir) Order, 2019.
  - **Key Change:** This order replaced the term 'Constituent Assembly' in Article 370(3) with 'Legislative Assembly [of Jammu & Kashmir]'.
  - **Amendment Mechanism:** It technically amended the interpretation clause Article 367, using Article 370(1) to do so, rather than directly amending Article 370 itself.
- **Statutory Resolution:** A Statutory Resolution was introduced in the Rajya Sabha to abrogate most of Article 370.

- **President's Rule:** This action did not require the concurrence of the Jammu & Kashmir Legislative Assembly as the state was under President's rule at the time.
- **Reorganisation Bill:** On August 6, 2019, Parliament passed the Jammu and Kashmir Reorganisation Bill, 2019.
  - **Bifurcation:** The bill bifurcated the state into two Union Territories: Jammu & Kashmir (with a legislative assembly) and Ladakh (without a legislative assembly).

speed up coal mine operationalization.

- A Project Monitoring Unit supports coal block allottees in obtaining necessary approvals and clearances.

- **Commercial Mining:**

- The commercial mining auction on a **revenue-sharing basis** was launched in 2020, providing incentives for early production and coal gasification or liquefaction.
- Terms for commercial coal mining have been liberalized, including no restrictions on coal utilization, reduced upfront amounts, and a transparent bidding process.

## Aatmanirbhar Bharat in the Coal Sector

### Context:

The Indian government is focused on achieving self-reliance (Aatmanirbhar Bharat) in coal production to meet the nation's energy needs and reduce dependence on coal imports.

### About Aatmanirbhar Bharat in Coal

- **Regular Reviews and Legislative Support:**
  - The Ministry of Coal conducts regular reviews to expedite the development of coal blocks.
  - The **Mines and Minerals (Development and Regulation) Amendment Act, 2021 [MMDR Act]** allows captive mine owners to **sell up to 50%** of their annual mineral production in the open market.
- **Streamlining Processes:**
  - A **Single Window Clearance portal** has been established to

- **Coking Coal Mission:**

- Initiatives under the Coking Coal Mission aim to enhance coking coal supply to the steel sector, reducing imports.

- **Technological and Operational Enhancements:**

- The adoption of mass production technologies, high-capacity equipment, and infrastructure development for coal evacuation are being implemented by coal companies like Coal India Limited (CIL) and Singareni Collieries Company Limited (SCCL).

### Significance

- **Increased Domestic Production:** India's domestic coal production has seen substantial growth, with production increasing from **565.765 MT in FY 2013-14** to a provisional **997.828 MT in FY 2023-24**.
- **Reduction in Coal Imports:** Efforts to enhance domestic coal production and streamline mining operations aim to eliminate non-essential coal

imports, contributing to energy security.

- **Economic Growth:** The coal sector is a critical component of India's economy, contributing over 2% to the total GDP and supporting various industries through reliable coal supply.
- **Support for Steel Sector:** Enhanced coking coal production and long-term linkage assurances for the steel sector will reduce dependency on imported coking coal and support domestic steel manufacturing.

### Way Forward

- Ongoing legislative reforms and policy initiatives will further strengthen coal sector operations and encourage private sector participation.
- Emphasis on adopting **advanced mining technologies** and **state-of-the-art equipment** will improve operational efficiency and safety.
- Implementing eco-friendly measures such as **coal washeries**, **bio-reclamation**, and **efficient water usage** will ensure sustainable mining practices.
- **Inter-ministerial collaboration** and regular monitoring will help address challenges and ensure the smooth implementation of coal production and distribution initiatives.
- Setting ambitious targets, such as opening **100 new mines** with a production capacity of **500 MTPA by FY 2029-30**, will drive growth and self-reliance in the coal sector.

### U.P.'s anti-conversion law

### Context

Recently, the Uttar Pradesh Legislative Assembly passed the Uttar Pradesh Prohibition of Unlawful Conversion of Religion (Amendment) Bill, 2024. This bill amends the original 2021 anti-conversion law, making its provisions more stringent and expanding its scope for potential misuse.

### What is the Anti-Conversion Law?

The anti-conversion law in Uttar Pradesh, initially enacted in 2021, aims to prevent unlawful religious conversions through **coercion, misrepresentation, and other fraudulent** means. The 2024 amendment has further tightened these regulations. Key aspects include:

#### 1. Penalties:

- Increased minimum prison term from 1 year to 5 years, and maximum from 5 years to 10 years.
- Increased fines from ₹15,000 to ₹50,000 for general unlawful conversions.
- Enhanced penalties for conversions involving minors, women, or SC/ST individuals, with prison terms ranging from 5 to 14 years and fines up to ₹1 lakh.

#### 2. New Offences:

- Securing foreign or illegal funds for conversions: 7-14 years imprisonment and a ₹10 lakh fine.
- Using threats, force, or inducements to cause conversions: 20 years to life imprisonment.

#### 3. Complaint Registration:

- Any person can now file an FIR, expanding the original scope that allowed only aggrieved persons or their relatives to file complaints.

#### 4. Bail Provisions:



- All offences are cognisable and non-bailable.
- Twin conditions for bail similar to stringent laws like PMLA and UAPA, making bail difficult to obtain.

### Concerns:

The amendments have raised significant concerns regarding potential misuse and infringement on individual rights:

1. **Stringency:** The harsher penalties and broadened scope for filing complaints may lead to misuse against minority communities.
2. **Bail Restrictions:** The stringent bail conditions effectively ensure that accused individuals remain in custody until trial completion, which could take years.
3. **Third-Party Complaints:** Allowing any person to file a complaint increases the risk of misuse by individuals or groups with vested interests.

### Arguments:

#### Against:

1. **Human Rights Violations:** Critics argue that the law contravenes **Article 25** of the Constitution, which guarantees freedom of religion.
2. **Potential for Misuse:** The broad provisions for filing complaints can be exploited for harassment and targeting of minority communities.

#### For:

1. **Preventing Fraudulent Conversions:** Proponents argue that the law is necessary to curb forced and fraudulent conversions, ensuring social harmony.

2. **Protecting Vulnerable Groups:** The law aims to protect women, minors, and marginalized communities from coercion and exploitation.

### Way Forward

1. **Judicial Review:** The constitutional validity of the amendment is likely to be challenged in the Supreme Court. A thorough judicial review is essential to balance individual freedoms with state interests.
2. **Monitoring and Safeguards:** Implementing strict monitoring mechanisms to prevent misuse and ensuring that genuine cases are not overlooked.
3. **Public Awareness and Education:** Raising awareness about the law's provisions and ensuring that communities understand their rights and the legal processes involved.
4. **Balanced Legislation:** The government should consider revisiting and possibly revising the legislation to ensure it protects against fraudulent conversions without infringing on constitutional rights.

### Scholarships to Young Artists in Different Cultural Fields (SYA)

#### Context:

The Ministry of Culture is implementing the 'Scholarships to Young Artists in Different Cultural Fields (SYA)' scheme to support young artists in various cultural domains, including classical dance, indigenous artwork, and traditional art forms.

- This scheme aims to provide financial assistance for advanced training to talented individuals who

have been training under a Guru or Institution for at least five years.

- 2020-21: Rs. 15.83 crores
- 2021-22: Rs. 21.25 crores
- 2022-23: Rs. 23.68 crores
- 2023-24: Rs. 16.22 crores

## Key Highlights:

### 1. Scholarship Details:

- A scholarship of **Rs. 5,000 per month** is provided to **up to 400** scholars.
- The scholarship is distributed over a **period of 2 years** in four equal six-monthly installments.
- Eligible candidates must be between **18 to 25 years** old.

### 2. Selection Process:

- Scholars are selected based on their performance in a personal interview or interaction with an Expert Committee constituted by the Ministry.

### 3. Recognized Cultural Fields:

- Scholarships are awarded in various fields including:
  - Indian Classical Music
  - Indian Classical Dance/Dance Music
  - Theatre
  - Visual Arts
  - Folk, Traditional, and Indigenous Arts
  - Light Classical Music

### 4. Scheme and Funding:

- The SYA scheme is a component of the 'Scheme of Scholarship and Fellowship for Promotion of Art and Culture'.
- Funds allocated for this scheme over the last five years are as follows:
  - 2019-20: Rs. 12.30 crores

### 5. Beneficiary Data:

- State-wise details of beneficiaries and fund utilization over the last five years, including Andhra Pradesh, are documented in Annexure-I and Annexure-II.

## Significance

1. **Promotion of Cultural Heritage:** The scheme supports the preservation and promotion of India's rich cultural heritage by nurturing young talent in various traditional art forms.
2. **Financial Assistance:** Providing financial aid helps young artists to focus on their training without the burden of financial constraints, ensuring they can achieve excellence in their fields.
3. **Encouragement for Youth:** The initiative motivates young artists to pursue advanced training and contributes to the development of a new generation of skilled practitioners in traditional arts.
4. **Balanced Regional Development:** By providing state-wise data on beneficiaries, the scheme ensures that talented individuals from across the country, including underrepresented regions, receive equal opportunities.

**President of India, received the highest civilian award of Fiji**

### Context:

President of India, Smt Droupadi Murmu, received the highest civilian award of Fiji, Companion of the Order of Fiji.

### Key Highlights:

1. The award is a moment of immense pride and joy for every Indian.
2. **Recognition of Leadership:** The award acknowledges President Murmu's leadership.
3. **India-Fiji Relations:** The honor highlights the historic people-to-people connect between India and Fiji.

- **Geographic Surroundings:** Fiji surrounds the Koro Sea, north of Auckland, New Zealand.
- **Geological Formation:** The islands are primarily formed through volcanic action, sedimentary deposits, and coral formations.

## Cold storage for perishable crops

### Context:

The Indian government is actively implementing various schemes to provide financial assistance for setting up cold storage facilities for perishable horticultural produce across the country. These initiatives aim to reduce post-harvest losses and enhance the storage and preservation of perishable crops.

### Facts About Fiji:



- **Location:** Fiji is part of Oceania.
- **Colonial History:** It was a British colony for almost one hundred years, starting in 1874.
- **Independence:** Fiji gained independence in 1970.
- **Capital:** Suva.
- **Main Rivers:** The Rewa, Navua, Sigatoka (Singatoka), and Ba (Mba).
- **Highest Peak:** Tomanivi (Mount Victoria), standing at 4,344 feet (1,324 meters).
- **UNESCO World Heritage Site:** Levuka Historical Port Town.
- **Largest Island:** Viti Levu.

### Key Highlights:

1. **Mission for Integrated Development of Horticulture (MIDH)**
  - Implemented by the Department of Agriculture & Farmers Welfare.
  - Provides financial assistance for constructing, expanding, and modernizing cold storages with a capacity of up to 5000 MT.
  - Offers a credit-linked back-ended subsidy: 35% of the project cost in general areas and 50% in hilly and scheduled areas.
2. **Capital Investment Subsidy by National Horticulture Board (NHB)**
  - Subsidy for constructing, expanding, and modernizing cold storages and Controlled Atmosphere (CA) storage.
  - Subsidy rates: 35% of the capital cost in general areas, and 50% in

North East, hilly, and scheduled areas for capacities above 5000 MT and up to 10000 MT.

### 3. Pradhan Mantri Kisan Sampada Yojana (PMKSY)

- Implemented by the Ministry of Food Processing Industries (MoFPI).
- Financial assistance in the form of grant-in-aid: 35% for general areas and 50% for North East, Himalayan States, ITDP areas, and Islands.
- Focuses on reducing post-harvest losses and providing remunerative prices to farmers.
- Maximum grant-in-aid of Rs. 10.00 crore per project for integrated cold chain projects.

### 4. Agriculture Infrastructure Funds (AIF)

- Government has launched AIF of Rs. 1.00 lakh crore.
- Provision for collateral-free term loans up to Rs. 2.00 crore.
- Interest subvention of 3% on the term loan for post-harvest infrastructure including cold storages.

### Concerns and Why Implement This?

- **Post-Harvest Losses:** Significant losses occur post-harvest due to inadequate storage facilities. According to the Ministry of Agriculture, around 30-40% of fruits and vegetables are lost annually, amounting to over Rs. 90,000 crore.
- **Demand-Supply Imbalance:** The lack of proper storage infrastructure leads to a mismatch between supply and demand, causing price volatility and distress to farmers.

- **Financial Barriers:** High costs associated with setting up cold storage facilities are a major barrier for small and marginal farmers.

### Significance

- **Enhanced Shelf Life:** Cold storage facilities significantly increase the shelf life of perishable crops, ensuring better quality produce.
- **Price Stability:** Helps in stabilizing prices by preventing glut and scarcity in the market, ensuring farmers receive fair prices.
- **Rural Employment:** The establishment of cold storages and related infrastructure creates employment opportunities in rural areas.
- **Reduction in Food Wastage:** Proper storage facilities reduce food wastage, ensuring more produce reaches the market.

### Project Pari

#### Context

Project PARI (Public Art of India) is an initiative launched by the **Ministry of Culture** to celebrate and enhance the public art scene in India.

- Executed by the **Lalit Kala Akademi** and the **National Gallery of Modern Art**, this project coincides with the 46th World Heritage Committee Meeting in New Delhi from July 21-31, 2024.
- Project PARI aims to stimulate dialogue and reflection through public art that blends India's rich cultural heritage with contemporary themes.



## Key Highlights:

- **Artist Participation:** Over 200 visual artists participated, showcasing various traditional art forms.
- **Diverse Art Forms:** The project features Phad paintings, Thangka paintings, Warli art, Gond Art, Alpona art, Cheriyal painting, Tanjore paintings, Kalamkari, Pithora Art, and Kerala Murals.
- **Thematic Variety:** Artworks cover a range of themes, blending traditional and contemporary elements.
- **Cultural Enhancement:** Aims to enhance Delhi's visual and cultural landscape, fostering a sense of pride and belonging within the community.

## Concerns and need to Implement This?

- **Neglect of Traditional Art Forms:** Many traditional Indian art forms face the risk of fading into obscurity due to modern influences and lack of recognition.
- **Urban Aesthetic Decline:** Public spaces often lack aesthetic appeal, impacting the overall cultural and visual landscape of cities.
- **Limited Artist Support:** Talented artists often struggle with insufficient platforms and financial support to showcase their work.

## Significance

- **Cultural Preservation:** By highlighting traditional art forms, Project PARI plays a crucial role in preserving India's rich cultural heritage.
- **Enhanced Public Spaces:** The project transforms urban spaces into

vibrant, culturally rich areas, improving the quality of life for residents and visitors.

- **Community Pride:** Public art fosters a sense of pride and belonging within communities, promoting cultural unity and identity.
- **Artistic Recognition:** Provides a platform and incentives for talented artists, encouraging the creation and appreciation of public art

## Pradhan Mantri Awaas Yojana – Gramin (PMAY-G)

### Context:

The Union Cabinet, chaired by Prime Minister Shri Narendra Modi, has approved the continuation and implementation of the Pradhan Mantri Awaas Yojana – Gramin (PMAY-G) for the period FY 2024-25 to 2028-29. This decision aims to provide financial assistance for the construction of two crore additional houses across rural India.

### Key Highlights:

- **Scheme Continuation:** PMAY-G will continue from April 2024 to March 2029 to cover the Awaas+ (2018) list and remaining eligible households from the SECC 2011 Permanent Wait List (PWL).
- **Financial Outlay:** The total outlay for this phase is **Rs. 3,06,137 crore**, with **Rs. 2,05,856 crore as the Central share** and **Rs. 1,00,281 crore as the State matching share**.
- **Unit Assistance:** Financial assistance remains at Rs. 1.20 lakh per unit in plain areas and Rs. 1.30 lakh in North Eastern Region States, Hill States, and Union Territories like Jammu & Kashmir and Ladakh.

- **Administrative Costs:** 2% of the programme funds are allocated for administrative expenses, with 1.70% for States/UTs and 0.30% retained at the Central level.
- **Completion of Previous Phase:** Houses not completed by 31st March 2024 will be finished under this phase.

## Significance

- **Housing for All:** The construction of two crore new houses is expected to benefit nearly 10 crore individuals, significantly advancing the “Housing for All” mission in rural India.
- **Improved Living Conditions:** This initiative will enable houseless and those living in dilapidated structures to build safe, secure, and high-quality homes with essential amenities, enhancing safety, hygiene, and social inclusiveness.
- **Target Achievement:** The remaining 35 lakh houses from the previous phase will be completed, contributing to the cumulative target of 2.95 crore houses by March 2024.

## About Pradhan Mantri Awaas Yojana – Gramin (PMAY-G)

- Launched in April 2016, PMAY-G aims to provide “Housing for All” in rural areas by constructing 2.95 crore pucca houses with basic amenities by March 2024.
- The scheme focuses on addressing the housing needs of rural India through phased construction and financial assistance, ensuring safe and sustainable housing for the rural population.

### Salient Features of PMAY-G:

- **Increased House Size:** The minimum house size has been expanded from

20 sq. mt. to 25 sq. mt., including a hygienic cooking space.

- **Enhanced Financial Assistance:**
  - For plain areas, unit assistance has been increased from Rs 70,000 to Rs 1.20 lakh, shared between the Central and State Governments in a 60:40 ratio.
  - For North Eastern and Himalayan States, assistance has risen from Rs 75,000 to Rs 1.30 lakh, with a 90:10 funding ratio between the Central and State Governments.
- **Toilet Construction:** Assistance for building toilets will be integrated through convergence with schemes like Swachh Bharat Mission-Gramin (SBM-G), Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), or other dedicated funding sources.
- **Utility Convergence:** Efforts will be made to integrate various government programs to provide additional services like piped drinking water, electricity connections, and LPG gas connections.

### Unique Aspects of PMAY-G:

- **Beneficiary Selection:** Unlike previous schemes that selected beneficiaries solely from BPL households, PMAY-G uses housing deprivation parameters from the SECC 2011 data, verified by Gram Sabhas, to identify eligible households.
- **Quality Assurance:** The scheme includes the establishment of a National Technical Support Agency (NTSA) to enhance the quality of construction at the national level.
- **Mason Training:** A nationwide training and certification program for masons has been launched to

ensure skilled labor is available in States/UTs.

- **E-Governance Model:** PMAY-G is implemented and monitored through an end-to-end e-Governance system using AwaasSoft and Awaas App, ensuring transparency and efficiency.
- **Community and Parliamentary Oversight:** The program's implementation is monitored through community participation, including Social Audits, and by Members of Parliament through the DISHA Committee.

exacerbated by the gendered nature of displacement.

- Their struggles are compounded by social, economic, and psychological pressures, making them one of the most vulnerable groups within refugee communities.

### Dimensions of the Article:

- India and Its Refugees
- History of Granting Asylum to Refugees
- Challenges Associated
- Why India Has Not Signed the 1951 Refugee Convention

## Refugee rights, the gendered nature of displacement

### Context

The global refugee crisis is an enduring and escalating challenge, driven by conflicts, persecution, violence, and human rights abuses. By the end of 2023, the **United Nations High Commissioner for Refugees (UNHCR) reported that 11.73 crore people** had been forcibly displaced worldwide.

- This staggering number reflects the worsening situation in conflict zones such as Ukraine, Myanmar, and most recently, Israel and Gaza.

### Background:

- Among the displaced, **3.76 crore are refugees** who have crossed international borders seeking safety. These numbers are expected to rise as conflicts continue to rage.
- India, with its long history as a refuge for the displaced, is home to over **2,00,000 refugees** from diverse backgrounds. However, among the refugee population, women and girls face unique challenges that are often

### India and Its Refugees:

- India has historically been seen as a welcoming nation for refugees, hosting over 2,00,000 displaced persons from various parts of the world.
- As of January 2022, **46,000 refugees** and asylum-seekers were registered with **UNHCR India**, nearly half of whom are women and girls. Despite India's long-standing tradition of providing refuge, **the country lacks specific legislation that addresses** the needs of refugees, especially those with disabilities.
- The **Rights of Persons with Disabilities Act (RPWDA) of 2016** provides a framework for protecting the rights of persons with disabilities, including those with mental health conditions. However, the **Act does not explicitly include refugees**, leaving a significant gap in the protection and support available to displaced women with psychosocial disabilities. Although the Supreme Court of India has affirmed the right to life for refugees under Article 21, which includes the right to health, in

practice, access to healthcare for refugees is severely limited.

- The exclusion of refugees from most public health and nutrition programs available to citizens, combined with the high cost of private healthcare, leaves many refugee women without the necessary support for their mental health needs. This situation is particularly dire in a society where mental health services are already stigmatized, and community participation is predominantly male-dominated, further isolating refugee women.

### History of Granting Asylum to Refugees

- **Jewish Refugees (70 CE):** After the Romans destroyed Herod's Temple in Jerusalem during the First Jewish-Roman War, many Jews sought refuge worldwide, including in India.
- **Tibetan Refugees (1959):** India granted asylum to Tibetan refugees fleeing Chinese occupation, establishing settlements for their rehabilitation.
- **Partition Refugees (1947):** During the partition of India, millions of refugees from newly formed Pakistan were accommodated by India, marking one of the largest refugee crises in history.
- **Chakma and Hajong Refugees (1960s):** India accepted the Chakma and Hajong communities displaced from the Chittagong Hill Tracts in present-day Bangladesh.
- **Bangladeshi Refugees (1971):** During the Bangladesh Liberation War, India provided shelter and aid to a significant number of refugees fleeing from East Pakistan.
- **Sri Lankan Tamil Refugees (1980s):** India has served as a

refuge for Sri Lankan Tamils escaping civil war and ethnic violence in Sri Lanka.

- **Rohingya Refugees (Recent Years):** India has faced challenges accommodating Rohingya refugees fleeing violence and human rights abuses in Myanmar's Rakhine State.

### Challenges Associated:

- **Legal and Administrative Gaps:** India has **not ratified the 1951 Refugee Convention or its 1967 Protocol**, and it lacks a specific legal framework to address the needs of refugees. This absence of a formal refugee policy means that displaced persons, particularly women with psychosocial disabilities, are often overlooked in the distribution of rights and services.
- **Mental Health Stigma:** The stigma surrounding mental health issues, especially in patriarchal societies, prevents many refugee women from seeking help. The fear of being ostracized or misunderstood often leads to their conditions being ignored or dismissed, exacerbating their suffering.
- **Access to Healthcare:** Refugee women have limited access to healthcare services, particularly mental health support. The services that are available are often inadequate, with long wait times and a lack of culturally sensitive care. This is further compounded by language barriers and a lack of awareness about available services.
- **Economic Constraints:** Financial limitations prevent many refugee families from prioritizing mental health care, especially when physical health is seen as more



immediate and urgent. This often results in women's mental health needs being neglected in favor of addressing more visible health issues.

- **Social Isolation:** In male-dominated societies, refugee women often lack the platforms to voice their concerns and are excluded from community participation. This social isolation exacerbates their mental health issues and limits their access to support networks.

### Why India Has Not Signed the 1951 Refugee Convention:

- India views the convention's definition of a refugee as too narrow and discriminatory, as it excludes those fleeing due to economic deprivation.
- The convention is perceived as Eurocentric, not adequately addressing the specific challenges faced by South Asian countries like India.
- India is concerned that signing the convention might compromise its sovereignty and impact its national security and border control policies.
- Limited resources and infrastructure are cited as reasons India may struggle to provide adequate assistance to a large influx of refugees.
- There are concerns that the convention's provisions could be exploited by economic migrants or individuals with ulterior motives, posing security risks.

### Way Forward:

- **Establishing a Uniform Legal Framework:** India needs to develop a comprehensive legal framework that

addresses the rights and needs of refugees, particularly women and those with disabilities. This framework should be in line with India's international commitments, including the UN Convention on the Rights of Persons with Disabilities (UNCRPD).

- **Integration of Refugees in Public Health Programs:** Refugees, including those with psychosocial disabilities, should be included in public health and nutrition programs. This would ensure they have access to necessary healthcare services without discrimination based on their refugee status.

- **Enhanced Mental Health Services:** Mental health services for refugees need to be expanded and made more accessible. This includes providing culturally sensitive care, reducing wait times, and increasing awareness about available services. Special attention should be given to addressing the stigma associated with mental health issues, particularly for women.

- **Data Collection and Policy Making:** Effective policy-making requires accurate data. India should implement systematic processes for identifying and registering refugees, with a focus on disaggregated data collection to understand the specific health conditions and needs of refugee populations.

- **Empowering Refugee Women:** Efforts should be made to empower refugee women by including them in community participation and decision-making processes. This can be achieved through the establishment of women's groups, community centers, and other platforms that give refugee women a voice.

- **International Collaboration:** India should collaborate with international organizations like UNHCR and NGOs

to improve the support provided to refugees. This includes sharing best practices, receiving technical assistance, and securing funding for programs aimed at improving the health and well-being of refugee populations.

## Issuance of Soil Health Cards (SHCs) to farmers

### Context:

The Government of India has been implementing the Soil Health & Fertility Scheme since 2015, aimed at improving soil health and increasing agricultural production.

- This initiative is primarily driven by the issuance of Soil Health Cards (SHCs) to farmers, providing them with essential information on the nutrient status of their soil and recommending appropriate nutrient management practices.

### Key Highlights:

- **Soil Health Cards (SHCs):** A total of **24.17 crore SHCs** have been issued to farmers, offering insights into the health of their soil and guidelines for appropriate nutrient application.
- **Judicious Fertilizer Use:** SHCs promote the balanced use of fertilizers, including secondary and micro-nutrients, alongside organic manures and bio-fertilizers.
- **Farmer Education:** To enhance the effectiveness of SHCs, 6.8 lakh demonstrations, 93,781 farmer training programs, and 7,425 farmer melas have been organized across the country.
- **Advisory Support:** After SHCs are issued, farmers receive advice and guidelines through platforms like Agricultural Technology Management

Agency (ATMA), Krishi Vigyan Kendra (KVK), and Krishi Sakhi.

### Significance:

- **Enhanced Soil Health:** The SHCs provide critical information that helps in the judicious use of fertilizers, which contributes to improved soil health and sustainable farming practices.
- **Increased Agricultural Productivity:** By following the recommendations provided in the SHCs, farmers can optimize their fertilizer use, leading to better crop yields and increased agricultural productivity.
- **Farmer Empowerment:** The extensive training programs and demonstrations empower farmers with knowledge and skills, enabling them to make informed decisions about soil and crop management.
- **Environmental Sustainability:** The focus on balanced fertilizer use and the incorporation of organic inputs contribute to the long-term sustainability of agricultural practices and soil conservation.

## Prime Minister released 109 high-yielding crop varieties

### Context:

Prime Minister Shri Narendra Modi released 109 high-yielding, climate-resilient, and biofortified crop varieties at the Indian Agricultural Research Institute in New Delhi. This initiative aims to enhance agricultural productivity, promote sustainable farming practices, and support the growing demand for nutritious and organic foods in India.

### Key Highlights:

- **Release of New Crop Varieties:** 109 varieties of 61 crops were released, including 34 field crops (cereals, millets, forage crops, oilseeds, pulses, sugarcane, cotton, fibre, and other potential crops) and 27 horticultural crops (fruits, vegetables, plantation crops, tuber crops, spices, flowers, and medicinal crops).
- **Prime Minister's Interaction:** PM Modi interacted with farmers and scientists, emphasizing the importance of value addition in agriculture and the significance of millets and natural farming.
- **Role of Krishi Vigyan Kendras (KVKs):** The farmers praised KVKs for raising awareness about sustainable agricultural practices. The Prime Minister encouraged KVKs to regularly inform farmers about the benefits of new crop varieties.
- **Scientist's Efforts:** Scientists shared that the development of these varieties aligns with the Prime Minister's directive to bring underutilized crops into the agricultural mainstream.

### Significance:

- **Enhanced Agricultural Productivity:** The introduction of high-yielding and climate-resilient crop varieties will likely boost agricultural output, reduce farming costs, and improve food security.
- **Promotion of Nutritious and Organic Foods:** The focus on biofortified crops and natural farming aligns with the growing demand for nutritious and organic foods, contributing to better public health and environmental sustainability.

- **Support for Farmers:** The new varieties are expected to help farmers reduce expenses, increase profitability, and adapt to changing climate conditions, thus supporting their livelihoods.
- **Sustainable Agriculture:** The emphasis on value addition, climate resilience, and biofortification reflects a broader strategy to promote sustainable agricultural practices in India, ensuring long-term food security and environmental conservation.

## On amendments to the Waqf Act

### Context

The introduction of the Waqf Amendment Bill in August 2023 by the Union government in the Lok Sabha has sparked significant discussions and debates across the country.

- The Bill aims to amend the Waqf Act of 1995 by making substantial changes to the existing legal framework governing waqf properties in India.
- The proposed amendments, under the new name "Unified Waqf Management, Empowerment, Efficiency, and Development Act, 2024," seek to enhance the regulatory control of the Central government over waqf properties and introduce non-Muslim members into the Waqf Boards for the first time.
- While the government claims that these changes will improve the administration and management of waqf properties, opposition parties and stakeholders have raised concerns, arguing that the amendments may encroach upon the religious rights of the Muslim

community and centralize power, reducing the autonomy of waqf institutions.

### Dimensions of the Article:

- What is India's 'Waqf' Law?
- The Role of the Waqf Board
- Implications of the Proposed Changes

## 1. What is India's 'Waqf' Law?

- **Definition of Waqf:**
  - Waqf refers to property dedicated in the name of God for religious and charitable purposes in Islamic law.
  - These properties are used for public good, such as maintaining mosques, funding schools, or providing for the poor.
  - Once designated as waqf, the property cannot be sold, inherited, or transferred.
- **Regulation in India:**
  - Waqf properties in India are regulated under the Waqf Act of 1995.
  - The Act mandates the identification and registration of waqf properties through State government surveys.
  - A mutawalli (custodian) manages the waqf, and the properties are recorded by the State Waqf Board.

## 2. The Role of the Waqf Board

- **Establishment and Composition:**
  - Each State has a Waqf Board responsible for administering waqf properties.

- The Boards consist of a chairperson, State government nominees, Muslim legislators, Islamic scholars, and mutawallis.
- The Boards have the authority to manage waqf properties, recover lost assets, and approve property transfers.

- **Central Waqf Council:**

- A national advisory body under the Ministry of Minority Affairs.
- Ensures uniform administration of waqf properties across the country.
- Advises the Union government on waqf-related issues and resolves inter-State disputes.

## 3. Key Changes in the Proposed Law

- **Redefinition of Waqf:**
  - Only lawful property owners who have practiced Islam for at least five years can create waqf properties.
  - The concept of 'waqf by use' is abolished.
- **Fraud Prevention:**
  - Government properties identified as waqf will not be recognized as waqf properties.
- **Surveying and Registration:**
  - Responsibility for surveying waqf properties shifts from survey commissioners to district collectors.
  - A centralized registration system is introduced for recording waqf properties.
- **Inclusion of Non-Muslims:**
  - Non-Muslims can now be members of the Central Waqf Council, State Waqf Boards, and waqf tribunals.

- The tribunal structure is modified, and judicial oversight is increased.
- **Audit and Accountability:**
  - The Centre is empowered to audit waqf properties at any time.
  - Annual audits by Waqf Boards are mandated, with penalties for non-compliance.

#### 4. Implications of the Proposed Changes

- **Transparency and Efficiency:**
  - Centralized registration and increased audits may improve transparency and management efficiency.
- **Concerns Over Autonomy:**
  - Inclusion of non-Muslims and centralization may reduce the autonomy of Muslim religious institutions.
- **Judicial Oversight:**
  - Allowing appeals to High Courts could increase litigation and delay dispute resolutions.
- **Impact on Beneficiaries:**
  - Provisions for vulnerable groups like widows, divorced women, and orphans need careful implementation to be effective.

#### Way Forward

- Address concerns about autonomy and religious rights while ensuring efficient and transparent management of waqf properties.
- Implement safeguards to protect the interests of the Muslim community and vulnerable beneficiaries.

## PM GatiShakti Capacity Building Workshop

### Context:

A district-level capacity-building workshop under the PM GatiShakti (PMGS) initiative is scheduled to be held in Thiruvananthapuram on 13th August 2024.

- This workshop, part of a series organized by the Department for Promotion of Industry and Internal Trade (DPIIT) with technical support from BISAG-N, aims to extend the PM GatiShakti framework to the district and local levels.
- The workshop will involve 14 districts from Kerala, Karnataka, Andhra Pradesh, Tamil Nadu, and Telangana.

### What is PM GatiShakti?

- PM GatiShakti National Master Plan (PMGS-NMP) is a comprehensive initiative aimed at **integrated infrastructure planning** across India.
- It leverages **geo-spatial technology** and the **Area Development Approach** to optimize the planning and implementation of infrastructure and social sector projects.
- The plan focuses on **enhancing connectivity and ensuring the efficient execution** of existing schemes by bringing together various stakeholders from Central and State governments.

### Significance:

- **Integrated Planning:** PM GatiShakti facilitates holistic and coordinated planning of infrastructure projects, reducing inefficiencies and redundancies.



- **Enhanced Connectivity:** It focuses on improving first and last-mile connectivity, thereby ensuring better access to social and economic infrastructure in targeted areas.
- **Inclusive Growth:** The initiative supports sustainable development by saturating selected locations with necessary infrastructure, ultimately contributing to inclusive growth across the region.
- **Collaboration and Learning:** The workshops promote collaboration and cross-learning between districts, states, and central ministries, ensuring effective area-based planning.

### Way Forward:

- The ongoing workshops will continue to onboard more districts into the PM GatiShakti framework, fostering comprehensive area-based planning across India.
- By showcasing best practices and successful use cases, these workshops will further strengthen the implementation of the PM GatiShakti principles, leading to enhanced infrastructure development and inclusive growth nationwide.
- The initiative will also continue to integrate with other programs, such as NITI Aayog's aspirational districts program, to ensure a coordinated approach to regional development.

## Restoring Democracy in Jammu and Kashmir

### Context

Following the abrogation of Article 370 in 2019, which stripped J&K of its special status and bifurcated it into two Union

Territories, the region has not seen an Assembly election since 2014. The coalition government of the Peoples' Democratic Party (PDP) and the Bharatiya Janata Party (BJP) collapsed in 2018, leaving J&K without a representative government. Despite the complexities and challenges, the recent visit by the Election Commission of India (ECI) and the Supreme Court's directive for holding elections by September 30, 2024, underscore the urgency of reestablishing a participatory democratic setup in J&K.

- This situation presents both an opportunity and a challenge for the central government, as it navigates the intricate balance between security concerns and the need to restore political processes in the region.

### Dimensions of the Article:

- What is the Issue?
- J&K's Need for a Participatory Democratic Setup
- Suggested Measures
- Implications of the Proposed Changes

### 1. What is the Issue?

- **Election Delay:**
  - J&K has not had Assembly elections since 2014, leaving it without a local representative government since 2018.
  - The Supreme Court, in its December 2023 judgment on Article 370, directed the Election Commission to conduct elections in J&K by September 2024, emphasizing that legislative assembly elections cannot be postponed until statehood is restored.

- **Political Vacuum:**
  - The absence of a representative government has led to growing demands from regional parties and local populations for the restoration of democratic processes.
  - The situation is further complicated by recurrent militant attacks, which underscore the ongoing security challenges in the region.
- **Voter Participation:**
  - Despite previous trends of election boycotts, especially in the Kashmir Valley, the Lok Sabha elections in April-May 2024 saw a historic voter turnout of 58%.
  - This shift in voter behavior reflects a growing desire among the people of J&K to participate in the democratic process.

## 2. J&K's Need for a Participatory Democratic Setup

- **Restoration of Political Processes:**
  - Holding Assembly elections in J&K is crucial for restoring and building up political processes in the region.
  - A participatory democratic setup would enable the local population to choose their representatives, addressing the accusations against the Centre of curtailing democratic processes since 2019.
- **Addressing Local Issues:**
  - J&K faces several pressing issues, including growing unemployment, electricity crises, and poor health infrastructure.
  - A representative government is essential to effectively address

these challenges and ensure that the needs of the people are met.

- **Mitigating Alienation:**
  - The absence of political representation can amplify feelings of alienation among the local population.
  - Assembly elections can serve as a democratic instrument to prevent these sentiments from being exploited by anti-national elements.

## 3. Suggested Measures

- **Conducting Elections Despite Security Concerns:**
  - The Centre must not allow the security situation to dictate the timing of elections, as this could make the government appear subservient to militant threats.
  - Instead, elections should be conducted as scheduled to reaffirm the Centre's confidence in the democratic process.
- **Enhancing Security Efforts:**
  - While political processes are reinitiated, the Centre must continue to strengthen its efforts to combat militancy and ensure the safety of the population during elections.
- **Building Confidence Among Voters:**
  - The historic voter turnout in the recent Lok Sabha elections indicates a renewed faith in the democratic process among the people of J&K.
  - The Centre should leverage this momentum by ensuring free and fair Assembly

elections, which could further bolster voter confidence.

#### 4. Implications of the Proposed Changes

- **Reinforcement of Democracy:**
  - Holding Assembly elections in J&K would be a significant step towards reinforcing democracy in the region.
  - It would counter accusations of democratic curtailment and demonstrate the Centre's commitment to restoring normalcy in J&K.
- **Potential for Healing:**
  - The elections could serve as a healing process for a region that has been scarred by over three decades of conflict.
  - A participatory democratic setup would empower the people of J&K to have a say in their governance, fostering a sense of ownership and responsibility.
- **Challenges and Risks:**
  - While the elections are necessary, they also pose challenges, particularly in ensuring that they are conducted smoothly in a region with ongoing security concerns.
  - The success of the elections will depend on the Centre's ability to manage these risks while maintaining the integrity of the democratic process.

#### Way Forward

- The Centre must strike a balance between addressing security concerns and promoting democratic processes in J&K.
  - A phased approach, with careful monitoring of the security situation, could ensure that

elections are conducted without compromising the safety of the population.

The Centre should engage with regional parties, civil society, and other local stakeholders to build consensus on the election process. This could help mitigate any potential backlash and ensure that the elections are seen as legitimate by the local population.

- **Long-Term Commitment to Development:**
  - Beyond the elections, the Centre must commit to the long-term development of J&K, addressing key issues such as unemployment, infrastructure, and public services.
  - A stable and representative government in J&K will be crucial in driving these development efforts forward.

#### Release of Publication "Women and Men in India 2023"

##### Context

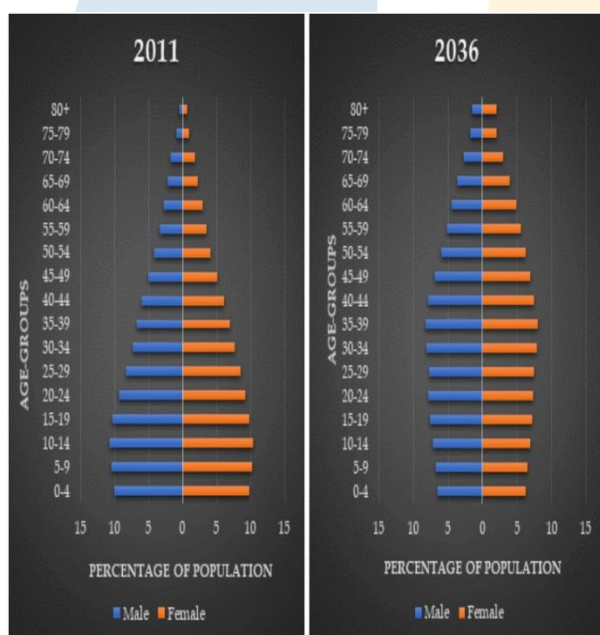
The Ministry of Statistics and Programme Implementation (MoSPI) has released the 25th edition of its publication titled "Women and Men in India 2023."

- This report provides a comprehensive analysis of the socio-economic conditions of women and men in India, highlighting key trends and disparities across various domains such as population, education, health, economic participation, and decision-making.
- The publication serves as an essential resource for policymakers, researchers, and the public to understand gender dynamics in India and to inform the development of gender-sensitive policies.

## Key Highlights

### Population Projections:

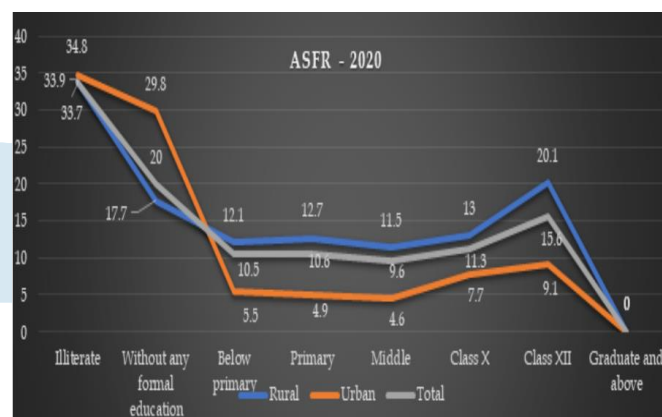
- By 2036, India's population is expected to reach **152.2 crore**, with a slight increase in the female percentage from 48.5% in 2011 to **48.8% in 2036**.
- The **sex ratio is projected to improve** from 943 in 2011 to 952 by 2036, indicating a positive trend toward gender equality.
- The proportion of individuals under 15 years is expected to decrease due to declining fertility, while the population aged 60 years and above is anticipated to increase significantly.



### Fertility Trends:

- The Age Specific Fertility Rate (ASFR) in the age group of 20-24 and 25-29 years has declined from 135.4 and 166.0 in 2016 to 113.6 and 139.6 in 2020, respectively.
- An increase in ASFR for women aged 35-39 years from 32.7 to 35.6 during the same period indicates that women are choosing to expand their families later in life.

- Adolescent Fertility Rate was notably lower for literate women (11.0) compared to illiterate women (33.9) in 2020, emphasizing the importance of education in reducing early fertility.



### Maternal and Infant Mortality:

- India has achieved a significant milestone by reducing the Maternal Mortality Ratio (MMR) to 97 per lakh live births in 2018-20, making it feasible to meet the SDG target of reducing MMR to 70 by 2030.
- The Infant Mortality Rate (IMR) for both males and females has decreased, with the gap between the sexes closing, as IMR for both was 28 per 1,000 live births in 2020.
- The Under-5 Mortality Rate also declined from 43 in 2015 to 32 in 2020, with a reduced gap between boys and girls.

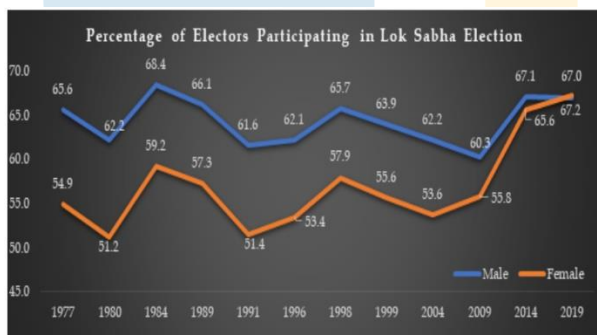


### Labour Force Participation:

- The Labour Force Participation Rate (LFPR) for individuals aged 15 years and above has been increasing for both males and females since 2017-18.
- Male LFPR increased from 75.8% to 78.5%, while female LFPR saw a significant rise from 23.3% to 37% between 2017-18 and 2022-23.

- **Political Participation:**

- Women’s electoral participation has seen a significant rise, with their turnout increasing from less than 60% before the 15th National Election (1999) to 67.2% in the 2019 elections.
- For the first time in history, the voter turnout percentage for women was marginally higher than that for men, indicating increasing political awareness and literacy among women.



- **Women in Start-ups:**

- Since January 2016, the Department for Promotion of Industry and Internal Trade (DPIIT) has recognized 1,17,254 start-ups, with 47.6% being women-led.
- This highlights the growing influence of women entrepreneurs in India’s start-up ecosystem, with 55,816 start-ups led by women.

## Significance

- The “Women and Men in India 2023” report is a crucial tool for understanding the progress and challenges in achieving gender equality in India. It provides valuable insights into demographic changes, socio-economic trends, and the impact of policies aimed at improving the status of women and men.
- The data and analysis presented in this publication are essential for developing informed and inclusive policies that promote gender equity and ensure sustainable development.
- As India continues to work towards achieving the Sustainable Development Goals (SDGs), this report serves as a vital resource for policymakers, researchers, and advocates working to bridge the gender gap in various sectors

## Broadening India's Sporting Horizon: A Pathway to Olympic Success

### Context

India's recent performance at the Paris Olympics, where the nation secured a total of six medals—one silver and five bronze—has sparked discussions on the need for a broader and more inclusive sporting base.

- This performance, while showcasing individual brilliance, falls short of the nation's expectations, especially in light of the increased support from the government and private sector aimed at enhancing India's Olympic standing.
- The outcome underscores the necessity for India to diversify its focus across various sports, addressing the existing gaps in participation and infrastructure.



## Dimensions of the Article:

- About the Olympics
- India's Performance at the Paris Olympics
- Need to Broaden India's Sporting Base
- Implications of a Narrow Sporting Focus
- Suggested Measures to Broaden India's Sporting Base

### 1. About the Olympics:

- The Olympics, an international sporting event held every four years, represent the pinnacle of athletic achievement. Rooted in the ancient traditions of **Greece**, the Olympics have evolved into a global celebration of sportsmanship and unity. The modern Olympic Games, revived in **1896** by **Pierre de Coubertin**, are held in different host countries, showcasing the talents of athletes from around the world.
- The Olympics serve not only as a platform for competition but also as a medium to promote peace, cultural exchange, and the ideals of fair play. They include the **Summer Games**, **Winter Games**, and **Youth Olympic Games**, each offering a diverse range of sporting events that test the limits of human endurance and skill.
- The Olympic symbol, consisting of five interlocking rings in **blue, yellow, black, green, and red** on a white background, represents the **unity of the five continents and the diversity of nations** brought together through sports.

### 2. India's Performance at the Paris Olympics:

- India's return of **six medals** at the Paris Olympics, although commendable in certain aspects, reflects a decline from the seven medals secured in Tokyo 2020, which included a historic gold and two silvers. The expectations were high, driven by a combination of governmental support and corporate backing aimed at achieving a double-digit medal tally. However, the outcome fell short, highlighting the need for a reassessment of India's approach to Olympic sports.

- There were notable achievements, such as **Neeraj Chopra's silver in javelin**, building on his gold from Tokyo, and the **men's hockey team securing a podium finish** for the second consecutive Olympics. New heroes emerged, including shooters **Manu Bhaker**, **Sarabjot Singh**, and **Swapnil Kusale**, and wrestler **Aman Sehrawat**, who became household names through their commendable performances.

- Despite these successes, India's performance remains heavily dependent on a select few athletes, with little to no representation in disciplines like swimming and gymnastics. The disqualification of wrestler **Vinesh Phogat** for exceeding the weight limit further emphasized the challenges faced by Indian athletes.

### 3. Need to Broaden India's Sporting Base:

- The underwhelming medal tally at the Paris Olympics underscores the urgent need to broaden India's sporting base. The current scenario reveals a heavy reliance on a few disciplines, with limited participation in sports that have historically been

India's weak points. This narrow focus not only restricts the potential medal haul but also limits the development of a holistic sporting culture in the country.

- A broader base would involve increasing participation across a wider range of sports, promoting inclusivity, and ensuring equitable distribution of resources and funding. It is essential to identify and nurture talent at the grassroots level, providing opportunities for young athletes to explore and excel in diverse sporting disciplines.
- Additionally, addressing issues such as nepotism and corruption within sports federations is crucial. These factors have often hampered the growth of sports in India, leading to a lack of transparency and accountability. The Union Sports Ministry must enforce the National Sports Code, ensuring that federations adhere to ethical practices and prioritize the development of athletes.

#### 4. Implications of a Narrow Sporting Focus:

- A narrow focus on a limited number of sports can have significant implications for India's overall sporting success. It limits the country's ability to compete in a wider range of events, reducing the potential for medal wins and international recognition. This, in turn, can affect the morale of athletes and the public's perception of India's sporting capabilities.
- Moreover, the lack of representation in certain sports prevents the discovery of new talent, which could have otherwise contributed to the nation's medal tally. It also hinders the development of a diverse sporting

culture, where different sports are equally valued and supported.

- The repercussions extend beyond the Olympics, affecting India's performance in other international competitions and diminishing its stature in the global sporting community. A narrow focus also perpetuates the challenges faced by athletes in lesser-known sports, who struggle for recognition, funding, and opportunities to compete at the highest levels.

#### 5. Suggested Measures to Broaden India's Sporting Base:

- **Enhance Grassroots Development:** Establish and strengthen grassroots programs across the country to identify and nurture young talent in a variety of sports. This would involve setting up sports academies, training centers, and providing access to quality coaching and facilities in rural and urban areas alike.
- **Diversify Funding and Resources:** Allocate resources and funding more equitably across different sports, ensuring that lesser-known disciplines receive adequate support. This includes investing in infrastructure, equipment, and training programs that cater to a wide range of sports.
- **Promote Inclusivity in Sports:** Encourage greater participation of women, differently-abled individuals, and athletes from marginalized communities in sports. Special initiatives should be launched to support and promote these groups, ensuring they have equal opportunities to excel.
- **Reform Sports Federations:** Enforce strict adherence to the National Sports Code and ensure that sports federations operate

transparently and ethically. Accountability measures should be put in place to prevent corruption, nepotism, and mismanagement, which have historically hindered the growth of sports in India.

- **Increase Public Awareness and Support:** Launch campaigns to raise public awareness about the importance of diverse sports and encourage greater participation and viewership. Media coverage should be expanded to include a wider range of sports, showcasing the achievements of athletes in lesser-known disciplines.

### Way Forward:

- **Strategic Planning for Future Olympics:** India must adopt a long-term, strategic approach to preparing for future Olympics. This involves setting realistic goals, identifying potential medal-winning disciplines, and investing in the development of athletes who can compete at the highest levels.
- **Collaboration with Private Sector:** Strengthen partnerships with the private sector to leverage resources, expertise, and technology for the development of sports. Corporate sponsorships and collaborations can play a crucial role in funding and supporting athletes across different sports.
- **Focus on Sports Science and Technology:** Integrate sports science and technology into training programs to enhance the performance of athletes. This includes access to advanced training techniques, injury prevention methods, and performance analysis tools that can give athletes a competitive edge.

- **Continuous Monitoring and Evaluation:** Implement a system for continuous monitoring and evaluation of sports programs and athlete development. Regular assessments will help identify gaps, measure progress, and make necessary adjustments to ensure the effectiveness of initiatives.
- **Encourage a Sporting Culture:** Cultivate a culture of sports in India, where participation in a wide range of sports is encouraged from a young age. Schools, colleges, and communities should play a pivotal role in promoting sports as an integral part of education and lifestyle.

### Plan to Boost Coal Production Through Global Mining Operators

#### Context:

The Ministry of Coal has launched a transformative initiative to modernize and boost coal production in India by engaging Mining Developers cum Operators (MDOs) for key coal mining projects under Coal India Limited (CIL).

- This initiative is aimed at significantly increasing domestic coal output, reducing dependency on coal imports, and integrating advanced technology into India's mining sector. The move is a critical step in enhancing the country's energy security and achieving economic growth through sustainable coal production.

#### Key Highlights

##### Engagement of MDOs:

- The Ministry of Coal has engaged **Mining Developers cum Operators (MDOs)** to oversee major coal mine

projects under **Coal India Limited (CIL)**.

- These MDOs are tasked with excavating, extracting, and delivering coal in accordance with approved mining plans, thereby streamlining operations and boosting domestic coal production.

#### **Project Expansion:**

- Initially, 15 coal mine projects with a combined capacity of approximately **168 MT** were identified for MDO implementation. This has now expanded to 28 projects, comprising 18 opencast and 10 underground mines, with a total capacity of about **257 MT**.
- To date, 18 mines have been awarded to leading private operators, marking a significant milestone in this initiative.

#### **Global Tender and Advanced Technology:**

- The MDOs were selected through open global tenders, ensuring the inclusion of operators with advanced technological capabilities.
- The involvement of these reputed operators is expected to modernize mining practices, enhance operational efficiency, and significantly improve production capabilities.

#### **Comprehensive Responsibilities:**

- In addition to boosting production, MDOs will manage critical aspects such as **Rehabilitation and Resettlement (R&R)** issues, land acquisitions, and environmental clearances.
- MDOs will coordinate with State and Central Pollution Control Boards to ensure strict compliance with environmental standards.

#### **Long-term Contracts:**

- Each contract with the MDOs will last for 25 years or the life of the mine, whichever is shorter, ensuring long-term stability and consistent advancements in mining operations.

#### **Significance:**

- **Enhanced Coal Production:** The engagement of MDOs is expected to significantly increase domestic coal production, reducing India's reliance on imported coal and contributing to the country's energy security.
- **Modernization of the Mining Sector:** By integrating advanced technology and best practices through reputed MDOs, India's coal mining sector will see modernization, improved operational efficiency, and cost reduction, leading to enhanced productivity.
- **Economic Growth and Energy Security:** This initiative aligns with the broader goal of Atmanirbhar Bharat by promoting self-reliance in the coal sector, ensuring a steady supply of coal for India's growing energy needs, and contributing to the overall economic growth of the nation.
- **Sustainable Development:** By addressing environmental concerns and ensuring compliance with rigorous standards, the initiative aims to balance coal production with environmental sustainability, fostering responsible mining practices.

**India's Transformation: From Dependence to Global Leadership**

**Healthcare From Global**

## Context

India's Independence Day, celebrated on August 15, is a momentous occasion that invites reflection on the country's remarkable progress across various sectors.

- Among these, the transformation of India's healthcare system stands out as one of the most profound.

## Background:

- From a time when Indians had to travel to the West for advanced medical treatments, to today, where India is recognized as a global healthcare hub, this evolution is a testament to the nation's medical prowess, economic resilience, and visionary leadership.
- This article delves into the journey of India's healthcare sector, examining the factors that have propelled it to global prominence, the challenges it still faces, and the path forward to achieving greater self-reliance and excellence.

## Dimensions of the Article:

- About the Topic
- India as a Medical Destination
- Challenges Facing India's Healthcare Sector
- Implications of India's Healthcare Transformation
- Suggested Measures for Continued Growth

## About the Topic:

- **India's Healthcare Evolution:**
  - Over the past few decades, India's healthcare sector has undergone a seismic shift.
  - In the years leading up to the 1980s, it was common for

affluent Indians to seek advanced medical treatments abroad, particularly in Western countries.

- This trend not only highlighted the deficiencies in India's healthcare system but also resulted in significant financial outflows. However, the landscape has changed dramatically, with India now emerging as a global leader in medical services, attracting patients from over 147 countries.

- This transformation is a testament to the relentless efforts of Indian medical professionals, the strategic vision of policymakers, and the resilience of healthcare institutions. The sector's evolution reflects India's broader journey towards self-reliance, innovation, and global leadership.

- **"Heal in India" Initiative:**

- The **shift from being a nation that relied on medical tourism to becoming a preferred global medical destination** has had significant economic implications.

- The **"Heal in India"** initiative, championed by Prime Minister Narendra Modi, is more than just a slogan; it is a vision to position India as a global healthcare leader.

- This initiative has not only helped in retaining valuable foreign exchange by reducing the need for Indians to seek treatment abroad but has also positioned India as a cost-effective healthcare destination.



## India as a Medical Destination:

- **Global Recognition and Economic Impact:**

- India's healthcare system is now recognized globally for its world-class medical services, which are offered at a fraction of the cost compared to Western countries. The affordability, coupled with **high-quality care**, has made India a preferred destination for medical tourists seeking a wide range of treatments, from complex cardiac surgeries to advanced oncology. The inflow of international patients contributes significantly to the Indian economy, generating over **\$9 billion** in revenue annually.
- This economic impact extends beyond the healthcare sector, creating jobs and fostering growth in related industries such as hospitality, transportation, and pharmaceuticals. The success of India's medical tourism sector underscores the potential of healthcare as a driver of economic growth and international goodwill.

- **India's Healthcare System as a Beacon of Hope:**

- The Indian healthcare system has evolved into more than just a provider of medical treatments; it has become a beacon of hope and excellence. Indian healthcare professionals are not merely doctors and nurses; they are healers who embody compassion, dedication, and a relentless pursuit of excellence. This holistic approach to healthcare, which addresses the physical, emotional, and psychological needs of patients, sets India apart on the global stage.

## Challenges Facing India's Healthcare Sector:

- **Dependence on Imported Medical Devices:**

- Despite the significant progress made in the healthcare sector, India continues to face challenges, particularly in the area of medical devices. A substantial portion of India's medical devices is still imported, adding to the cost of treatments and impacting the country's self-reliance. In the fiscal year **2021-22, India imported medical devices worth over \$6.24 billion**, highlighting the need for greater domestic production.
- The **"Make in India"** initiative aims to address this issue by promoting the domestic production of medical devices, which would not only reduce dependency on imports but also enhance the affordability and accessibility of medical care in India. This shift is critical to ensuring that India can maintain its position as a global healthcare leader.

- **Challenges in Achieving Self-Reliance:**

- The journey towards self-reliance in healthcare is ongoing, and while significant progress has been made, challenges remain. The burgeoning medical device industry in India is a symbol of the country's growing capability to produce high-quality, affordable healthcare solutions. However, the industry still faces hurdles such as regulatory challenges, lack of advanced manufacturing infrastructure, and competition from established global players.
- Additionally, there is a need to inspire and equip Indian youth

to enter the healthcare sector, particularly in areas such as medical research, biotechnology, and medical device manufacturing. The involvement of young innovators and entrepreneurs is essential to drive further advancements and ensure that India can meet its healthcare needs domestically.

### Implications of India's Healthcare Transformation:

- **Economic and Social Impact:**
  - The transformation of India's healthcare sector has far-reaching implications for the country's economy and society. The reduction in the need for medical tourism abroad has resulted in significant foreign exchange savings, which can be reinvested in the domestic economy. Moreover, the growth of medical tourism has created new employment opportunities and spurred development in ancillary industries.
  - Socially, the improvement in healthcare services has enhanced the quality of life for millions of Indians. Access to affordable and high-quality healthcare has reduced the financial burden on families and improved overall health outcomes. India's success in the healthcare sector also serves as a model for other developing countries, demonstrating the potential for achieving self-reliance in critical sectors.
- **Global Perception of India:**
  - India's emergence as a global healthcare hub has enhanced its international reputation. The country's ability to provide world-class medical services at affordable prices has positioned it as a leader

in the global healthcare market. This has not only attracted patients from around the world but has also opened up opportunities for international collaborations in medical research, education, and technology development.

- Furthermore, India's healthcare success story contributes to its soft power, strengthening its influence in global forums and enhancing its role as a responsible and innovative global player.

### Suggested Measures for Continued Growth:

- **Enhance Domestic Production of Medical Devices:** This requires investment in advanced manufacturing infrastructure, research and development, and skill development. The government should also consider offering incentives to domestic manufacturers and facilitating collaborations between academia, industry, and research institutions.
- **Strengthen Regulatory Framework:** The government should work towards streamlining regulatory processes, reducing bureaucratic hurdles, and ensuring that Indian standards align with global best practices.
- **Promote Innovation and Research in Healthcare:** The government, along with private sector players, should invest in research and development in areas such as biotechnology, pharmaceuticals, and medical technology.
- **Inspire the Youth to Enter the Healthcare Sector:** It is crucial to inspire young Indians to consider careers in healthcare, not just as medical professionals but also as innovators, researchers, and entrepreneurs. Educational institutions should offer programs that

equip students with the skills needed to excel in the healthcare sector, and mentorship programs should be established to guide aspiring healthcare professionals.

### Way Forward:

- India's healthcare sector is at a critical juncture, with the potential to achieve self-reliance and global leadership. The "Make in India" initiative, coupled with strategic investments in innovation, research, and domestic production, can propel India towards this goal. It is essential to build on the progress made so far, addressing the remaining challenges and seizing new opportunities.
- The focus should not only be on medical treatments but also on creating a holistic healthcare system that addresses the physical, emotional, and psychological needs of patients.
- Empowering the next generation of healthcare professionals, researchers, and entrepreneurs is essential to sustaining India's growth in the healthcare sector.

## Digital Health education

### Context:

The National Health Authority (NHA) and Maharashtra University of Health Sciences (MUHS) have signed a Memorandum of Understanding (MoU) to promote Digital Health education across India.

- This collaboration aims to integrate digital health into medical curricula, facilitating the adoption of the Ayushman Bharat Digital Mission (ABDM) and strengthening the overall healthcare ecosystem.

### Key Highlights:

#### Strategic Partnership:

- NHA and MUHS signed an MoU to collaborate on Digital Health education, marking a crucial step in integrating digital health into medical education.
- MUHS will offer its Digital Health Foundation Course (DHFC) to NHA and co-develop additional digital health programs to support the rollout of ABDM.

#### Digital Health Foundation Course (DHFC):

- Developed by MUHS with support from the Koita Foundation, the DHFC provides a comprehensive understanding of digital health fundamentals for doctors and healthcare providers.
- The course will be available to medical students, in-service doctors, and healthcare professionals through platforms like Mission Karmayogi's iGOT, offering Digital Health certification and continuing medical education credits.

#### Government Support:

- Union Health Minister Shri J.P. Nadda emphasized the importance of this partnership in enhancing the skills of medical professionals and driving the implementation of ABDM.
- The MoU is expected to contribute to capacity building in the healthcare sector, ensuring the effective implementation of Pradhan Mantri Jan Arogya Yojana (PM-JAY) and other digital health initiatives.

### About Digital Health Education:

- Digital Health education refers to the **integration of digital technologies** into healthcare education and training.
- The DHFC by MUHS is an initiative to **equip healthcare professionals with the knowledge and skills** needed to navigate and implement digital health solutions.
- The course covers various aspects of digital health, including the use of technology in **patient care, electronic health records, telemedicine, and data-driven healthcare** management.

### Significance:

- **Catchment Area:** The area from which a river collects its water is known as its catchment area.
- **River Basin:** The region drained by a river and its tributaries is called a drainage basin. A river basin consists of numerous watersheds.
  - The catchment areas of large rivers are referred to as river basins, whereas those of smaller streams and rivulets are often called watersheds.

## Voice of Global South Summit

### Context

India is set to host the third edition of the Voice of Global South Summit on August 17, 2024, in a virtual format.

- The summit aims to strengthen collaboration among developing countries and address critical global challenges such as conflicts, food and energy security, and climate change, which significantly impact the Global South.

### Key Highlights

- **Summit Theme:** The theme for the third summit is “**An Empowered Global South for a Sustainable Future,**” reflecting the focus on sustainable development and empowerment of developing nations.
- **Continued Deliberations:** The summit will build upon the discussions from previous editions, where over 100 countries from the Global South participated, and will continue to explore challenges, priorities, and solutions specifically relevant to these countries.
- **Focus Areas:** Key issues to be addressed include ongoing conflicts, the global food and energy security crises, and the pressing concerns of climate change, all of which disproportionately affect the Global South.
- **Platform for Collaboration:** The summit serves as a platform for developing countries to voice their concerns, share experiences, and collaborate on strategies to tackle common challenges, particularly in the domain of sustainable development.

### Conclusion:

The initiative underscores India's commitment to fostering dialogue and cooperation among developing nations, ensuring that their voices are heard on the global stage.

## WHO declares Monkey Pox as a Public Health Emergency

### Context:

The Government of India is actively monitoring the Mpox (formerly known as monkeypox) situation following the World Health Organization's (WHO) declaration

of Mpox as a Public Health Emergency of International Concern (PHEIC) on 14th August 2024.

- The declaration was made in light of the disease's prevalence and spread across various regions, particularly in Africa.
- A high-level meeting chaired by Dr. P.K. Mishra, Principal Secretary to the Prime Minister, was held to review the country's preparedness and public health measures against Mpox.

### **Key Highlights:**

#### **Global Mpox Situation:**

- WHO's declaration of Mpox as a Public Health Emergency of International Concern on 14th August 2024.
- Since 2022, 99,176 cases and 208 deaths have been reported globally, with significant increases in cases in the Democratic Republic of Congo in 2024.

#### **Current Status in India:**

- India reported 30 cases of Mpox since WHO's 2022 declaration, with the last case detected in March 2024.
- Currently, there are no reported cases of Mpox in India, and the risk of a large outbreak with sustained transmission is assessed as low.

#### **Government Preparedness:**

- A meeting of experts by the National Centre for Disease Control (NCDC) was convened on 12th August 2024 to assess the risk for India.
- Sensitization of health teams at international airports and ports of entry has been undertaken.

- The Director General of Health Services (DGHS) conducted a video conference with over 200 participants to sensitize state-level health authorities and Integrated Disease Surveillance Programme (IDSP) units.

#### **Directives from the Principal Secretary to the Prime Minister:**

- Enhanced surveillance for prompt detection of Mpox cases.
- Testing laboratories to be in a state of readiness, with 32 labs currently equipped for testing.
- Dissemination of prevention and treatment protocols on a large scale.
- An awareness campaign among healthcare providers regarding the disease's signs, symptoms, and the importance of timely notification.

#### **About Mpox:**

- **Transmission:** Mpox spreads primarily through close contact, including skin-to-skin, sexual contact, and contaminated clothing or surfaces. It can also be transmitted from animals to humans and vice versa.
- **Symptoms:** Common symptoms include a rash that may last 2–4 weeks, fever, headache, muscle aches, back pain, low energy, and swollen glands. The rash typically appears as blisters or sores, affecting various body parts, including the face, hands, feet, and genital areas. Severe cases may lead to complications such as encephalitis, myocarditis, or pneumonia.
- **Severity:** While Mpox symptoms are generally self-limiting, some individuals, especially those with compromised immune systems,



pregnant women, and children, may develop severe illness requiring hospitalization.

### Way Forward:

- **Enhanced Surveillance:** Continuous monitoring and rapid detection of cases are crucial to preventing an outbreak. India must ensure that surveillance systems at airports and other entry points are robust and vigilant.
- **Preparedness of Testing Laboratories:** Expanding and maintaining the readiness of testing facilities across the country will be vital for early diagnosis and containment of the disease.
- **Public Awareness and Education:** A widespread awareness campaign is needed to educate the public and healthcare providers about Mpox, its symptoms, modes of transmission, and preventive measures.
- **International Collaboration:** India should continue collaborating with international health bodies such as WHO, FAO, and WOHAI to stay updated on global developments and implement best practices in controlling the spread of Mpox.
- **Research and Development:** Ongoing research to better understand the transmission dynamics of Mpox, especially in different settings, is necessary. This will also involve studying the potential for transmission through various bodily fluids and the virus's persistence on surfaces.

## 17th International Earth Sciences Olympiad (IESO)

### Context:

The Indian student team excelled at the 17th International Earth Sciences Olympiad (IESO) held in Beijing, China, from August 08-16, 2024. The competition, which is an annual event, brought together secondary school students from across the globe to test their knowledge and skills in earth sciences.

- India's outstanding performance in this prestigious event highlights the country's commitment to promoting and nurturing young talent in earth system sciences.

### Highlights:

#### 1. Indian Team's Achievements:

- The four-member Indian team won a total of eight medals: three gold, three bronze, and two silver.
- The team competed in three categories: Theory and Practical, Earth System Project, and International Team Field Investigation.
- The Indian students represented states including Gujarat, Kerala, Chhattisgarh, and Rajasthan.

#### 2. Government Recognition:

- The IESO is a key initiative under the Ministry of Earth Sciences' REACHOUT (Research, Education, Training, and Outreach) scheme, designed to promote earth sciences education and research in India.

#### 3. History and Background of IESO:

- The IESO was established in 2003 by the International Geoscience Education

Organization to raise awareness and interest in earth sciences among secondary school students worldwide.

- India has been participating in IESO since 2007 and hosted the 10th edition in Mysore.

#### **4. Selection Process for Indian Participants:**

- The Indian National Earth Science Olympiad (INESO) serves as the national-level selection process for IESO.
- INESO is facilitated by the Geological Society of India in collaboration with the Ministry of Earth Sciences, with topics including geology, meteorology, oceanography, and environmental sciences.

#### **5. Government Support:**

- The Ministry of Earth Sciences supports INESO and IESO as part of the REACHOUT scheme, which falls under the PRITHVI (PRITHvi Vigyan) initiative, approved by the Union Cabinet in January 2024.

- Participation in international competitions like IESO motivates young students to pursue careers in earth sciences and contributes to the development of skilled professionals in this field.
- The recognition of young achievers at the national and international levels serves as an inspiration for other students to excel in these critical areas of study.

#### **Enhancing India's Global Standing:**

- By excelling in global competitions, India demonstrates its capability in scientific education and research, thereby enhancing its reputation on the international stage.
- The achievements of Indian students also reflect the quality of education and training provided by initiatives like INESO and the support of the Ministry of Earth Sciences.

#### **Way Forward:**

- Continue to expand and strengthen initiatives like INESO to identify and nurture young talent across the country, ensuring that more students have the opportunity to represent India on international platforms.
- Increase public awareness of earth sciences and their significance in addressing global challenges through educational programs, workshops, and outreach activities, particularly targeting schools and communities.
- Encourage greater collaboration between Indian students and their international peers through joint projects, exchange programs, and participation in global competitions, fostering a global perspective in earth sciences education.
- Allocate resources to research and development in earth system

### **Significance:**

#### **Promoting Earth Sciences:**

- The success of Indian students at the IESO underscores the importance of earth sciences in addressing global challenges such as climate change, environmental degradation, and natural disasters.
- It also highlights India's growing emphasis on science education, particularly in the fields of geology, meteorology, and environmental sciences.

#### **Encouraging Young Talent:**

sciences, ensuring that India remains at the forefront of scientific innovation and discovery in this crucial field.

## **FSSAI has initiated a project to assess microplastic contamination in food products**

### **Context:**

The Food Safety and Standards Authority of India (FSSAI) has initiated a project to assess microplastic contamination in food products and develop reliable detection methods.

- This project, launched in March 2024, aims to understand the prevalence of micro and nano-plastics in food items across India and their potential exposure risks to consumers.

### **Key highlights:**

#### **Project Objectives:**

- The project focuses on developing and validating analytical methods for detecting micro and nano-plastics in various food products.
- It aims to assess the prevalence and exposure levels of microplastics among Indian consumers.
- FSSAI plans to develop standard protocols for the analysis of micro/nano-plastics.
- The project includes conducting intra- and inter-laboratory comparisons to ensure consistency and reliability in the detection methods.
- Critical data on microplastic exposure levels will be generated, which will inform future regulatory measures and public health strategies.

#### **FSSAI's Role:**

- The FSSAI, as the lead agency, is responsible for framing regulations,

setting standards, and ensuring food safety across India.

- The project is a part of FSSAI's broader mandate to protect and promote public health by regulating food safety and quality.

### **About FSSAI:**

- **Establishment:** FSSAI is an **autonomous statutory body** established under the Food Safety and Standards Act, 2006.
- **Purpose:** The Act consolidates various food-related laws, such as the Prevention of Food Adulteration Act, 1954, and the Fruit Products Order, 1955, among others.
  - It aims to provide a **single reference point for all matters related to food safety and standards**, streamlining multi-departmental control into a single authority.
- **Function:** FSSAI operates under the Ministry of Health & Family Welfare and is responsible for protecting public health through the regulation and supervision of food safety. It has its headquarters in New Delhi and regional offices across eight zones in India.
- **Leadership:** The Chairperson and Chief Executive Officer of FSSAI are appointed by the central government, with the Chairperson holding the rank of Secretary to the Government of India.

#### **Functions and Powers:**

- Framing regulations and standards for food products and additives.
- Granting licenses and registrations to food businesses.
- Enforcing food safety laws and regulations.

- Monitoring and conducting surveillance on food safety and quality.
- Conducting risk assessment and scientific research on food safety issues.
- Providing training and raising awareness on food safety and hygiene.
- Promoting food fortification and organic food.
- Coordinating with other agencies and stakeholders on food safety matters.

consumer choices and health outcomes.

## Mpox: A New Global Health Emergency and Its Implications

### Context

The World Health Organization (WHO) declared the mpox outbreak in the Democratic Republic of the Congo and other African nations as a "global health emergency" on August 14, 2024. This declaration, made by WHO Director-General Tedros Adhanom Ghebreyesus based on the advice of an International Health Regulations (IHR) emergency committee, underscores the seriousness of the ongoing mpox crisis.

### Significance:

- **Public Health Protection:** The project's focus on microplastic contamination is crucial in addressing emerging food safety challenges, ensuring that consumers are not exposed to harmful levels of microplastics through their diet.
- **Scientific Advancements:** The development of standardized detection methods for micro/nano-plastics will contribute to the scientific community's understanding of this emerging pollutant and aid in the formulation of evidence-based policies.
- **Regulatory Strengthening:** The project aligns with FSSAI's role in setting and enforcing food safety standards, further strengthening India's regulatory framework to address new food safety concerns.
- **Consumer Awareness:** By generating critical data on microplastic exposure, the project will help in raising public awareness about potential food contaminants and the importance of food safety, ultimately contributing to better

- The outbreak, which began in 2022, has continued to spread, with a significant surge in cases reported recently.
- This editorial analysis explores the reasons behind this global health emergency, the nature of mpox, its implications, and the path forward in combating this outbreak.

### Dimensions of the Article:

- About the Topic
- About Mpox
- Why Mpox is a Global Health Emergency
- Implications of the Mpox Outbreak
- Suggested Measures for Containment and Control

### About the Topic:

#### Understanding the Mpox Outbreak:

- The mpox outbreak, which has escalated into a global health emergency, represents a significant public health challenge. Originally confined to certain regions in Africa, the disease has now spread across the globe, affecting over 116 countries with more than 15,600 cases and 537 deaths reported this year alone. The severity of the situation has prompted the WHO to reclassify the outbreak as an "acute" grade 3 emergency, the highest level of response in the WHO Emergency Response Framework.
- The decision to declare mpox a global health emergency highlights the need for coordinated international efforts to contain the spread of the disease and prevent it from escalating into a more widespread public health crisis.

#### **WHO's Role and Response:**

- The World Health Organization plays a crucial role in managing global health crises. The declaration of mpox as a global health emergency is a call to action for countries worldwide to take immediate and decisive measures to control the outbreak. The WHO's emergency committee, which provides strategic guidance during such crises, has emphasized the need for a major response, particularly in countries with the highest number of cases, such as the Democratic Republic of the Congo and its neighbors.
- The WHO's declaration also serves as a warning to the international community about the potential for the mpox outbreak to expand further, potentially leading to a pandemic if not adequately addressed.

#### **About Mpox:**

##### **What is Mpox?**

- Mpox, also known as monkeypox, is a rare zoonotic disease, meaning it is

transmitted from animals to humans. The disease is caused by the monkeypox virus, which belongs to the Orthopoxvirus genus in the Poxviridae family. This family of viruses also includes the viruses responsible for smallpox and cowpox.

- The exact source of the mpox virus remains unclear, though it is believed that small mammals, such as squirrels and monkeys, serve as carriers. Two distinct clades, or genetic groups, of mpox exist: clade I, predominantly found in central and east Africa, and clade II, more commonly linked to cases in west Africa.

#### **Transmission and Symptoms:**

- The mpox virus is primarily transmitted to humans through physical contact with an infected individual or animal. This can occur through direct contact with infected blood, bodily fluids, or lesions on the skin or mucous membranes. The virus can also spread through contact with contaminated materials, such as bedding or clothing, or through bites or scratches from infected animals.
- Symptoms of mpox typically begin within one week of infection but can start anywhere from 1 to 21 days after exposure. The disease often presents as a rash that can develop into fluid-filled blisters, which may be itchy or painful. Other common symptoms include fever, sore throat, headache, muscle aches, back pain, low energy, and swollen lymph nodes. The symptoms usually last 2-4 weeks, and while most individuals experience mild symptoms, certain groups, such as children, pregnant women, and immunocompromised individuals, are at higher risk of severe illness.

#### **Why Mpox is a Global Health Emergency:**

##### **Escalating Cases and Global Spread:**



- The mpox outbreak, which began in 2022, has not only persisted but has also seen a recent surge in cases worldwide. The rapid and widespread transmission of the virus has raised alarm, leading to its classification as a global health emergency. The situation is particularly dire in the Democratic Republic of the Congo and neighboring African countries, where the highest number of cases and deaths have been reported.
- The global spread of mpox, with cases now reported in countries outside Africa, including Pakistan and Sweden, underscores the need for a coordinated international response. The WHO's declaration of a public health emergency of international concern (PHEIC) is intended to mobilize global resources and attention to contain the outbreak before it evolves into a more severe health crisis.

#### **Challenges in Containing the Outbreak:**

- Containing the mpox outbreak presents several challenges, particularly in resource-limited settings where healthcare infrastructure may be inadequate to manage a surge in cases. The spread of the virus across multiple continents complicates containment efforts, as it requires coordination between countries with varying levels of healthcare capacity and resources.
- Another significant challenge is the lack of specific treatment options for mpox. While supportive care can help manage symptoms, there is currently no targeted antiviral treatment widely available. Moreover, the availability of vaccines is limited, and mass vaccination is not recommended by the WHO, further complicating

efforts to prevent the spread of the virus.

### **Implications of the Mpox Outbreak:**

#### **Health and Economic Impact:**

- The mpox outbreak has significant health implications, particularly for vulnerable populations. The risk of severe illness and complications in children, pregnant women, and immunocompromised individuals necessitates a robust public health response to protect these groups. Additionally, the outbreak has placed a strain on healthcare systems, particularly in regions with limited resources.
- Economically, the outbreak has the potential to disrupt trade, travel, and other sectors, particularly if it continues to spread globally. The cost of managing the outbreak, including the provision of healthcare services, vaccines, and public health interventions, can place a significant burden on national economies, particularly in low- and middle-income countries.

#### **Global Health Security Concerns:**

- The mpox outbreak raises broader concerns about global health security. The spread of zoonotic diseases, particularly those with pandemic potential, highlights the need for stronger surveillance systems, better preparedness, and more effective international cooperation. The outbreak also underscores the importance of addressing the root causes of zoonotic diseases, including wildlife trade, deforestation, and other human activities that increase the risk of animal-to-human transmission.

## **Suggested Measures for Containment and Control:**

- **Strengthening Surveillance and Reporting:** Early detection of cases, particularly in regions with active transmission, is essential for timely intervention and containment.
- **Promoting Public Awareness and Education:** Public health authorities should work with local leaders, community organizations, and the media to disseminate accurate information and counter misinformation about the disease.
- **Enhancing Healthcare Capacity:** This includes increasing the availability of medical supplies, protective equipment, and healthcare workers trained in the management of infectious diseases. Ensuring that healthcare facilities are equipped to handle a potential surge in mpox cases is also critical.

## **Union government rules out the need for a Central protection Act**

### **Context:**

The Union government has ruled out the need for a Central protection Act to create a uniform framework for safeguarding healthcare workers, citing that almost all States have laws in place to ensure their safety.

### **Background:**

- This decision comes in the wake of the Kolkata rape and murder case, which has intensified demands from doctors for a safer workplace environment.

- In response, the Centre has ordered a 25% increase in security at all Union government hospitals.

## **Key highlights:**

### **1. Increased Security Measures:**

- The Union government has issued an order to increase security by 25% in all Union government hospitals.
- Depending on the need, the deployment of marshals in hospitals will be increased to ensure better protection for healthcare workers.

### **2. State Laws for Healthcare Worker Protection:**

- A total of 26 States and Union Territories, including Andhra Pradesh, Assam, Bihar, West Bengal, and Tamil Nadu, have already passed legislation to protect healthcare service personnel.
- These laws typically define healthcare service personnel as doctors, nurses, medical and nursing students, and paramedical staff.
- The legislation makes offenses against healthcare workers cognizable and non-bailable, covering activities such as harm, injury, endangering life, intimidation, and damage to property in healthcare facilities.

### **3. Centre's Stand on a Central Law:**

- The Union government has stated that a Central protection Act is unnecessary, as existing State laws already provide adequate protection. The

focus should be on proper implementation of these laws.

- The Ministry of Health and Family Welfare has called for a meeting with heads of Union government hospitals to review and strengthen security measures.

#### 4. **Institutional Measures:**

- Institutional FIRs in cases of violence, additional infrastructure security like CCTV, and improved lighting are part of the new advisory issued to hospitals.
- A committee is being formed to strengthen workplace security after extensive consultation with all stakeholders.

#### **About Central Law for Doctors' Safety:**

##### • **Current Legal Framework:**

- Health and law & order are State subjects under the Indian Constitution, making it the primary responsibility of State governments and Union Territory administrations to prevent violence against healthcare workers.
- Most State Acts already classify violence against healthcare workers as cognizable and non-bailable offenses, providing legal protection across the country.

##### • **Need for a Safe Work Environment:**

- Experts have emphasized the need for better working conditions in medical facilities, including proper lighting, security guards, cameras, and

secure walkways between departments.

- Historical incidents, such as the 1973 assault on nurse Aruna Shanbaug, highlight the long-standing issue of violence against healthcare workers in India.

##### • **Global Comparison:**

- Globally, countries like the **U.K., U.S., and Australia** have implemented effective measures to protect healthcare workers, including zero-tolerance policies, classification of assaults as felonies, and mandatory security measures.

#### **Significance:**

- **Enhanced Safety for Healthcare Workers:** The increased security measures and the commitment to improve existing laws are vital steps in ensuring the safety and well-being of healthcare workers, who are often at risk of violence in their workplaces.

- **Balancing Legal Framework:** The Union government's stance on not introducing a Central law underscores the importance of utilizing and effectively implementing existing State laws rather than creating overlapping legal frameworks.

- **Response to Public and Professional Pressure:** The government's actions are a direct response to the growing unrest among healthcare professionals, ensuring that their demands for safer working conditions are met while avoiding the complexities of enacting new national legislation.

- **Impact on Healthcare Delivery:** By addressing safety concerns, the government aims to ensure that healthcare professionals can focus on delivering quality care without fear of

violence, ultimately benefiting patients and the healthcare system as a whole.

## National Geoscience Awards 2023: Recognizing Excellence in Geosciences

### Context:

The President of India, Smt. Droupadi Murmu, conferred the National Geoscience Awards (NGA) for the year 2023 at a ceremony held at the Rashtrapati Bhavan Cultural Centre, New Delhi. The awards honor geoscientists for their outstanding contributions to the field, including research, innovation, and exploration.

### Key highlights:

- **National Geoscience Award for Lifetime Achievement:** Conferred upon **Prof. Dhiraj Mohan Banerjee** for his pioneering work on phosphorites, isotope geology, and organic geochemistry of Precambrian sedimentary rocks in India.
- **National Geoscience Awards:** A total of 10 awards were given across various geoscience fields, including 3 team awards.
- **National Young Geoscientist Award:** Awarded to **Dr. Ashutosh Pandey** of IISER Thiruvananthapuram for his research on the geodynamic evolution of the Eastern Dharwar Craton and the origin of Paleoproterozoic Lesser Himalayan mafic rocks.
- The **National Geoscience Data Repository (NGDR) portal** was highlighted, showcasing the integration of geoscientific data for enhanced exploration and mining.
- The **Critical Mineral Mission** was emphasized, aiming to secure the supply chain of critical minerals

essential for India's economic development and green transition.

- Recent **amendments to the Mines and Minerals (Development and Regulation) Act (MMDR Act)** in 2023 were noted, empowering the Central Government to auction 24 critical and strategic minerals.
- The President underscored the importance of achieving self-sufficiency in mineral production as part of the broader goal of making India a developed nation by 2047.
- The role of **AI and emerging technologies** in mineral exploration and the establishment of the **National Landslide Forecasting Centre** in Kolkata were highlighted as crucial steps towards sustainable development.

### Significance:

- The National Geoscience Awards serve as a platform to recognize and encourage excellence in the field of geosciences, crucial for sustainable development and national progress.
- The integration of geoscientific data and the focus on critical minerals underscore the government's commitment to enhancing India's mineral exploration capabilities.
- The awards also reflect the strategic importance of geosciences in nation-building, with initiatives like the Critical Mineral Mission playing a key role in securing India's future resource needs.
- The emphasis on AI, technological innovation, and early warning systems highlights the evolving nature of geoscience in addressing contemporary challenges such as

climate change, disaster management, and sustainable resource utilization.

## A ground plan for sustainable mass employment

### Context:

The recent Budget announcement unveiling five major employment-related schemes with an ambitious **₹2 lakh crore** outlay over five years highlights the government's commitment to addressing the employment crisis.

- These schemes aim to provide jobs, skills, and opportunities to 4.1 crore youth across the country.
- The Economic Survey has strongly advocated for job creation, urging the private sector to take the lead, citing factors like lower taxes since 2019 and higher profits post-COVID-19.

### Dimensions of the Article:

- Key highlights about Sustainable Mass Employment
- Budgetary Allocations
- The Concerns and Challenges

### Key highlights about Sustainable Mass Employment:

- It's not just about generating jobs but ensuring that these jobs offer a decent standard of living and are backed by strong public infrastructure and social safety nets.
- The journey towards such employment begins by addressing the "**race to the bottom**" on wages, particularly when unskilled labor is abundant.
- The **Periodic Labour Force Survey (PLFS) 2019-20** revealed a stark

reality: an individual earning **₹25,000** a month falls within the top 10% of wage earners in India.

- This highlights the severe wage disparity and the challenge of ensuring a life of dignity for the majority.
- Short-duration skill programs have been widely criticized for their low placement rates, with many participants returning to their villages due to the inadequacy of wages in urban areas.
- The root of this problem lies in the disconnect between education, skills, and employability. States like Tamil Nadu, Kerala, Himachal Pradesh, Goa, and Sikkim, which boast better human development indicators, also have the highest monthly per capita consumption.
- This is in stark contrast to states like Odisha, where despite efforts to promote skilling, per capita consumption remains low due to the lack of robust higher secondary, higher, and vocational education opportunities.

### Budgetary Allocations

1. **Total Outlay:** The Budget has allocated a substantial **₹2 lakh crore** over five years for five major employment-related schemes, aimed at facilitating jobs, skills, and opportunities for 4.1 crore youth.
2. **Focus on Skilling:** A significant portion of this budget is dedicated to skilling initiatives, reflecting the government's recognition of the need to enhance employability through skill development.
3. **Integration with Existing Schemes:** The Budget also emphasizes the convergence of these new schemes with existing ones, particularly in sectors like



education, health, and nutrition, to ensure a holistic approach to human development.

4. **Support for Women and Marginalized Groups:** Special provisions are included in the budget to support women-led enterprises and first-generation entrepreneurs, with streamlined access to working capital loans.
5. **Public-Private Partnerships:** The Budget encourages collaboration between the government and the private sector, particularly in the area of apprenticeships, to ensure that skilling programs are aligned with industry needs.

short-duration skilling programs, suffer from low per capita consumption due to the absence of robust higher secondary and vocational education opportunities.

- **Quality of Public Goods:** Sustainable mass employment cannot be achieved in isolation. There is a strong correlation between the availability of quality public goods (education, health, nutrition, environment, and sanitation) and employment outcomes. India's failures in these sectors need to be addressed through increased investment and a decentralized approach to community action.

### The Concerns and Challenges

- While the Budget's employment schemes are ambitious, there are several concerns and challenges that must be addressed to ensure their success:
  - **Wage Disparity:** One of the most pressing issues is the "race to the bottom" on wages, exacerbated by the availability of unlimited unskilled labor. The PLFS 2019-20 found that a wage earner is in the top 10% if they earn ₹25,000 a month, highlighting the severe wage disparity in India. Low wages in urban areas often force individuals to return to their villages, despite having undergone short-duration skill programs.
  - **Skilling vs. Education:** There's a clear continuum between education and skills that needs to be addressed. States with better human development indicators, such as Tamil Nadu, Kerala, and Himachal Pradesh, also report higher monthly per capita consumption. In contrast, states like Odisha, despite pushing

- **Skilling Infrastructure:** The quality of skilling infrastructure, particularly in Industrial Training Institutes (ITIs) and polytechnics, remains a critical gap. Many of these institutions lack up-to-date infrastructure and resources, which hampers their ability to provide relevant and effective training.
- **Public Employment:** The state has a role in determining the floor rate of wages and ensuring high-quality public goods. Evidence suggests that public employment per unit of population in India is much lower than in most developed countries, which impacts the overall employment landscape.

### Suggested Measures

- **Decentralized Skilling Initiatives:** Gram sabhas in rural areas and basti samitis in urban areas can play a critical role in identifying skilling needs and ensuring that government programs reach the intended beneficiaries. Professionals should be appointed

at the local government level to ensure evidence-based outcomes.

- **Convergence of Initiatives:** There should be a convergence of initiatives for education, health, skills, nutrition, livelihoods, and employment at the local government level, with a focus on women's collectives.
- **Vocational Education in Colleges:** Need-based vocational courses and certificate programs should be introduced alongside undergraduate programs in every college.
- **Standardization of Healthcare Training:** This will not only improve the quality of healthcare in India but also open up opportunities for healthcare professionals in the global job market.
- **Community Cadres of Caregivers:** Create community cadres of caregivers to run crèches universally, enabling women to work without fear. These caregivers can be paid by local governments or women's collectives after intensive training, ensuring that children are well cared for while their parents work.
- **Enterprise and Start-Up Skills in Schools:** Introduce technology and enterprise as subjects in high schools to prepare students for the job market. Professionals should be brought into schools to impart finishing skills, ensuring that students are ready for employment or entrepreneurship upon graduation.
- **Streamlined Working Capital Loans:** Simplify the process of obtaining working capital loans for women-led enterprises and first-generation entrepreneurs. This will enable them to scale their

businesses and contribute to the economy.

- **Enhanced Utilization of MGNREGA Funds:** Utilize 70% of MGNREGA funds in water-scarce blocks and areas with high deprivation, focusing on individual beneficiary schemes that provide livelihood security. Skills training for MGNREGA wage earners should be prioritized to improve productivity and ensure a life of dignity.

### Strengthening India-Africa Ties: Focus on Critical Minerals, Trade, and Technology

#### Context

Union Minister of Commerce and Industry, Shri Piyush Goyal, addressed the 19th CII India Africa Business Conclave in New Delhi, emphasizing the potential of a strategic partnership between India and Africa.

- He outlined the opportunities for collaboration in various sectors, particularly in critical minerals, technology, and trade, aiming to enhance mutual growth and development.

#### Key Highlights:

- **Critical Minerals Collaboration:** Africa can play a pivotal role in meeting India's growing need for critical minerals, particularly for sectors like electric vehicles (EVs). Shri Goyal highlighted the rich mineral resources in Africa and advocated for sustainable mining practices and joint ventures to add value to minerals in both regions.
- **Doubling Trade:** Shri Goyal set a goal to double India-Africa trade within the next seven years,

emphasizing the untapped potential for increased trade. He urged 33 African countries to participate in India's Duty-Free Tariff Preference (DFTP) Scheme for Least Developed Countries (LDCs) to boost trade relations.

- **Technology-Driven Partnership:** The Minister highlighted the potential for a technology-driven partnership, particularly in the IT sector. He advocated for the use of India's Digital Public Infrastructure to drive technology penetration in Africa, enhancing financial inclusion, transparency, and job creation.
- **Sectoral Cooperation:** Shri Goyal emphasized the alignment of India's strengths in agriculture, pharmaceuticals, textiles, automobiles, and renewable energy with Africa's development needs. He also mentioned the potential for collaboration in the entertainment sector, citing the global popularity of African artists engaging with Bollywood.
- **MSME and Startups:** Recognizing the importance of the MSME sector, Shri Goyal called for enhanced cooperation to create jobs, support MSMEs, and foster entrepreneurship. He encouraged stronger relations between MSMEs in India and Africa and highlighted the potential for collaboration between startup ecosystems in both regions.
- **Food Security and Agriculture:** Addressing food security, Shri Goyal proposed collaboration in Africa's agricultural sector, particularly in plantation sectors for oilseeds, pulses, and other crops, to meet India's growing demand.
- **South-South Cooperation:** Shri Goyal echoed Prime Minister Modi's vision of strengthening South-South cooperation, emphasizing the

importance of bringing the African Union (AU) into the G20 as a full member and raising African issues in global forums.

### Significance:

- **Strategic Partnership:** The collaboration between India and Africa in critical minerals and other sectors is crucial for India's growth, especially in the context of transitioning to renewable energy and achieving net zero emissions. Africa's mineral resources are vital for India's EV sector and other industries, offering a sustainable path for economic growth.
- **Economic Growth:** Doubling trade between India and Africa over the next seven years will significantly boost economic growth in both regions. The emphasis on equitable trade ensures that both regions benefit from this increased exchange.
- **Technology and Innovation:** The technology-driven partnership between India and Africa, particularly in the IT sector, holds the potential to revolutionize financial inclusion, transparency, and job creation across Africa, contributing to the continent's economic and social development.
- **MSME and Entrepreneurship:** Enhanced cooperation in the MSME sector will create jobs, foster entrepreneurship, and support the growth of small and medium enterprises in both regions, driving inclusive growth.
- **Global South Leadership:** Shri Goyal's emphasis on South-South cooperation and India's efforts to bring the African Union into the G20 reflect a commitment to strengthening global leadership from the Global

South, promoting mutual development and prosperity.

## Discussion on Caste Enumeration in the Upcoming Census

### Context

The Union government is deliberating the possibility of including caste enumeration in the next Census, which has been indefinitely delayed since its originally scheduled date in 2021.

- While there is no final decision yet, the discussions come in response to persistent demands from various political parties, including those within the ruling National Democratic Alliance (NDA).

### Key Highlights:

#### Inclusion of Caste Enumeration:

- The government is considering adding a column to record caste data during the next Census exercise, though no official decision has been made.
- The demand for a caste census has been a key factor in the delay of the Census, with concerns over potential misinterpretations impacting the process.
- Historically, **India has not conducted a caste-wise count** of the population in the Census post-Independence, **except for Scheduled Castes (SC) and Scheduled Tribes (ST)**.
- The 2011 Socio-Economic and Caste Census (SECC) conducted a caste count separately, but the data was never made public due to inaccuracies.

#### Challenges from Previous Caste Census:

- The SECC of 2011 reported an unexpectedly high number of castes, with over 46 lakh categories compared to 4,147 in the 1931 Census. This raised questions about the accuracy of the data.
- The Union government has expressed concerns over the reliability of this data for policy-making purposes, particularly for reservations in education, employment, and local elections.

#### Current Status of the Census:

- The Census, last conducted in 2011, has been delayed multiple times due to the COVID-19 pandemic and other factors. It will be the first digital Census, offering respondents the option to fill out the questionnaire online.
- The deadline to freeze administrative boundaries, a necessary step before conducting the Census, has been extended multiple times since 2019, with the most recent deadline having lapsed on June 30, 2024.

#### Significance of Including Caste in the Census:

- **Social Justice and Policy Making:** A caste-based Census could provide critical data for formulating policies aimed at social justice and affirmative action. It could help in the better targeting of welfare schemes for marginalized communities.
- **Political Representation:** Accurate caste data could influence the reservation of seats in legislative bodies and local governance, ensuring fair representation of various social groups.

#### Arguments For and Against:

##### For:

- **Data-Driven Governance:** Detailed caste data can enable more precise policymaking, ensuring that resources are allocated effectively to those who need them most.
- **Addressing Inequities:** Caste enumeration could highlight disparities within different caste groups, providing a basis for corrective measures.
- **Public Demand:** There is strong demand from political parties and social groups for caste data, reflecting its perceived importance in contemporary Indian society.

#### **Against:**

- **Complexity and Accuracy:** The SECC of 2011 highlighted the challenges in accurately recording caste data, with an overwhelming number of categories that could complicate the process.
- **Social Tensions:** Caste-based data collection could exacerbate social divisions, leading to increased tensions between different groups.
- **Political Manipulation:** There is a risk that caste data could be used for political gains, leading to skewed policy decisions that prioritize vote-bank politics over genuine social welfare.

#### **Way Forward**

- **Comprehensive Review:** The government should conduct a thorough review of the challenges faced during the SECC of 2011 to ensure that any future caste enumeration is accurate and reliable.
- **Stakeholder Consultation:** Engage with a wide range of stakeholders, including social scientists, political leaders, and community representatives, to build

consensus on the best approach to caste enumeration.

- **Balanced Implementation:** If caste enumeration is included in the Census, it should be done with a focus on minimizing social divisions while maximizing the potential for data-driven governance and social justice.

### **India's Humanitarian Assistance to Ukraine**

#### **Context:**

On August 23, 2024, Prime Minister Shri Narendra Modi presented four BHISHM (Bharat Health Initiative for Sahyog Hita & Maitri) Cubes to the Government of Ukraine as a gesture of humanitarian support.

- The President of Ukraine, H.E. Mr. Volodymyr Zelenskyy, expressed gratitude for India's assistance, which is intended to aid in the treatment of those injured in the ongoing conflict.

#### **Key Highlights:**

- **BHISHM Cubes:**
  - The BHISHM Cubes contain **essential medicines and equipment** designed to provide **first-line care** for a wide range of medical emergencies.
  - Each Cube includes **surgical tools for a basic Operation Room** capable of handling **10-15 surgeries** per day.
  - The Cubes can manage approximately **200 emergency cases**, including **trauma, bleeding, burns, and fractures**.
  - They are equipped with the **ability to generate limited power and oxygen**.



- A team of Indian experts has been sent to Ukraine to provide training on the operation of these Cubes.
- **Humanitarian Gesture:**
  - This initiative highlights India's commitment to providing humanitarian assistance to Ukraine amidst the ongoing conflict with Russia.
  - The aid is aimed at expediting medical treatment and saving lives in conflict-affected areas.
- **International Forums:** India and Ukraine have collaborated in international forums, advocating for peaceful resolutions and humanitarian support, reflecting India's balanced approach to the conflict.
- **Energy and Technology Cooperation:** Both nations have explored partnerships in energy and technology, with India interested in Ukrainian expertise and Ukraine seeking investment and technology transfer from India.

### India-Ukraine Relations:

- **Diplomatic Engagement:** India has maintained a balanced stance, advocating for dialogue and peaceful resolution of the Russia-Ukraine conflict. India supports Ukraine's sovereignty and territorial integrity while expressing concern about the humanitarian crisis.
- **Humanitarian Aid:** India has provided various forms of humanitarian assistance, including medical supplies, to support the civilian population in Ukraine. This forms part of India's broader global humanitarian efforts.
- **Economic Relations:** Despite the conflict, both nations have explored opportunities for economic cooperation, focusing on sectors like IT, pharmaceuticals, and agriculture.
- **Strategic Partnerships:** Discussions on enhancing strategic cooperation, including defense and security, have taken place, with both countries exploring potential collaborations.
- **Student and Academic Exchanges:** Ukraine has been a popular destination for Indian students, particularly in medicine and engineering. India has worked to ensure the safety and well-being of its students amidst the conflict.

### Significance:

- **Humanitarian Impact:** The provision of BHISHM Cubes underscores India's role as a responsible global actor committed to humanitarian causes, particularly in conflict zones.
- **Strengthening Bilateral Ties:** India's continued support to Ukraine through diplomatic, economic, and humanitarian channels enhances bilateral relations and demonstrates solidarity with the Ukrainian people.
- **Strategic Importance:** India's balanced approach in maintaining relations with both Ukraine and Russia reflects its strategic diplomatic stance, ensuring its global influence and promoting peace and stability.
- **Global Leadership:** By providing timely and impactful humanitarian assistance, India reinforces its leadership role on the global stage, contributing to international peace and security efforts.

**Workshop on Carbon Capture Utilization and Storage (CCUS) Held by NITI Aayog**

### Context:

Recently, NITI Aayog, in collaboration with the US government, organized a two-day workshop on "Legal & Regulatory Frameworks and Technical Considerations for Carbon Capture Utilization and Storage (CCUS)" in New Delhi.

- The event aimed to explore the role of CCUS in decarbonizing critical industries in India and address the challenges associated with its implementation.

### Key Highlights:

- CCUS is seen as a critical tool for **decarbonizing industries like steel, cement, chemicals, and fertilizers** that are heavily reliant on fossil fuels.
- The technology supports the **hydrogen economy** by enabling blue hydrogen production, aiding the transition to green hydrogen based on renewable energy.
- CCUS has the potential to **create new economic opportunities** by establishing new industries and markets, contributing to India's broader economic growth.

### Policy and Regulatory Frameworks:

- NITI Aayog has established four technical inter-ministerial committees focused on developing standards, storage, transportation, and utilization of CO<sub>2</sub>.
- These committees are tasked with creating a robust policy framework to address the challenges of CCUS implementation in India, such as technology readiness, high capital costs, infrastructure gaps, and regulatory challenges.

### Panel Discussions:

- The workshop featured panel discussions on key legal, policy, and regulatory issues for CCUS, business opportunities, and the potential of CO<sub>2</sub> technologies.
- Topics like harmonizing regulatory mechanisms, liability, safety, affordability, and the impact of international regimes like the Carbon Border Adjustment Mechanism (CBAM) were explored.
- Panelists emphasized the need for improved data exchange and collaboration between the US and India for successful deployment of CCUS technologies.

### Significance:

- **Decarbonization of Key Industries:** CCUS is vital for reducing emissions from hard-to-abate sectors that are essential to India's economic growth. By enabling cleaner coal gasification and supporting the hydrogen economy, CCUS plays a crucial role in India's journey towards achieving its Net Zero 2070 target.
- **Economic and Environmental Benefits:** The development of CCUS technologies can lead to the creation of new industries and markets, contributing to economic growth while addressing environmental concerns. It also supports India's commitments under its Nationally Determined Contributions (NDCs) to combat climate change.
- **Global Collaboration:** The workshop highlights the importance of international cooperation in advancing CCUS technologies. The collaboration between India and the US reflects a shared commitment to addressing global climate challenges and promoting sustainable development.

- **Policy Development:** The establishment of technical committees by NITI Aayog marks a significant step towards creating a comprehensive policy framework for CCUS in India. This will be crucial for overcoming barriers to the widespread adoption of CCUS technologies and ensuring that India meets its climate goals.

- Background of the Issue
- About the New Unified Pension Scheme (UPS)
- Significance of the Unified Pension Scheme
- Implications of the New Pension Scheme

## Reforming India's Pension System: An Analysis of the Unified Pension Scheme

### Context:

The Indian government's recent introduction of the Unified Pension Scheme (UPS) marks a significant shift in the country's approach to public sector pensions. This move, which replaces the 21-year-old National Pension System (NPS) with a structure more closely resembling the Old Pension Scheme (OPS), represents a middle path between the demands for guaranteed pensions and the need for fiscal prudence.

- As pension schemes worldwide grapple with challenges related to sustainability and demographic changes, India's decision to restore guaranteed pensions for its employees reflects a broader global trend and the political realities at home.
- This editorial analysis explores the background leading to the introduction of the UPS, the key features of the new scheme, its significance, the implications for the government's fiscal policy and public sector employment, and the way forward for ensuring the sustainability and inclusivity of India's pension system.

### Dimensions of the Article:

### Background of the Issue

- India's pension system has long been a subject of debate, particularly regarding the balance between providing financial security to retired government employees and maintaining fiscal discipline.
- The introduction of the **National Pension System (NPS)** in 2004 was a response to the growing pension liabilities under the Old Pension Scheme (OPS), which guaranteed lifelong pensions without requiring employee contributions.
- The NPS, being market-linked and contributory, was intended to alleviate the government's pension burden by tying payouts to the performance of invested funds.
- However, as government employees began retiring under the NPS, it became apparent that the **pension amounts were significantly lower** than those provided under the OPS.
- This disparity, coupled with political pressure from the opposition, led to growing discontent among public sector workers. The Congress party, sensing an opportunity, made the restoration of the OPS a key part of its political agenda, forcing the ruling Bharatiya Janata Party (BJP) to reconsider its stance.
- In response, the **government formed a committee led by former Finance Secretary T.V. Somanathan** to devise a compromise that would address the concerns of government

employees while also considering the country's fiscal constraints.

- The result was the Unified Pension Scheme (UPS), approved by the Cabinet on August 24, 2024, which seeks to provide a guaranteed pension while incorporating elements of the NPS.

- **Highlights:**

- The NPS was introduced in **2004** to reduce the government's pension liabilities.
- Retirees under the NPS received lower pensions compared to the OPS, leading to discontent.
- The Congress party pushed for the restoration of the OPS, prompting the BJP to seek a middle path.
- The Unified Pension Scheme (UPS) was introduced in 2024 as a compromise.

### About the New Unified Pension Scheme (UPS)

The Unified Pension Scheme (UPS) represents a significant departure from the NPS by reintroducing a guaranteed pension component, akin to the OPS. However, it also incorporates elements of the NPS, making it a hybrid model that aims to balance employee demands with fiscal responsibility.

- **Key Features:**

- **Guaranteed Pension:** The UPS promises government employees a **lifelong monthly pension amounting to 50%** of their average basic pay during the last 12 months of service.
- **Dearness Relief:** The pension **includes periodic dearness relief adjustments** to account for inflation, ensuring that retirees' purchasing power is maintained over time.

- **Family Pension:** In the event of the employee's death, the **family is entitled to receive 60% of the pension**, providing financial security to the dependents.

- **Superannuation Payout:** Upon retirement, employees will receive a lump sum payment in addition to gratuity benefits, enhancing their financial security.

- **Minimum Pension:** A **minimum pension of ₹10,000 per month is guaranteed** for those who have completed at least 10 years of central government service.

- **Contributions Under the UPS:**

- **Employee Contribution:** Employees are required to **contribute 10% of their salary** towards the pension fund.

- **Government Contribution:** The **government's contribution has been increased to 18.5%** of the employee's salary, up from the 14% under the NPS. This contribution may be adjusted periodically based on actuarial assessments to ensure the scheme's long-term sustainability.

- **Transition from NPS to UPS:**

- **Switch Option:** Employees who joined the public sector after 2004, including those who have already retired, have the option to switch from the NPS to the UPS. This transition is expected to benefit approximately 99% of NPS members.

### Significance of the Unified Pension Scheme

- **Restoration of Employee Confidence:** By reintroducing a guaranteed pension component, the UPS restores confidence among

government employees who felt disadvantaged under the NPS.

- **Political Stability:** The UPS reflects a political compromise that could help the ruling party maintain support among government employees, a crucial voting bloc.
- **Fiscal Responsibility:** Despite the increased government contribution, the UPS attempts to balance the need for guaranteed pensions with the principles of fiscal prudence by retaining a contributory element.
- **Social Security:** The scheme ensures financial security for retirees and their families, reducing the risk of poverty among older citizens.
- **Inclusivity:** The UPS includes provisions for a minimum pension, ensuring that even those with shorter service durations receive adequate financial support in retirement.

### Implications of the New Pension Scheme

- **Fiscal Implications:**
  - **Increased Government Liability:** The enhanced government contribution under the UPS will result in higher pension liabilities, which could strain the fiscal budget in the long term. According to the Reserve Bank of India, pension payments already account for a significant portion of state and union territory budgets, ranging from 6% to 21% of total revenue receipts.
  - **Sustainability Concerns:** While the UPS aims to be sustainable, the increasing life expectancy and the growing number of retirees could challenge the scheme's long-term viability. Periodic actuarial assessments will be crucial to ensure that the

scheme remains financially sustainable.

### Impact on Public Sector Employment:

- **Reduced Job Avenues:** The rising pension liabilities may lead to further measures by the government to control costs, such as outsourcing jobs, leaving posts unfilled, and introducing short-term service schemes like Agnipath. These measures could reduce employment opportunities in the public sector, particularly for the growing number of young job seekers in India.
- **State Capacity:** The emphasis on cost-cutting measures could negatively impact the state's capacity to deliver public services, as unfilled posts and outsourced jobs may lead to inefficiencies and reduced effectiveness in government functions.

### Way forward:

- **Actuarial Assessments:** Regular actuarial assessments are essential to ensure that the government's contribution remains adequate and that the scheme is financially sustainable. Adjustments to the contribution rates should be made based on these assessments to prevent the scheme from becoming a fiscal burden.
- **Expanding Social Security:** While the UPS provides social security for government employees, efforts should be made to extend similar benefits to the wider population, particularly those in the informal sector who lack access to pension schemes. The government could explore options for introducing contributory pension schemes for informal workers, ensuring that a



larger segment of the population has access to financial security in retirement.

- **Balancing Pension Costs and Employment:** The government must strike a balance between managing pension costs and ensuring adequate public sector employment. Innovative solutions, such as phased retirement or part-time work options for older employees, could help reduce pension liabilities while maintaining state capacity.
- **Building Broad Consensus:** For any pension reform to be sustainable, it is essential to build broad political consensus. The government should engage with opposition parties, employee unions, and other stakeholders to ensure that the UPS has widespread support and that future reforms are not subject to political volatility.
- **Educating Employees:** It is important to educate government employees about the benefits and limitations of the UPS, ensuring that they understand the long-term implications of their contributions and the guaranteed pension. This will help build trust in the scheme and reduce resistance to future reforms.

## The Death Penalty Debate in Rape Cases

### Context:

In recent years, India has been grappling with the issue of sexual violence, sparking intense debates on how to best administer justice in such cases. The brutal rape and murder of a doctor in Kolkata's R.G. Kar Medical College and Hospital on August 9 reignited calls for harsher penalties, including the death penalty, for the accused.

- The Justice J.S. Verma Committee, formed in response to the 2012 Delhi gang rape, notably advised against the death penalty for rape, arguing that it does not act as a deterrent and could hinder the reformative aspects of justice.

### Dimensions of the Article:

- Background of the Issue
- The Union Cabinet's Decision
- Committee Recommendations
- Gender Rights
- Need for Such a Move

### Background of the Issue

- The call for the death penalty in rape cases is not new in India. The heinous nature of sexual crimes, particularly those involving minors or resulting in the death of the victim, has often led to public outrage and demands for the harshest possible punishment.
- The gang rape and murder of a paramedic student in Delhi in 2012 was a turning point in the public's perception of sexual violence and the adequacy of the existing legal framework to address it.
- In response to the widespread protests and demands for justice following the 2012 incident, the Indian government formed the **Justice J.S. Verma Committee** to recommend changes to the country's criminal laws concerning sexual violence.
- The committee's recommendations were comprehensive, addressing various aspects of sexual violence, including the legal definitions of rape, the scope of penalties, and the rights of victims.

- However, one of the committee's most controversial recommendations was its opposition to the death penalty for rape, even in the most severe cases.
- The committee argued that the death penalty does not have a proven deterrent effect and could lead to further harm by reducing the chances of reporting such crimes or securing convictions.
- Despite this, the Union Cabinet, under public and political pressure, chose to include provisions for the death penalty in specific cases of sexual violence in the 2013 amendments to the Indian Penal Code (IPC).

### The Union Cabinet's Decision

- The Union Cabinet's decision to amend criminal laws in 2013 was influenced by the overwhelming public demand for justice in the wake of the 2012 Delhi gang rape. The amendments introduced several significant changes to the Indian Penal Code, including the provision of the death penalty in cases where rape leads to the death of the victim or leaves them in a persistent vegetative state (**Section 376A**), and for repeat offenders (**Section 376E**).
- The 2013 amendments were seen as a necessary response to the growing crisis of sexual violence in India. However, they also reflected a departure from the recommendations of the Justice Verma Committee, which had cautioned against using the death penalty as a tool for deterrence.
- The committee's report highlighted the lack of evidence supporting the effectiveness of the death penalty in reducing crime rates and emphasized the need for a more

holistic approach to addressing sexual violence, one that includes legal, social, and educational reforms.

- In 2018, further amendments were made to the IPC, expanding the scope of the death penalty to include participants in gang rapes where the victim is less than 12 years old (Section 376DB) and introducing life-long imprisonment for gang rape victims under 16 years of age (Section 376DA).
- The new Bharatiya Nyaya Sanhita (BNS), which lays down the punishment for rape in several sections, further entrenches the use of the death penalty in cases involving minors.

### Committee Recommendations

- The Justice J.S. Verma Committee's recommendations were groundbreaking in many ways, but perhaps most notable was its **stance against the death penalty for rape**.
- The committee's report argued that the deterrent effect of the death penalty is a myth, citing evidence that murder rates have declined in India despite a reduction in executions.
- Instead, the committee advocated for enhanced sentences for rape, increasing the **minimum sentence from 7 years to 10 years**, with provisions for **20 years to life imprisonment for the most severe cases**.
- **About Marital Rape:** The committee also addressed the issue of marital rape, a controversial topic in India where the law has historically exempted husbands from being prosecuted for raping their wives.

- The Verma Committee recommended **removing the marital rape exception, arguing that a marital relationship should not be a defense against the crime of rape.**
- The committee endorsed the view of the **European Commission of Human Rights** in the case of C.R. vs U.K., which concluded that a rapist remains a rapist regardless of his relationship with the victim.
- Despite the committee's strong recommendations, the Union government chose not to criminalize marital rape, maintaining the exception in the law. Under the Bharatiya Nyaya Sanhita, exception 2 of Section 63 states that "sexual intercourse or acts by a man with his wife, the wife not being under 18 years of age, is not rape."
- The committee also highlighted the **role of social norms and education** in changing societal attitudes towards gender and sexual violence.
- It noted that the correction of social mindsets regarding gender bias requires systemic changes in education and societal behavior, supported by leaders in society.
- The committee's vision for gender equality was holistic, recognizing that legal reforms alone are not enough to achieve true empowerment for women.

### Need for Such a Move

### Gender Rights

- The Justice Verma Committee's report went beyond the legal aspects of sexual violence to address broader issues of gender rights and the empowerment of women in India.
- The committee emphasized that **true empowerment extends beyond political equality to encompass social, educational, and economic equality.**
- It argued that for women to be truly empowered, laws and public policies must engage substantively with women's rights, opportunities, and the ability to generate self-confidence.
- The amendments to the Indian Penal Code and the introduction of the death penalty for certain cases of rape were seen as necessary responses to the growing crisis of sexual violence in India. However, the need for such measures must be carefully weighed against the evidence regarding their effectiveness.
- The Justice Verma Committee's caution against the death penalty reflects a broader concern that harsher penalties do not necessarily lead to a reduction in crime and may, in some cases, have unintended consequences.
- For instance, the **fear of the death penalty could lead to fewer reports of rape, as victims may be reluctant to come forward if they believe the perpetrator will face the ultimate punishment.** This is particularly true in cases of **sexual violence within families or communities**, where the victim may face pressure to remain silent.
- Additionally, the focus on punitive measures may divert attention from other necessary reforms, such as

improving police responses to sexual violence, ensuring timely and fair trials, and providing adequate support for victims.

- There is also a need to address the underlying social and cultural factors that contribute to sexual violence. This includes challenging gender stereotypes, promoting gender equality, and educating young people about consent and respectful relationships.
- Legal reforms must be part of a broader strategy that includes social, educational, and economic measures to prevent sexual violence and support survivors.

### Way Forward

- The debate over the death penalty in rape cases is part of a broader discussion about how to address sexual violence in India. While the introduction of harsher penalties may satisfy public demands for justice, it is essential to consider the evidence regarding their effectiveness and the potential consequences.

## Pradhan Mantri Jan Dhan Yojana (PMJDY) completes 10 years

### Context:

The Pradhan Mantri Jan Dhan Yojana (PMJDY), launched on 28th August 2014, has completed a decade of successful implementation.

- As the largest financial inclusion initiative globally, PMJDY has played a critical role in integrating marginalized and economically backward sections of society into the formal banking system.

- This mission-mode scheme has transformed the financial landscape in India, contributing significantly to the government's efforts to ensure universal and affordable access to financial services.

### Key highlights:

- **Massive Coverage:** Since its inception, PMJDY has brought over 53.14 crore beneficiaries into the formal banking system, with 55.6% of accounts held by women and 66.6% in rural and semi-urban areas.
- **Substantial Deposits:** The total deposit balance in PMJDY accounts has grown to ₹2.31 lakh crore, reflecting a 15-fold increase since 2015. The average deposit per account stands at ₹4,352, a fourfold increase, indicating a rising habit of saving among account holders.
- **RuPay Card Issuance:** A total of 36.14 crore RuPay debit cards have been issued to PMJDY account holders, offering a ₹2 lakh accident insurance cover. These cards have facilitated a significant increase in digital transactions across the country.
- **Digital Financial Inclusion:** The JAM trinity (Jan Dhan-Aadhaar-Mobile) has enabled swift, transparent, and diversion-proof subsidy transfers directly into beneficiaries' accounts. The rise in digital transactions, including UPI and RuPay card transactions, highlights the scheme's impact on promoting digital payments.
- **Empowerment through Credit:** PMJDY accounts have become a gateway for credit access, particularly through Mudra loans, which have seen a compounded annual growth rate of 9.8% over five years. This access to credit

empowers account holders to enhance their incomes and improve their economic standing.

### About Pradhan Mantri Jan Dhan Yojana (PMJDY):

- The Pradhan Mantri Jan Dhan Yojana (PMJDY) is designed to ensure universal access to **banking services, offering every household at least one basic bank account.**
- It also **promotes financial literacy** and **provides access to credit, insurance, and pension schemes.**
- **Features of PMJDY:**
  - The initiative seeks to expand banking services through both traditional bank branches and **Banking Correspondents (BCs)**, covering both urban and rural areas.
  - Account holders receive a **RuPay debit card**, and there is **no requirement to maintain a minimum balance** in PMJDY accounts.
  - An overdraft facility of up to **₹10,000** is available to eligible adults.
  - PMJDY accounts are integrated with various government schemes, including **Direct Benefit Transfer (DBT), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), and Atal Pension Yojana (APY).**

### Way Forward:

To sustain and build upon the success of PMJDY, the focus should now shift towards enhancing financial literacy and ensuring the effective utilization of bank accounts for savings, investments, and credit access.

Expanding financial services, such as micro-insurance and micro-pension schemes, will further empower marginalized communities. Continuous technological innovation and public-private partnerships will be crucial in maintaining the momentum of financial inclusion, ensuring that the benefits of the digital financial ecosystem reach the last mile.

### Tackling Tuberculosis in India: A Strategic Approach

#### Context:

In 2023, India made significant strides in addressing the challenge of 'missed' TB cases, diagnosing 25.1 lakh patients as having TB, which highlights the country's strengthened efforts in case finding.

- The Prime Minister has called upon citizens to work towards TB elimination, signaling the need for a concerted and innovative approach to tackle this deadly disease.
- The introduction of new treatments, the use of advanced diagnostic technologies, and a proactive approach to identifying at-risk populations are critical components of this strategy.
- This analysis explores the current state of TB in India, the significance of new treatment regimens, and the way forward in the quest to make India TB-free.

#### Key Highlights:

- India bears the highest global TB burden, with the disease predominantly affecting poor and marginalized populations.
- Traditional TB treatment regimens are long and arduous, leading to high rates of treatment default and drug resistance.



- The problem of 'missed' TB cases contributes to the continued transmission of the disease.
- A comprehensive approach is needed to improve case finding, early diagnosis, and treatment.

### What is TB?

- Tuberculosis (TB) is a contagious bacterial infection.
- It mainly affects **lungs** but also has potential to impact other parts of the body.
  - It primarily **affects the lungs (Pulmonary TB)**.
  - It can also affect other organs too (**extra-Pulmonary TB**).
- It is caused by the bacterium **Mycobacterium tuberculosis**.
- TB spreads through air when an infected person coughs or sneezes.
- Symptoms: **Persistent cough, chest pain, weight loss, and fatigue**.

### Understanding TB:

- It is an **ancient disease** that traces back that affects millions worldwide.
- The earliest written records of TB date back **3,300 years in India** and **2,300 years ago in China**. Hence, it must be viewed not only as a medical issue but also as a social, economic, and gendered challenge.

### Global Impact:

- TB is a global health concern with India itself reporting a high burden.
- **1.8 million** TB cases were reported in 2019 in India (One of the top countries with high TB burden).

- However, the number of tuberculosis patients fell marginally to **2.23 million in 2023**, from 2.42 million in 2022.

- **MultiDrug Resistant Tuberculosis (MDR-TB)** raises another daunting challenge to TB control efforts.

- MDR-TB is a variant of tuberculosis.
- It is immune to the two primary first-line medications for TB treatment.
- XDR-TB- is a type of tuberculosis caused by bacteria resistant to multiple potent anti-TB drugs.

- The BCG vaccine, developed in the early 20th century, is used worldwide to prevent TB.

### BCG Vaccine:

- BCG, or **bacille Calmette-Guerin**, is a vaccine for tuberculosis (TB) disease.
- It is named after its inventors **Albert Calmette** and **Camille Guérin**.
- BCG also has some effectiveness against **Buruli ulcer infection** and other **nontuberculous mycobacterial infections**.
- It is sometimes used as part of the treatment of **bladder cancer** as well.
- The BCG vaccine was first used medically in **1921**.
- It is on the **World Health Organization's List of Essential Medicines**.

### Dimensions of the Article:

- What is the Issue?
- About the New Treatments
- Significance

## What is the Issue?

- Tuberculosis continues to be a major public health challenge in India, despite decades of efforts to control and eliminate the disease.
- India accounts for over a quarter of the global TB burden, making it the country with the highest number of TB cases in the world.
- The disease predominantly affects the poor and marginalized sections of society, leading to significant socio-economic consequences. The burden of TB is exacerbated by the emergence of drug-resistant strains, which are more difficult and expensive to treat, and often result in poorer outcomes.
- The traditional TB treatment regimens are long and arduous, requiring patients to take multiple drugs daily for several months, sometimes even years. This prolonged treatment is not only physically and psychologically draining for patients but also leads to high rates of treatment default, drug resistance, and mortality. Moreover, the long duration of treatment and the need for regular visits to TB clinics result in loss of employment for many patients, pushing families further into poverty.
- The issue is further complicated by the problem of 'missed' TB cases, where individuals with TB remain undiagnosed and untreated, contributing to the continued transmission of the disease. Addressing this challenge requires a comprehensive approach that includes improved case finding, early diagnosis, and the use of new, more effective treatment regimens.

## About the New Treatments

- In response to the challenges posed by drug-resistant TB and the

limitations of traditional treatment regimens, the **World Health Organization (WHO)**

recommended the introduction of new shorter regimens for drug-resistant TB in 2022.

- These regimens, known as **BPaL/M**, are shorter, safer, and more effective than the traditional regimens.
- Patients on the BPaL/M regimen need to take **only three to four tablets every day**, and they can complete their treatment within six months, compared to the nine to 24 months required by traditional regimens.
- This is a significant improvement, as it reduces the burden on patients, improves treatment adherence, and leads to better outcomes.
- The BPaL/M regimen has been shown to have a treatment success rate of **89%**, significantly higher than the **68%** success rate reported in India in the 2023 India TB Report for traditional regimens.
- Moreover, the new regimen has fewer side effects, which is crucial for improving the quality of life of patients during treatment. Given its efficacy and safety, close to 80 countries around the world have already procured the BPaL/M regimen, and about 20 of the highest burden countries are already rolling it out.
- The adoption of the BPaL/M regimen in India is expected to result in significant cost savings for the health system. Research indicates that implementing this regimen could lead to savings of 40% to 90% of the cost of current treatment

regimens. An immediate transition to BPAL/M could save approximately \$740 million (or approximately ₹6,180 crore) annually for health systems globally. These savings could be reinvested in other areas of TB control and elimination, further strengthening the fight against the disease.

- **Key Points:**

- WHO recommended new shorter regimens (BPAL/M) for drug-resistant TB in 2022.
- The BPAL/M regimen is shorter, safer, and more effective than traditional regimens.
- The treatment success rate for the BPAL/M regimen is 89%, compared to 68% for traditional regimens in India.
- The adoption of the BPAL/M regimen in India is expected to result in significant cost savings for the health system.

### Significance

- The BPAL/M regimen is a game-changer in the fight against TB, leading to higher success rates and fewer cases of treatment default.
- The regimen has fewer side effects, improving the quality of life of patients and reducing the risk of treatment discontinuation.
- The cost savings associated with the regimen can be reinvested in other areas of TB control.
- The adoption of the BPAL/M regimen is a testament to the progress India has made in the fight against TB.

### Way Forward

- A multi-faceted approach is required to eliminate TB, focusing on improving case finding, diagnosis, and treatment adherence.
- India must adopt a proactive approach to screening and testing, using advanced diagnostic technologies and health datasets to identify at-risk populations.
- There is a critical need to expand the use of rapid molecular tests for faster detection and drug resistance profiling.
- The fight against TB must be supported by strong political will, adequate resources, and collaboration with international partners

## Governor's Powers with State Bills

### Context:

Recently, the Karnataka Governor has returned 11 Bills passed by the State legislature, seeking various clarifications from the Siddaramaiah government. The returned Bills include those related to religious institutions, municipal laws, and the appointment of advisers to the Chief Minister. The Governor's actions have raised questions about his powers and the implications for state legislation.

### Key Highlights of the News:

1. **Return of 11 Bills:** The Governor returned 11 Bills passed by the Karnataka legislature, asking for clarifications on various legal and constitutional issues. This includes concerns about pending cases in the Supreme Court, overlapping provisions in laws, and the creation of new entities for specific areas.

## 2. Pending Supreme Court Cases:

The Karnataka Religious Institutions and Charitable Endowments (Amendment) Bill, 2024, was returned due to a pending Supreme Court case concerning similar amendments made in 2011 and 2012.

## 3. Overlapping Laws:

The Karnataka Municipalities and Certain Other Law (Amendment) Bill, 2024, was questioned because the Karnataka Town and Country Planning (regularisation of unauthorised Development or Constructions) Rules, 2014, are currently under judicial review.

## 4. Duplicate Legislation:

The Sri Renuka Yellamma Temple Development Authority Bill was returned as the Governor questioned the need for a new law when a similar Act had already been enacted in February 2024.

## 5. Advisers to the Chief Minister:

The Karnataka Legislature (Prevention of Disqualification) (Second Amendment) Bill, 2024, which seeks to exempt certain offices from disqualification, was returned, raising concerns about the continuation of MLAs serving as advisers to the Chief Minister.

## Governor's Powers with State Bills:

### 1. Article 200:

Under Article 200 of the Indian Constitution, when a Bill is passed by the Legislative Assembly of a State, it is presented to the Governor for assent. The Governor can:

- Give assent to the Bill.
- Withhold assent to the Bill.
- Return the Bill with a message requesting reconsideration.

- Reserve the Bill for consideration by the President.

### 2. Article 201:

If a Bill is reserved for the President's consideration, the President may:

- Assent to the Bill.
- Withhold assent from the Bill.
- Direct the Governor to return the Bill for reconsideration by the State Legislature.

## Discretionary Powers of the Governor:

### 1. Assent to Bills:

The Governor has the discretion to give or withhold assent to a Bill or return it for reconsideration. This discretion, however, is debated as it may be influenced by the advice of the Council of Ministers.

### 2. Reservation for the President:

The Governor can reserve a Bill for the President's consideration, especially if the Bill:

- Is against the Constitution.
- Conflicts with the Directive Principles of State Policy (DPSP).
- Is of grave national importance.
- Endangers the position of the state high court.
- Deals with compulsory acquisition of property under Article 31A.

### 3. Withholding Assent:

Although the Governor can withhold assent, this is rarely done as it is considered an unpopular action and could undermine the democratic process.

## Way Forward:

- **Clarifications and Dialogue:** The State government should provide the necessary clarifications to the Governor on the returned Bills, ensuring that all legal and constitutional concerns are addressed.
- **Strengthening Communication:** To avoid delays in the legislative process, a structured communication channel between the Governor's office and the State legislature should be established.
- **Judicial Review:** If disagreements persist, judicial review may be sought to resolve disputes between the Governor and the State government.
- **Revisiting the Role of Governors:** There is a need for a national debate on the role of Governors in state legislatures, especially regarding their discretionary powers and the potential for political interference.
- **Ensuring Accountability:** Measures should be put in place to ensure that Governors exercise their powers transparently and in alignment with the principles of democracy and federalism.

## PM Narendra Modi gets invited by Pakistan to attend the SCO meet in Islamabad.

### Context:

Recently, Prime Narendra Modi was invited by Pakistan to the Shanghai Cooperation Organisation (SCO) Council of Heads of Government meeting scheduled for October 15-16, 2024.

- SCO Summit was recently concluded in Astana, Kazakhstan.

- It primarily focused on addressing climate change and combating terrorism.

### About SCO

- Shanghai Cooperation Organization is an intergovernmental political, economic, and security alliance.
- It was earlier known as "Shanghai Five" which was originated in 1996 and has 5 countries, namely, **China, Russia, Kazakhstan, Kyrgyzstan, and Tajikistan.**
- It was later established in the year 2001 by adding Uzbekistan as the 6th member.
- Presently, SCO has ten members- India, Iran, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, Uzbekistan and **Belarus.**
- (**Belarus** - was included as the 10th member in Astana.)

### Key Highlights of the recent summit in Astana:

- The summit concluded with key agreements on issues like **terrorism** and **climate change.**
- It also included **Belarus** as the **10th member.**
- The 24th SCO adopted Astana declaration and approved 25 strategic agreements on security, trade, finance and energy.
- It also saw the adoption of **SCO Development Strategy** until 2035 by the member countries on various fields like - separatism, extremism, anti-drug strategy, combating terrorism and combat illicit drug trafficking, etc.,
- In the event, **Make in India** program was also highlighted as a fuel to global economic growth.



- India's External Affairs Minister and the Chinese Foreign Minister emphasised the need for "**complete disengagement**" of troops and restoring peace along the Line of Actual Control (LAC).

- It shall also widen India's aspirations to advance **India's connect Asia** policy.

### Significance

- As it primarily has Asian countries, it focuses mostly on- regional security issues, against regional terrorism, ethnic separatism, and religious extremism,
- It aims to promote regional development as it represents 40% of the global population and contributes more than **USD 20 trillion** to global GDP .
- The organization not only focuses on terrorism and regional security but also on drug trafficking and military cooperation.
- The At the global level, SCO and BRICS put together is seen as a counterbalance to US influence in global affairs.

### Relevance of SCO for India

- The **Regional Anti-Terrorism Structure (RATS)** within the SCO supports counter-terrorism efforts. It also aids in combating drug trafficking.
- SCO's advanced connectivity and infrastructure helps India in achieving its own priorities of enhancing connectivity with its neighbours and improving its own infrastructure.
- It helps India to access investment opportunities, technological advancements and markets through its member countries. It also deepens India's multilateral diplomacy with its member countries.

### Working Mechanism for Consultation & Coordination (WMCC)

#### Context:

Recently, India and China in the 31st meeting of the Working Mechanism for Consultation & Coordination on India-China Border Affairs (WMCC) held in Beijing, discussed the ongoing tensions along the Line of Actual Control (LAC).

#### Key Highlights

- Both India and China conducted themselves to "frank, constructive, and forward-looking" discussion aiming towards reducing differences on the border issues.
- With the aim of restoring normalcy in the bilateral relations, both nations agreed to uphold peace, respect and tranquility at the LAC.

#### About the WMCC and Its Role

- Working Mechanism for Consultation & Coordination (WMCC) was initially set up in **2012** through an India- China agreement.
- It was established to address border issues and facilitate communication between India and China regarding the LAC.
- It was first suggested by **Wen Jiabao** in 2010.
- It is led by a "**Joint Secretary level official** from the **Ministry of External Affairs** of India and a **Director General level official** from the **Ministry of Foreign Affairs** of China and will be

composed of **diplomatic and military officials**.

- Role: It serves as a platform for resolving tensions and coordinating efforts to manage border disputes.

### Significance

- The WMCC helps to find resolutions and plays important role in de-escalating conflicts in the borders.
- It enhances diplomatic ties and ensures to give a structured approach in addressing bilateral issues.

## A game plan for India's success as 2036 Olympic host

### Context:

Recently, the Prime Minister Narendra Modi, during his Independence Day address, announced India's ambition to host the 2036 Olympic Games.

### Dimensions of the Article

- India's Success as the 2036 Olympic Host: Can It Happen?
- How Does the Election Happen?
- Challenges for the Event
- Significance for India

### India's Success as the 2036 Olympic Host: Can It Happen?

- India's aspiration to host Olympics began long back in 2010 when it successfully hosted the Commonwealth Games. This prompted the government to introduce **National Sports Development Code** which ought to bring reforms in sports governance.

- **Khelo India Scheme** was also launched in 2017 to nurture talent from the grassroots level.

- However, hosting an event like Olympics requires years of meticulous planning, investment and collaboration.

- Given that International Olympic Committee (IOC) has completely revamped the selection process of the host to avoid past controversies and corruption, such as those witnessed during the Rio 2016 and Tokyo 2020 Games, India will have to convince the IOC, showing its capability to handle the event.

- The IOC's Future Host Commission (FHC)- a specialized body that assesses potential host cities evaluates the cities on various factors such as environmental concerns, human rights standards, and feasibility.

- This entire process is expected to culminate in 2026, with IOC members voting to select the host for the 2036 Games.

### How Does the Election Happen?

- The Future Host Commission (FHC) is oversees the election process.

- It conducts confidential dialogues with cities that express interest in hosting the Games.

- It checks the overall preparedness of the city under various parameter which includes environmental studies, feasibility assessments, human rights concerns, etc.,

- Following these evaluations, the IOC organizes a final election, where its members vote to decide the host city.

- For the 2036 Games, this election is expected to be held around 2026.

### Challenges for the Event

- **Infrastructure Development:** The cost of building athlete villages, transportation networks, and other amenities will incur a huge amount. And with the huge gap in infrastructure development in the country, it is crucial to take act fast. Recent Paris Olympics, sets an example by reducing the setting up cost by utilizing its existing resources.
- **Political and Administrative Coordination:** A multi-stakeholder, representative committee with central and state governments, sports bodies, and private entities, must be formed to plan and execute efficiently. Above all, having many states and union territories involved, maintaining harmony must be the main goal.
- **Economic and Social Implications:** Since hosting an event like Olympics is a costly affair, the cost that the economy pays and the scar it would leave if not planned properly must be rightly checked. To start with, the Government should focus on balancing investments with long-term gains to ensure financial prudence.
- **The Opportunity Cost involved:** There are concerns about whether the necessary funds could be better spent on grassroots sports development, healthcare, or education.

### Significance for India

- **Global Recognition and Soft Power:** Successfully hosting the Olympics would help in projecting

India's soft power and foster a sense of national pride and unity.

- **Boost to Infrastructure and Economy:** The infrastructure developed could serve as long-term benefits for cities. It will improve transport, accommodation, and sports facilities in the country. This could also lead to increased tourism and job creation which will eventually boost the economy.
- **Promotion of Sports Culture:** The Olympics would likely inspire a new generation of athletes and encourage sports culture across the country that aligns with initiatives like the Khelo India program.
- **Encouraging Regional Development:** By leveraging states like Tamil Nadu, Delhi, and Odisha, which already have substantial sports infrastructure, the government can promote balanced regional development. This approach could reduce costs, promote eco-friendly practices, and enhance cooperation among states.

### Conclusion

The journey to the 2036 Olympics will be a marathon, not a sprint. The country and the stakeholders involved needs to know that its not just about the creation of worldclass infrastructure alone but also about proper planning, financial prudence and the coordination amongst themselves. By addressing its challenges and leveraging its strength, India can portray itself as the host of the 2036 Olympics.

### Vice President of India: Need for a UCC

#### Context

Recently, the Vice-President of India, Jagdeep Dhankhar, advocated for a **Uniform Civil Code (UCC)** while expressing his concern over the safety of women in India.

- He reiterated President's statement- that- it is time to say - “enough is enough”.

### Uniform Civil Code:

- It is a proposal, a set of rules that implements and formulates personal laws of citizens which apply on all citizens equally regardless of their religion.
- It is mentioned in **Article 44** of the Indian Constitution, which is a Directive Principle of State Policy (DPSP).
  - **Article 44** : This article states that the state should try to provide a single set of laws for all citizens of India, covering personal matters like marriage, adoption, divorce, inheritance, and succession
- Meanwhile, **Article 37** of the Indian Constitution states that DPSP “shall not be enforceable by any court”. Nevertheless, they are “fundamental in the governance of the country”, making it clear that it is **not a mandatory** action for the government.
- **Goa** was the only state in India with a uniform civil code prior to 2024. However, **Uttarakhand** Assembly also passed the UCC bill on 7th February 2024 which is expected to be implemented.

### History of Uniform Civil Code:

- **The Lex Loci Report, 1840:** It underscored the importance and the **need of uniformity** in codification of Indian law, relating to **crimes, evidences and contract.**

However, it also recommended that **personal laws of Hindus and Muslims should be kept outside** such codification.

- **The Queen’s 1859 Proclamation-** It paved way for **absolute non-interference in religious matters.**

(So while criminal laws were codified and became common for the whole country, personal laws continue to be governed by separate codes for different communities).

- **Post-Colonial era (1947-1985):** Leaders like Jawaharlal Nehru and Dr B.R Ambedkar advocated for a uniform civil code. Apparently, it was added in the Directive Principles of State Policy (DPSP, Article 44) mainly due to opposition from religious fundamentalists and a lack of awareness among the masses during the time.

### Important cases related to UCC:

- Shah Bano case (1985)
- Daniel Latifi Case
- Sarla Mudgal Case
- John Vallamattom Case

### Way Forward:

- Irrespective of the means, the government must prioritize in making policies aimed at empowering women economically, socially, and politically.
- This also includes improving access to education, healthcare, and employment opportunities to enable women to assert their rights and contribute to nation-building.

**On discarding indexation for LTCG**

### Context:

In the Union Budget 2024, Finance Minister Nirmala Sitharaman announced the elimination of indexation for computing long-term capital gains (LTCG) tax.

- Instead, long-term gains on all financial and non-financial assets would now be taxed at a flat rate of **12.5%**, replacing the previous tiered structure that included indexation.
- This move, intended to simplify tax computations, has not been well-received and has sparked significant debate among economists, tax experts, and the public.



- Long-term capital gains (LTCGs) refer to the profits earned from investments held for **over 12 months** before being sold.
- In contrast, profits from investments held for **less than a year** are termed **short-term capital gains**.
- Typically, long-term capital gains are subject to lower tax rates compared to short-term capital gains.

### Dimensions of the Article:

- What is the Issue?
- What is LTCG?
- Why Has the Union Finance Minister Done Away with Indexation for Computing LTCG Tax?
- Feedback from Corporates and Industry Regarding the Move?

### What is Indexation and How Does It Help in Tax Savings?

- Imagine buying a house for **₹10 lakh in 2001** and selling it for **₹75 lakh in 2021**.
- Without indexation, the apparent gain is **₹65 lakh**, which seems taxable. However, this doesn't account for inflation.
- Indexation uses the **Cost Inflation Index (CII)** to adjust the purchase price, reflecting the actual economic gain.
- For instance, with the CII for 2021 at 317 and for 2001 at 100, the indexed cost of the house becomes **₹31.7 lakh**. This reduces the taxable gain to **₹43.3 lakh**.
- At the former 20% tax rate, the tax payable would be approximately **₹8.7 lakh**.
- Under the new system, the entire ₹65 lakh gain is taxed at 12.5%, resulting in a tax liability of ₹8.13 lakh.

### What is the Issue?

- The issue centers around the Finance Minister's decision to do away with indexation for calculating LTCG tax.
- Indexation adjusts the **purchase price of an asset for inflation**, ensuring taxpayers are taxed on real gains rather than nominal gains inflated by rising prices.
- The removal of this mechanism has raised concerns about increased tax liabilities and the potential impact on investment decisions across various asset classes, including real estate, bonds, and infrastructure funds.

### What is LTCG?



- **Indexation helps in two main ways:**

1. **Adjusting for Inflation:** It ensures taxpayers are taxed on real economic gains rather than nominal gains inflated by rising prices.
2. **Reducing Tax Liability:** It lowers the taxable gain, thereby reducing the tax burden.

### Why Has the Union Finance Minister Done Away with Indexation for Computing LTCG Tax?

- The Finance Minister's rationale for this change is to simplify the computation of capital gains for taxpayers and tax administration.
- By adopting a flat 12.5% tax rate on long-term gains without indexation, the government aims to ease the tax calculation process and make the system more straightforward.
- However, this simplification comes at a cost. It disregards the varying rates of return on different assets and the impact of inflation, which can lead to higher tax liabilities for taxpayers, especially those holding assets for extended periods.

### Feedback from Corporates and Industry Regarding the Move?

The response from corporates and industry experts has been mixed. While some appreciate the simplicity of the new system, many express concerns about the increased tax burden and its potential impact on investment behavior.

1. **Real Estate Sector:** Experts argue that the removal of indexation could discourage investment in real estate. Investors may now prefer to sell properties quickly to benefit from the lower flat tax rate rather

than holding them long-term. This could lead to a decline in real estate investments and a shift in market dynamics.

2. **Bonds and Infrastructure Funds:** These asset classes, which typically offer lower returns compared to equities, are expected to suffer under the new regime. Without the benefit of indexation, the tax liabilities on these investments could rise significantly, potentially reducing their attractiveness to investors.
3. **General Sentiment:** The overall sentiment in the market is one of caution. The reduction in the base tax rate provides some balance, but the absence of indexation dampens the enthusiasm for long-term investments.

### Way Forward

Given the mixed feedback and potential implications of the new tax regime, a balanced approach is necessary. Here are some steps the government could consider:

1. **Re-evaluation of the Policy:** The government should re-assess the impact of the removal of indexation on various asset classes and investor behavior. A comprehensive study involving stakeholders from different sectors can provide valuable insights.
2. **Introducing Safeguards:** To protect taxpayers, especially those with long-term investments, the government could introduce safeguards such as a graded tax structure that considers the holding period and the type of asset.
3. **Enhancing Transparency and Awareness:** Clear communication and awareness campaigns about the new tax provisions can help

taxpayers understand the changes and make informed investment decisions.

4. **Periodic Review:** A periodic review of the tax policy, considering economic conditions and market trends, can ensure that the tax regime remains relevant and fair to all stakeholders.
5. **Incentives for Long-term Investments:** To promote long-term investments, the government could consider offering additional incentives or reliefs, such as tax deductions or exemptions for holding assets beyond a certain period.

## Conclusion

The Finance Minister's decision to eliminate indexation for LTCG tax aims to simplify tax computations but has significant implications for taxpayers and the investment landscape. While the flat tax rate offers simplicity, it may lead to higher tax liabilities and affect investment decisions.

## PM inaugurates the 32nd International Conference of Agricultural Economists

### Context:

The Prime Minister of India, Shri Narendra Modi, inaugurated the 32nd International Conference of Agricultural Economists (ICAE) at the **National Agricultural Science Centre (NASC)** Complex in New Delhi.

- This significant event, themed **"Transformation Towards Sustainable Agri-Food Systems,"** is being held in India after 65 years and addresses the critical need for sustainable agriculture amidst global

challenges such as climate change, resource degradation, rising production costs, and conflicts.

- The conference attracted around 1,000 delegates from 75 countries.

## Key Highlights

### Prime Minister's Address:

- Welcomed delegates on behalf of 120 million farmers, 30 million women farmers, 30 million fishermen, and 80 million livestock farmers in India.
- Emphasized India's ancient agricultural traditions and the prioritization of science and logic in agriculture.
- Highlighted India's robust agricultural research and education system, with over 100 research institutes, 500 agriculture colleges, and 700 Krishi Vigyan Kendras.
- Mentioned India's diverse agro-climatic zones and their contribution to global food security.

### India's Achievements:

### Agricultural

- India is now a food surplus country and the largest producer of milk, pulses, and spices.
- It is the **second-largest producer of food grains, fruits, vegetables, cotton, sugar, tea, and farmed fish.**
- India's experience and model are valuable for discussions on global food system transformation, especially for developing countries.

### Global Welfare Commitment:

- India is committed to global welfare as a **'Vishwa Bandhu'** with a holistic approach of 'One Earth, One Family, One Future'.

- Emphasis on sustainable and climate-resilient farming, with nearly 1,900 new climate-resilient crop varieties developed in the last decade.

### Technological Integration in Agriculture:

- Introduction of digital technologies like Soil Health Cards, solar farming, e-NAM (Digital Agriculture Market), Kisan Credit Card, and PM Fasal Bima Yojana.
- Initiatives for the digitization of land records and promotion of drone usage in farming.

### Focus on Nutrition and Sustainability:

- Promotion of natural farming and millets as solutions to water scarcity and nutrition challenges.
- Highlights of initiatives like PM Kisan Samman Nidhi for direct bank transfers to farmers.

### Its Significance:

- **Global Food Security:** The conference emphasizes India's role in global food security, leveraging its agricultural diversity and research advancements to provide solutions for food and nutrition security worldwide.
- **Sustainable Agriculture:** The theme of the conference and India's proactive measures underscore the importance of sustainable agriculture in addressing global challenges like climate change and resource degradation.
- **Technological Advancements:** Showcasing India's integration of modern technology in agriculture, the conference highlights initiatives that can benefit not only Indian

farmers but also contribute to global agricultural practices.

- **International Collaboration:** The event fosters global collaboration, allowing young researchers and professionals to network, share knowledge, and influence agricultural policies on a national and global scale.

## Need for Modern Weather Prediction Models: Kerala Chief Minister

### Context

Kerala Chief Minister Pinarayi Vijayan emphasized the importance of developing modern, location-specific, and accurate weather prediction models to enable early disaster mitigation measures and save lives and property.

- Mr. Vijayan announced plans to develop a modern township in Wayanad for those displaced by recent landslides, addressing the immediate need for rehabilitation and housing.

### INSAT-3DR:

- INSAT-3DR, along with INSAT-3D, plays a crucial role in India's meteorological advancements by aiding the India Meteorological Department (IMD) in weather forecasting and monitoring.

### Key Highlights

- **Advanced Meteorological Satellite:** INSAT-3DR, like its predecessor INSAT-3D, is equipped with an imaging system and an atmospheric sounder.
- **Infrared Channels:** It has multiple infrared channels ranging from longwave to shortwave bands, as well as a visible band.

- **Enhanced Capabilities:**
  - Middle Infrared Imaging: Provides nighttime pictures of low clouds and fog.
  - Thermal Infrared Imaging: Estimates Sea Surface Temperature (SST) with improved accuracy.
- **Imaging System- Prediction and Monitoring:**
  - Snow and Clouds: The satellite differentiates snow and clouds by their solar reflectance and shortwave infrared absorption.
  - Day Microphysics: Uses solar reflectance data at three wavelengths (visible, shortwave infrared, and thermal infrared) to determine image coloration.
  - Night Microphysics: Evaluates the difference between thermal infrared signals to calculate image coloration.

2. **Global Telecommunication System (GTS)**
3. **Agro-meteorological Tower (AGROMET)**
4. **Doppler Weather Radar (DWR) Systems**
5. **Multi-Model Ensemble (MME)-based Forecasting System** - Includes IMD's Monsoon Mission Climate Forecasting System (MMCFSS) Model

These methods are supported and augmented by IMD and various global climate prediction and research centres.

## Navigating the Economic Impact of Election Overhang and Inflationary Pressures

### Context:

The conclusion of India's general election in June has left a noticeable impact on the country's economic landscape, particularly in its core infrastructure sectors. This article delves into the economic implications of these events, with a specific focus on the slowdown in India's eight core infrastructure sectors and the rising concerns about inflation.

### Dimensions of the Article:

- What is the Issue?
- Need to Address This Issue
- How Inflation Affects a Country
- Expectations from the MPC
- Suggested Measures

### What is the Issue?

- The primary issue at hand is the **slowdown in India's core infrastructure sectors**, which include coal, crude oil, natural gas, refinery products, fertilizers, steel,

### Importance to India

- **Weather Forecasting:** INSAT-3DR uses radiometers and atmospheric sounders to track these parameters, aiding in cyclone and weather event monitoring.
- **Technological Integration:** Combines satellite data with ground-based observations from Automatic Weather Stations (AWS), the Global Telecommunication System (GTS), Agro-meteorological Towers (AGROMET), and Doppler Weather Radar (DWR) systems.

### Some of the other Weather Forecasting Methods:

1. **Automatic Weather Stations (AWS)** - Supported by ISRO

cement, and electricity. These sectors form the backbone of the economy and are crucial indicators of economic health.

- The Index of **Eight Core Industries (ICI)** serves as a barometer for the overall industrial performance, and the latest data indicates a significant deceleration. The ICI reported a growth rate of just 4% in June, the slowest in 20 months. This decline was primarily driven by contractions in key sectors such as refinery products and electricity generation, and a sharp slowdown in steel production.
- The election overhang has been a significant contributing factor, as the end of the general election cycle often leads to a temporary lull in public spending. Additionally, extreme heatwaves in northern and western India exacerbated the slowdown, affecting construction activities and overall industrial production.

### Need to Address This Issue

- The slowdown in core sector growth has broad implications for the Indian economy. Core sectors not only provide essential goods and services but also have a ripple effect on other industries and overall economic activity.
- A sustained slowdown can lead to reduced industrial output, lower employment, and decreased economic growth. Therefore, it is crucial to address the underlying issues to restore momentum in these critical sectors.

### How Inflation Affects a Country

- Inflation, particularly when it extends beyond food prices, can have widespread economic consequences.

- The latest data suggests that inflationary pressures are broadening, affecting inputs such as coal, packaging, paper, rubber, and steel. This broad-based rise in input costs has led manufacturers to increase their selling prices at the steepest rate in nearly 11 years, as indicated by the HSBC India Manufacturing Purchasing Managers' Index (PMI).
- Inflation **erodes purchasing power, increases the cost of living, and can lead to a decline in consumer spending**. For businesses, higher input costs can squeeze profit margins unless passed on to consumers, which in turn can dampen demand.
- In the broader economic context, persistent inflation can lead to **tighter monetary policy**, as central banks may raise interest rates to control price rises. This can **increase borrowing costs, slow down investment**, and ultimately impact economic growth.

### Expectations from the MPC

- The Reserve Bank of India's Monetary Policy Committee (MPC) is tasked with maintaining price stability while supporting economic growth.
- Given the current scenario of broadening inflationary pressures, the MPC faces a challenging environment. The central bank's policy decisions, particularly regarding **interest rates, will be crucial** in managing inflation without stifling economic recovery.
- The MPC is expected to weigh several factors in its decision-making process. These include the **current inflation trajectory, economic growth indicators, global economic conditions, and**



**the potential impact** of its policies on both the domestic and international financial markets.

- The recent surge in input costs and the resulting rise in selling prices could push the MPC to adopt a more hawkish stance, possibly signaling future rate hikes to curb inflationary pressures.

## Suggested Measures

To address the current economic slowdown and rising inflation, a multi-pronged approach is required:

- 1. Fiscal and Monetary Coordination:** The government and the RBI should work in tandem to ensure that fiscal policies support economic recovery without exacerbating inflation. This includes targeted spending on infrastructure and public works to stimulate demand and investment.
- 2. Supply Chain Management:** Efforts should be made to address bottlenecks in supply chains that contribute to rising input costs. This may involve improving logistics, reducing transportation costs, and enhancing the availability of essential raw materials.
- 3. Energy and Raw Material Supply:** With coal and other raw materials witnessing price hikes, ensuring a stable and sufficient supply is crucial. Policies to increase domestic production and reduce reliance on imports can help stabilize prices.
- 4. Focus on Sustainable Growth:** Long-term strategies should prioritize sustainable economic growth, including investments in renewable energy, technology, and innovation. This can reduce the economy's vulnerability to shocks and ensure more resilient growth.

- 5. Monetary Policy Adjustments:** The RBI may need to consider calibrated adjustments to the interest rates, balancing the need to control inflation with the need to support economic growth. Clear communication about the central bank's policy intentions can help manage market expectations and reduce uncertainty.

## Goals set under NCAP

### Context:

New goals have been set under NCAP for the year 2023-24.

### Key Highlights

- **Launch and Objective:** NCAP was launched in January 2019 by MoEF&CC to improve air quality in 131 non-attainment and Million Plus Cities across 24 States/UTs.
- **Reduction Targets:** The programme aims for a 20-30% reduction in PM10 concentrations by 2024-25, with a revised target of up to 40% reduction or meeting national standards by 2025-26.
- **City-Specific Targets:** City-specific targets range from 4-15% reduction in annual PM10 concentrations.
- **Good Days Improvement:** An annual target of 15% improvement in "Good Days" (Air Quality Index <200) has been prescribed for 49 Million Plus cities.
- **Funding:** Four cities in Gujarat (Ahmedabad, Rajkot, Surat, and Vadodara) received Rs. 1085.42 crore till 2023-24 under NCAP and the XVth Finance Commission Million Plus Cities Challenge Fund.
- **Air Quality Improvement:** All four cities in Gujarat showed a reduction

in PM10 levels ranging from 21-40% in 2023-24 compared to the base year 2017-18.

## Significance

- **Reduction in Pollution Levels:** Significant reductions in PM10 levels were observed in Gujarat cities—Ahmedabad (40%), Rajkot (39%), Surat (21%), and Vadodara (29%)—showing effective implementation of NCAP.
- **Health Benefits:** Improving air quality reduces health risks associated with air pollution, such as respiratory and cardiovascular diseases.
- **Environmental Impact:** Better air quality contributes to overall environmental health, supporting biodiversity and reducing the adverse effects of pollution on ecosystems.
- **Economic Advantages:** Reducing pollution can lower healthcare costs and increase productivity by decreasing the number of sick days among the workforce.
- **Global Standards:** Achieving the revised target of up to 40% reduction or meeting national standards by 2025-26 aligns India with global efforts to combat air pollution.

## National Clean Air Programme (NCAP)

1. **Launch and Objective:** NCAP was initiated in January 2019 with the aim to improve air quality in India through city-specific action plans, focusing on cities continuously violating annual PM levels.
2. **Mitigation and Monitoring:** The programme emphasizes stringent mitigation measures to control air pollution, strengthening the air

quality monitoring network across the country, and enhancing public awareness and capacity-building efforts.

## Performance and Infrastructure:

- Air information centers at central and regional levels were planned, but by December 2023, only the central PRANA portal by CPCB was functional.
- While Delhi has a functional air pollution forecasting system, other non-attainment cities lag behind.

## Monitoring Stations:

- NCAP aimed to increase manual monitoring stations from 703 to 1,500 by 2024, but only 931 were operational by December 2023.
- The goal for 150 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) was surpassed, with 531 stations operational.
- **Rural Monitoring:** The rural monitoring network includes 26 manual stations, with efforts to establish 100 stations by 2024 yet to be fully realized.

## Conclusion:

Data shows that NCAP has had a substantial impact in reducing PM10 concentrations in Gujarat cities, reflecting the programme's potential to bring about significant improvements in air quality across the country. This success underscores the importance of continued efforts and investments in air quality management initiatives.

## Jammu's counter-terror grid

### Context:

The Jammu region has recently garnered attention due to a troubling surge in terrorist activities, leading to significant losses for the security forces. This escalation, notably over the last few months, is largely attributed to the weakened counter-terrorism grid in the region.

- A critical shift in the deployment of troops to the Line of Actual Control (LAC) following the Galwan incident in June 2020 has left the Jammu region vulnerable.

### Dimensions of the Article:

- What is the Issue?
- Cause of the Issue
- Challenges Associated
- Operation Dudhi

### What is the Issue?

- The Jammu region, which includes sensitive areas such as Kathua, Poonch, and the Chenab valley, has seen a spike in terrorist activities.
- This surge is partly due to the redeployment of troops to the LAC, leaving the region's counter-terrorism grid weakened.
- The security forces, traditionally tasked with maintaining a strong presence to prevent terrorist movements and operations, have faced significant challenges in the absence of a fully functional grid.
- The recent induction of around 3,000 Army troops and 500 Special Forces units highlights the government's response to the deteriorating security scenario. However, the situation raises concerns about the effectiveness and preparedness of these newly inducted forces, especially those unfamiliar with the region's unique dynamics.

### Cause of the Issue:

- **Troop Redeployment to LAC:** The Galwan incident in June 2020 marked a significant shift in India's defense priorities, leading to the redeployment of a substantial number of troops from the Jammu region to the LAC. This reallocation left the region's counter-terrorism grid vulnerable, creating gaps that terrorist groups exploited.
- **Increased Terrorist Infiltration:** The weakened security grid allowed for increased infiltration by terrorist groups, often supported by Pakistan. The porous borders and difficult terrain made it easier for these groups to enter and establish themselves in the region.
- **Lack of Familiarity Among Newly Inducted Troops:** The induction of troops unfamiliar with the terrain and local dynamics poses a challenge. Effective counter-terrorism operations require a deep understanding of the area, its people, and the local support networks that can either aid or hinder operations.

### Challenges Associated:

- **Establishing an Effective Grid:** A counter-terrorism grid is not merely about numerical strength but about strategic deployment. It requires a deep understanding of the terrain, potential vulnerable areas, and the inclinations of the local population. The grid must be established in a way that prevents terrorist movement while gaining the trust of the local community.
- **Gaining Local Support:** The success of counter-terrorism operations heavily depends on winning the hearts and minds of the

local population. Security forces must gain the confidence of the people to obtain vital intelligence and support. This is particularly challenging for newly inducted troops who are unfamiliar with the local dynamics.

- **Integration of New Troops:** Integrating newly inducted troops into the existing grid is a complex process. These troops must be superimposed on already deployed units to ensure continuity and effectiveness. Deploying them independently without sufficient understanding of the area could lead to operational failures.

### Operation Dudhi:

- Operation Dudhi serves as a historical example of **successful counter-terrorism operations** in the region.
- Conducted in May 1991 by the 7 Assam Rifles, this operation in the Chowkibal area of Jammu and Kashmir remains a benchmark in military strategy.
- The operation was executed primarily under the battalion's command, demonstrating the effectiveness of allowing commanding officers to lead operations without excessive external interference.

### Way Forward:

- **Strengthening the Counter-Terrorism Grid:** The counter-terrorism grid in Jammu needs to be reinforced, not just in numbers but in strategy. Newly inducted troops should be integrated with existing units, ensuring that their deployment is strategic and not merely for numerical augmentation.
- **Enhancing Local Engagement:** Building trust with the local

population is crucial. Security forces must focus on community engagement, winning over the neutral majority to isolate terrorist elements. This requires long-term deployment and continuous interaction with the local communities.

- **Learning from Past Operations:** The lessons from successful operations like Operation Dudhi should be incorporated into current strategies. Commanding officers must be empowered to lead operations, ensuring that decision-making is swift and responsive to on-ground realities.

- **Training and Familiarization:** Newly inducted troops should undergo extensive training focused on the specific challenges of the Jammu region. This includes familiarization with the terrain, understanding local customs, and building psychological operations aimed at gaining the trust of the local population.

- **Sustained Operations:** Counter-terrorism efforts in Jammu must be viewed as a long-term commitment. Expecting quick results can lead to hasty and ineffective strategies. The security forces need to be in for the long haul, with a focus on sustained operations that gradually erode the capabilities of terrorist groups.

- **Coordination Among Forces:** Effective coordination among various security forces, including the Army, Assam Rifles, and local police, is essential. Joint operations and intelligence sharing can enhance the effectiveness of the counter-terrorism grid.

- **Monitoring and Adapting Strategies:** The security scenario in Jammu is dynamic, requiring

constant monitoring and adaptation of strategies. The government and military leadership must be flexible in their approach, adjusting troop deployments and tactics based on the evolving threat landscape.

## NSE files fresh plea to settle TAP case

### Context:

The National Stock Exchange (NSE) of India, a major player in the country's financial markets, has been under regulatory scrutiny due to issues related to the misuse of its Trading Access Point (TAP) software.

- This situation has led to multiple interactions between the NSE and the Securities and Exchange Board of India (SEBI), the regulatory body responsible for overseeing the stock markets in India.
- The NSE has made several attempts to resolve the matter through settlement applications, but these efforts have faced challenges, prompting the exchange to submit revised settlement terms (RST) in an attempt to reach a resolution.

### Dimensions of the article:

- Key Highlights
- What is TAP?
- TAP software and its implications for the NSE
- Suggested Measures

### Key Highlights:

- **NSE's Pleas for Settlement:** The NSE has filed multiple pleas with SEBI to settle the regulatory probe

into the misuse of TAP software. Initial settlement pleas were submitted in 2022 and 2023, but SEBI returned these applications as an investigation was still ongoing.

- **Show-Cause Notice and Response:** In February 2023, SEBI issued a show-cause notice to the NSE regarding the TAP software issue. The NSE responded by submitting a settlement application, expressing its willingness to resolve the matter without admitting guilt or liability, and offering to pay a fair sum as per regulations.
- **Internal Committee Meetings:** Following the NSE's response, SEBI held several internal committee meetings with NSE representatives to discuss the matter.
- **Revised Settlement Terms (RST):** On March 5, 2023, the NSE filed RST with SEBI. However, SEBI's High Powered Advisory Committee on Settlement Orders and Compounding of Offences rejected the consolidated offer, asking the NSE to submit individual applications with the RST. The NSE complied and filed these applications after receiving approval from its Board on June 14, 2023.
- **Lack of Clarity on RST Details:** The specific details of the RST filed by the NSE have not been made public. At the time of publication, there was no response from either the NSE or SEBI regarding these details.

### What is TAP?

- The Trading Access Point (TAP) software is a crucial component of the NSE's trading infrastructure, particularly for co-location users.



- Co-location refers to the practice **where traders place their servers in close proximity** to the exchange's servers **to reduce the time it takes to execute** trades.
- In **2014**, the NSE introduced **new TAP software** designed to enhance the speed and efficiency of trading by reducing latency (the delay before a transfer of data begins following an instruction for its transfer) by a significant margin—from 400 microseconds to as low as 100 microseconds. This advancement was particularly beneficial for high-frequency traders, who rely on executing trades in fractions of a second to gain a competitive edge.

### TAP software and its implications for the NSE

The introduction of the TAP software had significant implications for the NSE and its users, particularly in the context of the co-location scam:

- **Misuse and Manipulation:** In 2013, certain high-frequency traders exploited the TAP software by manipulating it to gain an unfair advantage over other market participants. This misuse was uncovered by the Income Tax Department during an investigation into the co-location scam, which came to light four years later, in 2017. The traders involved in this manipulation not only secured faster access to NSE's trading data and facilities but also managed to avoid paying transaction fees that would normally be applicable.
- **Co-location Scam:** The co-location scam is one of the most significant financial controversies in India. It involved a select group of brokers who were able to secure faster and more privileged access

to the NSE's trading data, thereby gaining an unfair advantage in the market. This unfair access allowed them to execute trades faster than their competitors, leading to questions about the integrity and fairness of the Indian financial markets.

### Suggested Measures

In response to the co-location scam and the misuse of the TAP software, several measures and suggestions have been proposed:

- **Regulatory Action:** SEBI, as the market regulator, has been actively investigating the misuse of TAP and has taken steps to ensure that such incidents do not recur. This includes issuing show-cause notices, conducting internal reviews, and holding discussions with NSE representatives.
- **Settlement Process:** The NSE has sought to resolve the matter through the regulatory settlement process, expressing a willingness to pay penalties and settle the issue without admitting guilt. However, SEBI has been stringent in its approach, requiring the NSE to submit detailed and individual settlement applications for consideration.
- **Enhanced Oversight:** Going forward, there is likely to be an increased emphasis on regulatory oversight and monitoring of trading practices, particularly in the context of high-frequency trading and co-location services. SEBI may introduce stricter guidelines and controls to prevent the recurrence of such incidents.
- **Transparency and Accountability:** The co-location scam has highlighted the need for greater transparency and

accountability in the functioning of stock exchanges. Both the NSE and SEBI are expected to take steps to rebuild trust in the market by ensuring that all participants have a level playing field and that any instances of manipulation or unfair practices are promptly addressed.

### Conclusion:

The NSE's ongoing efforts to settle the TAP software issue reflect the complexities of managing modern financial markets, where technology plays a pivotal role. The resolution of this matter will likely have significant implications for the future of trading practices in India, particularly in terms of ensuring fairness, transparency, and regulatory compliance.

## Messe Stuttgart

### Context:

The Indian authorities' request for official documentation during the registration of Messe Stuttgart India led to the remarkable discovery of Germany-based Messe Stuttgart- which was one of the world's earliest trade fair companies.

- It was actually founded in October 1918.
- This discovery has significant historical implications, as it revises the previously assumed founding date and emphasizes the long-standing role of Messe Stuttgart in promoting industry, culture, and scientific activities.

### Key Highlights

- **Meaning:** A trade fair, also known as a trade show or exposition, is a large event where companies from a specific industry can display,

demonstrate, and sell their products and services to potential customers and other industry members. Trade fairs can also be a place for companies to network, meet with partners, and research competitors and market trends

- **Historical Discovery:** Messe Stuttgart, a major global trade fair company, was discovered to have been officially founded in October 1918, making it one of the world's first trade fair companies. This finding emerged during the registration process for its Indian subsidiary.
- **Founding Predecessor:** The research unveiled that the company's predecessor, Stuttgarter Handelshof AG, was registered in the Commercial Register in October 1918, shortly after World War I. This predecessor played a crucial role in promoting industry and cultural activities in Württemberg.
- **Initial Trade Fairs:** The first trade fair organized by Stuttgarter Handelshof AG was held in September 1919, focusing on jewellery, watches, and metal goods. This fair, named 'Jugosi,' was later replaced by Anuga, a significant food and drinks trade fair.
- **Revised Founding Date:** The comprehensive search revealed that the previously assumed founding date of 1940 was incorrect. This correction was essential for the proper registration of Messe Stuttgart India.
- **Global Presence:** Messe Stuttgart is engaged in organizing trade fairs, events, and congresses globally, with subsidiaries in China, India, Turkey, and the U.S. The discovery reinforces its long-standing mission of supporting industry and cultural activities through exhibitions and fairs.
- **Indian Connection:** The request by Indian authorities for documentation not only led to the accurate historical

understanding of Messe Stuttgart's origins but also facilitated the proper registration of its Indian subsidiary, highlighting the role of such regulatory requirements in preserving historical accuracy.

## The policy repo rate unchanged for the ninth time in a row

### Context:

The Reserve Bank of India's (RBI) Monetary Policy Committee (MPC) has decided to maintain the policy repo rate at 6.50% for the ninth time in a row. This decision is significant as it directly impacts inflation and economic growth, both of which are crucial for maintaining economic stability in the country.

### Key Highlights:

- **Policy Repo Rate Unchanged:** The RBI's MPC has kept the policy repo rate at **6.50%**, marking the ninth consecutive time that the rate remains unchanged. This decision was supported by four out of six members of the MPC.
- **Impact on Other Rates:** As a result of this decision, the **standing deposit facility rate stays at 6.25%**, and both the **marginal standing facility rate and the bank rate are maintained at 6.75%**.
- **Focus on Inflation:** The MPC continues to focus on withdrawing monetary accommodation to control inflation, aiming to align it with the target while also supporting economic growth. The decision to maintain the current rates was driven by the need to manage inflation, which saw a slight increase to 5.1% in June 2024, primarily due to persistent food inflation.

- **Inflation Trends:** RBI Governor Shaktikanta Das highlighted that while **core inflation (excluding food and fuel)** has moderated, the pace of disinflation is slow and uneven. The MPC considers it essential to maintain its current monetary stance while keeping a close watch on inflation trends.

- **Economic Growth Projections:** The MPC has projected **real GDP growth for 2024-25 at 7.2%**. The growth projections for the first quarter of 2024-25 are at 7.1%, with subsequent quarters expected to grow between 7.2% and 7.3%. For the first quarter of 2025-26, the growth is projected at 7.2%.

- **Inflation Projections:** Assuming normal monsoon conditions, the **Consumer Price Index (CPI) inflation** for 2024-25 is projected at **4.5%**. The projections for the subsequent quarters of 2024-25 range between 4.3% and 4.7%. The risks to these projections are considered balanced.

### What is Repo Rate?

- The repo rate is the interest rate at which the **RBI lends money to commercial banks** in the event of any shortfall of funds.
- It is a crucial tool used by the RBI to **control inflation and regulate the supply of money** in the economy.
- When the RBI wants to make it more expensive for banks to borrow money, it increases the repo rate, thereby reducing the money supply in the economy.
- Conversely, a decrease in the repo rate makes borrowing cheaper, leading to an increase in the money supply.

### Its Effects in the Economy

- **Inflation Control:** By adjusting the repo rate, the RBI can control inflation. When the repo rate is high, borrowing costs for businesses and consumers increase, leading to a reduction in spending and investment, which in turn helps in reducing inflation. On the other hand, a lower repo rate can stimulate spending and investment, which can lead to higher inflation if not controlled.
- **Economic Growth:** The repo rate also influences economic growth. A **lower repo rate can boost economic activity by making loans cheaper for businesses and consumers**, leading to increased spending and investment. This can stimulate economic growth. However, if the economy overheats, leading to high inflation, the RBI may raise the repo rate to cool down the economy.
- **Loan and Deposit Rates:** The repo rate directly affects the interest rates on loans and deposits. When the **repo rate is increased, banks raise their loan and deposit rates, making loans more expensive and deposits more attractive.** Conversely, a decrease in the repo rate leads to lower loan rates, making borrowing cheaper and stimulating economic activity.
- **Exchange Rates and Foreign Investment:** Changes in the repo rate can also influence exchange rates and foreign investment. A **higher repo rate can attract foreign investors looking for better returns, leading to an appreciation of the domestic currency.** Conversely, a lower repo rate may lead to a depreciation of the currency as investors seek higher returns elsewhere.

## Why Has MPC Kept It Unchanged?

The decision by the MPC to keep the repo rate unchanged at 6.50% is primarily driven by the need to manage inflation while supporting economic growth. Here are the key reasons:

- **Inflation Concerns:** Although inflation has shown some signs of moderation, it remains a concern for the MPC. The headline inflation rate increased slightly to 5.1% in June 2024, mainly due to persistent food inflation. The MPC believes that it is important to maintain the current monetary stance to ensure that inflation continues to align with the target.
- **Uneven Disinflation:** The pace of disinflation, or the process of reducing inflation, has been slow and uneven. Core inflation, which excludes food and fuel, has moderated, but the overall inflation rate is still above the desired level. The MPC, therefore, judged it necessary to continue with the current policy to bring inflation down to the target level.
- **Balancing Growth and Inflation:** The MPC is also mindful of the need to support economic growth. By keeping the repo rate unchanged, the committee aims to strike a balance between controlling inflation and fostering economic growth. The projected GDP growth rate of 7.2% for 2024-25 indicates a positive outlook, but this growth needs to be sustained in a stable inflation environment.
- **Monitoring Inflation Risks:** The MPC has emphasized the importance of closely monitoring the inflation trajectory and its associated risks. The decision to maintain the current repo rate



reflects a cautious approach, with the MPC keeping a close vigil on inflationary pressures and being prepared to take further action if necessary.

### Conclusion:

In summary, the MPC's decision to keep the repo rate unchanged is a deliberate move to manage inflation while ensuring that the economy continues to grow at a healthy pace. The committee remains vigilant and ready to make further adjustments as required by the evolving economic conditions.

## The Chandipura virus

### Context

- Gujarat is currently facing its most severe outbreak of the Chandipura virus and viral encephalitis, with a death toll that has already reached 73 people.
- The outbreak, which began last month, has spread rapidly across the state, affecting over 160 individuals.
- Among the infected, the majority of cases have been found in children under the age of 15, who are particularly vulnerable to this disease.

### Key Highlights:

- **Geographical Spread:** The disease has spread across more than two dozen districts in Gujarat, including major cities such as Ahmedabad, Rajkot, Jamnagar, and Vadodara. Cases have also been reported from neighboring states like Rajasthan and Madhya Pradesh.
- **State Response:** The Gujarat health department has initiated large-scale surveillance and vector control measures, including the spraying of pesticides like Malathion in mud

houses and cattle sheds. Despite these efforts, the outbreak has not been contained, and the situation remains critical.

- **Historical Comparison:** This outbreak is being compared to a similar one in Andhra Pradesh in 2003, where 329 children were affected, and 183 died, highlighting the severity of the current situation in Gujarat.

### What is Chandipura Virus?

- The Chandipura virus (CHPV) is a viral pathogen that can cause severe inflammation of the **brain**, known as **acute encephalitis**. It belongs to the **genus Vesiculovirus** and is a member of the **Rhabdoviridae family**.
- The virus has a **single-stranded RNA genome** with negative polarity and a size of about 11 kilobases.
- It encodes five structural proteins: nucleocapsid protein (N), phosphoprotein (P), matrix protein (M), glycoprotein (G), and large structural protein (L). These proteins are produced in the form of five monocistronic mRNAs.
- CHPV is transmitted primarily through vectors such as **sand flies, ticks, and mosquitoes**.
- It is **most prevalent in India during the monsoon season**, when these vectors are abundant.
- While the exact mechanism by which the virus enters the brain and causes encephalitis is not fully understood, it is believed that the virus is introduced into the human body through the bite of an infected insect.
- Once inside the body, the virus can quickly spread to the brain, leading to severe neurological complications.



## Its Effects, Symptoms, and Treatment

- **Acute Encephalitis:** The Chandipura virus primarily causes acute encephalitis, a serious condition characterized by inflammation of the brain. This can lead to symptoms such as headaches, fever, confusion, seizures, and in severe cases, coma and death.
- **Symptoms:** The initial symptoms of CHPV infection are often similar to those of the flu, including fever, body aches, and fatigue. However, the disease can progress rapidly, leading to encephalitis within 24 to 48 hours. Without prompt treatment, this can result in coma and death, particularly in children under the age of 15, who are most vulnerable to the virus.
- **High Mortality Rate:** The rapid progression of the disease and its impact on the brain make it particularly deadly. The current outbreak in Gujarat has resulted in a high mortality rate, with 73 deaths reported so far.

### Treatment:

- **Symptomatic Management:** There is no specific antiviral treatment available for the Chandipura virus. Management of the disease is primarily symptomatic, focusing on relieving the symptoms and supporting the body's vital functions. This includes the use of medications to reduce fever, control seizures, and manage pain.
- **Timely Referral:** Early detection and timely referral of suspected cases to designated healthcare facilities are crucial in improving outcomes. Supportive care in an intensive care unit (ICU) setting may be necessary for severe cases.
- **Prevention:** The only effective measures against the Chandipura virus are preventive in nature. These include

vector control, maintaining good hygiene, and raising awareness about the disease. Vector control efforts involve reducing the population of sand flies, mosquitoes, and ticks through the use of insecticides and by eliminating breeding grounds.

### Way Forward

- **Enhanced Surveillance:** Continuous and widespread surveillance is necessary to identify new cases early and monitor the spread of the virus. This includes expanding surveillance efforts to cover all districts and potentially affected areas, as well as ensuring that healthcare facilities are equipped to handle suspected cases.
- **Strengthening Vector Control:** Vector control measures must be intensified to reduce the population of sand flies, mosquitoes, and other vectors that transmit the virus. This includes regular spraying of insecticides in affected areas, especially in mud houses and cattle sheds where sand flies are known to breed.
- **Public Awareness Campaigns:** Raising awareness about the Chandipura virus and its symptoms is crucial in encouraging people to seek medical attention early. Public health campaigns should focus on educating communities about the importance of maintaining good hygiene, using insect repellents, and avoiding areas with high vector populations.
- **Research and Development:** There is a need for further research to better understand the Chandipura virus, including its transmission mechanisms and potential treatment options. Investment in research could lead to the development of a specific antiviral treatment or a vaccine, which would significantly reduce the impact of future outbreaks.

## World Lion Day

### Context:

Recently, on the occasion of World Lion Day, Prime Minister Shri Narendra Modi acknowledged the efforts of those involved in lion conservation and highlighted India's commitment to protecting big cats.

### Key Highlights

- **Acknowledgement of Conservation Efforts:** Prime Minister Modi commended the work of individuals and organizations dedicated to lion conservation, especially in India's Gir National Park.
- **International Big Cat Alliance:** The Prime Minister highlighted the Union Cabinet's approval of the International Big Cat Alliance in February 2024, aimed at fostering global cooperation in big cat conservation and promoting sustainable development.
- **Invitation to Gir National Park:** PM Modi invited wildlife enthusiasts to visit Gir National Park in Gujarat, home to the Asiatic Lion, to observe conservation efforts and experience the local hospitality.

### Significance

- **Strengthening Lion Conservation:** The Prime Minister's message reinforces India's dedication to protecting its lion population, particularly in Gir, where conservation efforts have led to a significant increase in lion numbers.
- **Global Collaboration:** The establishment of the International Big Cat Alliance underscores India's leadership in global wildlife conservation efforts, promoting collaboration among nations to protect big cats and their habitats.

- **Promotion of Ecotourism:** By inviting wildlife lovers to Gir National Park, the Prime Minister aims to boost ecotourism in Gujarat, thereby supporting local communities and raising awareness about the importance of conservation.

### Major Facts About Lions:

- **Scientific Name & Subspecies:** Lions are scientifically known as **Panthera leo** and are divided into two subspecies: **the African Lion** (*Panthera leo leo*) and the **Asiatic Lion** (*Panthera leo persica*).
- **Characteristics:** Lions are recognized for their tawny coat, tufted tail, and males' prominent mane. They are social animals, living in prides consisting of females, their offspring, and a few males.
- **Distribution:** Lions are primarily found in **sub-Saharan Africa**, with a small population in the **Gir Forest National Park**, Gujarat, India.
- **Protection Status:** The African Lion is listed as **Vulnerable** and the Asiatic Lion as **Endangered** on the IUCN Red List. They are also protected under **CITES Appendix I** (India) and the **Wildlife (Protection) Act 1972, Schedule I**.
- **Conservation Efforts in India:** India has implemented Project Lion and the Asiatic Lion Conservation Project to protect and conserve the Asiatic Lion.

### Gir National Park:

1. **Location & Significance:** Gir National Park and Wildlife Sanctuary is situated in the Junagadh district of Gujarat and is the only natural habitat of the Asiatic lion (*Panthera leo persica*).

2. **History & Habitat:** Declared a sanctuary in 1965 and a national park in 1975, Gir Forest is the largest compact tract of dry deciduous forests in semi-arid western India, providing a unique habitat for diverse wildlife, including mammals, reptiles, birds, and flora.
3. **Cultural Connection:** The Maldharis, a religious pastoral community living in Gir, have maintained a symbiotic relationship with the lions, residing in settlements known as "nesses."
4. **Threats:** Asiatic lions in Gir face threats from disease (such as the 2018 Canine Distemper Virus outbreak), habitat encroachment, forest fires, grazing, poaching, tourism, and accidental deaths due to human activities.
5. **Protection Status:** The Asiatic lion is listed as Endangered on the IUCN Red List, protected under CITES Appendix I, and included in Schedule I of the Wildlife (Protection) Act 1972.

- There is a wide variation in NUE among different rice varieties in India, with some varieties demonstrating up to five times more efficiency than others.
- **Nitrogen-use efficiency** refers to the yield of a crop relative to the nitrogen (natural and artificial) available to it.
- Despite high NUE, these varieties do not necessarily produce the highest yields, leading farmers to often prefer high-yielding varieties that may not be as nitrogen-efficient.
- Current agricultural practices focus primarily on increasing yield, leading to excessive use of synthetic fertilizers, wastage, and environmental pollution.

### Significance:

- **Economic Impact:** Poor NUE results in significant economic losses, with nitrogen fertilizers worth ₹1 trillion wasted annually in India and over \$170 billion globally.
- **Environmental Concerns:** N-fertilizers are major contributors to nitrous oxide and ammonia pollution, as well as nitrate and ammonium contamination in water, affecting human health, biodiversity, and contributing to climate change.
- **Agricultural Sustainability:** Developing rice varieties with better NUE can reduce dependency on imported fertilizers, decrease environmental pollution, and promote more sustainable agricultural practices.

## Biotechnologists detect difference in use of nitrogen by rice varieties

### Context:

Biotechnologists at Guru Gobind Singh Indraprastha University (GGU), New Delhi, have discovered significant variations in the nitrogen-use efficiency (NUE) among popular rice varieties in India.

- This research holds potential for developing new rice varieties that are both high-yielding and require less nitrogen, thereby reducing fertilizer costs and nitrogen-linked environmental pollution.

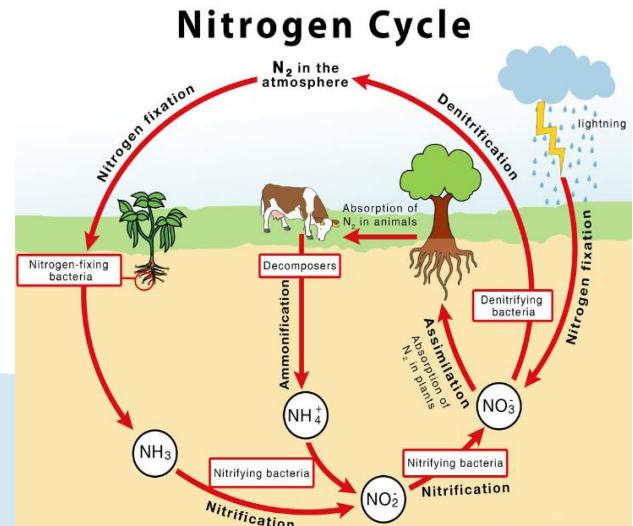
### Key Findings:

### Key highlights about nitrogen:

1. **Essential Nutrient:** Nitrogen is a crucial nutrient for all living organisms, integral to molecules

like proteins, nucleic acids (DNA and RNA), and vitamins.

2. **Atmospheric Abundance:** Nitrogen gas (N<sub>2</sub>) constitutes 78% of Earth's atmosphere, yet it is largely inaccessible in this form to most organisms.
3. **Scarcity in Ecosystems:** Despite its abundance, nitrogen is often a limiting resource in ecosystems because it must be converted into a usable form.
4. **Nitrogen Fixation:** The process of converting nitrogen gas (N<sub>2</sub>) into ammonia (NH<sub>3</sub>), making it biologically available, is known as nitrogen fixation, performed by certain microorganisms.
5. **Major Nitrogen Transformations:** The key processes include nitrogen fixation (N<sub>2</sub> to NH<sub>3</sub>), nitrification (NH<sub>3</sub> to nitrite and nitrate), and denitrification (nitrate back to nitrogen gases).
6. **Types of Nitrogen-Fixing Organisms:** These organisms can be free-living or symbiotic, aerobic or anaerobic, and phototrophic or chemotrophic, all utilizing the enzyme nitrogenase for nitrogen fixation.
7. **Biological Importance:** Nitrogen is found in vital compounds such as alkaloids and urea, underscoring its significance across various biological systems.



### Way Forward

- A broader approach in agricultural research is needed, focusing not just on yield but also on NUE to identify and promote rice varieties that balance both.
- Improvements in NUE can be achieved through better fertilizer formulations, legume-based crop rotations, and crop management practices.
- Enhanced focus on biotechnological advancements is necessary to develop rice varieties that are both high-yielding and nitrogen-efficient, ensuring sustainable agricultural growth in India.

### First Dengue Vaccine Phase 3 Clinical Trial in India

#### Context:

The Indian Council of Medical Research (ICMR) and Panacea Biotech have initiated the first-ever Phase 3 clinical trial for India's indigenous dengue vaccine, **DengiAll**.

- This trial represents a significant milestone in India's efforts to

combat dengue, a major public health concern.

- The trial will assess the efficacy of the tetravalent dengue vaccine developed by Panacea Biotec, marking a crucial step toward developing an effective solution against all four serotypes of the dengue virus in India.
- The trial's initiation aligns with India's vision of Atmanirbhar Bharat, aiming for self-reliance in the healthcare sector.

### Key Highlights:

#### 1. Initiation of Phase 3 Clinical Trial:

- The first Phase 3 clinical trial for India's indigenous dengue vaccine, DengiAll, has begun.
- The trial commenced with the first participant being vaccinated at Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences (PGIMS), Rohtak.

#### 2. Vaccine Development:

- The tetravalent dengue vaccine strain (TV003/TV005) was originally developed by the National Institutes of Health (NIH), USA, and has shown promising results in previous trials globally.
- Panacea Biotec, one of three Indian companies to receive the vaccine strain, has advanced the vaccine's development to this stage, holding a process patent for its formulation.
- Phase 1 and 2 trials conducted in India between 2018-2019 yielded positive results, paving the way for this Phase 3 trial.

#### 3. Trial Details:

- The Phase 3 trial will be conducted across 19 sites in 18 States and Union Territories of India.

- It will involve more than 10,335 healthy adult participants, with a follow-up period of two years.
- The trial is primarily funded by ICMR, with additional support from Panacea Biotec.

#### 4. Current Dengue Situation:

- Dengue is a significant public health issue in India, with the country ranking among the top 30 globally in terms of dengue incidence.
- All four serotypes of the dengue virus circulate in India, with 75-80% of infections being asymptomatic.
- Dengue can escalate into severe forms such as dengue hemorrhagic fever and dengue shock syndrome, particularly affecting children and adults.

### Significance:

#### Indigenous Vaccine Development:

- The initiation of this trial represents a critical step in developing an indigenous solution to a pressing public health challenge.
- Success in this trial could lead to the availability of the first indigenous dengue vaccine, enhancing India's self-reliance in vaccine production and aligning with the vision of Atmanirbhar Bharat.

#### Public Health Impact:

- An effective dengue vaccine would significantly reduce the disease burden in India, which is among the countries with the highest incidence of dengue.
- This vaccine has the potential to protect against all four dengue serotypes, addressing the issue of repeated infections and improving overall public health outcomes.



## Global Relevance:

- As dengue continues to rise globally, India's success in developing a tetravalent dengue vaccine could contribute to global efforts in combating the disease, positioning India as a leader in vaccine innovation and public health interventions.

## Long Range Glide Bomb (LRGB) 'GAURAV'

### Context

The Defence Research and Development Organisation (DRDO) successfully conducted the maiden flight test of the Long Range Glide Bomb (LRGB) 'GAURAV' from the Su-30 MK-I platform of the Indian Air Force (IAF).

- The test took place off the coast of Odisha and marks a significant achievement in India's efforts to develop indigenous defence technologies.

### Key Highlights:

#### Successful Test:

- DRDO carried out the maiden flight test of the LRGB GAURAV, which was launched from an Su-30 MK-I fighter jet.
- The bomb accurately hit its target, demonstrating the effectiveness of its design and guidance systems.
- The entire flight was monitored, and data was captured by Telemetry and Electro-optical tracking systems along the coastline, ensuring precise documentation of the test's success.

#### Development and Collaboration:

- GAURAV has been indigenously designed and developed by the

Research Centre Imarat (RCI), Hyderabad.

- The test was conducted with the participation of Development cum Production Partners, Adani Defence and Bharat Forge, highlighting the collaboration between DRDO and private industry in advancing defence technology.

#### Leadership Acknowledgement:

- Raksha Mantri Shri Rajnath Singh praised the efforts of DRDO, IAF, and industry partners, calling the successful test a major milestone in strengthening India's indigenous defence capabilities.
- Dr. Samir V. Kamat, Secretary of the Department of Defence R&D and Chairman of DRDO, also congratulated the team for their achievement.

#### About Long Range Glide Bomb 'GAURAV':



- **Weight and Capability:** GAURAV is a 1,000 kg class air-launched glide bomb capable of hitting targets at long distances.
- **Guidance System:** It employs a highly accurate hybrid navigation scheme that combines Inertial Navigation System (INS) with GPS data to steer towards the target.
- **Platform:** The bomb is deployed from the Su-30 MK-I fighter jet, a key asset of the Indian Air Force.

- **Indigenous Design:** The bomb was entirely designed and developed by the Research Centre Imarat (RCI), Hyderabad, showcasing India's growing capabilities in indigenous defence manufacturing.

### Significance:

- The successful test of GAURAV marks a critical step in enhancing the operational capabilities of the Indian Armed Forces, providing them with a reliable and precise long-range strike option.
- The development of GAURAV underscores India's commitment to achieving self-reliance in defence technology, aligning with the broader vision of Atmanirbhar Bharat.

The introduction of the GAURAV glide bomb adds a significant strategic asset to India's defence arsenal, enhancing the country's deterrence and operational flexibility in various combat scenarios.

### Life on Mars

#### Context:

Recent scientific research suggests that Mars, once believed to be barren and dry, might hold an immense reservoir of liquid water deep beneath its surface. This discovery is based on seismic data collected by NASA's InSight lander, which studied the planet's interior to uncover its geological secrets. The potential presence of liquid water at these depths has significant implications for the possibility of sustaining life on Mars, as well as for future human exploration.

#### Dimensions of the Article:

- Key Highlights About the Findings
- About Life on Mars
- Significance

### Key Highlights About the Findings

#### Liquid Water Reservoir:

- Scientists have identified a possible large reservoir of liquid water located between 11.5 to 20 km beneath Mars' surface.
- The water is likely contained within fractured igneous rocks, formed through the cooling and solidification of magma or lava. This depth is crucial because the temperature of the Martian crust at these levels is warm enough to keep water in its liquid state, while at shallower depths, water would remain frozen.
- The seismic data, combined with gravity measurements and rock physics models, suggest that if water exists in fractures across the Martian crust, it could fill an ocean 1-2 km deep, potentially covering the entire planet.

#### Implications for Life:

- The presence of liquid water deep underground opens up the possibility that microbial life could exist on Mars. On Earth, microbial life thrives deep underground in water-saturated rocks, where they can access energy sources.
- The study supports the idea that much of Mars' ancient surface water, instead of evaporating into space, might have percolated down into the crust, remaining there as liquid water.

#### Challenges in Accessing Water:

- While the discovery is promising, accessing this deep reservoir poses significant challenges. Drilling to such depths is technologically demanding. An alternative approach could involve exploring

areas of Mars where geological activity might bring this water closer to the surface, such as the tectonically active Cerberus Fossae region.

## About Life on Mars

### Historical Context:

- The possibility of life on Mars has intrigued scientists for centuries, with early speculation driven by the discovery of Martian polar ice caps and the planet's Earth-like day length and axial tilt.
- Early 20th-century observations of "canals" on Mars led to wild speculations about a civilization on Mars, which was later debunked.

### Current Scientific Understanding:

- Modern investigations focus on finding evidence of microbial life, particularly in ancient Martian environments where liquid water was once present. Rovers like Curiosity and Perseverance are central to these efforts, searching for biosignatures in soil and rocks.
- While no conclusive evidence of life has been found, the discovery of organic compounds and methane on Mars raises the possibility that life could have existed or may still exist, especially in subsurface environments shielded from the planet's harsh surface conditions.

### Environmental Conditions:

- Mars' current surface environment is hostile, with intense ionizing radiation, perchlorate-rich soil, and low temperatures. However, ancient Mars had a more favorable environment with liquid water, making it potentially habitable billions of years ago.

### **Significance:**

- **Astrobiological Potential:** The discovery of a potential underground water reservoir on Mars significantly enhances the planet's astrobiological potential. Liquid water is a key ingredient for life, and its presence at such depths suggests that microbial life could be sustained in these hidden environments.

- **Human Exploration:** The findings are crucial for future Mars exploration missions, especially those involving human colonization. Water is an essential resource for human survival, and knowing its location and quantity on Mars could inform the planning of future missions.

### **Way Forward**

- **Further Exploration:** Continued exploration of Mars' subsurface is essential. Advanced drilling technologies or exploration of tectonically active regions could help access these deep water reserves, providing more definitive evidence of their existence and potential for life.

- **Interdisciplinary Studies:** Collaborative efforts across geology, astrobiology, and planetary science are needed to better understand Mars' subsurface environment and its potential for sustaining life.

- **Preparation for Human Missions:** As interest in manned missions to Mars grows, understanding the planet's water resources will be vital. Future missions should prioritize the exploration of these underground reservoirs to assess their usability for human needs.

### **Conclusion:**

The discovery of a potential underground water reservoir on Mars marks a significant step forward in our understanding of the Red Planet's history and its capacity to support life. This finding not only fuels scientific curiosity but also holds practical implications for future exploration and the long-term goal of human settlement on Mars.

## Three more Ramsar wetland sites now in India

### Context:

The Environment Ministry announced that three additional wetlands in India have been designated as Ramsar sites, increasing the total number of such sites in the country to 85.

- The new Ramsar sites include the Nanjarayan and Kazhuveli bird sanctuaries in Tamil Nadu and the Tawa Reservoir in Madhya Pradesh. This designation highlights India's commitment to wetland conservation and its significant role within the Ramsar Convention.

### Key Highlights:

#### New Designations:

- Three wetlands have been newly designated as Ramsar sites.
  - **Nanjarayan and Kazhuveli** bird sanctuaries in Tamil Nadu .
  - **Tawa Reservoir** in Madhya Pradesh.
- This addition brings the total number of Ramsar sites in India to 85, covering an area of 13,58,068 hectares.

#### India's Role in Ramsar Convention:

- India became a signatory to the **Ramsar Convention in 1982** and has progressively increased its number of Ramsar sites, particularly since 2014, when 59 new sites were added.
- **Tamil Nadu** now has the **highest number of Ramsar sites** in India with **18 sites**, followed by **Uttar Pradesh** with **10**.

#### Global Comparison:

- India has the highest number of Ramsar sites in South Asia, attributed to its vast geographical and ecological diversity.
- Globally, the United Kingdom and Mexico have the most Ramsar sites, while Bolivia has the largest area under Ramsar protection.

#### Conservation Responsibility:

- Designation as a Ramsar site **requires both the Central and State governments** to ensure the conservation and protection of these wetlands from human encroachment and degradation.

#### About Ramsar Sites:

- A Ramsar site is a wetland area designated as internationally significant under the Ramsar Convention, an international environmental treaty established in **Ramsar, Iran, in 1971**.
- The convention, under the auspices of **UNESCO**, became effective on December 21, 1975.
- Ramsar sites are recognized for their importance in maintaining global biodiversity, particularly as habitats for waterfowl.
- The convention promotes the conservation of wetlands and the

sustainable use of their resources through national and international cooperation.

- As of November 2023, there are **2,500 Ramsar sites globally**, covering 257,106,360 hectares, with participation from 172 national governments.

### Ramsar Sites in India:

- India has been actively involved in wetland conservation through its participation in the Ramsar Convention.
- As of August 2024, India has 85 Ramsar sites covering an area of 13,58,068 hectares. Tamil Nadu leads with the highest number of Ramsar sites (18), followed by Uttar Pradesh (10).
- The **Wetlands (Conservation and Management) Rules of 2017** govern the management of these sites in India, although **they do not include river channels, paddy fields, or other commercially utilized areas.**
- India's Ramsar sites make up around **10% of the country's total wetland area**, demonstrating the country's commitment to preserving its rich wetland biodiversity and supporting global environmental sustainability efforts.

## Extremophiles

### Context

Recently, scientists have discovered microorganisms called Extremophiles, which has the capacity to survive in some of the most hostile environments on Earth.

- Extremophiles, have shown remarkable adaptability, enabling

them to survive in extreme environments that are off-limits to more complex life forms.

### Key Highlights:

- **Adaptability of Microbes:** Microorganisms are found in a wide range of environments, including volcanic vents, permafrost, acid mines, deep-sea hydrothermal vents, and even on spacecraft exteriors. Their adaptability to such extremes has been honed over millions of years.
- **Global Initiatives:** Projects like the Earth Microbiome Project and the Earth Biogenome Project are working to map and understand microbial diversity on a global scale, which can have wide-ranging implications for biology and industry.
- **Industrial Applications:** The discovery of extremophiles like *Thermus aquaticus* has revolutionized molecular biology. The heat-resistant enzyme Taq DNA polymerase, derived from this extremophile, is now a cornerstone in PCR techniques, widely used in medical diagnostics, including during the COVID-19 pandemic.
- **Implications for Astrobiology:** Research into extremophiles has shown that some microorganisms can survive and even thrive under conditions of hypergravity and outer space, suggesting that life could exist in extreme environments on other planets.

### About Extremophiles:

- Extremophiles are microorganisms that **thrive in extreme environmental conditions, such as high temperatures, high acidity, or high radiation levels,**



where most other life forms cannot survive.

- These organisms have adapted over millions of years to develop unique biological processes that allow them to colonize such hostile environments.

### Features of Extremophiles:

- **Multiple Protein Sets:** Unlike complex organisms, extremophiles possess multiple sets of proteins that can be activated depending on environmental conditions, allowing them to survive extreme heat, drought, or acidity.
- **Environmental Adaptation:** Extremophiles have been found in a variety of extreme environments, including volcanic craters, deep-sea hydrothermal vents, and even in microwave ovens. Their ability to survive under such conditions is due to their evolutionary adaptations.
- **Industrial and Medical Applications:** The enzymes and biological processes of extremophiles are being harnessed for various applications, including bioremediation of toxic waste, development of disease-resistant crops, and even potential use in human medicine.

### Way Forward:

- **Continued Research:** Expanding our knowledge of extremophiles through projects like the Earth Microbiome Project will be critical for unlocking new biological processes that can be applied across various industries.

- **Astrobiological Exploration:** Understanding the limits of life on Earth can provide valuable insights into the potential for life on other planets, guiding future space exploration missions.

**Biotechnological Applications:** As our ability to manipulate and engineer microbial genomes improves, extremophiles may play an increasingly important role in developing innovative solutions for environmental and medical challenges.

## SHAURYA SAMPRAVAH 1.0

### Context:

The Indian Army launched "Shaurya Sampravah 1.0," a significant initiative to engage with senior veteran officers at the Manekshaw Centre in Delhi.

### Key Highlights:

- **Inclusion of Veterans in Strategic Planning:** General Anil Chauhan, Chief of Defence Staff, highlighted the significance of integrating veterans into the Army's planning and strategy, recognizing their experience as an irreplaceable asset for achieving long-term objectives.
- **Decade of Transformation Roadmap:** The event featured a detailed briefing on the Indian Army's "Decade of Transformation" roadmap, outlining the Army's strategic vision for modernization, technological innovation, and enhanced operational capabilities over the next decade.

### Presentations on Key Initiatives:

- The event included presentations on the Indian Army's ongoing modernization efforts, emphasizing the adoption of advanced

technology and the refinement of systems, processes, and functions.

- Discussions on the Indian Army's role in "**Viksit Bharat 2047**" were held, focusing on the Army's contributions to nation-building and its future vision.
- Veterans were also briefed on initiatives in human resource management, veterans' affairs, and the Agnipath Scheme, underscoring the Army's commitment to continuous reforms.

- **Nation-Building and Strategic Vision:** The initiative reflects the Army's broader strategic vision of contributing to nation-building and achieving the objectives of "Viksit Bharat@2047," with veterans playing a key role in this mission.

## The Godda Power Project: India's Transnational Energy Venture and Its Wider Implications

### Interactive Discussions and Brainstorming:

- The event was designed to be interactive, with veterans actively participating in discussions and providing feedback to refine the Army's transformation initiatives.
- Veterans had the opportunity to interact with General Officers Commanding-in-Chief of all Army commands, enhancing their understanding of the Army's current operational landscape and strategic priorities.

### Context:

Recently, Reuters reported a significant amendment to India's power export regulations, allowing Indian power exporters to reroute electricity output to Indian grids in case of payment delays from partner countries.

- This policy shift is widely seen as a safeguard against political and economic uncertainties, particularly in Bangladesh, a key recipient of Indian power.

### Significance:

- **Leveraging Veteran Expertise:** "Shaurya Sampravah 1.0" signifies the Indian Army's recognition of the invaluable experience and insights of its veteran community, aiming to integrate this wisdom into its strategic planning and future vision.
- **Enhancing Military Modernization:** The event underscores the Army's commitment to modernization and technological advancement, ensuring that it remains a future-ready force capable of addressing both traditional and emerging security challenges.

### Background:

- The Godda power project in Jharkhand, operated by Adani Power, is central to this dynamic, as it supplies its entire output to Bangladesh.
- Despite these new rules, Adani Power has reaffirmed its commitment to honoring its contract with Bangladesh. This editorial analysis delves into the Godda power project, the concerns it has raised, and the broader implications of this transnational energy endeavor.

### Dimensions of the Article:

- About the Godda Project
- The Concerns and Challenges
- Implications of the Godda Project

## About the Godda Project:

### • India-Bangladesh Power Relations:

- Operated by Adani Power's Jharkhand subsidiary, the plant has a net capacity of 1,496 megawatts (MW), all of which is supplied to Bangladesh under a **Power Purchase Agreement (PPA)** signed with the Bangladesh Power Development Board (BPDB) in November 2017. This agreement, set for a 25-year period, marks **India's first transnational power project** where the entire output is dedicated to another nation.
- The Godda plant is a state-of-the-art ultra **super-critical thermal power plant**, a technology that promises higher efficiency and lower emissions compared to traditional thermal power plants.
- The plant's operations began in earnest in 2022, with Adani Power asserting that the electricity generated at Godda would positively impact Bangladesh's energy scenario by replacing more expensive power generated from liquid fuels.
- According to BPDB's annual report for 2022-23, Bangladesh's total installed generation capacity was **24,911 MW** as of June 2023. Of this, **2,656 MW** (more than 10%) was imported from India, with the Godda plant contributing **1,496 MW**, accounting for approximately **6%** of

**Bangladesh's total power capacity.**

### • Strategic Significance:

- The Godda project is not just a commercial venture but also a strategic asset in India's broader energy diplomacy in South Asia.
- India's Ministry of Power had, in 2016, articulated a vision for cross-border electricity trade in South Asia, emphasizing that such exchanges would promote economic growth and improve the quality of life across the region.
- The Godda project, therefore, is a realization of this vision, deepening energy ties between India and Bangladesh, and potentially serving as a model for similar projects with other neighboring countries.

## The Concerns and Challenges:

### • Environmental and Economic Criticisms:

- The Godda project has faced significant criticism, particularly concerning its reliance on coal imported from the **Carmichael mine** in Australia.
- The Institute for **Energy Economics and Financial Analysis (IEEFA)**, in an analysis of the PPA in April 2018, highlighted that the agreement **allowed Adani Power to pass on the high costs of importing and transporting** coal into India, as well as the cost of transmitting electricity across the border, to Bangladesh. This raised concerns about the financial burden on Bangladesh,

particularly given the high price of coal quoted by Adani Power.

- In February 2023, BPDB reportedly wrote to Adani Power requesting a revision of the PPA, arguing that the coal price of \$400 per metric ton (MT) quoted by Adani was “excessive” and should be closer to \$250/MT, in line with the prices paid for imported coal at other Bangladeshi thermal plants.

- Furthermore, the PPA has been criticized for imposing high capacity and maintenance charges on Bangladesh, regardless of whether the plant generates electricity.

- **Underutilization and Overcapacity Issues:**

- Another major challenge facing the Godda project is the underutilization of Bangladesh’s existing power generation capacity.
- As of June 2023, Bangladesh’s total power generation capacity stood at 28,098 MW, but the highest recorded generation was only 16,477 MW, leaving an unutilized capacity of about 11,621 MW.
- In July 2022, Bangladesh sought financial support from the International Monetary Fund (IMF) to mitigate the economic impact of volatile energy prices. The country faced widespread blackouts, sometimes lasting up to 13 hours a day, as utilities struggled to source enough diesel and gas to meet the growing demand.
- In this context, the high cost of imported coal for the Godda project, coupled with the

underutilization of existing domestic power plants, has raised questions about the long-term sustainability of relying on imported electricity.

## Implications of the Godda Project:

- **Economic and Political Implications:**

- Politically, the Godda project is a symbol of the deepening energy cooperation between India and Bangladesh. However, it also highlights the challenges of managing such transnational projects, where the interests of both parties must be carefully balanced.
- The recent amendment to India’s power export rules, allowing for the rerouting of electricity to Indian grids in case of payment delays, reflects the need for flexibility in managing these complex relationships.
- While Adani Power has reiterated its commitment to supplying electricity to Bangladesh, the amendment signals India’s intent to protect its economic interests in the face of potential political and economic instability in partner countries.

- **Environmental and Sustainability Concerns:**

- The reliance on imported coal from Australia’s Carmichael mine has been criticized not only for its high cost but also for its environmental impact.
- The transportation of coal over long distances, coupled with the emissions from burning coal in

thermal power plants, contributes to global greenhouse gas emissions, undermining efforts to combat climate change.

- While the Godda plant's ultra super-critical technology is more efficient than traditional coal plants, it still represents a significant source of carbon emissions. As Bangladesh continues to expand its power generation capacity, the challenge will be to balance the need for reliable electricity with the imperative to transition to cleaner, more sustainable energy sources.

- **Enhance Transparency and Accountability:** Ensuring transparency and accountability in managing cross-border energy projects is key. This involves involving local communities in decision-making and holding developers accountable to environmental and social standards.
- **Promote Trust and Shared Benefits:** Building trust between India and Bangladesh is vital. By ensuring transparency and accountability, both countries can ensure that the benefits of projects like Godda are equitably shared among all stakeholders.

### Way forward:

- **Reevaluate the Power Purchase Agreement (PPA):** Revisiting the PPA terms between Adani Power and BPDB is crucial to ensure fairness, considering Bangladesh's financial limits and global energy market shifts. Renegotiating coal prices and adjusting charges will enhance the project's sustainability.
- **Diversify Bangladesh's Energy Mix:** Bangladesh should focus on diversifying its energy sources by investing in renewables like solar and wind power. Increasing the use of natural gas, which is abundant locally, can reduce dependence on imported coal and lessen environmental impacts.
- **Boost South Asian Energy Cooperation:** Strengthening regional energy collaboration is essential for realizing the full potential of projects like Godda. Developing an integrated energy market and joint investments will improve energy security, reduce costs, and support sustainable development.

### Deadline for declaring and registering exotic animals listed under Schedule IV

#### Context:

The Ministry of Environment, Forest, and Climate Change (MoEFCC) has set a deadline of 28th August 2024 for declaring and registering exotic animals listed under Schedule IV of the Wild Life (Protection) Act, 1972. The registration must be done through the PARIVESH 2.0 portal. This follows the notification of the Living Animal Species (Reporting and Registration) Rules, 2024, issued on 28th February 2024.

#### Key Highlights:

- **Deadline for Registration:**
  - The last date for declaring and registering exotic animal species listed under Schedule IV of the Wild Life (Protection) Act, 1972, is 28th August 2024.
  - The registration is to be completed through the PARIVESH 2.0 portal.
- **Notification of Rules:**



- The Living Animal Species (Reporting and Registration) Rules, 2024, were notified by the MoEFCC via Gazette Notification on 28th February 2024.
- Under these rules, individuals, organizations, and zoos in possession of any living specimen of exotic species listed in Schedule IV are required to report and register these animals.
- **Registration Process:**
  - The details of such exotic animals must be reported electronically through the PARIVESH 2.0 portal.
  - The application for registration must be submitted to the Chief Wild Life Warden of the concerned State within six months from the date of the gazette notification or within thirty days of acquiring such an animal species.
- **Legal Compliance:** The six-month reporting period concludes on 28th August 2024. Non-compliance with these rules may lead to penal actions.

### Significance:

- **Regulation of Exotic Species:** This initiative by the MoEFCC aims to regulate and monitor the possession of exotic species in India, ensuring that these animals are accounted for and managed within legal frameworks.
- **Conservation Efforts:** The registration of exotic species under Schedule IV of the Wild Life (Protection) Act, 1972, is a significant step towards conserving and protecting India's biodiversity by preventing illegal trade and ensuring proper management of these species.

- **Legal Awareness and Compliance:** The notification serves as a critical reminder for individuals and organizations to comply with wildlife protection laws, fostering a culture of legal awareness and responsibility towards wildlife conservation.
- **Strengthening Wildlife Management:** The use of the PARIVESH 2.0 portal for registration demonstrates the government's commitment to leveraging digital platforms for efficient and transparent wildlife management, enhancing the overall effectiveness of conservation efforts in the country.

### The Wild Life (Protection) Act, 1972:

- **Legal Framework for Wildlife Protection:**
  - The Wild Life (Protection) Act, 1972, provides a comprehensive legal structure for the protection of various species of wild animals and plants in India.
  - It governs the management of wildlife habitats and the regulation of trade in wild animals, plants, and products derived from them.
  - The Act includes schedules that classify plants and animals based on the degree of protection they require.
- **Facilitation of CITES Membership:** India's entry into the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) was streamlined due to the provisions of the Wildlife Act.

- **Coverage Expansion to Jammu & Kashmir:** Originally, Jammu and Kashmir were not under the purview of the Wildlife Protection Act, 1972. However, following the reorganization of the state, the Act now applies to the region.

- **High Protection:** Species are protected with trade prohibitions.
- **Examples:** Assamese Macaque, Himalayan Black Bear, Indian Cobra.

## Constitutional Provisions Supporting Wildlife Protection

- **42nd Amendment Act, 1976:** This amendment moved "Forests and Protection of Wild Animals and Birds" from the State List to the Concurrent List, allowing both the Centre and the States to legislate on these matters.
- **Fundamental Duty (Article 51A(g)):** Article 51A(g) mandates that it is every citizen's fundamental duty to protect and improve the natural environment, including forests and wildlife.
- **Directive Principles of State Policy (Article 48A):** Article 48A directs the State to endeavor to protect and improve the environment and safeguard the forests and wildlife of the country.

### Schedule III & IV:

- **Protected Species:** Includes species that are not endangered but still protected with lesser penalties for violations.
- **Schedule III Examples:** Chital (spotted deer), Bharal (blue sheep), Hyena, Sambhar (deer).
- **Schedule IV Examples:** Flamingo, Hares, Falcons, Kingfishers, Magpie, Horseshoe Crabs.

### Schedule V:

- **Vermin Species:** Animals classified as vermin, which can be hunted.
- **Examples:** Common Crows, Fruit Bats, Rats, Mice.

### Schedule VI:

- **Regulated Plants:** Governs the cultivation and trade of specified plants, which require prior permission from the competent authority.
- **Protected Plants:** Beddomes' cycad, Blue Vanda (Orchid), Red Vanda (Orchid), Kuth, Slipper orchids, Pitcher plant.

## Schedules Under the Wildlife Act

### Schedule I:

- **Endangered Species:** Covers species requiring strict protection.
- **Penalties:** Violations result in the harshest penalties.
- **Hunting Prohibition:** Hunting is banned except in cases of threat to human life or incurable disease.
- **Examples:** Black Buck, Snow Leopard, Himalayan Bear, Asiatic Cheetah.

### Schedule II:

## Rapid Solar Growth in Central and Eastern Europe

### Context:

Electricity generation from solar farms in Central and Eastern Europe (CEE) is experiencing unprecedented growth, outpacing the growth rates of wealthier and sunnier regions in Western, Southern, and Northern Europe.

- Data from Ember highlights the significant rise in solar output across this region, driven by supportive clean energy policies and the decreasing costs of solar installations.

## Key Highlights:

### Exceptional Growth Rates:

- Utility-run solar output in the five largest solar producers in Central/Eastern Europe—**Austria, Bulgaria, Hungary, Romania, and Poland**—increased by **55%** in the first seven months of 2024 compared to the same period in 2023.
- This growth rate is more than double the average for Europe as a whole and significantly exceeds the growth rates in Western, Southern, and Northern Europe.

### Key Drivers:

- Poland and Hungary: These countries are the main drivers of solar growth in the region. In the first seven months of 2024, Poland generated 11.3 TWh of solar electricity (up 33.3% from 2023), and Hungary generated 5.8 TWh (up 47.7% from 2023).

### Capacity Expansion:

- The five largest solar producers in CEE have expanded their solar generation capacity more rapidly than their peers in other regions since 2019, setting the stage for continued growth.

### Comparative Performance:

- Despite their rapid growth, the five largest solar producers in CEE generated 25.2 TWh of electricity in the first seven months of 2024, which is less than the 83.53 TWh

generated by Western Europe's largest solar producers and the 76.12 TWh generated by Southern Europe's largest solar producers.

- However, the CEE region's annual solar growth rate of 49% far outpaces the growth rates in Western (16%) and Southern Europe (21%).

### New Solar Projects:

- Significant new projects include the 60 MW Tapolca solar farm in Hungary and a 40 MW project in Poland. The region's largest project is the 400 MW Apriltsi solar farm in Bulgaria, which features over 800,000 photovoltaic panels and supports agrivoltaic use.

### Significance:

- **Competitive Edge:** The rapid growth in solar energy generation in Central and Eastern Europe demonstrates the region's ability to compete with wealthier Western European economies in renewable energy, reflecting how affordable solar installations have become relative to other forms of electricity generation.
- **Transition from Coal:** This growth is particularly significant in a region historically reliant on coal, signaling a major shift towards clean energy and reducing carbon emissions.
- **Future Potential:** The CEE region is well-positioned for continued expansion in solar energy, with strong policy support and innovative projects like agrivoltaics that combine agriculture with solar energy production, potentially transforming the landscape of renewable energy in Europe.

- **Strategic Importance:** If the current growth rates continue, CEE could surpass Western and Southern Europe in solar electricity generation by the end of the decade, playing a critical role in Europe's overall energy transition and efforts to combat climate change.

in the last five years, from **2.6 GW in March 2014 to 30 GW in July 2019**.

- Presently, solar tariffs in India are highly competitive and have achieved grid parity.
- Furthermore, high-efficiency solar PV modules have been included in the Production-Linked Incentive (PLI) Scheme to enhance India's manufacturing capabilities and boost exports.

### India's solar energy potential:

- India possesses abundant solar energy potential, with approximately **5,000 trillion kWh** of energy incident over its land area each year, and most regions receiving 4-7 kWh per square meter per day.
- **Solar photovoltaic (PV)** power offers significant scalability opportunities in India.
- The National Institute of Solar Energy has estimated the country's solar potential at about **748 GW**, assuming that **3%** of the wasteland area can be utilized for solar PV modules.
- India has set ambitious targets for renewable energy capacity, aiming to achieve **175 GW by 2022** and **500 GW by 2030**. This marks the world's largest expansion plan in renewable energy.
- In 2021, India ranked as the **second-largest market** in Asia and third globally for new solar PV capacity additions, with 13 GW installed. In total installations, India ranked fourth globally, surpassing Germany for the first time with 60.4 GW.
- India has made significant strides in solar power deployment, achieving the **fifth global position** by surpassing **Italy**. Solar capacity has **increased more than elevenfold**

### Major initiatives implemented by the Indian government to promote solar energy:

- Approval of **45 solar parks** with a total capacity of **37 GW**.
- Operation of top solar parks like **Pavagada (2 GW)**, **Kurnool (1 GW)**, and **Bhadla-II (648 MW)**.
- Installation of the **world's largest renewable energy park**, a **30 GW solar-wind hybrid project** in **Gujarat**.
- Launch of various schemes such as Solar Park Schemes, VGF Schemes, CPSU Schemes, Defence Schemes, Canal bank and canal top Schemes, Bundling Schemes, and Grid Connected Solar Rooftop Schemes.
- Implementation of policies including a trajectory declaration for **Renewable Purchase Obligation (RPO)** and waiver of **Inter-State Transmission System (ISTS)** charges and losses for inter-state sale of solar and wind power.
- Establishment of clear standards for solar PV systems and devices deployment.
- Amendment of building bye-laws to mandate rooftop solar panel

installation for new constructions or higher Floor Area Ratio.

- Accordance of infrastructure status to solar projects.

## CSIR and Laghu Udyog Bharati Collaborate for Technology Transfer to MSMEs

### Context:

Recently, an agreement was signed between Council of Scientific & Industrial Research (CSIR) and Laghu Udyog Bharati (LUB) that aims to transfer selected CSIR technologies to Micro and Small Entrepreneurs across India.

- This partnership is intended to enhance the technological capabilities of Micro, Small, and Medium Enterprises (MSMEs) through the adoption of CSIR-developed innovations.

### Key Highlights:

#### Transfer of Technologies:

- The MoU focuses on transferring **100 CSIR technologies**, products, and know-how to identified MSMEs under LUB within **100 days**. The technologies span various sectors, including agriculture, environmental monitoring, food processing, and more.
- During the MoU signing, 15 technologies were transferred to companies from six CSIR labs: **CSIR-CSIO, CSIR-IMMT, CSIR-NAL, CSIR-NBRI, CSIR-CSMCRI, and CSIR-CFTRI**.
- Notable technologies include a **Pesticide Detection Kit, Multi-copter Drones, an Air Quality Monitoring System, Potash-enriched Biochar from Waste**

**Biomass, and Gluten-free biscuits.**

#### Collaboration for Innovation:

- The MoU allows MSMEs to provide suggestions, ideas, and challenges to CSIR for developing new technologies in areas of interest.
- This collaboration aims to drive technological advancements, ensure compliance with regulatory norms, and expand market reach, including export promotion and import substitution.

#### Participants:

- The signing ceremony was presided over by Dr. N Kalaiselvi, Secretary DSIR & Director General, CSIR, alongside key officials from both CSIR and LUB, including heads of various CSIR departments and representatives from LUB.

#### Significance:

- **Enhanced Technological Capabilities:** The transfer of CSIR technologies to MSMEs will significantly enhance their operational efficiency, enabling them to adopt low-cost, advanced technologies that improve productivity and competitiveness.
- **Market Expansion and Compliance:** For CSIR, this collaboration extends the market reach of its technologies, facilitating their deployment in new markets while ensuring compliance with necessary regulatory standards. It also promotes import substitution and boosts exports.
- **Support for MSMEs:** LUB's MSME members will benefit from access to cutting-edge technologies at economical costs, helping them to innovate and grow. This partnership will also raise awareness about the



societal contributions of CSIR's research and innovations.

- **Innovation-Driven Growth:** By fostering collaboration between MSMEs and CSIR, the MoU encourages the development of new technologies tailored to the needs of small industries, driving innovation and supporting the growth of the MSME sector in India.

- The inherent instability of mountainous terrain increases environmental risks.
- Comprehensive EIAs are crucial for sustainable project development.
- Natural disasters pose significant risks to hydropower infrastructure.
- Environmental costs must be factored into the planning and implementation of hydropower projects.

## Power Play: The Conundrum of Hydropower Projects Amidst Environmental Costs

### Context

Hydropower, often heralded as a renewable and sustainable energy source, is increasingly coming under scrutiny for its environmental costs and the risks posed by natural disasters. Recent events, such as the landslides in Wayanad, Kerala, and Gangtok, Sikkim, have brought these issues to the forefront.

- The damage caused to the National Hydroelectric Power Corporation's (NHPC) Teesta-5 hydropower station and the earlier deluge that crippled the Teesta-3 project highlight the vulnerabilities of hydropower infrastructure in the face of natural calamities.
- This editorial analysis delves into the complexities surrounding hydropower projects, the environmental costs involved, and the urgent need for a balanced approach to sustainable energy generation.

### Highlights:

- Hydropower projects can disrupt ecosystems and displace communities.

### Dimensions of the Article

- Background of the Issue
- The Need to Consider Environmental Costs
- Significance of the Issue
- Implications of Hydropower Projects

### Background of the Issue

- Hydropower projects, especially those in environmentally sensitive regions like the **Teesta River basin in Sikkim**, have long been a subject of debate.
- The allure of harnessing the Teesta's fast-flowing waters for electricity has led to multiple proposals and projects over the decades. However, the balance between energy generation and environmental preservation remains precarious.
- The **Teesta-3** and **Teesta-5** projects, once seen as significant achievements in India's hydropower sector, are now stark reminders of the risks associated with such ventures.
- The catastrophic failure of the Chungthang dam due to a glacial

lake outburst in October and the recent landslide at the Teesta-5 station have raised questions about the long-term viability and safety of these projects.

### The Need to Consider Environmental Costs

- Hydropower projects, while providing much-needed energy, can have profound environmental impacts.
- The construction of dams and other infrastructure often leads to the **submersion of large areas**, disrupting local ecosystems and displacing communities.
- In regions like Sikkim, where the terrain is inherently unstable, the environmental risks are amplified.
- The recent natural disasters affecting the Teesta projects underscore the importance of comprehensive environmental impact assessments (EIAs). These assessments must account for the full spectrum of environmental costs, including the potential for natural disasters, the loss of biodiversity, and the long-term sustainability of the projects.

### Significance of the Issue

- The significance of hydropower projects in India's energy landscape cannot be overstated.
- Hydropower is a crucial component of the country's renewable energy strategy, contributing to energy security and reducing reliance on fossil fuels. However, the recent disasters in Sikkim highlight the need for a more cautious and well-considered approach.

- The failures of the Teesta-3 and Teesta-5 projects have not only resulted in significant economic losses but have also eroded public trust in the viability of such projects.
- The lessons learned from these incidents must inform future policy decisions to ensure that hydropower projects are both environmentally sustainable and resilient to natural disasters.

### Implications of Hydropower Projects

- The implications of the recent failures in Sikkim extend beyond the immediate impact on energy generation.
- The environmental degradation caused by such projects can have far-reaching consequences for local communities and ecosystems. The destruction of infrastructure not only disrupts power supply but also poses a significant threat to the livelihoods of people living in the affected areas.
- Furthermore, the erosion of public trust in hydropower projects could lead to increased opposition to future developments, complicating efforts to expand India's renewable energy capacity.
- It is imperative that policymakers take a holistic approach, considering the environmental, social, and economic implications of hydropower projects.
- **Key Implications:**
  - Environmental degradation affects local communities and ecosystems.

- Infrastructure damage disrupts power supply and threatens livelihoods.
- Public opposition to hydropower projects may increase.

### Suggested Measures

- Implement rigorous and transparent environmental impact assessments (EIAs).
- Prioritize safety and resilience in the design and construction of hydropower infrastructure.
- Involve local communities in the planning and decision-making processes.
- Establish comprehensive monitoring and maintenance programs.
- Diversify the energy mix by exploring alternative sources of renewable energy.

### Way Forward

- While hydropower remains a critical component of the country's renewable energy strategy, it is essential that these projects are planned and implemented with a clear understanding of the environmental, social, and economic costs involved.
- By adopting a more cautious and holistic approach, India can ensure that its hydropower projects contribute to sustainable development without compromising the safety and well-being of local communities and ecosystems..

## National Space Day Celebration 2024

### Context:

The President of India, Smt. Droupadi Murmu, graced the first-ever National Space Day celebration on August 23, 2024, at Bharat Mandapam, New Delhi.

- The day commemorates the successful landing of the 'Vikram' Lander on the Moon on August 23, 2023, a milestone achievement for India's space program.

### Key Highlights:

#### Commemoration of Vikram Lander's Success:

- National Space Day was established to honor the successful landing of ISRO's Vikram Lander on the Moon, marking a significant achievement in India's space exploration journey.
- The President presented awards to winners of the 'Robotics Challenge' and the 'Bharatiya Antariksh Hackathon,' celebrating innovation and excellence in space-related technologies.

#### Recognition of ISRO's Achievements:

- The President lauded ISRO's remarkable contributions to India's social and economic development, highlighting its accomplishments despite limited resources.
- Notable achievements include the Mars mission and the simultaneous launch of over a hundred satellites, showcasing India's growing prowess in space technology.

#### Impact of Space Exploration:

- Space exploration has expanded human capabilities and turned imaginative possibilities into realities. Research in this domain has spurred advancements in

various sectors, including health, medicine, transportation, security, energy, environment, and IT.

#### Private Sector Participation:

- The opening of the space sector to private enterprises has led to a rapid increase in space-related startups, providing new opportunities for youth to innovate. The President noted the achievement of an Indian company that successfully launched a single-piece 3D printed semi-cryogenic engine-powered rocket, a pioneering accomplishment.

#### Challenges and Future Preparedness:

- The President emphasized the need to address future challenges, particularly space debris, which poses risks to space missions.
- The 'ISRO System for Safe & Sustainable Operations Management' facility was recognized for its role in ensuring the safe progression of space research. India aims to make all its space missions debris-free by 2030.

#### Significance:

- **Strengthening India's Global Space Presence:** The celebration underscores India's growing stature in the global space arena, recognizing ISRO's achievements and the country's potential for further advancements.
- **Inspiration for Future Generations:** National Space Day serves as an inspiration for young scientists and innovators,

encouraging them to contribute to India's space ambitions.

- **Promoting Innovation and Collaboration:** The event highlights the importance of innovation, collaboration, and the involvement of the private sector in propelling India's space program to new heights.

#### Way Forward:

- Sustained investment in space research and technology is crucial to maintain and enhance India's competitive edge in the global space industry.
- Proactive measures to manage and mitigate space debris will be essential to ensure the long-term sustainability of space missions.
- Strengthening public-private partnerships in the space sector will be key to fostering innovation, creating job opportunities, and accelerating India's space exploration efforts.

### India's Agricultural Transformation: A Pathway to a Developed Nation by 2047

#### Context:

Agriculture in India, despite being the backbone of the economy, is fraught with challenges. The sector's contribution to the GDP has been steadily declining, even as it continues to employ a significant portion of the workforce.

- This imbalance is a cause for concern, especially when viewed against the backdrop of India's goal to become a developed nation by 2047.

## Dimensions of the Article

- Background of the Issue
- Highlights
- What is the Issue?
- Significance of transforming agriculture
- Implications of the Current Agricultural Trajectory
- Suggested Planning and Strategic Initiatives

## Background of the Issue

- The agricultural sector is plagued by issues such as **climate change, land degradation, and market access** problems.
- Moreover, the sector's growth rate has consistently lagged behind the overall GDP growth, indicating deep-rooted structural issues.

## Highlights:

- Agriculture employs **46% of India's workforce** but contributes only **18% to the GDP**.
- The sector's growth rate of **3.3% lags behind the overall GDP growth of 6.1%**.
- Structural challenges, including climate change and market access, hinder agricultural productivity.

## What is the Issue?

- The central issue facing Indian agriculture is the stark disparity between its contribution to employment and its share of GDP.

- If current trends continue, this imbalance will worsen, with agriculture's share in GDP potentially shrinking to **7%-8% by 2047**, while still employing a significant portion of the workforce.

- This indicates that the current growth trajectory is insufficient and that substantial changes are needed to enhance agricultural productivity and income levels. Additionally, the sector faces the challenge of meeting the food demands of a rapidly growing population, projected to reach 1.59 billion by 2040.

## • Key Issues:

- Disparity between agricultural employment and GDP contribution.
- Insufficient growth trajectory in agriculture.
- Challenge of meeting food demands for a growing population.

## Significance of transforming agriculture:

- The significance of transforming agriculture in India cannot be overstated, given its central role in the country's socio-economic fabric.
- A vibrant and productive agricultural sector is essential for ensuring food security, reducing poverty, and achieving sustainable development.
- The initiatives and policies implemented by the government, such as the **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** and the **Pradhan Mantri Fasal Bima Yojana (PMFBY)**, are critical in addressing these challenges. However, more needs to be done to



ensure that agriculture can contribute meaningfully to India's goal of becoming a developed nation by 2047.

- **Key Points:**
  - Agriculture is vital for food security and poverty reduction.
  - Current initiatives like PMKSY and PMFBY are crucial but need to be expanded.
  - A productive agricultural sector is essential for achieving sustainable development.

### Implications of the Current Agricultural Trajectory

- If the current trajectory continues, the implications for India's agricultural sector and overall development are concerning.
- The shrinking share of agriculture in GDP, coupled with stagnant growth rates, could lead to increased rural poverty and migration to urban areas, exacerbating social and economic inequalities.
- Furthermore, the sector's inability to meet the growing food demands could lead to food insecurity, inflation, and increased dependence on imports.
- This scenario underscores the urgent need for a comprehensive approach to agricultural development that addresses both productivity and sustainability.

### Suggested Planning and Strategic Initiatives

- Promote sustainable agricultural practices through precision farming and advanced irrigation techniques.

- Enhance market access and develop robust agricultural infrastructure.
- Increase investment in agricultural research and development.
- Strengthen social security measures and financial support for farmers.
- Plan strategically for future demand and align production accordingly.

### Way Forward

- The road to 2047 presents both challenges and opportunities for Indian agriculture. The sector's transformation is essential not only for achieving economic growth but also for ensuring social equity and environmental sustainability.

### New Smart Sensor for Adjusting Drug Dosage to Manage Parkinson's Disease

#### Context

Scientists from the Institute of Advanced Study in Science and Technology (IASST), an autonomous institute under the Department of Science and Technology, have developed an innovative smartphone-based fluorescence turn-on sensor system.

- This new sensor is designed to assist in the management of Parkinson's disease by accurately detecting the concentration of L-dopa in the body, allowing for precise dosage adjustments.

#### Key Highlights:

##### Development of a Smart Sensor:

- The sensor is a portable, user-friendly, and cost-effective system that uses a smartphone to monitor L-dopa levels in biological fluids

such as blood plasma, sweat, and urine.

- The sensor utilizes a fluorescence turn-on mechanism, where a silk-fibroin protein nano-layer, derived from *Bombyx mori* silk cocoons, is coated onto reduced graphene oxide nanoparticles. This combination forms core-shell graphene-based quantum dots with excellent photoluminescence properties.

#### **Detection Range and Sensitivity:**

- The sensor can detect L-dopa in a linear range of 5  $\mu\text{M}$  to 35  $\mu\text{M}$  with detection limits of 95.14 nM, 93.81 nM, and 104.04 nM in blood plasma, sweat, and urine, respectively.
- The smartphone-based electronic device includes an electric circuit connected to a 365nm LED, powered by a 5V smartphone charger. The setup is placed in a dark chamber to avoid external light interference, and the sensor's fluorescence is captured using a smartphone camera.

#### **Application and Usage:**

- The sensor helps monitor L-dopa levels in real-time, providing essential information to adjust the dosage of the drug for Parkinson's disease patients. The system is particularly useful in remote areas lacking access to advanced medical equipment.

#### **Significance:**

- **Precision in Parkinson's Disease Management:** Parkinson's disease is characterized by a progressive decline in dopamine levels due to neuron loss. L-dopa, a precursor to dopamine, is crucial in managing the disease. However, maintaining the right dosage is challenging, as

too much or too little L-dopa can lead to severe side effects or the return of symptoms. This sensor provides a vital tool for ensuring precise L-dopa dosage, enhancing the effectiveness of treatment.

- **Accessibility and Affordability:** The development of this smartphone-based sensor represents a significant step forward in making advanced medical monitoring tools more accessible and affordable. By allowing on-the-spot detection of L-dopa levels, the sensor is particularly valuable for patients in remote or resource-limited settings.
- **Advancement in Medical Technology:** This innovation showcases the potential of combining biotechnology with digital tools to create smart, portable devices that can transform healthcare delivery. The sensor's ability to provide quick, accurate readings makes it a promising tool for improving the quality of life for Parkinson's disease patients.

#### **Parkinson's disease:**

- Parkinson's disease is a progressive neurological disorder that affects movement.
- In the early stages of Parkinson's disease, the face may show little or no expression. The arms may not swing when one walks and the speech also gets affected.
- Parkinson's disease symptoms worsen as the condition progresses over time.
- Symptoms typically begin on one side of the body and may include:
  - **Tremor:** Rhythmic shaking, often starting in a hand or fingers, known as a pill-rolling tremor.

- **Bradykinesia:** Slowed movement, making everyday tasks challenging, such as taking shorter steps or shuffling when walking.
- **Muscle rigidity:** Stiffness in muscles, which can cause pain and restrict range of motion.
- **Impaired posture and balance:** Stooped posture and balance issues, leading to falls.
- **Speech changes:** Softer or slurred speech, often with a monotone quality.
- **Writing changes:** Difficulty in writing, with handwriting becoming smaller and harder to read.

daytime, controlling the ionosphere more effectively in the southern hemisphere compared to the northern hemisphere. However, at night, this control diminishes, leading to a loss of hemispheric asymmetry.

- **Seasonal Independence:** The researchers discovered that the daytime influence of the crustal magnetic fields on the ionosphere remains unaffected by the Sun-Mars distance, indicating that seasonal changes or the planet's position relative to the Sun do not impact this interaction.
- **Data Source:** The study utilized nearly 8 years of in situ data from NASA's MAVEN (Mars Atmosphere and Volatile Evolution) satellite, which has been orbiting Mars since 2014. This data helped the scientists analyze the electron density and magnetic fields to understand the crustal magnetic field's effect on the Martian ionosphere.

## Magnetic field-ionosphere relation in Mars

### Context:

Recent research by scientists from the Indian Institute of Geomagnetism (IIG) has shed light on the relationship between Mars' crustal magnetic field and its ionosphere.

- This study provides crucial insights into how Mars' weak crustal magnetic fields influence its plasma environment, which is vital for future space missions.

### Key Highlights:

- **Crustal Magnetic Fields on Mars:** Unlike Earth, Mars does not have a global magnetic field but has scattered crustal magnetic fields, primarily in its southern hemisphere, between 30°S latitude and within a longitude range of 120°E to 240°E.
- **Day-Night Variation:** The study found that the effects of these crustal magnetic fields are significantly stronger during the

### Significance:

- **Understanding Mars' Magnetic Shielding:** Decoding the relationship between Mars' crustal magnetic fields and its ionosphere is crucial for understanding the planet's magnetic shielding capabilities. This knowledge has direct implications for the safety and success of future robotic and human missions to Mars, as it provides insights into how the planet's environment may protect or expose missions to space radiation.
- **Enhancing Space Mission Planning:** The findings contribute to the broader understanding of planetary magnetic fields and their role in space exploration. This information can aid in the design and planning of future missions,

ensuring better protection for astronauts and equipment.

### Way Forward:

- **Further Research:** Continued exploration and research into Mars' magnetic environment and its interaction with the ionosphere are essential. Future studies should focus on understanding the long-term effects of these magnetic interactions on Mars' atmosphere and potential habitability.
- **Application in Mission Design:** The insights gained from this research should be integrated into the planning and execution of future Mars missions. Understanding the planet's magnetic shielding can help in developing strategies to mitigate risks associated with space radiation for both robotic and human explorers.

## BioE3- "Biotechnology for Economy, Environment, and Employment."

### Context:

Recently, BioE3- "Biotechnology for Economy, Environment, and Employment."- which aims to enhance manufacturing capabilities within India's biotechnology landscape to reduce dependency on imports was proposed by the union cabinet.

### Dimensions of the Article

- What is BioE3?
- What is the issue?
- Key features of the BioE3 policy:
- Need for Long-Term Capital Investments:
- Significance

### What is BioE3?

- The BioE3 policy is a **transition of India's existing expertise in biotechnology research to manufacturing that helps the country to create a robust and a sustainable bio-economy.**
- It aims to address the structural challenges, especially the lack of local manufacturers for necessary ingredients and devices, which forces Indian biotech firms to rely heavily on imports, thereby hampering international competitiveness.
- It also aims to create an ecosystem that promotes domestic manufacturing in biotechnology through public-private partnerships.

### What is the Issue?

- Unlike the Department of Biotechnology (established in 1986) which made India become the 'vaccine factory' of the world, the biotech sector has yet to experience a transformative leap much similar to the IT revolution that catapulted India onto the global stage in the 1990s and 2000s.
- Alongside having expertise in areas like **vaccines, diagnostics, and biologicals**, the sector lacks simultaneously lacks in other high-value domains like gene modification technologies, bio-plastics, high-precision medical devices, bio-based chemicals, and sustainable agriculture solutions.
- India's biotechnology sector has not developed a strong base of local manufacturers capable of supplying key ingredients and devices to domestic laboratories and startups.

- And the excessive dependence on the imports has created a bottleneck situation diminishing India's global competitiveness.

### Key features of the BioE3 policy:

- The BioE3 Policy would broadly focus on the following strategic/thematic sectors::
  - Bio-based chemicals and enzymes
  - Functional foods
  - Precision biotherapeutics
  - Climate-resilient agriculture
  - Carbon capture
  - Marine and space research.
- The policy shows more inclination towards sustainable and environmentally friendly industrialization.
- **Bio-foundries** and **bio-AI hubs** are envisioned as collaborative spaces for biotechnologists, entrepreneurs, and researchers.

### Need for Long-Term Capital Investments:

- **Capital-intensive sector:** Due to the complexities involved in R&D, testing, and commercialization, it is highly crucial to have a long-term capital investment for sustained growth and innovation.
- **Attract private investments:** It could benefit the country to attract private investments by creating a dedicated biotech investment funds which offers tax incentives to the investors.

### Significance

- The policy aligns with global trends towards greener and more

environmentally friendly industries and it also provides a strategic opportunity for India to diversify its economic base and reduce import dependency.

- By advancing in the field of biotechnology, it offers solutions to various challenges like climate change, food security, and public health and thus, India can tap into new markets and attract foreign investment.

### Way Forward

- Policies that incentivizes investing in biotechnology can be outlined that can possible attract more investments.
- Meanwhile, the government should make provisions for budgetary allocation for the creation of more biotech infrastructure like parks and research centers.
- The government should plan to simplify regulations to ease entry barriers especially wrt licenses and should also create a transparent regulatory framework.

### Mental health matters: the psychological pressures of UPSC preparation

#### Context

The recent flooding of the basement of a coaching institute in Delhi has drawn attention to the precarious living conditions of UPSC aspirants. This tragic event underscores the systemic lapses in infrastructure and highlights the intense academic and economic pressures faced by students.

- According to the **National Crime Records Bureau (NCRB)'s ADISI report 2021**, an alarming 35 students take their lives every day.



- Data from Lokniti-CSDS reveals that about a quarter of UPSC aspirants know someone who has either harmed themselves or attempted suicide due to the immense pressure.

### Dimensions of the Article:

- What is the Issue?
- The Need to Address This Issue
- Relation with India's Stark Unemployment Rate
- What can the Government do?

### What is the Issue?

- The UPSC exams are one of the toughest in the world, with a vast syllabus that requires aspirants to study for 10-12 hours a day, often sacrificing sleep, social life, and basic self-care.
- The need to stay constantly updated with current events adds to this burden, creating a cycle of stress.
- Nearly half of the students experience self-induced pressure, and one in three faces anxiety about underperformance.
- The fierce competition and high expectations from family members exacerbate this stress.
- About one-third of the students report experiencing peer pressure, and a quarter cite family pressure.

### The Need to Address This Issue:

- Addressing this issue is critical because the intense pressure has severe mental health implications.
- Six in ten aspirants report feelings of loneliness, and seven in ten experience stress and fear of poor performance.

- The relentless pressure to succeed, compounded by the fear of disappointing family and friends, leads to significant mental health challenges.
- Over half the students indicate an increase in negative emotions such as nervousness, frustration, and sadness since starting their UPSC preparations.
- This environment can lead to serious mental health issues, including depression and anxiety.

### Relation with India's Stark Unemployment Rate

- The pressure on UPSC aspirants is also linked to India's stark unemployment rate. Many aspirants come from humble backgrounds and see clearing the UPSC exams as a pathway to secure employment and financial stability.
- And a significant number of students come from low-income groups. Less than one-sixth of aspirants have a monthly family income between ₹30,000 and ₹50,000, and close to two of every ten students' families earn less than ₹30,000.
- Many aspirants choose UPSC as a career path to ensure a good salary and stable future, driven by the economic hardships they face.
- Given that, having more than 20 lakh aspirants tied themselves to this journey for at least 2-3 years is a huge burden to bear for the country. Considering the success rate of less than 1% in the exam, it leaves so many aspirants in disappointment and hopes of making it in the next year with a probability much lesser than 50-50.

### What Can the Government Do?

**1. Improve Infrastructure:** Ensuring safe and adequate living conditions for students, particularly those staying in coaching hubs like Delhi, is crucial. Regular inspections and strict adherence to building safety norms can prevent tragedies like the recent flooding incident.

**2. Financial Support:** Providing financial aid and scholarships to economically disadvantaged students can ease the financial burden. This includes subsidies for coaching fees, accommodation, and other necessary expenses.

- **In this regard, recently, the government introduced - Nirman portal.**
- **This portal aims to provide Rs 1 lakh to eligible UPSC exam candidates.**

**3. Mental Health Support:** Establishing mental health support systems, including counseling services and helplines, specifically tailored for UPSC aspirants, can help address their mental health challenges. Awareness campaigns to destigmatize seeking mental health support can also be beneficial.

**4. Regulating Coaching Institutes:** Setting guidelines for coaching institutes to ensure they provide a supportive and stress-free learning environment. This includes limiting the number of hours students can be expected to study and ensuring they have access to recreational activities.

**5. Promoting Alternate Career Paths:** Encouraging students to explore other career opportunities and reducing the societal and familial pressure to clear the UPSC exams. This can be achieved by promoting vocational training

programs and other competitive exams that lead to stable employment.

## Conclusion

The journey of cracking the UPSC exams is undeniably challenging, demanding dedication and resilience. However, the psychological toll it takes on students cannot be ignored. Addressing mental health challenges through self-care, support systems, and professional help is essential.