



# VAJIRAO IAS ACADEMY

India's Premier Coaching Institute for Civil Services (IAS/PCS)



## WEEKLY **CURRENT** AFFAIRS

3<sup>rd</sup> MAR - 8<sup>th</sup> MAR 2025

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## DIRECTOR'S MESSAGE



“Civil Service is not just a job; it is an opportunity, to do your bit for society and to contribute to nation-building. It is an opportunity to realise your potential and make a meaningful contribution in the emancipation of masses.”

**Mr. Dilip Kumar**  
**Director, Vajirao IAS Academy**

Good Civil Servants ensure efficient and smooth governance. They are the backbone of the country and they have the power to make a difference in people's life.

We have set up extremely tough targets for ourselves. Now a day's, most of the students are well aware and focused about their aim. They just need a streak of guidance. We feel that we have done our bit in providing that blue streak of guidance and we are honoured to be a reason of smile on certain lips, proud to be your teacher, friend and guide.

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# I. SIMPLIFY EDITORIAL

## [1.1] Empowering Women for Viksit Bharat

Syllabus: Governance [GS Paper-2], Economy [GS Paper-3]

### Context

The vision of Viksit Bharat (Developed India) by 2047 emphasizes inclusive growth, with a focus on women-led development. However, achieving this goal requires addressing the systemic issue of women's invisible labour. Invisible labour refers to unpaid and unrecognized work, primarily in domestic and caregiving roles, which disproportionately falls on women. This article explores the implications of this labour on women's economic participation and the broader developmental aspirations of India.

### The Scope of Invisible Labour

**1. Unpaid Domestic Work:** The Time Use Survey 2024 highlights that women in India spend an average of 289 minutes per day on unpaid domestic services, compared to just 88 minutes for men. This includes cooking, cleaning, and other household chores. Despite a marginal reduction since 2019, the disparity remains stark.

**2. Caregiving Responsibilities:** Women also spend 137 minutes daily on unpaid caregiving activities, such as looking after children, elderly family members, or the sick. In comparison, men spend only 75 minutes on similar tasks. These responsibilities limit women's ability to engage in paid employment or pursue skill development.

**3. Informal and Low-Paid Work:** Many women transition from unpaid work to low-paid or informal jobs due to time constraints and lack of opportunities. For instance, in sectors like construction, women earn significantly less than men despite performing similar physical labour.

### Impact on Economic Mobility

**1. Gendered Division of Labour:** The unequal distribution of unpaid work perpetuates structural inequalities. Women are often forced into part-time or informal roles with limited job security and benefits. This restricts their long-term economic mobility and professional growth.

**2. Wage Gaps and Employment Disparities:** India's female labour force participation rate has improved to 41.7% as per the Periodic Labour Force Survey 2023-24 but remains far below the male participation rate of 78%. Wage gaps persist, with women earning less than men for similar work across various sectors.

**3. Cascading Social Effects:** The burden of invisible labour not only hampers women's economic prospects but also reinforces societal norms that undervalue their contributions. This creates a vicious cycle where women's work—both paid and unpaid—remains underappreciated.

### **Invisible Labour in Specific Sectors**

**1. Construction Industry:** Women constitute nearly half of India's construction workforce but are often relegated to unskilled roles like brick hauling or stone breaking. They earn less than their male counterparts and face poor working conditions without adequate safety measures.

**2. Care Economy:** The International Labour Organization (ILO) has emphasized the need for investments in early childhood care and education to reduce the caregiving burden on women. Strengthening the care economy could create job opportunities while alleviating unpaid caregiving responsibilities.

### **Steps Towards Addressing Invisible Labour**

#### **1. Policy Interventions**

- **Recognition of Unpaid Work:** Policies should formally recognize unpaid domestic and caregiving work in national accounting systems.
- **Support for Caregiving:** Investments in childcare facilities, eldercare programs, and paid family leave can reduce the burden on women.
- **Skill Development:** Training programs tailored for women can help them transition into higher-paying formal jobs.

#### **2. Legal Reforms**

- Enforcing equal pay for equal work across all sectors is crucial.
- Strengthening labour laws to protect women in informal sectors like construction can improve their working conditions.

#### **3. Awareness Campaigns**

- Promoting gender equality at home through public awareness campaigns can encourage men to share domestic responsibilities.
- Organizations like SEWA (Self Employed Women's Association) have been instrumental in educating women about their rights.

### **Women-Led Development: A Pillar for Viksit Bharat**

India's aspirations for Viksit Bharat hinge on empowering its female population. The government has already taken steps through various initiatives which aim to increase women's workforce participation. However, addressing invisible labour is critical to unlocking their full potential.

### **Conclusion**

Women's invisible labour is a hidden pillar supporting households and economies but remains undervalued and unrecognized. For India to achieve its dream of Viksit Bharat, systemic changes are needed to redistribute domestic responsibilities, bridge gender gaps in employment, and ensure equitable opportunities for all genders. Recognizing and

addressing invisible labour is not just a matter of justice but also an economic imperative for sustainable development by 2047.

**Source:** [The Indian Express](#)

## [1.2] Transforming India's Telecom Landscape

### Syllabus: Indian Economy [GS Paper-3]

#### Context

India's telecommunications sector has emerged as a cornerstone of the country's economic and technological progress. With over 1.2 billion subscribers, it is the second-largest telecom market globally and continues to grow rapidly. Driven by advancements in technology, favorable government policies, and increasing consumer demand, India is well-positioned to become a global leader in telecommunications.

#### The Growth Trajectory of Indian Telecom

##### 1. Market Size and Expansion

- The Indian telecom market is projected to grow from USD 53.18 billion in 2025 to USD 83.34 billion by 2030, at a compound annual growth rate (CAGR) of 9.4%.
- Wireless subscriptions dominate the sector, accounting for 98% of total telephone usage, with broadband users crossing 856 million by 2025.
- India is also the second-largest manufacturer of mobile handsets globally, with smartphone penetration expected to reach 1 billion devices by 2026.

##### 2. Technological Advancements

- The rollout of 5G services has been a game-changer for India's telecom industry. Companies like Reliance Jio and Bharti Airtel are aggressively expanding their 5G networks.
- The government has also launched initiatives like the Bharat 6G Alliance and allocated significant funds for research and development in next-generation wireless technologies.

##### 3. Digital Infrastructure Development

- The National Broadband Mission aims to provide broadband access to all villages, enhancing digital inclusion across rural and urban areas.
- Investments in optical fiber networks and satellite communications are further strengthening India's digital backbone.

## **Key Drivers of Growth**

### **1. Affordable Data Costs**

- India offers some of the lowest data tariffs globally, making internet access affordable for millions. This has fueled a surge in data consumption, with average monthly usage per user exceeding 20 GB.

### **2. Government Initiatives**

- Policies like the National Digital Communications Policy (2018) aim to attract USD 100 billion in investments and create 4 million jobs in the sector by 2025<sup>2</sup>.
- Liberalized Foreign Direct Investment (FDI) norms have encouraged global players to invest in India's telecom space.

### **3. Rising Consumer Demand**

- Increasing smartphone adoption and app usage have driven demand for high-speed internet services.
- The rural market is witnessing significant growth as telecom operators expand their reach into underserved areas.

## **Challenges Facing the Sector**

Despite its impressive growth, India's telecom industry faces several challenges:

### **1. Financial Stress**

- Telecom operators like Vodafone Idea continue to grapple with high debt levels and intense competition, which have eroded profitability.
- Adjusted Gross Revenue (AGR) dues remain a financial burden for some players.

### **2. Spectrum Costs**

- High spectrum acquisition costs have strained the finances of telecom companies, limiting their ability to invest in infrastructure development.

### **3. Rural Connectivity Gaps**

- While urban areas enjoy robust connectivity, rural regions still face issues like poor network coverage and low internet speeds.

### **4. Cybersecurity Risks**

- As digital penetration increases, so does the risk of cyberattacks on telecom networks and consumer data breaches.

## **Opportunities for Leadership**

India's telecom sector holds immense potential to become a global leader through strategic initiatives:

### **1. Export-Oriented Manufacturing**

- India is already the second-largest mobile handset manufacturer globally. Expanding this capability to include telecom equipment can position India as a global hub for telecom hardware exports.

### **2. Emerging Technologies**

- Investments in Artificial Intelligence (AI), Internet of Things (IoT), and cloud computing can drive innovation in telecommunications.



- The Bharat 6G Alliance aims to make India a pioneer in next-generation wireless technologies.

### 3. Green Telecom Initiatives

- Adopting renewable energy solutions for telecom towers can reduce operational costs while contributing to sustainability goals.

### 4. Strategic Global Partnerships

- Collaborations with global technology leaders like Ericsson and Nokia can accelerate innovation and knowledge transfer.

## Government's Role in Shaping the Future

The Indian government plays a critical role in fostering growth through policy support:

### 1. Increased Budgetary Allocation:

- In FY24, INR 1.23 lakh crore was allocated for postal and telecom projects, including capital infusion into BSNL.

### 2. Telecom Technology Development Fund:

- Grants worth INR 240 crore were provided to startups and MSMEs under this scheme to encourage indigenous innovation<sup>4</sup>.

### 3. Digital Inclusion Programs:

- Initiatives like Digital India have boosted e-governance and financial inclusion through improved connectivity.

## Conclusion

India's telecommunications sector stands at a pivotal juncture, poised to become a global leader through sustained growth, innovation, and strategic investments. With its massive subscriber base, affordable data costs, and government-backed initiatives, the sector has laid a strong foundation for future expansion.

## [1.3] India's Clean Energy Transition

### Syllabus: Environment and Energy [GS Paper-3]

#### Context

India's clean energy transition is a critical component of its development strategy, balancing the dual imperatives of economic growth and environmental sustainability. With a population of over 1.4 billion and rising energy demands, India aims to provide affordable electricity to millions while reducing its dependence on fossil fuels. Below is an in-depth exploration of India's clean energy transition, its strategies, challenges, and future prospects.

#### The Need for a Clean Energy Transition

- **Increasing Energy Demand:** India has reached, perhaps for the first time, record levels in consumption of energy due to its acceleration in growth, urbanization and

increase in population. The primary energy consumption in the country amounts to 880 million tonnes of oil equivalent (Mtoe), of which more than 70% is contributed by electricity, industry, and transport for demand.

- **Climate Commitments:** India has committed to a net-zero emissions target by 2070 and to meet 50% of electricity needs with renewable energy by 2030. These similar commitments are in line with global efforts to combat climate change and reduce GHG emissions.
- **Energy Security:** Possible renewables upgrade energy security from dependence on imported fossil fuels such as coal and oil, highly fluctuating prices, and exposure to geopolitical risks.

### Government Initiatives Driving the Transition

India's government has launched several ambitious programs and policies to accelerate the clean energy shift:

- **Renewable Energy Expansion**
  - India attained 40% of its installed power capacity from non-fossil fuels, nine years ahead of its COP21 commitment. The targets for RE capacity are now up to 500 GW by 2030 from 179 GW.
  - Solar power is a prime focus with production-linked incentive schemes (PLI) for solar panel manufacturers.
- **National Green Hydrogen Mission**
  - Launched at an outlay of USD 2.4 Billion, the mission targets making India the global hub for green hydrogen production and exports. The mission envisages producing 5 million tonnes of renewable hydrogen every year by 2030.
- **Energy Efficiency Programs**
  - India has considerable energy efficiency programs, resulting in reduced emissions from buildings, transport, and industries. Programs such as Perform, Achieve, Trade (PAT) motivate industries to adopt energy-efficient processes.
- **Electric Mobility**
  - The National Electric Mobility Mission encourages the adoption of electric vehicles (EVs) through subsidies and infrastructure development. This reduces the dependability of the transport sector on conventional fossil fuel inputs.
- **Policy Support**
  - Policies pertaining to availability of land for renewable projects, concessional power supply, and low-cost loans have been initiated to promote investments in clean energy technology.

### Key Pillars of the Transition

India's clean energy transition focuses on three critical areas:

1. **Grid Decarbonization:** Scaling renewable energy generation at utility scale, and further making it resilient and cost effective for handling intermittency of these sources like solar and wind.

- 2. Industrial Decarbonization:** Hard-to-abate sectors such as steel, cement and chemicals are beginning to embrace green hydrogen and other low-carbon technologies.
- 3. Transport Transition:** Transformation through the adoption of lower carbon forms of transport through adoption of EVs, innovations in urban planning and modal shifts in public transport.

### Challenges in the Clean Energy Shift

India's clean energy ambitions suffer from many impediments, although there has been a positive trajectory:

- 1. Financing Gaps:** To achieve net zero by 2070, investments of \$120-140 billion a year until 2030, and total investments of \$7-12 trillion by 2050, will be required. Mobilising such resources remains a major challenge.
- 2. Energy Security Balancing:** While renewables grow rapidly, coal remains a major source due to its price and reliability during peak demand periods. By 2032, India's plan is to add 80 GW of new coal capacity while it transitions to these cleaner sources.
- 3. Emerging Technology Adoption:** Emerging technologies such as hydrogen storage, battery systems, and carbon capture involve huge R&D investments and much policy support for scaling up operations.
- 4. Demand-side Development:** There are national and international supply incentives for the generation of renewable hydrogen and solar electricity. Consumption targets have not, however, featured as an obligation for industries.

### Opportunities Ahead

- 1. Growth in the Economy:** The sector can generate considerable employment opportunities in the clean energy area, especially in manufacturing, installation, maintenance, and R&D.
- 2. Global Leadership:** By proceeding to demonstrate large-scale renewable power projects and effective green hydrogen technologies, India is in a position to motivate peer developing countries to face similar challenges.
- 3. Private Sector Participation:** A dynamic private sector is already significantly participating through investments in solar parks, wind farms, and EV infrastructure development.

### Conclusion

India's clean energy transition is not just an environmental necessity but also an economic opportunity that can redefine its development trajectory. With robust government policies like the National Green Hydrogen Mission, ambitious renewable targets under the Panchamrit agenda announced at COP26, and growing private sector participation, India is well-positioned to lead the global fight against climate change.

Source: [BS](#)

## [1.4] India's ASHAs: Underpaid Warriors of Hope

### Syllabus: Social Justice, Governance [GS Paper-2]

#### Context

Accredited Social Health Activists (ASHAs) are community health workers employed by the Ministry of Health and Family Welfare as part of India's National Rural Health Mission (NRHM). Introduced in 2005, their primary role is to bridge the gap between marginalized communities and the healthcare system. ASHAs are instrumental in promoting health awareness, facilitating access to healthcare services, and improving health outcomes in rural areas.

#### Role and Responsibilities

ASHAs are trained to perform a variety of tasks, including:

- **Health Promotion and Education:** They create awareness about health and its social determinants, encouraging community participation in local health planning.
- **Health Services Facilitation:** They motivate women to give birth in hospitals, bring children to immunization clinics, and encourage family planning.
- **Basic Healthcare Provision:** They provide first aid, distribute essential health supplies like Oral Rehydration Salts (ORS) and Iron Folic Acid (IFA) tablets, and assist in diagnosing diseases such as malaria and pregnancy.
- **Community Mobilization:** They play a crucial role in mobilizing communities towards better health practices and utilization of existing health services.

#### Challenges Faced by ASHA Workers

Despite their critical role in the healthcare system, ASHA workers face numerous challenges that impact their effectiveness and well-being.

- **Inadequate Compensation:** ASHA workers are often inadequately compensated for their work. While some states like Kerala provide a higher honorarium, many ASHAs across India struggle with irregular and insufficient payments. Incentives are often delayed, leading to financial strain. For instance, ASHA workers in Kerala earn between ₹10,000 and ₹13,500 per month, but they are demanding an increase to ₹21,000 due to rising costs and the need for better financial security.
- **Workload and Lack of Support:** ASHAs face a heavy workload with minimal support. They are expected to cover a wide range of responsibilities without adequate resources, leading to stress and burnout. The lack of transportation facilities, especially in rural areas, adds to their challenges, as they often have to travel long distances at their own expense.
- **Safety and Social Challenges:** During crises like the COVID-19 pandemic, ASHA workers faced increased risks and social stigma. Despite being on the frontlines, they received little additional compensation or recognition for their efforts. They also faced verbal abuse and social isolation, further exacerbating their emotional toll.

## **Impact of Inadequate Compensation on Public Health**

The inadequate compensation and support for ASHA workers have significant implications for public health in India.

- **Reduced Motivation and Efficiency:** When ASHAs are not adequately compensated, their motivation and efficiency can decline. This affects their ability to effectively promote health services and support marginalized communities, potentially leading to decreased health outcomes.
- **Inequitable Service Delivery:** The disparity in compensation across states can result in inequitable service delivery. States with lower budgets and compensation structures may struggle to retain ASHAs, leading to gaps in healthcare coverage and access.
- **Long-term Sustainability of Health Programs:** The sustainability of health programs like NRHM depends on the retention and motivation of ASHA workers. Inadequate compensation can lead to high turnover rates, undermining the long-term effectiveness of these initiatives.

## **Solutions and Recommendations**

To address the challenges faced by ASHA workers and ensure the sustainability of health programs, several steps can be taken:

### **Improved Compensation and Benefits:**

- **Regular and Timely Payments:** Ensuring that ASHAs receive their honorarium and incentives on time is crucial for their financial stability.
- **Increased Honorarium:** Raising the honorarium to a level that reflects the cost of living and the value of their work can improve their motivation and retention.
- **Additional Benefits:** Providing benefits like retirement support and health insurance can enhance their overall well-being.

### **Enhanced Support and Resources:**

- **Transportation Facilities:** Providing transportation support can reduce the financial burden and increase their efficiency in reaching remote areas.
- **Training and Capacity Building:** Regular training and capacity-building programs can help ASHAs manage their workload more effectively and adapt to new challenges.

### **Legal Recognition and Protection:**

- **Labour Law Coverage:** Including ASHAs under Labour Acts can provide them with legal protection and better working conditions, recognizing their role as essential workers rather than just volunteers.

### **Community Engagement and Support:**

- **Community Sensitization:** Educating communities about the role and importance of ASHAs can reduce social stigma and increase support for their work.
- **Partnerships and Collaborations:** Collaborating with local organizations and stakeholders can help mobilize additional resources and support for ASHA workers.

## **Conclusion**

ASHA workers are the backbone of India's rural healthcare system, but they face significant challenges, including inadequate compensation and support. Addressing these

issues is crucial for maintaining their motivation, ensuring equitable healthcare delivery, and sustaining long-term health initiatives. By providing better compensation, resources, and legal recognition, India can strengthen its healthcare infrastructure and improve health outcomes for marginalized communities.

**Source:** [The Hindu](#)

## [1.5] Balancing Human Needs with Wildlife Conservation

### Syllabus: Environment Conservation [GS Paper-3]

#### Context

Wildlife conservation in India faces numerous challenges, particularly in managing human-wildlife conflicts. The National Board for Wildlife (NBW), chaired by Prime Minister Narendra Modi, plays a crucial role in addressing these issues. At a recent meeting, PM Modi emphasized the importance of science in conservation efforts, highlighting the need to balance human needs with wildlife protection.

#### Role of the National Board for Wildlife

The National Board for Wildlife is the apex advisory body on wildlife conservation in India, established under the Wildlife (Protection) Act, 1972. It advises the government on conservation matters and grants approvals for projects within protected areas. The Board's role is critical in ensuring the long-term protection of wildlife and their habitats.

#### Challenges in Wildlife Conservation

- **Human-Wildlife Conflict:** One of the significant challenges in wildlife conservation is human-wildlife conflict. As infrastructure projects and agricultural expansions encroach on natural habitats, animals such as tigers, lions, leopards, rhinos, and elephants are forced to venture out of national parks and sanctuaries. This leads to conflicts with humans, resulting in loss of life and property for both humans and animals.
- **Habitat Fragmentation:** Habitat fragmentation occurs when large habitats are divided into smaller patches due to human activities like deforestation, urbanization, and infrastructure development. This fragmentation isolates animal populations, reducing their access to food, water, and potential mates, which can lead to population decline.
- **Overpopulation in Protected Areas:** Some protected areas face the challenge of overpopulation, where the carrying capacity of the habitat is exceeded. For example, the Gir National Park, known for its Asiatic lion conservation success, now faces issues with lions venturing out of the park due to insufficient prey base within the protected area.

## Solutions to Wildlife Conservation Challenges

- **Science-Based Conservation:** PM Modi emphasized the importance of science in conservation efforts, suggesting that decisions should be based on scientific evidence rather than regional or state pride. This approach ensures that conservation strategies are effective and sustainable.
- **Community Involvement:** Involving local communities in conservation efforts has proven successful. For instance, the Maldhari pastoralists played a crucial role in the conservation of Asiatic lions in Gir<sup>1</sup>. Community reserves have also seen a significant increase over the past decade, highlighting the effectiveness of community participation.
- **Technology Integration:** The use of advanced technologies such as remote sensing, geospatial mapping, Artificial Intelligence (AI), and Machine Learning (ML) can significantly enhance conservation efforts. These technologies can help predict and manage forest fires, track wildlife movements, and detect human-wildlife conflict hotspots.
- **Establishment of Specialized Centers:** The establishment of specialized centers like the Centre of Excellence at the Wildlife Institute of India and the National Referral Centre for Wildlife can improve the management of human-wildlife conflicts and wildlife health issues. These centers will provide advanced training and technology to field practitioners and support states in conflict mitigation.
- **Eco-Tourism and Connectivity:** Promoting eco-tourism can support conservation by generating income for local communities and encouraging habitat preservation. Improving connectivity and ease of travel to wildlife areas can enhance the tourism experience while supporting conservation efforts.

## Future Initiatives and Projects

- **Project Lion and Asiatic Lion Conservation:** The National Board for Wildlife has approved significant funding for Project Lion, with efforts focused on enhancing the prey base and improving habitats for Asiatic lions. The upcoming lion census in 2025 will provide crucial data for future conservation strategies.
- **Cheetah Introduction Program:** The cheetah introduction program is being expanded to new areas, including the Gandhisagar Sanctuary in Madhya Pradesh and the Banni Grasslands in Gujarat. This initiative aims to reintroduce cheetahs into their historical habitats.
- **Conservation of Other Species:** Conservation efforts are also being enhanced for species like tigers, gharials, and the Great Indian Bustard. New projects and action plans are being initiated to address specific challenges faced by these species.
- **International Cooperation:** India is exploring international cooperation, such as the establishment of the International Big Cats Alliance, to leverage global expertise and resources in wildlife conservation.

## Conclusion

Wildlife conservation in India is a complex issue that requires a multifaceted approach. By emphasizing science-based conservation, community involvement, and technological integration, India can effectively manage human-wildlife conflicts and protect its rich biodiversity. The initiatives and projects announced by the National Board for Wildlife under PM Modi's leadership are crucial steps towards achieving these goals. As India

continues to grow economically, balancing development with conservation will remain a key challenge, but with the right strategies, it is possible to ensure the long-term protection of wildlife and their habitats.

**Source:** [The Indian Express](#)

## [1.6] Impact of Over-centralisation in health policy

### Syllabus: Governance [GS Paper-2]

#### Context

Over-centralisation in health policy has emerged as a significant challenge to India's federal structure and the effectiveness of its healthcare system. This trend involves the central government exerting greater control over health services, funding, and policy-making, often at the expense of state autonomy. The implications of such centralisation are multifaceted, affecting not only the delivery of healthcare but also the broader federal framework of governance.

#### Context of Centralisation

Recent developments, such as the Supreme Court's ruling on domicile-based reservations in medical admissions, have highlighted the tension between central control and state autonomy in health policy. This ruling, while promoting meritocracy, has been criticized for undermining state-specific health strategies and potentially exacerbating regional disparities in healthcare access.

#### Impact of Over-Centralisation

- **Limited Flexibility in Addressing Local Health Needs:** One of the primary concerns with over-centralisation is its tendency to impose a one-size-fits-all approach to healthcare policy. This ignores the diverse health challenges faced by different states due to variations in demographics, disease burden, and infrastructure. For instance, states like Kerala require policies tailored to an ageing population, while Bihar and Uttar Pradesh need more focus on maternal and child health.
- **Reduced State Autonomy in Healthcare Governance:** Centralisation has led to states losing decision-making power in key health schemes. The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), for example, is a central scheme where states have limited flexibility in implementation, despite healthcare being a state subject. Many states preferred their own insurance models but had to align with central directives, reducing their autonomy.
- **Bureaucratic Delays and Inefficiencies:** Excessive dependence on the Centre for funds and approvals often results in bureaucratic bottlenecks. States have reported delays in fund disbursements under the National Health Mission (NHM), affecting the timely execution of health programs. During the COVID-19 pandemic,



centralised vaccine distribution and oxygen supply initially led to logistical challenges and delays.

- **Financial Dependence on the Centre:** States heavily rely on centrally sponsored schemes (CSS) for healthcare funding. The 15th Finance Commission's health grants have been criticized for imposing central conditions on how states should spend resources, further limiting state autonomy.
- **Weakening of Grassroots Public Health Systems:** Over-centralisation often sidelines state health departments and local governance structures like panchayats and municipal bodies, which are better positioned to manage public health at the ground level. Strengthening these local systems is crucial for effective service delivery.

### Specific Policies and Their Impact

#### Ayushman Bharat and the National Medical Commission Act

- **Ayushman Bharat (2018):** This scheme provides financial support for secondary and tertiary healthcare to economically weaker sections. However, it has reduced the role of state-run health insurance programs, increasing the Centre's influence over healthcare funding and service delivery.
- **National Medical Commission (NMC) Act (2019):** Replaced the Medical Council of India (MCI) with the National Medical Commission (NMC), giving the Centre greater control over medical education and licensing, thereby reducing state authority in regulating medical institutions.

### Supreme Court Ruling on Domicile Quotas

The recent Supreme Court judgment eliminating domicile-based reservations for post-graduate medical admissions has significant implications for state health planning. Domicile quotas were crucial for ensuring a stable and locally rooted medical workforce, addressing chronic specialist shortages. Their removal may lead to states relying on external recruitment, which is often inefficient.

### Risks to Federalism and Public Health

- **Constitutional and Public Health Link:** Article 21 of the Constitution guarantees the right to life, which includes access to adequate healthcare—a responsibility primarily borne by states under their legislative competence over public health. Over-centralisation hinders state-specific health strategies, compromising both state-level public health governance and the right to health.
- **Disparities in Healthcare Access:** Premier central institutions like AIIMS, PGIMER, and JIPMER enjoy greater autonomy, while state government medical colleges, critical for public health delivery at the grassroots level, are denied this autonomy. This disparity can worsen regional health disparities and discourage state investments in medical education.

### Way Forward: Balancing Centralisation and State Autonomy

- **Greater Fiscal Autonomy for States:** Allowing states more flexibility in utilizing central funds for healthcare based on regional priorities can help address local

health needs more effectively. This approach ensures that states can allocate resources according to their specific challenges and opportunities.

- **State-Specific Policy Frameworks:** Encouraging states to develop localized strategies rather than imposing uniform national policies can improve healthcare outcomes. States should be empowered to formulate policies suited to their socio-economic and health conditions.
- **Strengthening State Health Capacities & Local Governance:** Investing in state health departments and local governance structures can improve service delivery. Empowering municipalities and panchayats to manage primary healthcare services efficiently is crucial for effective public health management.
- **Cooperative Federalism in Health Planning:** Establishing mechanisms for collaborative decision-making between the Centre and states ensures inclusive policy formulation. This cooperative approach can help leverage central support while respecting state autonomy, leading to a more equitable and efficient healthcare system.

### **Conclusion**

Over-centralisation in health policy poses significant risks to India's federal structure and the effectiveness of its healthcare system. By fostering a balanced approach that respects state autonomy while leveraging central support, India can build a more equitable and efficient healthcare system. Prioritizing cooperative federalism is crucial to ensure the well-being of all citizens and address the diverse health challenges across different regions effectively.

**Source:** [The Hindu](#)



## 2. DAILY CURRENT AFFAIRS

### [2.1] Rising Obesity Crisis in India

#### Syllabus - Health [GS Paper-2]

##### Context

Prime Minister Narendra Modi, in his recent Mann Ki Baat address, highlighted the rising obesity crisis in India, especially among children.

##### Scale of Obesity in India

- Obesity in India has been rising gradually, as indicated by the **National Family Health Surveys (NFHS)**.
- The percentage of obese/obese women rose from 20.6% (NFHS-4, 2015-16) to 24% (NFHS-5, 2019-21), while for men, it multiplied from 18.9% to 22.9%.
- Urban regions recorded extensively higher obesity quotes than rural regions.
- **Abdominal Obesity Concerns**
  - A 2023 study in The Lancet Regional Health Southeast Asia found that abdominal obesity, measured by waist circumference, affected 40% of women and 12% of fellows in India.
- **Childhood Obesity on the Rise**
  - Childhood obesity is a rising issue. NFHS data shows that the percentage of obese children under 5 years multiplied from 2.1% (2015-16) to 3.4% (2019-21).
  - Projections from the World Obesity Atlas 2022 estimate that by 2030, obesity incidence will attain 10.81% among children aged 5-9 years and 6.23% amongst those elderly 10-19 years.

##### Health Risks Associated with Obesity

- Obesity is regularly called the "mother of all diseases" due to its strong link to life-threatening conditions.
- According to the WHO, obesity considerably will increase the hazard of:
  - **Cardiovascular diseases** – A leading purpose of death and incapaurban in India, happening approximately 10 years in advance than in other countries.
  - **Diabetes** – India has the highest range of diabetes cases globally, with 101 million affected.
  - **Cancer** – The number of cancer cases is projected to increase from 14.6 lakh in 2022 to 15.7 lakh in 2025, as per ICMR report.
  - **Osteoarthritis** – A common obesity-associated joint sickness.

## Impact of Childhood Obesity

- Increased likelihood of rising non-communicable diseases (NCDs) in advance in life.
- Adverse psychosocial effects, which include stigma, discrimination, bullying, and decrease educational overall performance.
- Higher probabilities of obesity persisting into maturity, leading to further health complications.
- Non-communicable diseases (NCDs) now account for about 60% of all deaths in India, making obesity a critical public health concern.

## Reasons for Rising Obesity in India

- **Unhealthy Diets and Processed Foods**
  - The increasing consumption of extremely-processed ingredients and dangerous diets is a major motive force of obesity in urban India.
  - These foods contribute to visceral fat accumulation and increase the chance of cardio-metabolic diseases.
- **Nutritional Deficiencies and Economic Barriers**
  - Low-income families, in particular the ones relying on the public distribution device, devour more carbohydrates (rice and wheat) because of affordability issues.
  - Nutrient-rich food like fruits, vegetables, pulses, dairy, and animal based food are high priced, making wholesome ingesting inaccessible to many.
  - While obesity is currently more common among urban middle-class populations, it is rising in many of the rural areas as well.
- **Lack of Physical Activity**
  - A study in The Lancet Global Health found that almost half of all Indians do not get sufficient physical activity.
  - Indoor sedentariness due to desk jobs and virtual devices, combined with dangerous and uninviting outside environments, limits workout.
- **Environmental Factors**
  - Air pollutants contribute to inflammation and metabolic issues, in addition increasing obesity chances.
  - Without clean, green, and safe urban environments, physical activity remains difficult, fueling obesity increase.

Source: [The PIB](#)

## Mains PYQ

*1. How far do you agree with the view that the focus on lack of availability of food as the main cause of hunger takes the attention away from ineffective human development policies in India? (2018)*

- Prime Minister Narendra Modi, in his recent Mann Ki Baat address, highlighted the rising obesity crisis in India, especially among children.
- Obesity in India has been rising gradually, as indicated by the **National Family Health Surveys (NFHS)**.
- The percentage of obese/obese women rose from 20.6% (NFHS-4, 2015-16) to 24% (NFHS-5, 2019-21), while for men, it multiplied from 18.9% to 22.9%.
- Urban regions recorded extensively higher obesity quotes than rural regions.

## [2.2] Issues faced by Elected Women Representatives of Panchayats

### Syllabus - Polity [GS Paper-2]

#### Context

A report by the Ministry of Panchayati Raj panel, chaired by former Mines Secretary Sushil Kumar, has highlighted various challenges that prevent Elected Women Representatives (EWRs) from exercising their authority independently.

#### Key Highlights

- These challenges encompass socio-cultural norms, patriarchal biases, lack of deterrent laws, and insufficient political experience.
- The report recommends policy interventions, structural reforms, and strict consequences to cut down the exercise of 'Pradhan Pati', 'Sarpanch Pati', or 'Mukhiya Pati'.
- The committee was formed in September 2023 following a Supreme Court order (July 6, 2023).
- It performed four local workshops, attracting representatives from 14 states, along with MP, Tripura, Arunachal Pradesh, Himachal Pradesh, Jharkhand, Rajasthan, UP, Andhra Pradesh, Karnataka, Kerala, and so forth.
- The findings are based on interactions with state governments, EWRs, and local stakeholders.

#### Key Challenges

- **Lack of political experience:**
  - Newly elected women representatives often lack publicity and experience.
  - They battle to discharge responsibilities effectively at different levels of the Panchayati Raj system, especially at the Gram Panchayat level.
- **Gender-based discrimination:**
  - Women representatives are regularly neglected in official and informal meetings.
  - Male elected representatives and officials decide upon interacting with male counterparts.
  - This reinforces the dominance of male proxies and limits women's management roles.
- **Patriarchal socio-cultural norms:**
  - Rural society maintains to comply with conventional gender roles and restrictive norms consisting of 'purdah'.
  - Women are discouraged from speaking in male-dominated gatherings, which include panchayat meetings. These practices restrict their participation in governance.
- **Political pressure and threats:**
  - Women representatives face coercion, threats, and once in a while violence from political warring parties and dominant groups.
  - 'No Confidence Motion' is often misused as a tactic to remove them from office.
- **Socio-economic and cultural disadvantages:**
  - Many EWRs belong to marginalized communities (SC/ST/Minorities/Disabled), increasing their vulnerabilities.
  - The burden of balancing domestic and political obligations limits their capability to function efficiently.
  - Due to societal norms and shortage of self assurance, they hesitate in making financial choices independently.

- **Lack of training and mentorship:**
  - Women representatives have restricted access to training programs that may enhance their leadership abilities.
  - Absence of mentorship restricts their potential to navigate political challenges.
- **Rotational reservation system:**
  - The 5-year term for reserved seats is too quick for women to gain experience and set up themselves as leaders.
  - It disrupts continuity in governance and weakens women's long-term political effect.
- **Weak legal deterrence:**
  - Existing legal provisions to penalize male members acting as proxies are inadequate.
  - Male relatives continue to manipulate selection-making, undermining the de jure authority of EWRs.

### Way Forward

- **Policy interventions:** Strengthen training packages and offer legal consciousness to EWRs.
- **Structural reforms:** Extend the period of reservation to ensure management continuity.
- **Exemplary penalties:** Enforce strict laws against male relatives functioning as proxies.
- **Capacity building:** Enhance mentorship and skill development programs for women leaders.
- **Awareness campaigns:** Promote gender sensitization at all levels of governance.

### Conclusion

- The report underscores the pressing need to cope with systemic challenges that hinder women's powerful participation in local governance.
- By enforcing the recommended reforms, the government can empower EWRs, ensuring their constitutional rights and management roles are upheld in the Panchayati Raj system.

**Source:** [The Indian Express](#)

### Mains PYQ

#### 1. What are the continued challenges for Women in India against time and space? (2019)

- A report by the Ministry of Panchayati Raj panel, chaired by former Mines Secretary Sushil Kumar, has highlighted various challenges that prevent Elected Women Representatives (EWRs) from exercising their authority independently.
- These challenges encompass socio-cultural norms, patriarchal biases, lack of deterrent laws, and insufficient political experience.
- The report recommends policy interventions, structural reforms, and strict consequences to cut down the exercise of 'Pradhan Pati', 'Sarpanch Pati', or 'Mukhiya Pati'.
- The committee was formed in September 2023 following a Supreme Court order (July 6, 2023).
- It performed four local workshops, attracting representatives from 14 states, along with MP, Tripura, Arunachal Pradesh, Himachal Pradesh, Jharkhand, Rajasthan, UP, Andhra Pradesh, Karnataka, Kerala, and so forth.
- The findings are based on interactions with state governments, EWRs, and local stakeholders.

## [\[2.3\] Image of a solar flare kernel captured by Aditya L1](#)

### Syllabus - Science and Technology [GS Paper-3]

#### Context

Aditya-L1 has made a huge discovery by taking pictures of the first-ever image of a solar flare kernel within the lower solar ecosystem (photosphere and chromosphere).

#### About Aditya-L1

- It was launched in September 2023, by ISRO's PSLV C-57 rocket.
- It was placed in a halo orbit across the Earth-Sun Lagrange Point (L1) in January 2024.
- It is India's first committed space-based solar mission.
- It remains about 1.5 million km far away from Earth, directed in the direction of the Sun, which is 1% of the Earth-Sun distance.
- It might observe the outer environment of the Sun.
- It will neither land on the Sun nor technique the Sun any nearer.

#### Scientific payloads

- **The Solar Ultraviolet Imaging Telescope (SUIT):** It captures high-resolution photographs in 11 distinct NUV bands, permitting the study of multiple sun layers.
  - Solar Low Energy X-ray Spectrometer (SoLEXS), and High Energy L1 Orbiting X-ray Spectrometer (HEL1OS) reveal solar X-ray emissions to locate flare activity.

#### Importance

- A significant revelation is the correlation among localized brightening in the lower environment and an increase in plasma temperature within the solar corona, validating long-status theories about solar flare physics.

#### Solar Corona: The Sun's Outermost Layer

- The solar corona is the Sun's outermost layer of environment, fabricated from ionized gas. It's seen for the duration of a total solar eclipse or with a special telescope called a coronagraph.
- **Characteristics of the Solar Corona**
  - **Extremely Hot:** Temperatures range from 1 to 10 million Kelvin, warmer than the Sun's surface.
  - **Plasma Composition:** Made of enormously ionized fuel.
  - **Dynamic Structure:** Constantly changing because of the Sun's magnetic fields.
  - **Emits High-Energy Radiation:** Produces considerable ultraviolet and X-ray radiation.
- **Importance of the Solar Corona**
  - Helps in understanding solar processes and predicting heliospheric events.
  - Responsible for the solar wind, formed by the outward expansion of corona plasma.

#### Solar Flare

- A solar flare is an unexpected and severe burst of solar power from the Solar environment.
- This phenomenon is the result of the Sun's magnetic field.
- The magnetic subject of the Sun is very dynamic in nature. Sometimes they snap and release severe bursts of power – like an effective, short flash.

- These flares emit radiation throughout the electromagnetic spectrum, together with X-rays and ultraviolet light, and may affect space weather, disrupting satellite communications, GPS, and energy grids on Earth.
- Solar flares frequently originate from sunspots and are categorised into categories (A, B, C, M, and X) based on their depth.

### **Solar Ultraviolet Imaging Telescope (SUIT)**

- SUIT is one of the seven payloads on Aditya-L1, designed to capture full-disk images of the Sun in the 2000–4000 Å wavelength pattern, which has in no way been acquired before.
- **Key Features & Importance**
  - Records pictures in a wavelength important for keeping Ozone and Oxygen in Earth's environment.
  - Measures UV radiation, which may be hazardous for skin cancer.
  - Addresses fundamental questions about the higher-temperature sun environment and the foundation of near-ultraviolet radiation.
  - Aids in reading high-energy solar flares and solar radiation from Hard X-ray to Infrared.
  - Supports in-situ measurements of solar wind particles and the Sun's magnetic field at L1 point.

**Source:** [The PIB](#)

### **Mains PYQ**

#### **1. Discuss India's achievements in the field of Space Science and Technology. How has the application of this technology has helped India in its socio-economic development? (2016)**

- Aditya-L1 has made a huge discovery by taking pictures of the first-ever image of a solar flare 'kernel' within the lower solar ecosystem (photosphere and chromosphere).
- It was launched in September 2023, by ISRO's PSLV C-57 rocket.
- It was placed in a halo orbit across the Earth-Sun Lagrange Point (L1) in January 2024.
- It is India's first committed space-based solar mission.
- It remains about 1.5 million km far away from Earth, directed in the direction of the Sun, which is 1% of the Earth-Sun distance.
- It might observe the outer environment of the Sun.

## **[2.4] Cities Coalition for Circularity (C-3)**

### **Syllabus - Infrastructure [GS Paper-3]**

#### **Context**

Recently, India has launched the Cities Coalition for Circularity (C-3), a multi-nation alliance aimed at fostering urban-to-urban collaboration, knowledge-sharing, and private sector partnerships throughout the 12th Regional 3R and Circular Economy Forum in Asia and the Pacific, held in Jaipur.



## Key Highlights

- The Prime Minister of India emphasised India's dedication to the Pro-Planet People (P3) method and the importance of the 3R (Reduce, Reuse, Recycle) for sustainable urban development.
- A Memorandum of Understanding (MoU) for [CITIIS 2.0](#) (urban Investments to Innovate, Integrate, and Sustain) was signed.
  - It includes agreements worth ₹1,800 crore, benefiting 18 cities throughout 14 states and serving as lighthouse projects for different urban regions.

## Background

- The Regional 3R and Circular Economy Forum in Asia and the Pacific discussion board was launched in 2009 with the objective of local cooperation for sustainable waste management and circular economy initiatives in the hastily urbanizing and industrializing Asia-Pacific.
- Hanoi 3R Declaration (2013-2023) mentioned 33 voluntary goals for transferring in the direction of a more resource efficient and circular economy.
- It has been actively negotiating for a '[Global Plastic Treaty](#)'.

## Cities Coalition for Circularity (C3)

- It is a multi-state alliance designed to help urban centers adopt circular economy standards by integrating sustainable practices into urban planning, waste management, and useful resource usage.
- Focuses on lowering waste technology by segregation, composting, and upcycling, improving resource efficiency by promoting reuse and shared materials, and inspiring sustainable infrastructure.

## Importance of C3 for Urban Sustainability

- **Mitigating Climate Change:** By lowering waste and optimizing aid use, C3 helps reduce greenhouse gas emissions.
- **Economic Benefits:** Transitioning to a circular economic system can create new business opportunities in recycling, remanufacturing, and waste control sectors.
- **Resilient Cities:** A circular economy version ensures that towns turn out to be less dependent on finite sources, making them more resilient to supply chain disruptions and economic downturns.
- **Job Creation:** It generates employment in sectors like renewable energy, sustainable production, and eco-friendly product production.
- **Improved Quality of Life:** Cleaner environments, higher waste control, and greener urban spaces result in progressed public health and improved usual well-being for residents.

## Global and Indian Context

- Several cities throughout the globe, along with Amsterdam, Copenhagen, and Tokyo, have already applied circular economy regulations under the C3 framework.
- In India, circularity is gaining traction through initiatives like:
  - **Swachh Bharat Mission:** Encouraging waste segregation and recycling.
  - **Smart Cities Mission:** Promoting sustainable urban development.
  - **Extended Producer Responsibility (EPR):** Holding groups responsible for the lifecycle of their products.
  - **GOBAR-Dhan Scheme:** Currently covers 67.8% of the total districts in India.

## Challenges in Implementing Circularity in Cities

- Lack of Awareness and Technical Expertise.
- High Initial Investment Costs.
- Resistance to Change from Businesses and Consumers.
- Insufficient Policy Support and Enforcement Mechanisms.

## Way Forward

- Develop and put in force regulations that mandate circular economy practices.
- Invest in studies and innovation for sustainable substances and methods.
- Promote attention campaigns to train groups on circular residing.
- Strengthen public-private partnerships to scale up circular economy projects.

Source: [The PIB](#)

## Mains PYQ

*1. Do government's schemes for up-lifting vulnerable and backward communities by protecting required social resources for them, lead to their exclusion in establishing businesses in urban economies? (2014)*

- Recently, India has launched the Cities Coalition for Circularity (C-3), a multi-nation alliance aimed at fostering urban-to-urban collaboration, knowledge-sharing, and private sector partnerships throughout the 12th Regional 3R and Circular Economy Forum in Asia and the Pacific, held in Jaipur.
- The Prime Minister of India emphasised India's dedication to the Pro-Planet People (P3) method and the importance of the 3R (Reduce, Reuse, Recycle) for sustainable urban development.
- A Memorandum of Understanding (MoU) for [CITIIS 2.0](#) (urban Investments to Innovate, Integrate, and Sustain) was signed.
  - It includes agreements worth ₹1,800 crore, benefiting 18 cities throughout 14 states and serving as lighthouse projects for different urban regions.

## [2.5] Capital Account Convertibility (CAC)

### Syllabus - Economy [GS Paper-3]

#### Context

The Chairman of the 16th Finance Commission, Arvind Panagariya, stated that India must not rush into full capital account convertibility at its current per capita income level.

#### Capital Account Convertibility (CAC)

- Capital account convertibility refers to converting local financial property into foreign ones freely and vice versa without restrictions.
- It permits unrestricted capital movement for foreign investments, asset purchases, and remittances.

## Current Status of Capital Account Convertibility

- India follows a partial capital account convertibility regime.
- While present day account transactions (which includes trade in goods and services) are fully convertible, capital account transactions are regulated.
- Key aspects of India's capital account framework include;
  - **Foreign Direct Investment (FDI)** is basically liberalized but still issued to sectoral caps and government approvals in sensitive regions.
  - **Foreign Portfolio Investment (FPI)** is authorized with regulations on ownership limits in certain sectors.
  - Outward investments by Indian citizens are allowed but in prescribed limits under the [Liberalized Remittance Scheme \(LRS\)](#).

## Advantages of Full CAC

- **Greater Capital Inflows:** Free capital movement attracts more foreign investments, boosting financial growth and infrastructure development.
- **Integration with Global Markets:** Increased economic integration complements India's competitiveness and access to international financial markets.
- **Improved Credit Rating:** A more open capital account can sign economic adulthood and balance, enhancing investor self assurance.

## Challenges of Full CAC

- **Macroeconomic Instability:** Unrestricted capital flows can cause high volatility in trade charges and inflation, affecting financial stability.
- **Risk of Capital Flight:** In instances of financial uncertainty, fast outflows of capital could destabilize financial markets and drain foreign exchange reserves.
- **Exposure to External Shocks:** Open capital accounts make an economic system liable to global financial crises and surprising capital reversals.
- **Banking Sector Vulnerabilities:** A fully convertible capital account requires a robust financial system able to cope with outside shocks without immoderate government intervention.

## Tarapore Committee Recommendations

- **Fiscal consolidation:** Maintain economic deficit around 3-3.5% of GDP for macroeconomic stability.
- **Economic Policy Objectives:** Align inflation rates to global levels and ensure interest fees replicate inflation differentials.
- **Institutional Strengthening:** Enhance financial policy framework for higher decision-making.
- **Banking System Reforms:** Strengthen banks by restructuring, safeguards, and potential-constructing for liberalized capital flows.
- **Adequacy of reserves:** With implementation of full CAC, adequacy of reserves might be a critical parameter in gauging an economic system's ability to take in outside shocks.

## Conclusion

- While capital account convertibility gives capacity benefits, India must adopt a practical approach thinking about its financial conditions.
- A premature shift to full convertibility could expose the financial system to economic instability.

- A properly-calibrated approach that specializes in financial sector reforms, alternate rate stability, and macroeconomic resilience will be crucial in determining the right route towards more capital account openness.

**Source: The PIB**

### **Mains PYQ**

**1. Discuss the recommendations of the 13th Finance Commission which have been a departure from the previous commissions for strengthening the local government finances. (2013)**

- The Chairman of the 16th Finance Commission, Arvind Panagariya, stated that India must not rush into full capital account convertibility at its current per capita income level.
- Capital account convertibility refers to converting local financial property into foreign ones freely and vice versa without restrictions.
- It permits unrestricted capital movement for foreign investments, asset purchases, and remittances.

## **[2.6] A sharp reduction in India's poverty and inequality**

### **Syllabus - Economy [GS Paper-3]**

#### **Context**

According to a study by economists Surjit S Bhalla and Karan Bhasin, India has witnessed a sharp decline in poverty and inequality during the last decade.

#### **Key Highlights**

- The study is based on government household expenditure data from 2022-23 and 2023-24.
- **Poverty Reduction:** India's poverty price on the \$3.65 PPP line dropped from 52% in 2011-12 to 15.1% in 2023-24. Extreme poverty on the \$1.90 PPP line is now under 1%.
- **Consumption Growth:** Largest improvements in consumption seen in the backside 3 deciles of the population, showing record increases.
- **Declining Inequality:** Consumption inequality has decreased, with the Gini coefficient losing from 37.5 in 2011-12 to 29.1 in 2023-24.
- **Global Context:** India's reduction in inequality is exceptional for a huge, fast-developing economy, with only Bhutan and the Dominican Republic having better records (with smaller populations).
- **New Poverty Line Needed:** Current poverty traces are previous, suggesting a new benchmark based on the lowest 33rd percentile or relative poverty measures like Europe's.
  - NITI Aayog has yet to revise reputable poverty estimates, last set by the Tendulkar and Rangarajan committees.

#### **Poverty Line Estimation in India**

- **Tendulkar committee (2009):** Poverty line in the Suresh Tendulkar method was expenditure of ₹33 a day in urban areas and ₹27 a day in rural regions.
  - The country wide poverty line for 2011-12 was envisioned at Rs. 816 per capita per month for rural regions and Rs. 1,000 per capita per month for urban regions.

- **Rangarajan committee (2014):** In the Rangarajan methodology, it was ₹47 a day in urban areas and ₹30 a day in rural regions.
  - The authorities did not take a call on the report of the Rangarajan Committee, consequently, poverty is measured using the Tendulkar poverty line.
- **International Poverty Line:** The World Bank defines someone as extraordinarily bad if someone is living on much less than \$2.15 per day, which is adjusted for inflation as well as rate differences between nations.

### Concerns with India's Calculation of Poverty Line

- **Inadequate Thresholds:** The updated poverty line of Rs 965 (urban) and Rs 781 (rural) per month is seen as too low to reflect simple living standards, leading to complaints for not accurately capturing poverty.
- **Outdated Methodology:** It specializes in calorie consumption and fails to reflect current consumption patterns and desires.
- **Limited Consideration of Non-Food Needs:** The poverty line doesn't completely account for growing personal costs in health, education, and other important offerings.
- **State-Level Variations:** The same poverty line is carried out uniformly across states despite vast regional price-of-living differences, which distorts the accuracy of poverty assessments.
- **Lack of Regular Updates:** The official poverty line hasn't been updated in alignment with newer financial realities, such as inflation or changes in consumption patterns, making it much less applicable.

### Way Ahead

- Periodically revise the poverty line to reflect current financial conditions, inflation, and converting consumption patterns.
- **Broaden Criteria:** Incorporate non-food factors like fitness, education, and housing into the poverty line calculation to higher reflect the real cost of living.
- **Regional Adjustments:** Implement location-particular poverty lines to account for variations in fee of residing throughout states and regions.
- **Adopt Modern Methodologies:** Move far from outdated calorie-based measures and adopt more holistic signs, which include nutritional needs and usual well-being.

**Source: The PIB**

### Mains PYQ

#### 1. COVID-19 pandemic accelerated class inequalities and poverty in India. Comment. (2020)

- According to a study by economists Surjit S Bhalla and Karan Bhasin, India has witnessed a sharp decline in poverty and inequality during the last decade.
- The study is based on government household expenditure data from 2022-23 and 2023-24.
- **Poverty Reduction:** India's poverty price on the \$3.65 PPP line dropped from 52% in 2011-12 to 15.1% in 2023-24. Extreme poverty on the \$1.90 PPP line is now under 1%.
- **Consumption Growth:** Largest improvements in consumption seen in the backside 3 deciles of the population, showing record increases.
- **Declining Inequality:** Consumption inequality has decreased, with the Gini coefficient losing from 37.5 in 2011-12 to 29.1 in 2023-24.
- **Global Context:** India's reduction in inequality is exceptional for a huge, fast-developing economy, with only Bhutan and the Dominican Republic having better records (with smaller populations).

- **New Poverty Line Needed:** Current poverty traces are previous, suggesting a new benchmark based on the lowest 33rd percentile or relative poverty measures like Europe's.

## [2.7] Legal framework for Virtual Digital Assets (VDAs)

### Syllabus - Economy [GS Paper-3]

#### Context

India's Income Tax Bill, 2025 introduces a legal framework for Virtual Digital Assets (VDAs), aligning the country's tax form with global requirements.

#### Virtual Digital Assets (VDAs)

- VDAs have been described within the Finance Act, 2022 with the advent of clause 47A to Section 2 of the Income Tax Act, 1961.
- The Supreme Court, within the Internet and Mobile Association of India v. RBI case, noted the FATF Report's definition of virtual forex (VC), describing it as a digital unit that acts as a medium of exchange, unit of account, and store of value, but isn't government-issued criminal gentle.
- The Court also interpreted VDAs as property, commodity, or fee method, and concluded they may be handled as intangible property or goods.

#### Introduction of VDA Taxation in India

- India's Income Tax Bill, 2025 classifies VDAs (which includes crypto property, NFTs, etc.) as assets and capital assets.
- This aligns India with global practices just like the U.K., Australia, and New Zealand, in which VDAs are handled as assets for tax purposes.
  - VDAs might be taxed beneath capital gains provisions.
- Profit from the sale of VDAs may be taxed based on quick-term or long-time period capital gains guidelines, depending at the preserving duration.

#### Features

- A flat 30% tax rate is applied on VDA income from transfers, without any deductions for transaction prices, unlike a few international locations like the UAE.
- A 1% TDS (Tax Deducted at Source) is imposed on VDA transfers, even for peer-to-peer (P2P) transactions.
- TDS exemption thresholds are ₹50,000 for small buyers and ₹10,000 for others.
- Tax authorities can capture VDAs during investigations or tax raids, similar to assets like cash or gold.
- Entities dealing in VDAs (including exchanges and wallet providers) are required to record transactions in a prescribed format.
- VDAs ought to be included inside the Annual Information Statement (AIS), ensuring computerized recording in taxpayers' financial profiles.

#### Importance

- The requirement for reporting VDA transactions increases transparency and enables prevent tax evasion, as the government can track huge crypto transactions via mechanisms like Tax Deducted at Source (TDS).

- The taxation of VDAs as property may alter investment conduct by introducing more financial sector, encouraging investors to cautiously don't forget tax implications before trading.
- It will foster foreign investment and self belief and it complements the credibility of India's digital asset market on the global level.

### Challenges

- Despite advancements in taxonomy and taxation, there are gaps in investor safety, market regulation, and enforcement mechanisms.
- A 30% tax rate can result in a higher tax burden on individuals trading VDAs in comparison to conventional investments, specifically for common investors.

### Suggestions

- India's circulate to deal with VDAs as assets and capital property aligns with global standards like the U.K. And the U.S., improving the criminal reputation and regulatory framework for digital assets.
- But a comprehensive policy framework integrating financial rules, purchaser rights, and technology is essential for a strong digital asset environment.

**Source:** [The Hindu](#)

### Mains PYQ

**1. With reference to "Blockchain Technology", consider the following statements: (2020)**

- 1. It is a public ledger that everyone can inspect, but which no single user controls.**
- 2. The structure and design of blockchain is such that all the data in it are about cryptocurrency only.**
- 3. Applications that depend on basic features of blockchain can be developed without anybody's permission.**

**Which of the statements given above is/are correct?**

- 1 only**
- 1 and 2 only**
- 2 only**
- 1 and 3 only**

**Ans: (d)**

- India's Income Tax Bill, 2025 introduces a legal framework for Virtual Digital Assets (VDAs), aligning the country's tax form with global requirements.
- India's Income Tax Bill, 2025 classifies VDAs (which includes crypto property, NFTs, etc.) as assets and capital assets.
- This aligns India with global practices just like the U.K., Australia, and New Zealand, in which VDAs are handled as assets for tax purposes.
  - VDAs might be taxed beneath capital gains provisions.
- Profit from the sale of VDAs may be taxed based on quick-term or long-time period capital gains guidelines, depending at the preserving duration.

## [2.8] Amendments to the Advocates Act and Their Impact

### Syllabus: Governance [GS Paper-2]

#### Context

The Advocates (Amendment) Bill, 2025, has sparked widespread debate in India, with its proposed changes to the Advocates Act, 1961. While the government claims the amendments aim to modernize the legal profession and align it with global standards, they have faced significant opposition from lawyers and legal associations.

#### Key Proposed Amendments

##### 1. Expansion of the Definition of Legal Practitioner

- The bill proposes widening the definition of "legal practitioner" to encompass not only advocates practicing in courts but also attorneys engaged in corporate advisory work, in-house counsel, and legal professionals working in either private or public organizational setups, statutory organizations, and foreign law firms. Encouraging such legal practice would acknowledge the growing need for legal expertise in non-litigation jobs such as corporate advisory, policymaking, or compliance.

##### 2. Require Registration with the Bar Association

- A new provision requires advocates to register with any Bar Association where they principally practice. The advocate must give 30 days' notice following any change in the location/area of practice. One advocate can vote only in one Bar Association. This change aims to reduce the hassle in the regulation process; nevertheless, the regulations could create unnecessary hurdles.

##### 3. Strikes Banned

- The advocates have been explicitly prohibited, under section 35A, from strikes or boycotts which slow down court proceedings. Professional misconduct will be charged with violations, and disciplinary measures will follow. Symbolic protests or one-day strikes can be permitted only by not impairing the court work; critics argue that this provision curbs the independence of the Bar.

##### 4. Regulation of Foreign Law Firms

- The bill envisages the establishment of a regulatory framework for foreign law firms operating in India. This is seen as an important step to liberalize the Indian legal market. Therefore, while it would increase the level of competition and bring in more experienced personnel from global territories, it may lock horns with domestic law firms.

##### 5. Nominations for BCI

- The central government would gain the power to nominate three representatives to the BCI, along with existing members like the Attorney General and Solicitor General. This raises fears concerning governmental interference within an autonomous body.

##### 6. Advisory and Regulatory Bodies

- The bill proposes setting up an advisory body under the BCI to oversee law education, research, and professional standards. It also provides for the periodic verification of practitioners' qualifications and places of work. Recognition of Bar Associations for various levels (Supreme Court, High Courts, Tribunals) has also been provided.

##### 7. Reforms in Legal Education

- All undergraduate and postgraduate courses in law proposed should be based on entrance tests. Periodic training programs for advocates will ensure that their knowledge is regularly updated concerning laws and technologies. It also has the view of a compulsory Bar Exam for would-be advocates.



## 8. Gender Representation

- The BCI should be gender inclusive, with at least two women being co-opted from among eminent female advocates to its membership.

## Implications of the Amendments

### 1. Modernization of Legal Practice

- By expanding the definition of legal practitioners and recognizing corporate lawyers, the bill acknowledges evolving trends in legal services.
- It aligns Indian legal practices with global standards, making them more inclusive and competitive internationally.

### 2. Enhanced Regulation

- Mandatory registration with Bar Associations and periodic credential verification aim to improve accountability within the profession.
- However, these measures could increase administrative burdens on advocates.

### 3. Challenges to Bar Autonomy

- Provisions like government-nominated members in the BCI and restrictions on strikes have been criticized as threats to the independence of legal institutions.
- Lawyers argue that these changes could undermine self-regulation within the profession.

### 4. Impact on Foreign Law Firms

- Allowing foreign law firms could foster competition but may disadvantage smaller domestic firms that lack resources to compete on a global scale.

### 5. Improved Legal Education

- Standardized entrance tests and mandatory training programs would raise professional standards.
- However, these reforms require robust implementation mechanisms to avoid becoming mere formalities.

## Criticism and Protests

The amendments have faced significant opposition from lawyers' associations:

- The Bar Council of India (BCI) has objected to provisions like strike prohibition and government nominations, citing concerns over autonomy.
- Widespread protests have been organized against these reforms, forcing the government to withdraw the draft bill temporarily for revisions after public consultations ended in February 2025.

## Conclusion

The Advocates (Amendment) Bill, 2025, represents a landmark attempt at reforming India's legal profession by introducing modern practices and improving regulation. However, its contentious provisions have sparked debates over autonomy, government interference, and administrative challenges. While some changes could elevate professional standards and align with global norms, addressing stakeholders' concerns is crucial for effective implementation without compromising institutional independence.

Source: [The Hindu](#)

Q. Discuss the key provisions of the Advocates (Amendment) Bill, 2025, and critically analyze its potential impact on the legal profession in India.

## [2.9] India's Path to High-Income Status by 2047

### Syllabus: Economic Development [GS Paper-2]

#### Context

India aspires to achieve high-income status by 2047, coinciding with the centenary of its independence. According to the World Bank's recent "India Country Economic Memorandum," this ambitious goal requires India to sustain an average growth rate of 7.8% over the next 22 years. While India has demonstrated remarkable economic progress, achieving this target demands bold reforms across various sectors, including financial systems, labor markets, and infrastructure development.

#### India's Economic Achievements as a Foundation

India's economic journey since 2000 has been extraordinary:

- **Rapid Growth:** The economy grew at an average rate of 6.3% between 2000 and 2024, quadrupling in size during this period.
- **Global Standing:** India's share in the global economy doubled from 1.6% in 2000 to 3.4% in 2023, making it the world's fifth-largest economy.
- **Poverty Reduction:** A steep decline in extreme poverty and significant improvements in infrastructure and service delivery have been key milestones.

These achievements provide a strong foundation for India to aim for high-income status. However, the report emphasizes that "business-as-usual" approaches will not suffice.

#### Challenges on the Path to High-Income Status

The World Bank identifies several challenges that India must address:

- **Gross National Income (GNI) Per Capita:** To achieve high-income status, India's GNI per capita must increase nearly eightfold from current levels.
- **Global Economic Environment:** The external environment is less conducive to rapid growth compared to earlier decades, necessitating domestic reforms.
- **Inclusive Growth:** Ensuring balanced development across states and raising female labor force participation are critical for equitable growth.

#### Key Reform Areas for Sustained Growth

To achieve the required growth rate of 7.8%, the World Bank recommends reforms in four critical areas:

##### 1. Increasing Investments

- **Current Scenario:** Total investment stands at 33.5% of GDP.
- **Target:** Raise investment levels to 40% of GDP by 2035 to drive economic expansion.
- **Focus Areas:** Infrastructure development, manufacturing, and green technology.

##### 2. Enhancing Job Creation

- **Labor Force Participation:** Increase overall participation from 56.4% to over 65%, with a focus on raising female participation from 35.6% to 50% by 2047.

- Better Jobs: Invest in human capital and create enabling conditions for high-productivity employment.

### 3. Structural Reforms

- **Land and Labor Markets:** Simplify regulations to attract investments and improve productivity.
- **Trade and Technology:** Deepen integration into global value chains and adopt advanced technologies for industrial transformation.

### 4. Balanced State Growth

- Promote equitable growth across states by addressing regional disparities in income and infrastructure development.

### Lessons from Other Countries

The report draws lessons from countries like Chile, South Korea, and Poland that successfully transitioned from middle- to high-income economies:

- Deepening global economic integration.
- Leveraging demographic dividends through investments in education and skill development.
- Sustained policy reforms tailored to national contexts.

### Demographic Dividend as a Key Driver

India's young population offers a unique opportunity:

- By investing in education, healthcare, and skill development, India can harness its demographic dividend.
- Formalizing the economy further can boost productivity, as informal sector firms are less efficient than their formal counterparts.

### Policy Priorities for Long-Term Growth

The World Bank emphasizes policy actions that align with India's growth aspirations:

1. Strengthening fiscal consolidation while maintaining macroeconomic stability.
2. Expanding public digital infrastructure to enhance service delivery.
3. Promoting innovation and entrepreneurship to drive productivity growth.

### Conclusion

India's aspiration to become a developed nation by 2047 is ambitious yet achievable with accelerated reforms and sustained efforts. The country must build on its past achievements while addressing structural challenges through bold policy measures. By focusing on inclusive growth, increasing investments, creating better jobs, and leveraging its demographic dividend, India can chart its path toward high-income status within a generation.

Source: [TOI](#)

### UPSC Mains Practice Question

**Q. Discuss the role of the World Bank in promoting economic development in developing countries. How effective has it been in addressing poverty and infrastructure gaps? Critically analyze its initiatives with a focus on India. (250 words, 15 marks)**

## [2.10] UGC Redefines Caste Discrimination Rules

### Syllabus: Governance [GS Paper-2]

#### Context

The University Grants Commission (UGC) has recently issued new draft regulations aimed at addressing discrimination in higher education institutions. These regulations redefine 'discrimination' and specifically focus on 'caste-based discrimination' against members of the Scheduled Castes (SC) and Scheduled Tribes (ST). This move follows a Supreme Court directive and petitions highlighting rampant caste discrimination in universities.

#### Background and Context

Caste-based discrimination is a situation that has always existed, and has, therefore, led to exclusion, harassment, and suicides within Indian higher education among students of marginalized communities. Famous among such cases would be those of Rohith Vemula and Payal Tadvi, who allegedly faced caste discrimination on their campuses leading to their deaths by suicide. The UGC in its newly drafted regulations has set out broad undertaking efforts to address such and other issues in higher education policy and equality.

#### Key Provisions of the Draft Regulations

- **Definition of Discrimination:** In redefinition within the new draft regulations, 'discrimination' now refers to any unfairness, differential, or biased treatment against any stakeholder on grounds such as religion, race, caste, sex, or place of birth. These definitions apply to other stakeholders besides students, marking a significant extension of the ambit of the protection against discrimination.
- **Caste-Based Discrimination:** 'Caste-based discrimination' is defined now by the regulations to mean discrimination against Scheduled Castes and Scheduled Tribes. This distinction is in place to better focus means for protecting these communities that have a long history of systemic exclusion and bias.
- **Institutional Mechanisms:** The draft regulations envision the establishment of Equal Opportunity Centers in all higher educational institutions. These centers will offer advice and assistance targeted toward disadvantaged groups and develop a culture of diversity and equity on campus. Furthermore, institutions need to set up equity committees that include women and SC/ST faculty members to address incidents of discrimination immediately.
- **Non-Compliance Penalties:** Severe punishment awaits institutions that fail to comply with these regulations, including de-recognition and restriction from accessing funding. This aims to ensure that any institution takes active, preventive steps to obstruct discrimination and provide a platform where all students feel they are treated fairly.
- **Reporting and Mechanism for Redressal:** The draft regulations provide a fast track through which incidents of discrimination may be dealt with. The aggrieved may report any incident on an online portal or via equity helpline. An equity committee must be convened within 24 hours to take necessary action, and a detailed report is to be submitted in 15 working days.

#### Challenges and Criticisms

- **Clarity Hurdles:** Critics have pointed out that the draft regulations are neither clear nor decipherable about forms of discrimination. They make an explicit mention of disability, which was part of the previous regulations. These critics are critical about new rules since they raise many questions regarding their effectiveness in dealing with all kinds of bias.
- **Fake Complaints:** The draft rules include punishments for making false complaints, and this has been taken by many as a move to discourage any reporting of incidents of discrimination. The provisions have since generated debate as to how the two were to be balanced against each other.

- **Higher Education Effects:** Progressing Towards Equity: The UGC's new draft regulation is toward progression towards a more equalizing environment in higher education. The UGC has focused rules on caste-based discrimination and instituted mechanisms within the institution toward redressal, thereby ensuring that all students would enjoy equal opportunities to succeed.
- **Dealing with Systemic Problems:** Caste-based discrimination occurs within deep, systemic structures within Indian society, which requires systemic changes. The regulations are part of a bigger agenda concerning the demolitions of caste barriers to education and the process of bringing social justice and equality.
- **Moving Forward:** There are positive developments, but many hurdles remain. Little representation of SC/ST faculty members exacerbates the feeling of alienation among marginalized students. Yet the most significant challenge still lies in the compliance with these regulations, as many institutions are not putting the required info related to the anti-discriminatory measures in public domain.

### Conclusion

The UGC's new draft regulations mark a significant step towards addressing caste-based discrimination in higher education. While these regulations face challenges and criticisms, they represent a crucial effort to promote equity and ensure that all students, particularly those from marginalized communities, have a fair and inclusive educational environment. As India strives to build a more just society, these regulations will play a vital role in dismantling systemic barriers and fostering a culture of equality in its educational institutions.

Source: [The Hindu](#)

### UPSC Mains Practice Question

**Q. Despite legal provisions prohibiting caste discrimination, its prevalence in various spheres of Indian society continues to pose a challenge to social justice. Critically examine the effectiveness of legal and policy measures in addressing caste-based discrimination.**

## [2.11] Bhutan in India's Regional Strategy

### Syllabus: International Relations [GS Paper-2]

#### Context

Bhutan occupies a pivotal role in India's regional strategy, particularly amidst the growing influence of China in South Asia. This relationship is shaped by historical ties, geographical proximity, and shared strategic interests. India's approach to Bhutan exemplifies its Neighbourhood-First Policy (NFP), which emphasizes fostering trust, cooperation, and regional stability.

#### Geopolitical Importance of Bhutan

##### Strategic Location:

- Bhutan lies between India and China and thus is a significant strategic buffer state. Its proximity to the Siliguri Corridor, otherwise called Chicken's Neck, enhances its importance. This is a narrow corridor that links India northeastern states to mainland India and is very much important for national security.

- The standoff at Doklam, which took place in 2017, completely reiterated the significance of Bhutan in the security architecture of India. The event that happened recently at the disputed plateau by China is raising alarms for India so that they may start concentrating on strengthening relations with Bhutan to counter China's territorial ambitions.

#### **Buffer From Chinese Influence:**

- Bhutan has resisted the BRI and IPR initiatives, packaging itself as closely tied to India's strategic interests. It's in stark contrast to the other nations in South Asia which have tilted a little more towards China.
- That beyond anything else ensures that continuous economic assistance and infrastructure from India would ensure Bhutan's economic independence and sovereignty away from incursion from the Chinese.

#### **Economic Ties and Development Cooperation**

##### **Hydropower Partnership:**

- For, it is this that powers the Indo-Bhutan Economic Engagement. Bhutan uses the surplus electricity generated from these India-funded hydropower projects to supplement its GDP and to power India's source of energy security.
- From projects such as the Mangdechhu Hydropower Project, the mutual benefit is clearly evident. The Union Budget 25-26 has also provided considerable funds for cross-border energy collaborations in line with India sustainability goals.

##### **Trade Relations:**

- India is Bhutan's biggest trading partner, usually constituting 73% of the total trade figures for the nation. During the past decade, bilateral trade has grown exponentially, thus reinforcing their economic interdependence.
- The India-Bhutan Trade, Commerce, and Transit Agreement provides the basis of a free trade regime that facilitates economic exchanges without restrictions among the two countries.

##### **Infrastructure Development:**

- India continues to support infrastructure development in Bhutan, such as border roads, trade facilitation centers, and modern checkpoints. Such efforts guarantee and improve connectivity in the region within the framework and vision of BBIN (Bangladesh-Bhutan-India-Nepal).

#### **Diplomatic and Security Cooperation**

##### **Neighbourhood-First Policy:**

- Bhutan is central to India's NFP, which prioritizes strong bilateral relations with immediate neighbors to ensure regional stability. The Union Budget 2025-26 reflects this commitment through increased financial aid to Bhutan.
- High-level engagements, such as Bhutanese Prime Minister Tshering Tobgay's participation in Indian forums like the SOUL conclave, further strengthen diplomatic ties.

##### **Countering Regional Challenges:**

- India supports Bhutan in multilateral platforms like SAARC, BIMSTEC, and BBIN to counterbalance China's regional initiatives such as BRI. These coalitions emphasize shared development goals and collective security.
- Continued military cooperation ensures that Bhutan remains aligned with India's security interests. For instance, joint efforts during the Doklam crisis demonstrated their strategic partnership in action.

##### **Emerging Areas of Collaboration**

- **Renewable Energy:** Bhutan aims to become a leader in renewable energy production. This aligns with India's focus on sustainability and green energy initiatives like hydrogen projects. Future collaborations will likely expand in these areas.

- **Digital Economy:** India is supporting Bhutan's digital transformation by integrating fintech solutions such as RuPay cards and UPI payment systems. These innovations facilitate cross-border transactions and deepen economic ties.
- **Climate Resilience:** Both nations are exploring joint efforts in climate resilience strategies to address shared environmental challenges in the Himalayan region.

### Conclusion

Bhutan holds a unique position in India's regional strategy due to its geopolitical significance, economic interdependence, and alignment with Indian security interests. The Union Budget 2025 underscores this relationship by prioritizing financial assistance and collaborative projects aimed at mutual growth. As China deepens its presence in South Asia, maintaining strong ties with Bhutan will remain critical for safeguarding India's strategic primacy and promoting regional stability. Through sustained cooperation across traditional and emerging sectors, the Indo-Bhutan partnership can serve as a model for effective regional diplomacy.

**Source:** [The Indian Express](#)

### UPSC Mains Practice Question

**Q. Discuss the strategic significance of Bhutan in India's regional diplomacy. How do historical, economic, and security considerations shape India's policy towards Bhutan?**

## [2.12] Five-Year Review of PLI Schemes

### Syllabus: Governance [GS Paper-2]

#### Context

The Production Linked Incentive (PLI) schemes were launched by the Indian government in March 2020 as part of the broader "Atmanirbhar Bharat" initiative. The primary goal of these schemes is to enhance domestic manufacturing capabilities, reduce import dependency, and increase exports. Over the past five years, the PLI schemes have undergone significant developments, including expansions to new sectors and the introduction of PLI 2.0 for specific industries.

#### Key Objectives of PLI Schemes

- **Boost Domestic Manufacturing:** The PLI schemes aim to increase production capacity across various sectors, including electronics, pharmaceuticals, and automobiles.
- **Reduce Import Dependency:** By incentivizing local production, the schemes seek to decrease reliance on imported goods.
- **Promote Exports:** The focus is on enhancing export capabilities to make India a global manufacturing hub.
- **Create Employment Opportunities:** The schemes aim to generate jobs both directly and indirectly through increased manufacturing activities.

## Impact of PLI Schemes Over Five Years

### Economic and Industrial Upgrade

- The PLI schemes have attracted investments of 1.32 lakh crore as of June 2024 since their inception, giving manufacturing a boost worth 10.9 lakh crores. This influx of capital not only improved production but also enhanced India's economy by generating over 8.5 lakh jobs.

### Sectoral Success Stories

- **Electronics Manufacturing:** From being a net importer of mobile phones, India has become an exporter to the world. Mobile phones produced in India increased from 5.8 million units in 2014-15 to 33 million units in 2023-24, and five million of these were exported.
- **Pharmaceuticals and Medical Devices:** The PLI schemes massively contributed to India's position as the number three tier in drugs and pharmaceuticals by volume, aided the significant reduction in raw material imports, and actual manufacturing of some of the critical medical devices now in India.
- **Automotive:** In the case of the automotive industry, the PLI schemes have encouraged manufacturers, both domestic and foreign, to invest in India and have consequently increased production capacity and innovation in electric vehicles and hybrid vehicles.

### Challenges and Future Directions

- **Administrative Complexities:** Even with the PLI schemes established with an air of success, challenges arise due to bureaucratic complexities combined with the absence of a comprehensive Central Database for monitoring variables like job creation, export growth, etc. The redressal of these variables is going to be of utmost importance to evaluate and consider the schemes' extension.
- **PLI 2.0:** The Next Phase: PLI 2.0 aims to build upon the successful implementation of the first schemes by affording clearly targeted incentives alongside flexible approaches to applicants. PLI 2.0 for IT Hardware, for instance, launched in May 2023, targets enhancing India's electronics manufacturing ecosystem with a budget of ₹17,000 crores over the next six years. This stage is poised to attract sizable investments leading to job creation and a further decline in import dependency.

### Future Strategies

To push manufacturing forward, the government should consider the following strategies:

- **Enhance Transparency and Governance:** Implementing a centralized database to monitor outcomes and ensuring transparent allocation of incentives can improve the effectiveness of the schemes.
- **Expand to New Sectors:** Continuously assessing and expanding the PLI schemes to emerging sectors can help maintain momentum in India's manufacturing growth.
- **Invest in Infrastructure and Skill Development:** Supporting infrastructure development and skill enhancement programs can complement the PLI schemes by creating a more conducive manufacturing environment.

### Conclusion

The PLI schemes have been instrumental in transforming India's manufacturing landscape over the past five years. As the government considers PLI 2.0 and future expansions, addressing existing challenges and aligning strategies with global trends will be crucial for sustaining growth and achieving the vision of a self-reliant India. By focusing on key sectors, enhancing governance, and promoting technological advancements, India can continue to evolve as a significant player in global manufacturing.

Source: [The Indian Express](#)



## UPSC Prelims Practice Question

Q. Consider the following statements regarding the Production-Linked Incentive (PLI) Scheme:

1. The PLI Scheme is aimed at enhancing domestic manufacturing and reducing import dependency.
2. The incentives under the PLI Scheme are based on incremental sales of goods manufactured in India.
3. The scheme is applicable to all sectors of the Indian economy without any specific focus areas.

Which of the statements given above is/are correct?

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

Ans- A

## [2.13] EC to Eliminate Duplicate Voter IDs

### Syllabus: Governance [GS Paper-2]

#### Context

The Election Commission of India (ECI) has been addressing concerns regarding duplicate voter ID numbers, which have raised questions about electoral integrity. This issue has been clarified by the ECI, emphasizing that duplicate EPIC numbers do not indicate fake voters but rather a legacy of a decentralized system. In response, the ECI is taking steps to assign unique EPIC numbers to all voters and enhance the ERONET 2.0 platform.

#### Background: Duplicate EPIC Numbers Matter

- Allegations against purveyors of electronic rolls regarding duplicate EPIC numbers have been rife on social media, with opposition leaders jumping into the fray. The ECI has clarified that these duplicates emanated from a decentralized system in which states used the same alphanumeric series before switching over to a centralized system. Accordingly, voters can share EPIC numbers, but their demographic details, assembly constituency, and polling booth information would be unique.

#### Remedial Measures against Duplicate EPIC Numbers

In consequence of duplicate EPIC numbers, the ECI has proposed some techniques to ensure electoral transparency:

- **Unique EPIC Numbers for All Voters:** The ECI plans to provide an individual EPIC number for each of the voters for the very reason that no confusion exists regarding whose identities are concerned. Under this measure, the ECI will make the electoral process stronger and make it incapable of being misused through any duplicate number.
- **Enhancement of ERONET 2.0 Platform:** The ERONET 2.0 platform upgrade is initiated to give a more streamlined voter registration as well as an efficient EPIC number assignment system for voters. This digital platform will assist in identifying and rectifying duplicate EPIC

numbers in such a way that all voters will be having unique identifiers. The enhancement will not only help track and manage the voter data more purposefully but will also add value to the robustness of the electoral system.

### Significance of Voter ID Cards

- Voter ID cards are very important documents from the Election Commission of India that serve, apart from establishing voting eligibility, as a key identity and address proof for different official work. Most importantly, given the value of these documents, proper referencing to maintain unique voter ID records becomes equally important.
- **Role in Electoral Process:** Voter ID cards are very important for exercising the right to vote. They verify a voter's identity, permitting eligible citizens to cast ballots. The ECI's attempts to eliminate duplicate EPIC numbers will ensure that the electoral process remains clean and free from any malintent concerning the misuse of voter IDs.
- **Use Apart from Voting:** Voter ID cards serve as identity; apart from voting, they are used as address proof such as while opening a bank account or getting a government service. So, these require to be accurate and unique for electoral integrity and general administrative work.

### Process for Managing Duplicate Voter ID Cards

In cases where individuals have duplicate voter ID cards, it is essential to cancel one to avoid legal complications and ensure voting rights are not jeopardized. Here's how to manage duplicate voter ID cards:

- **Cancellation Process:** To cancel a duplicate voter ID card, individuals can use the National Voter Services Portal (NVSP) or visit their local electoral office. The process involves submitting Form 7 along with necessary documents like proof of identity and residence. This ensures that only one valid voter ID remains active for each citizen.
- **Online Cancellation via NVSP:** The NVSP offers a convenient online method for cancelling voter ID cards. Users can log in, navigate to the cancellation section, and upload required documents. An acknowledgement number is provided to track the application status.
- **Offline Cancellation:** For those preferring an offline approach, visiting the local Electoral Registration Officer (ERO) and submitting Form 7 with supporting documents is an option. This method also involves a verification process before the cancellation is confirmed.

### Conclusion

The Election Commission of India's efforts to remove duplicate EPIC numbers and enhance the electoral system are crucial steps towards ensuring the integrity and transparency of the democratic process. By assigning unique EPIC numbers and upgrading the ERONET 2.0 platform, the ECI aims to prevent any potential misuse of voter IDs and maintain the trust of citizens in the electoral system. Additionally, managing duplicate voter ID cards through cancellation processes helps maintain accurate electoral records, which are essential for a fair and robust democratic process.

Source: [The Hindu](#)

### UPSC Prelims Practice Question

Q. Consider the following statements regarding Voter ID in India:

1. Voter ID is issued by the Election Commission of India.
2. It serves as both an identity proof and an address proof for various purposes.
3. Possession of a Voter ID is mandatory for voting in elections.

Which of the statements given above is/are correct?

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

Answer: (a) 1 and 2 only

## [2.14] Australia: A Partner in India's Growth Trajectory

### Syllabus: International Relations [GS Paper-2]

#### Context

The relationship between India and Australia has evolved into a robust partnership, driven by shared economic interests, strategic alignment, and historical ties. This collaboration is not only beneficial for the two nations but also contributes to regional stability and global economic growth.

#### Historical and Strategic Foundations

- **Shared Democratic Values:** India and Australia have common democratic values and a Westminster-style system of governance and have had a history of cooperating in the Commonwealth. These shared values laid the foundation of trust and cooperation toward each other.
- **Strategic Development in the Indo-Pacific:** The rise of China as a regional power has further drawn India as well as Australia together in the strategic sphere. Both countries now have a strong interest in stability in the Indo-Pacific region. Their alignment manifests through the Comprehensive Strategic Partnership (CSP) entered into in 2020. India and Australia are taking steps to strengthen their defense cooperation and interoperability with initiatives such as the 2+2 Ministerial Dialogue and military logistics agreements.

#### Economic Synergies

- **Complementary Economies:** The Indian economy and Australia complement each other in terms of economic partnership. While Australia provides essential inputs, such as lithium, nickel, and cobalt, for the industrial growth of India in clean energy and electric vehicles, India provides a large base market for Australian goods and services.
- **Trade agreements that further promote growth:** The major boost that ECTA had given mostly to bilateral trade is that exports of India to Australia grew by 66% in the last five years while Australian businesses in the country get press how access to India's rapidly growing economy. Beyond this, a roadmap to establish a Comprehensive Economic Cooperation Agreement-CECA will further deepen the partnership.

#### Key Sectors of Collaboration

Australia and India have identified several sectors as "Superhighways of Growth," which include:

- **Clean Energy**
  - Australia supports India's transition to renewable energy by supplying critical minerals.
  - Collaboration in green hydrogen and solar energy technologies is being prioritized.
- **Education and Skills Development**
  - Australian universities are expanding their presence in India, contributing to skill development for millions of Indian professionals annually.

- Initiatives like joint research programs foster innovation.
- **Agribusiness**
  - Enhanced trade in agricultural products strengthens food security.
  - Both nations are working on sustainable farming practices.
- **Tourism and Cultural Exchange**
  - Tourism fosters people-to-people ties, with over one million people of Indian origin residing in Australia.
  - Cultural exchanges further strengthen bilateral relations.

Additional areas of cooperation include technology, defense, space exploration, health, sports, and arts.

### **Australia's Confidence in India's Growth**

Australia views India as a rising global power poised to become the world's third-largest economy by 2030. This confidence is rooted in India's rapid economic growth (7.8% annualized) and its structural advantages such as a young labor force and a large consumer market. Recognizing this potential:

- Australia supports India's bid for a permanent seat on the United Nations Security Council.
- Australian businesses are encouraged to invest in infrastructure, manufacturing, and digital transformation initiatives in India.

### **Defense and Security Cooperation**

The defense partnership between India and Australia has grown significantly due to shared concerns about regional security challenges:

- Regular military exercises like AUSINDEX enhance operational coordination.
- Defense technology cooperation is being explored to address mutual security needs.
- Both nations are working on institutionalizing multilateral mechanisms such as Quad (India, Australia, Japan, USA) to ensure Indo-Pacific stability.

### **Challenges and Opportunities**

Despite impressive progress, challenges remain:

- **Economic Reforms in India**
  - While political stability under Prime Minister Narendra Modi has driven modernization efforts, issues like job creation, inequality, and ease of doing business need attention.
- **Geopolitical Risks**
  - Regional tensions involving China-Pakistan dynamics pose risks that require careful management through diplomatic channels.
- **Climate Change Adaptation**
  - Both nations must collaborate on climate resilience strategies given their vulnerability to environmental risks.

Opportunities lie in leveraging their complementarities to address these challenges while fostering innovation-driven growth.

### **Conclusion**

India-Australia relations have entered a new phase of economic and strategic cooperation. With shared values, complementary economies, and aligned strategic interests, Australia is indeed a natural partner for India's growth trajectory. By deepening ties across trade, defense, education, clean energy, and other sectors, both nations are not only securing their futures but also contributing to global stability and prosperity.

Source: [The Hindu](#)

## UPSC Mains Practice Question

Q. Discuss the evolving strategic and economic partnership between India and Australia. How does this relationship contribute to India's growth trajectory? Highlight key areas of cooperation and challenges in this partnership.

## [2.15] Declining Agriculture Trade Surplus

### Syllabus: Agriculture [GS Paper-3]

#### Context

India's agriculture trade surplus, a critical indicator of the nation's agricultural export strength, has been narrowing in recent years. This trend reflects a combination of global economic factors, domestic policy decisions, and structural challenges in the agricultural sector. Below is an in-depth analysis of the reasons behind this decline and its implications.

#### Overview of India's Agriculture Trade Surplus

India has traditionally maintained a strong agriculture trade surplus due to its robust exports of rice, sugar, marine products, and spices. In 2022-23, India's agricultural exports reached \$53.15 billion, while imports stood at \$35.69 billion, resulting in a surplus of \$17.46 billion. However, this surplus has marginally declined from \$17.82 billion in 2021-22. The gap narrows further when fertilizer imports are considered, which rose from \$14.17 billion to \$17.21 billion during the same period.

#### Key Factors Behind the Shrinking Surplus

**1. Declining Global Prices:** Global agricultural commodity prices have softened after peaking during the Russia-Ukraine conflict. The UN Food Price Index (FPI), which measures global food prices, dropped from an average of 139.5 points in 2022-23 to 127.2 points by April 2023. This price decline has reduced India's export competitiveness for key commodities like rice, wheat, and sugar.

**2. Domestic Export Restrictions:** The Indian government has imposed several export restrictions to control domestic food inflation and ensure availability:

- **Wheat:** A ban on wheat exports was implemented in May 2022.
- **Rice:** Broken rice exports were prohibited in September 2022, and a 20% duty was imposed on non-parboiled non-basmati rice shipments. In July 2023, white non-basmati rice exports were banned entirely.
- **Sugar:** Sugar exports were capped in May 2022 and halted altogether in May 2023.

These measures have directly impacted export volumes and revenue.

**3. Rising Agricultural Imports:** India's agricultural imports have grown due to rising demand for edible oils and pulses, which are not sufficiently produced domestically. For example:

- Edible oil imports constitute a significant share of agricultural imports due to low domestic production.
- Cotton imports have surged due to declining domestic production caused by poor yields.

**4. Fertilizer Import Costs:** The rising cost of fertilizer imports has further eroded the trade surplus. Fertilizer imports increased from \$14.17 billion in 2021-22 to \$17.21 billion in 2022-23 due to higher global prices.

## Structural Challenges in Indian Agriculture

Several structural issues exacerbate the shrinking surplus:

- **Low Productivity:** Indian farm yields remain below global averages due to inadequate farmer training, small landholdings, and inefficient farming techniques.
- **Dependence on Monsoons:** Agricultural production is highly dependent on seasonal rainfall, making it vulnerable to climate variability.
- **Post-Harvest Losses:** Poor infrastructure leads to significant post-harvest losses, reducing exportable surpluses.

## Implications of the Shrinking Surplus

- **Impact on Farmers:** The narrowing trade surplus reduces farmers' income potential as global markets for Indian produce shrink. Additionally, cheaper agricultural imports like cotton and edible oils hurt domestic producers by increasing competition.
- **Inflationary Pressures:** Export restrictions aimed at controlling inflation may have short-term benefits but can harm long-term export growth and farmer profitability.
- **Economic Growth:** Agriculture is one of the few sectors where India enjoys a comparative advantage globally. A declining trade surplus could undermine its contribution to overall economic growth.

## Policy Recommendations

To address these challenges and revive the agriculture trade surplus:

1. **Boost Domestic Production:**
  - Invest in improving farm productivity through modern technology and better seeds.
  - Expand irrigation facilities to reduce monsoon dependence.
2. **Reduce Import Dependence:**
  - Promote self-sufficiency in edible oils through initiatives like the National Mission on Edible Oils.
  - Encourage domestic cotton production by addressing yield gaps.
3. **Rethink Export Policies:**
  - Avoid abrupt export bans that disrupt global market confidence.
  - Implement calibrated export policies that balance domestic needs with export growth.
4. **Improve Infrastructure:**
  - Develop cold storage facilities and efficient supply chains to minimize post-harvest losses.
  - Enhance port infrastructure for smoother agricultural exports.
5. **Diversify Export Basket:**
  - Focus on high-value crops like fruits and vegetables.
  - Explore new markets for Indian produce globally.

## Conclusion

India's shrinking agriculture trade surplus is a complex issue driven by global price trends, domestic policy decisions, and structural inefficiencies in the sector. While short-term measures like export restrictions help manage domestic inflation, they can hurt long-term growth prospects for agricultural exports. A balanced approach focusing on boosting productivity, reducing import dependence, and improving infrastructure can help India regain its competitive edge in global agricultural trade.

Source: [The Indian Express](#)

## UPSC Mains Practice Question

Q. India's agriculture trade surplus has been shrinking in recent years. Analyze the key factors contributing to this decline and suggest policy measures to enhance agricultural exports while ensuring food security.

### [2.16] Need for strengthening Tribunals

#### Syllabus - Polity [GS Paper-2]

#### Context

The Supreme Court stressed the need to reinforce tribunals highlighting issues in staff appointments, service conditions, and judicial tenure even as reviewing the Tribunal Reforms Act, 2021.

#### What are Tribunals?

- Tribunals are quasi-judicial bodies set up to solve disputes in specialized areas, ensuring faster and expert adjudication. The 42nd Amendment Act (1976) brought Part XIV-A to the Constitution, introducing:
  - **Article 323A:** Allows Parliament to establish Administrative Tribunals for public provider subjects.
  - **Article 323B:** Empowers Parliament and state legislatures to set up tribunals for taxation, land reforms, industry, and elections.

#### Key Issues Affecting Tribunals

- **Lack of Judicial Independence:** Executive control over appointments, short tenure, and interference dilute tribunals' autonomy.
  - **Example:** The Supreme Court struck down certain provisions of the Tribunal Reforms Act, 2021, which restricted judicial dominance in selection committees.
- **Case Backlogs:** Heavy pendency because of vacancies and gradual disposal of cases.
  - **Example:** Armed Forces Tribunal (AFT) has 18,829 cases pending (2021).
- **Staffing and Infrastructure Deficiencies:** Lack of human resources, inadequate facilities, and negative service conditions.
  - **Example:** NCLT staff recruitment on a contractual basis raised worries over protection and performance in coping with sensitive instances.
- **Overlapping Jurisdiction:** Tribunals and everyday courts regularly deal with similar cases, leading to confusion.
  - **Example:** The Supreme Court has located frequent conflicts between NCLT and High Courts in corporate regulation subjects.

#### Way Forward

- **Enhancing Judicial Independence:** Ensure tribunals have judicial dominance in appointments and protection from executive interference.
- **Setting up a National Tribunals Commission (NTC):** A centralized body to oversee tribunal management, appointments, and working conditions.

- **Filling Vacancies & Infrastructure Development:** Expedite appointments and offer higher facilities for tribunal individuals.
- **Jurisdiction Clarity:** Clearly define the scope of tribunal cases to avoid conflicts with regular courts.

**Source:** [The HT](#)

### **Mains PYQ**

**1. How far do you agree with the view that tribunals curtail the jurisdiction of ordinary courts? In view of the above, discuss the constitutional validity and competency of the tribunals in India? (2018)**

- The Supreme Court stressed the need to reinforce tribunals highlighting issues in staff appointments, service conditions, and judicial tenure even as reviewing the Tribunal Reforms Act, 2021.
- Tribunals are quasi-judicial bodies set up to solve disputes in specialized areas, ensuring faster and expert adjudication. The 42nd Amendment Act (1976) brought Part XIV-A to the Constitution, introducing:
  - **Article 323A:** Allows Parliament to establish Administrative Tribunals for public provider subjects.
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## **[2.17] India's AI Safety Institute**

### **Syllabus - Science and Tech [GS Paper-3]**

#### **Context**

Union Minister Ashwini Vaishnaw introduced India will launch an indigenous AI model and establish an AI Safety Institute (AISI) under the [IndiaAI Mission](#) to ensure secure and trusted AI development.

#### **Global Scenarios**

- Countries like the U.K., U.S., Singapore, and Japan have set up AI Safety Institutes (AISIs) to deal with AI risks, with a focal point on global collaboration and technical expertise.
  - U.K.'s AISI launched the open-supply platform 'Inspect' for evaluating AI models.
  - U.S.'s AISI formed an inter-departmental taskforce to deal with AI risks related to national security and public safety.
  - Singapore's AISI specializes in safe version design and rigorous checking out.

#### **India's AI Safety Institute**

- The AISI will function under the Safe and Trusted Pillar and will focus on addressing AI risks.
- India's AISI will collaborate with academics, startups, enterprise, and government to deal with India's socioeconomic, linguistic, and technological challenges.
- India's AISI will expand indigenous tool and frameworks that prioritize responsible AI at the same time as ensuring interoperability with international AI safety networks.



- India's collaboration with MeitY and UNESCO will help become aware of gaps in AI ethics and development.

### Need

- The Bletchley Declaration from the U.K. AI Safety Summit highlights global threats like cybersecurity and disinformation.
- India's vibrant startup ecosystem, like Karya, is tackling troubles like unrepresentative facts and multilingual AI development for inclusivity.
- The Economic Survey 2024-25 highlighted that India's staff in low-ability and low-fee-added services remains prone to AI disruptions.
- It recommended developing "strong establishments" to assist employees transition to medium- and high-professional jobs, wherein AI can increase rather than update them.

### Importance

- India's AI Safety Institute can champion local issues, inclusive of bias, discrimination, social exclusion, gendered risks, and individual privacy.
- It can have an impact on global discussions on AI risks, mitigations, purple-teaming, and standardization.
- It is a key step in creating a standardized AI safety taxonomy for constant knowledge and conversation amongst stakeholders.
- India can position itself as a unifying voice for the global majority in AI governance, building on its management in G20 and the Global Partnership on AI (GPAI).

### Suggestions and Way Forward

- India's AISI needs to strike a balance between nearby relevance and global alignment by way of adopting international standards even as adapting them to India's context.
- India's AISI needs to help create a global framework to percentage facts about AI models and their capacity influences, selling transparency.
- India can lead AI safety efforts within the Global South by co-developing AI safety frameworks and evaluation metrics to cope with neighborhood challenges.

### IndiaAI Mission

- IndiaAI Mission was launched on March seventh, 2024 to beautify India's international leadership in AI and make sure its benefits reach all sectors of society.
- The Mission has delivered 7 key pillars to bolster India's AI atmosphere.
- It emphasizes developing indigenous technical equipment, hints, frameworks, and requirements that deal with India's specific challenges and opportunities, inclusive of its social, cultural, linguistic, and financial diversity.

**Source:** [The Hindu](#)

### Prelims PYQ

**1. With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)**

1. **Bring down electricity consumption in industrial units**
2. **Create meaningful short stories and songs**
3. **Disease diagnosis**

#### 4. Text-to-Speech Conversion

#### 5. Wireless transmission of electrical energy

Select the correct answer using the code given below:

(a) 1, 2, 3 and 5 only

(b) 1, 3 and 4 only

(c) 2, 4 and 5 only

(d) 1, 2, 3, 4 and 5

Ans: (b)

- Union Minister Ashwini Vaishnaw introduced India will launch an indigenous AI model and establish an AI Safety Institute (AISI) under the [IndiaAI Mission](#) to ensure secure and trusted AI development.
- The AISI will function under the Safe and Trusted Pillar and will focus on addressing AI risks.
- India's AISI will collaborate with academics, startups, enterprise, and government to deal with India's socioeconomic, linguistic, and technological challenges.
- India's AISI will expand indigenous tool and frameworks that prioritize responsible AI at the same time as ensuring interoperability with international AI safety networks.
- India's collaboration with MeitY and UNESCO will help become aware of gaps in AI ethics and development.

## [2.18] Women's Role in India's Financial Growth

### Syllabus - Society [GS Paper-1]

#### Context

Recently NITI Aayog released the report titled "From Borrowers to Builders: Women's Role in India's Financial Growth Story."

#### Key Highlights

- The report sheds light on the role of women entrepreneurs in shaping India's financial landscape.
- **Steady Rise in Women Borrowers:** Women in search of credit grew three times between 2019 and 2024, reflecting growing demand amongst women debtors.
- **Women Borrower Demographics:** About 60% of women debtors availing credit are from semi-urban or rural areas.
  - Women under 30 years of age account for only 27% of retail credit uptake by women, as compared to 40% for men.
- **Credit Supply Trends:** Women's participation in credit origination has visible excellent growth in recent years. Since 2019, the share of Women in Business Loans and Gold Loans has grown by 14% and 6% respectively.
  - By 2024, 42% of loans availed by women had been for personal finance, a moderate increase from 39% in 2019.
  - The majority of loans availed by women remain towards gold – 36% of all loans availed by women in 2024 have been gold loans vs. 19% of loans availed in 2019.
- **Rise in Credit Monitoring and Awareness:** As of December 2024, 27 million women debtors in India have monitored their credit information record and score with CIBIL.

## Significance

- **Economic Growth:** Women represent almost half of India's population but make contributions only 18% to the GDP.
  - Encouraging women entrepreneurs can increase India's GDP by 27%, as per IMF estimates.
- **Employment Generation:** MSMEs owned by women play a crucial role in job introduction and ability development at neighborhood stages.
- **Social Empowerment:** It promotes gender equality by demonstrating women's capacity to steer and control corporations successfully.

## Government Initiatives

- The **National Rural Livelihood Mission** has enabled 9 million women Self Help Groups (SHGs) to enhance their livelihoods by access to formal banking.
- NITI Aayog's **Women Entrepreneurship Platform (WEP)** brings together public and personal sector partners to create a supportive environment for women entrepreneurs.
- The **PM SVANidhi Yojana** supported 30.6 lakh women avenue vendors with 5,939.7 crore in working capital loans as of December 2024.
- **Pradhan Mantri Mudra Yojana (PMMY):** In FY 2023-24, loans totaling INR 2.22 lakh crore had been distributed to 4.24 crore women entrepreneurs.

## Conclusion

- NITI Aayog bolstered that encouraging women entrepreneurs can create employment opportunities for 150 to 170 million people while using more participation of women within the personnel.
- By ensuring easier access to credit, mentorship, and assist systems, India can release the whole potential of women-led businesses.

Source: [The Hindu](#)

## Mains PYQ

### 1. How does patriarchy impact the position of middle-class working women in India? (2014)

- Recently NITI Aayog released the report titled "From Borrowers to Builders: Women's Role in India's Financial Growth Story."
- The report sheds light on the role of women entrepreneurs in shaping India's financial landscape.
- **Steady Rise in Women Borrowers:** Women in search of credit grew three times between 2019 and 2024, reflecting growing demand amongst women debtors.
- **Women Borrower Demographics:** About 60% of women debtors availing credit are from semi-urban or rural areas.
- **Credit Supply Trends:** Women's participation in credit origination has visible excellent growth in recent years. Since 2019, the share of Women in Business Loans and Gold Loans has grown by 14% and 6% respectively.
- **Rise in Credit Monitoring and Awareness:** As of December 2024, 27 million women debtors in India have monitored their credit information record and score with CIBIL.

## Question of the Day

**Do you think India will meet 50 percent of its energy needs from renewable energy by 2030? Justify your answer. How will the shift of subsidies from fossil fuels to renewables help achieve the above objective? Explain.**

*[15 Marks, GS Paper 3, 2022]*

## Answer

India has set an ambitious target of meeting 50% of its energy needs from renewable sources by 2030, as part of its commitment under the Paris Agreement and COP26 Glasgow summit. While the country has made significant progress in expanding its renewable energy capacity, achieving this target will depend on several factors.

### **Prospects of Achieving the Target**

- 1. Current Progress:** India's installed renewable energy capacity has reached over 180 GW (as of 2023), with solar and wind energy leading the transition. The target of 500 GW by 2030 includes non-fossil sources like hydro and nuclear energy.
- 2. Policy Support:** Initiatives like the Green Energy Corridor, Production-Linked Incentive (PLI) scheme for solar manufacturing, and National Hydrogen Mission provide necessary policy backing.
- 3. Declining Costs:** The cost of solar and wind power has declined significantly, making renewables more competitive with fossil fuels.
- 4. International Collaborations:** Partnerships such as the International Solar Alliance (ISA) and foreign investments support India's renewable transition.

### **Challenges**

- 1. Intermittency Issues:** Solar and wind energy are variable sources, requiring grid modernization and storage solutions.
- 2. Infrastructure Bottlenecks:** Land acquisition, transmission networks, and financing remain critical hurdles.
- 3. Dependence on Fossil Fuels:** Coal still dominates India's power sector (over 50% share), making a rapid transition difficult.

### **Role of Shifting Subsidies**

- 1. Financial Incentives for Renewables:** Redirecting subsidies to solar, wind, and green hydrogen can improve economic viability and attract private investments.
- 2. Reduction in Fossil Fuel Dependency:** Cutting coal and petroleum subsidies will discourage their use and promote cleaner alternatives.
- 3. Boost to R&D and Innovation:** More funds can support advancements in battery storage, grid technology, and energy-efficient solutions.

### **Conclusion**

While India has the potential to meet 50% of its energy needs from renewables by 2030, achieving this will require strong policy implementation, technological advancements, and a strategic shift of subsidies from fossil fuels to green energy sources.

## [2.19] Antarctic Circumpolar Current (ACC)

### Syllabus - Geography [GS Paper-1]

#### Context

Scientists warn that the Antarctic Circumpolar Current (ACC) could slow by about 20% by 2050 under a high carbon emissions state of affairs.

#### Key Highlights

- ACC is the world's strongest ocean present day.
  - It's five times more potent than the Gulf Stream and more than a hundred instances more potent than the Amazon River.
  - It forms part of the worldwide ocean "conveyor belt" connecting the Pacific, Atlantic and Indian oceans.
- **ACC's Role:** ACC moves clockwise around Antarctica and regulates global climate by influencing the sea's potential to absorb heat and CO<sub>2</sub> and preventing heat waters from attaining Antarctica.
  - The system regulates Earth's climate and pumps water, heat and nutrients around the world.

#### Impacts of Slowing down of ACC

- **Impact on Climate and Carbon Absorption:** If the ACC breaks down, it can cause extra climate variability, severe climate in positive regions, and increased global warming because of decreased carbon absorption by the ocean.
- **Threat to Antarctic Ecosystem:** Slowing of the ACC could allow invasive species (e.g., southern bull kelp, shrimp, mollusks) to attain Antarctica, disrupting the local food net and affecting native species like penguins.
- **Impact of Melting Ice Sheets:** Melting ice shelves add fresh water to the ocean, altering its salinity, weakening the Antarctic Bottom Water formation, and reducing the energy of the ocean jet around Antarctica.

#### Ocean Currents

- Ocean currents are the non-stop, predictable, directional movement of seawater driven by gravity, wind (Coriolis Effect), and water density.
- **Ocean water moves in two directions:** horizontally and vertically.
  - Horizontal movements are known as currents, whilst vertical changes are referred to as upwellings or downwellings.
- The system is answerable for the switch of heat, variations in biodiversity, and Earth's climate system.

#### Ocean Conveyor Belt

- The ocean conveyor belt, also referred to as the global thermohaline circulation (THC), is a large-scale ocean current system that acts as water at some point of the world's oceans.
- The course begins within the North Atlantic, wherein bloodless water sinks, developing a waft of deep water that movements southward.
- It travels through the Southern Ocean, circulation into the Indian and Pacific Oceans, and eventually upwells in the Pacific and Indian Oceans, where the surface water returns toward the equator.

- This system plays a vital function in regulating Earth's climate through redistributing heat, nutrients, and gases like carbon dioxide.

### Role of Ocean Currents

- **Climate Regulation:** Transport heat from the equator to the poles and vice versa, helping to stabilize worldwide temperatures.
- **Supporting Marine Life:** Distribute nutrients that support the increase of phytoplankton, forming the base of the sea's food chain.
- **Influencing climate Patterns:** Affect climate structures and phenomena like El Niño and La Niña, influencing rainfall and hurricane activity.
- **Carbon Sequestration:** Help take in and store carbon dioxide from the atmosphere, performing as a carbon sink.
- **Fisheries and Economy:** Influence fish distribution, affecting international fisheries, and offer efficient delivery routes.
- **Ocean Mixing:** Aid in mixing surface and deep ocean waters, regulating temperature, salinity, and oxygen levels.
- **Sea Level and Coastal Erosion:** Impact sea ranges and contribute to coastal erosion through water movements.

### Conclusion

- While our findings present a bleak analysis for the Antarctic Circumpolar Current, the future isn't always predetermined.
- Concerted efforts to reduce greenhouse gasoline emissions ought to nonetheless restrict melting around Antarctica.
- Establishing long-term studies in the Southern Ocean could be important for monitoring these adjustments accurately.

**Source: The ET**

### Mains PYQ

#### *1. How do the melting of the Arctic ice and glaciers of the Antarctic differently affect the climate patterns and human activities on the Earth? Explain. (2021)*

- Scientists warn that the Antarctic Circumpolar Current (ACC) could slow by about 20% by 2050 under a high carbon emissions state of affairs.
- ACC is the world's strongest ocean present day.
- **ACC's Role:** ACC moves clockwise around Antarctica and regulates global climate by influencing the sea's potential to absorb heat and CO<sub>2</sub> and preventing heat waters from attaining Antarctica.

## [2.20] India's first commercial semiconductor fab

### Syllabus - Economy [GS Paper-3]

#### Context

India Semiconductor Mission (ISM), Tata Electronics, and Tata Semiconductor Manufacturing signed a Fiscal Support Agreement (FSA) for India's first commercial semiconductor fab in Dholera, Gujarat.

#### Key Highlights

- Taiwan's Powerchip is taking part, specializing in automobile, computing, communications, and AI markets.
- This will entice fab creation corporations from Taiwan to Gujarat.
- The \$11 billion Tata-PSMC fab is one in all five semiconductor projects permitted under the India Semiconductor Mission (ISM).
- Four additional semiconductor projects are under production, which includes Micron, Tata, CG Power (with Renesas), and Kaynes Semicon.
- The agreement strengthens India's self-reliance in semiconductor and show production.

#### What are Semiconductors?

- Semiconductors have electric houses between conductors (metals) and insulators (rubber).
- They conduct energy under certain conditions and act as insulators under others.
- Often made from silicon or germanium, semiconductors also are known as integrated circuits (ICs) or microchips.
- Doping involves including impurities to trade the material's conductivity.
- **Applications:** Semiconductors are utilized in diverse digital devices, together with transistors, which feature as switches or amplifiers.
  - They are vital in computers, cellular phones, sun cells, LEDs, and integrated circuits.

#### India Semiconductor Mission (ISM) (2021)

- It functions as a committed commercial enterprise division within the Digital India Corporation.
- **Objective:** To increase a strong semiconductor atmosphere in India, lowering dependency on imports and strengthening technological self-reliance.
- **Government Support:** The Indian government has devoted 50% fiscal aid for eligible assignment charges under ISM.
- **Global Collaboration:** The venture encourages collaborations with global companies like Taiwan's Powerchip and Micron Technology.
- **PLI (Production Linked Incentive) Scheme:** Encourages domestic chip manufacturing with 4%-6% incentives.
- **SPECS (Scheme for Promotion of Manufacturing of Electronic Components & Semiconductors):** Supports electronic additives & semiconductors

#### Why is there an Increased attention on Semiconductors?

- **Strategic Importance:** Semiconductors are critical for the economy, using generation, defense, and industrial growth.
- **Supply Chain Vulnerability:** The 2021 chip shortage highlighted international dependence on some key suppliers.

- **Taiwan's Dominance:** Taiwan is the world's largest chip manufacturer, controlling a quality share of manufacturing.
- **India's Ambition:** India pursues to emerge as a significant participant in semiconductor production.
- **Geopolitical Competition:** Rising tensions with China are pushing nations to diversify chip production.

**Source:** [The BS](#)

### **Prelims PYQ**

**1. Which one of the following laser types is used in a laser printer? (2008)**

- (a) Dye laser
- (b) Gas laser
- (c) Semiconductor laser
- (d) Excimer laser

**Ans: (c)**

- India Semiconductor Mission (ISM), Tata Electronics, and Tata Semiconductor Manufacturing signed a Fiscal Support Agreement (FSA) for India's first commercial semiconductor fab in Dholera, Gujarat.
- Taiwan's Powerchip is taking part, specializing in automobile, computing, communications, and AI markets.
- This will entice fab creation corporations from Taiwan to Gujarat.
- The \$11 billion Tata-PSMC fab is one in all five semiconductor projects permitted under the India Semiconductor Mission (ISM).
- Four additional semiconductor projects are under production, which includes by Micron, Tata, CG Power (with Renesas), and Kaynes Semicon.
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## **[2.21] Space Debris Crashed in Kenya**

### **Syllabus - Space [GS Paper-3]**

#### **Context**

A 500-kg metal object, believed to be space particles, crashed in Kenya, highlighting concerns about responsibility and regulatory gaps in space governance.

#### **About Space Debris**

- It consists of non-purposeful satellites, abandoned rocket stages, and smaller fragments from preceding space missions.
- The UN Committee at the Peaceful Uses of Outer Space (UN-COPUOS) defines space debris as all man-made objects, along with fragments and factors thereof, in Earth orbit or re-getting into the ecosystem, which are non-purposeful.



- According to NASA, thousands and thousands of portions of particles orbit the Earth, starting from tiny paint flecks to large satellite remnants.

### Examples

- **2022:** Chinese Long March 5B rocket fell into the Indian Ocean, sparking concerns about uncontrolled re-entry.
- **2023:** Parts of a SpaceX Falcon 9 rocket had been found on a sheep farm in Australia.
- **February 2024:** Debris from a Russian satellite disintegrated over the US, alarming residents.

### International Laws on Space Debris Responsibility

- **United Nations Office for Outer Space Affairs (UNOOSA):**
  - **Outer Space Treaty (1967):** It does not specially deal with space particles, it emphasizes that nations are responsible for activities conducted in outer space, including via private entities under their jurisdiction.
    - Article VI of the treaty emphasizes that states endure obligation for his or her space objects.
  - **Liability Convention (1972):** It introduces the idea of ‘absolute legal responsibility’ for damage because of space items on Earth.
    - Under this framework, launching states are routinely liable for any damage resulting from their debris, without the need to show negligence.

### India’s Initiatives in Space Debris Management

- ISRO adheres to the world over customary space debris mitigation suggestions endorsed by the UN-COPUOS and the Inter-Agency Space Debris Coordination Committee (IADC).
- **ISRO System for Safe and Sustainable Space Operations Management (IS4OM):** To cognizance of spaceflight protection and particle mitigation.
- **Network for Space Object Tracking and Analysis (NETRA):** For Space Situational Awareness (SSA) capacity building.
- **Debris-Free Space Missions (DFSMS) Initiative (2024) by ISRO:** It aims to acquire debris-unfastened space missions through all Indian space actors, both governmental and private, by 2030. The initiative specializes in:
  - Avoiding Debris Generation;
  - Collision Avoidance;
  - Post-Mission Disposal;

### Challenges in Holding Countries Accountable

- **Difficulty in Tracing Ownership:** Identifying the precise foundation of debris is hard, in particular for small fragments.
- **Bureaucratic and Political Hurdles:** Diplomatic approaches for compensation can be slow and politically sensitive.
- **No Penalties for Uncontrolled Re-entry:** While the Liability Convention requires nations to pay for damages, it does not penalize them for allowing out of control re-entries to happen.

### Mitigation and Future Solutions

- **International Cooperation:** Strengthening global cooperation like the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) and developing standardized tactics for debris removal can enhance responsibility and enforcement.
- **Mandatory End-of-Life Plans:** Space missions should encompass clear deorbiting techniques to reduce particle risks.

- **Technological Innovations:** Investing in technology for lively debris removal, along with the ADRAS-J project by means of Astroscale, can assist mitigate the risks posed by space junk.
- **Liability Insurance:** Countries and private companies could be required to have insurance guidelines protecting potential damage from space debris.
- **National Regulations:** Implementing and implementing national regulations that align with global treaties can make sure that nations take responsibility for their space activities.

**Source:** [The Hindu](#)

### **Prelims PYQ**

**1. International civil aviation laws provide all countries complete and exclusive sovereignty over the airspace above their territory. What do you understand by 'airspace'? What are the implications of these laws on the space above this airspace? Discuss the challenges which this poses and suggest ways to contain the threat. (2014)**

- A 500-kg metal object, believed to be space particles, crashed in Kenya, highlighting concerns about responsibility and regulatory gaps in space governance.
- It consists of non-purposeful satellites, abandoned rocket stages, and smaller fragments from preceding space missions.
- The UN Committee at the Peaceful Uses of Outer Space (UN-COPUOS) defines space debris as all man-made objects, along with fragments and factors thereof, in Earth orbit or re-getting into the ecosystem, which are non-purposeful.
- According to NASA, thousands and thousands of portions of particles orbit the Earth, starting from tiny paint flecks to large satellite remnants.

## **[2.22] Elevating Disability Rights: A Fundamental Shift**

### **Syllabus: Governance, Social Issues [GS Paper-2]**

#### **Context**

The Supreme Court of India recently emphasized the need to elevate the right against disability-based discrimination to the status of a fundamental right. This landmark observation aligns with the principles laid out in the Rights of Persons with Disabilities (RPwD) Act, 2016, and reflects a progressive step toward ensuring equality and dignity for persons with disabilities (PwDs). Below is an analysis of the issue, its legal context, and its implications.

#### **Background**

- Disability-based discrimination has been a systemic reality for many decades in India into the present- day, notwithstanding legislative safeguards like the RPwD Act, 2016. The Act makes recognition of the rights and entitlements of persons with disabilities (PwDs) and specifies action for their complete societal participation. The implementation of the Act faces enormous barriers due to enforcement gaps and societal biases.
- An urgent need for such intervention is laid down by the recent judgment of a Supreme Court bench comprising Justices J.B. Pardiwala and R. Mahadevan, which states that visually impaired candidates cannot participate in any selection process for appointing their members into the judicial services.

## Key Observations by the Supreme Court

- **Recognition of rights of disability as fundamental:**
  - The court stated that this is quite overdue to view the right against disability- based discrimination as a fundamental right under the Constitution.
  - This would guarantee that no person is denied opportunities because of disability.
- **Striking Down Discriminatory Provisions:**
  - The court struck down the provisions in Madhya Pradesh Judicial Service Rules, 1994, and Rajasthan Judicial Service Rules, 2010, which barred visually impaired candidates from making an application for judicial posts.
  - It said it would be against constitutional principles of equality and reasonable accommodation.
- **Reasonable Accommodation:**
  - The court enunciated the principle of reasonable accommodation under international conventions and also RPwD Act.
  - It further directed affirmative actions from the authorities to create an inclusive framework for PwDs.
- **Affirmation of Capability:**
  - The ruling pointed towards examples of visually impaired persons doing wonders in the legal profession- that disability could not block the capability of delivering professional performance or contribution towards the justice delivery system.

## Legal Context

- **Rights of Persons with Disabilities (RPwD) Act, 2016:**
  - It prohibits discrimination against persons with disabilities (PwDs) in education, employment, and public life.
  - It incorporates the principles of equality, dignity, and equality to complement the provisions of the international conventions like the UN Convention on the Rights of Persons with Disabilities.
- **Constitutional Provisions:**
  - **Article 14:** Guarantees equality before law.
  - **Article 15:** Prohibits discrimination on grounds including disability.
  - **Article 21:** Ensures dignity as an integral part of life and liberty.
- **Judicial Precedents:**
  - Indian courts have historically upheld the rights of PwDs through various judgments, but this case marks a significant step toward integrating these rights into fundamental constitutional guarantees.

## Implications

- **Strengthening Legal Protections:**
  - By recognizing disability rights as fundamental rights, higher standards of legal protection against discrimination could be given, with stricter compliance required from the public sector and private enterprises.
- **Promoting Inclusivity:**
  - The judgment obliges affirmative steps by states to render an inclusive framework for persons with disabilities (PwDs) in education, employment, and related areas. This is in line with global best practices, further demonstrating India's commitment to being an inclusive country.

- **Impact on Recruitment Policies:**

- The ruling would lead states to amend recruitment rules relevant to ensure compliance with constitutional principles. It sets a precedent for contesting other similar manifestations of discriminatory behavior in other sectors.

- **Societal Change:**

- Recognition of disability rights as fundamental may have the effect of changing social attitudes toward greater acceptance and respect for PwDs. It signifies the importance of dignity and equality with regard to all human beings.

### Challenges Ahead

- **Implementation Gaps:**

- Despite legal safeguards, enforcement remains a challenge due to lack of awareness and institutional inertia.
- Ensuring compliance across states will require coordinated efforts.

- **Need for Awareness:**

- Public awareness about disability rights remains low. Educational campaigns are essential to foster understanding and reduce stigma.

- **Infrastructure Barriers:**

- Accessibility remains a significant issue in public spaces, workplaces, and educational institutions.
- Investments in infrastructure are necessary to ensure meaningful inclusion.

### Conclusion

The Supreme Court's call to recognize the right against disability-based bias as a fundamental right is a watershed moment for disability rights in India. By striking down discriminatory provisions and emphasizing reasonable accommodation, the court has reaffirmed its commitment to equality and dignity for all citizens. However, realizing this vision requires robust implementation mechanisms, societal awareness, and infrastructural reforms. This judgment is not just a legal milestone but also a clarion call for collective action toward building an inclusive society where every individual can thrive without discrimination.

**Source:** [The Indian Express](#)

### UPSC Prelims Practice Question

**Q. Discuss the significance of disability rights in ensuring an inclusive society. Critically analyze the challenges faced in the implementation of disability rights in India and suggest measures to strengthen the legal and institutional framework for their effective enforcement. (250 words)**

## [2.23] IMF Flags Systemic Risks in India's NBFC Sector

### Syllabus: Indian Economy [GS Paper-3]

#### Context

The International Monetary Fund (IMF) has recently highlighted concerns regarding the potential systemic risks posed by stress in India's Non-Banking Financial Companies (NBFCs). These concerns stem from the deep interconnectedness of NBFCs with banks, mutual funds, and corporate bond markets. This interconnectedness can amplify financial stress, leading to broader systemic instability, particularly due to NBFCs' high exposure to the power and infrastructure sectors.

#### Understanding NBFCs and Their Role

NBFCs play a crucial role in India's financial system by providing credit to various sectors, including infrastructure and power. Unlike banks, NBFCs do not have access to Reserve Bank of India (RBI) liquidity facilities or the ability to accept demand deposits, making them more vulnerable to market fluctuations.

#### Key Vulnerabilities in the NBFC Sector

##### Power and Infrastructure Sector Exposure

- Structural problems have arguably plagued the power sector over the years, right on from payment delays to regulatory hurdles. This factor renders the heavy exposure of NBFCs into this sector highly risky.
- **Loan Concentration:** For FY2024, the three biggest NBFCs that advance finance for infrastructure owe little over 63% of loans in the power sector, while in FY2020, the figure was around 55%. This could mean a significantly elevated risk of financial instability during the times of distress in the power sector.

##### Dependence on Market Instruments & Bank Borrowings

- **Liquidity Risks:** NBFCs rely heavily on market instruments for their financing, leading to their susceptibility to liquidity crises. Any kind of disruption in the market scenario would severely affect their ability to raise funds.
- **Growth of Bank Borrowings:** There is a growth in bank borrowing, which carries further stress for the system. This interdependence can cause a cascading effect to occur in times of liquidity stress for banks.

##### Limited Regulatory Assistance

- **Regulatory Gaps:** NBFCs, in contrast to banks, do not have direct access to the RBI's liquidity facilities, nor are their deposits insured. The absence of these two aspects of regulatory support renders NBFCs even more vulnerable to financial shocks.
- **State-Owned NBFCs:** There is an overwhelming dominance of state-owned NBFCs in the sector, but they are not covered under large exposure limits applicable to private NBFCs, thus raising regulatory concerns.

#### Potential Systemic Risks

##### Interconnectedness with Banks and Financial Markets

- **Cascading Phenomenon:** According to IMF, distress in the NBFCs could lead to a cascading failure through the interlinkages with banks, mutual funds and corporate bond markets.
- **Past Crises:** The failures of IL&FS and DHFL demonstrated how the failure of NBFCs could transfer into the economy through mutual funds and bond markets into liquidity crises.

## Impact on Banks

- **Amplification of Stress:** Any financial distress in NBFCs could amplify stress across the banking system. Banks have increased lending to NBFCs, partly to meet priority sector lending requirements and partly to relieve NBFCs' liquidity pressures.
- **Asset Quality Concerns:** Banks' exposure to troubled sectors, such as real estate and infrastructure, raises concerns about hidden vulnerabilities.

## IMF Recommendations for Mitigating Risks

### Enhancing Liquidity Regulation

- **Tougher Liquidity Norms:** NBFCs, particularly those with high exposure to infrastructure, should be subjected to stricter liquidity norms to avert asset-liability mismatches.
- **Diversification of Funding Sources:** Lesser reliance on market instruments and borrowed funds from banks by diversifying funding sources can help to mitigate liquidity risks.

### Regulatory Uniformity and Improved Monitoring

- **Common Regulatory Treatment:** The IMF calls for state-owned and private NBFCs to be subjected to the same regulations to ensure a level playing field and to contribute to improving financial stability.
- **Improved Risk Management:** Regular monitoring of NBFCs' lending behavior with improved risk management systems is necessary to prevent financial disruption.

### Reconciliation Between Financial Stability and Developmental Role

- **Reconciliation of Objectives:** The IMF recommends that the Indian government must strike an appropriate balance between financial stability and the developmental role of banks and NBFCs. The idea is that financial institutions should be allowed to support economic growth without compromising on the ability of risk management.

## Conclusion

The IMF's concerns about NBFC stress highlight the need for proactive measures to strengthen the financial stability of India's financial system. By addressing vulnerabilities in the NBFC sector and enhancing regulatory frameworks, India can mitigate the risk of systemic instability and ensure a more resilient financial ecosystem. This requires a comprehensive approach that includes stricter liquidity regulations, diversified funding sources, and uniform regulatory standards for all NBFCs.

**Source:** [The Hindu](#)

## UPSC Prelims Practice Questions

With reference to Non-Banking Financial Companies (NBFCs) in India, consider the following statements:

1. NBFCs can accept demand deposits like commercial banks.
2. NBFCs are regulated by the Reserve Bank of India (RBI).
3. NBFCs are not allowed to provide loans and advances to customers.

Which of the statements given above is/are correct?

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

**Answer:** (b) 2 only

## [2.24] Govt to Launch Women-Friendly Gram Panchayats

### Syllabus: Governance [GS Paper-2]

#### Context

The Ministry of Panchayati Raj is set to unveil a transformative initiative aimed at fostering gender-sensitive governance at the grassroots level. The launch of Model Women-Friendly Gram Panchayats (MWFGPs) will take place at a National Convention in Vigyan Bhawan, New Delhi, on March 5, 2025, as part of International Women's Day celebrations. This initiative underscores the government's commitment to ensuring inclusivity, safety, and gender equality in rural governance.

#### Key Objectives of the Initiative

- **Establishing Model Gram Panchayats:**
  - The aim of the initiative is to create not less than one such Model Panchayat that is friendly to Women in every district and thereby to benchmark those panchayats as models for implementing gender-sensitive and girl-friendly governance practices.
- **Gender Equality Promotion:**
  - The present programme aims to create safer and more inclusive spaces for women and girls and to put it towards the direction of what the Prime Minister has dreamed of under his vision for socially just rural communities, all encompassed in the broader slogan of "Viksit Bharat through Viksit Panchayats".
- **Women Empowerment Representatives:**
  - This focuses on promoting the active participation of women elected representatives (WER) in decision-making processes at various levels of Panchayati Raj Institutions (PRIs).

#### Launch Event Highlights

- **The National Convention:**
  - Prof. S.P. Singh Baghel, Minister of State for Panchayati Raj, Anupriya Patel, Minister of State for Health and Family Welfare, and other dignitaries will be attending the national event. Representatives from international organizations like UNFPA will grace the occasion.
  - 350 delegates, elected and officials from selected Gram Panchayats, are expected to follow the event physically or virtually.
- **Workshops and Training:**
  - A series of workshops was organized on the 4th and 5th of March for the preparations of women leaders in their roles about local governance.
  - It was aimed to provide training modules for the leadership enhancement of women's representatives and to empower them with gender laws and governance practices.
- **Monitoring Dashboard:**
  - There will be a new dashboard that is going to be launched with the intention of tracking the performance of MWFGPs across different districts. This tool is primarily aimed at ensuring the accountability and transparency for proper implementation of the program.

#### Strategic Roadmap

- **Capacity Building:**
  - Two rounds of training for master trainers have already been completed under this initiative.

- A National Level Training Workshop was held earlier this year (January 29-31), involving participants from 15 states and union territories<sup>7</sup>.
- **Nationwide Mahila Gram Sabhas:**
  - On March 8, coinciding with International Women’s Day, Mahila Gram Sabhas will be organized nationwide to engage women at the grassroots level and celebrate their contributions to local governance.
- **Recognition of Women Leaders:**
  - Outstanding women leaders from PRIs will be felicitated during the workshops and conventions to inspire others and showcase best practices.

### **Significance of Model Women-Friendly Gram Panchayats**

- **Strengthening Grassroots Democracy:**
  - By promoting inclusivity and active participation of women in decision-making, these model panchayats aim to strengthen democratic processes at the grassroots level.
- **Safety and Inclusivity:**
  - These panchayats will prioritize safety measures for women and girls while creating an environment conducive to their socio-economic development.
- **Alignment with Sustainable Development Goals (SDGs):**
  - The initiative supports SDG 5 (Gender Equality) by empowering women in leadership roles and ensuring their voices are heard in governance.

### **Collaborations and Partnerships**

- The Ministry of Panchayati Raj has partnered with international organizations like UNFPA India to design training programs and share best practices.
- State Institutes of Rural Development & Panchayati Raj (SIRD&PRs) have been actively involved in facilitating workshops and capacity-building exercises across states.

### **Challenges Ahead**

- **Implementation Across Diverse Regions:**
  - Ensuring uniform implementation across districts with varying socio-cultural dynamics poses a significant challenge.
- **Sustained Participation:**
  - Encouraging sustained participation from women representatives requires continuous capacity-building efforts and mentorship programs.
- **Monitoring Progress:**
  - Effective use of the monitoring dashboard will be critical to track progress and address gaps in implementation.

### **Conclusion**

The launch of Model Women-Friendly Gram Panchayats is a landmark step towards achieving gender-sensitive governance at the grassroots level in India. By empowering women leaders, fostering inclusivity, and ensuring safety for women and girls, this initiative aligns with national priorities for rural development and global commitments under the SDGs. As these model panchayats take shape across districts, they hold the potential to transform rural governance into a more equitable system that benefits all sections of society.

Source: [ddnews](#)



## UPSC Prelims Practice Question

Q. Consider the following statements regarding Gram Panchayats:

1. Gram Panchayats are constituted under the 73rd Constitutional Amendment Act, 1992.
2. The head of a Gram Panchayat is directly elected by the people of the village.
3. Gram Panchayats have the authority to levy and collect certain local taxes.

Which of the statements given above is/are correct?

- A) 1 and 2 only
- B) 2 and 3 only
- C) 1 and 3 only
- D) 1, 2, and 3

Answer: C) 1 and 3 only

## [2.25] India's New Gene Bank: Ensuring Food Security

### Syllabus: Science and Technology [GS Paper-3]

#### Context

Gene banks are repositories that store genetic material, such as seeds, plant tissues, or DNA, to conserve and manage genetic diversity. This genetic material is crucial for ensuring food security and adapting crops to changing environmental conditions. The establishment of a new gene bank in India, as announced by Prime Minister Narendra Modi, is a significant step towards safeguarding genetic resources and ensuring food security for future generations.

#### Role of Gene Banks in Food Security

Gene banks play a pivotal role in maintaining genetic diversity, which is essential for developing resilient and high-yielding crops. By conserving a wide range of plant genetic resources, gene banks provide breeders with the necessary genetic material to develop crops that can thrive in diverse agro-ecosystems and withstand adverse weather conditions. This is particularly important in the face of climate change, where crops need to be more resilient to extreme weather events.

#### The New Gene Bank Initiative in India

##### Overview of the Initiative

The new gene bank initiative in India aims to house one million germplasm lines, making it a significant repository for genetic resources. This initiative is designed to support both public and private sectors in their efforts to develop more resilient and productive crops. By conserving genetic resources, the gene bank will help ensure that future generations have access to a diverse pool of genetic material, which is essential for sustainable agriculture.

#### Objectives of the Gene Bank

The primary objectives of the gene bank are:

- **Conservation of Genetic Resources:** To preserve the genetic diversity of crops, which is vital for maintaining ecosystem health and ensuring food security.
- **Support for Crop Improvement:** By providing access to a wide range of genetic material, the gene bank will support scientists and breeders in developing high-yielding and climate-resilient crops.

- **Enhancing Food Security:** The gene bank will contribute to ensuring food security by enabling the development of crops that can adapt to changing environmental conditions.

## Challenges and Opportunities

### Challenges in Community Seed Bank Integration

While the establishment of a national gene bank is a significant step forward, integrating community seed banks remains a challenge. Community seed banks are crucial for preserving local crop varieties and involving local communities in conservation efforts. However, integrating these banks into a national framework requires careful planning and coordination to ensure that local genetic resources are preserved and utilized effectively.

### Opportunities for Sustainable Agriculture

The gene bank initiative offers several opportunities for promoting sustainable agriculture:

- **Climate Resilience:** By developing crops that are resilient to climate change, the gene bank can help ensure that agriculture remains productive despite environmental challenges.
- **Biodiversity Conservation:** The conservation of genetic resources helps maintain biodiversity, which is essential for ecosystem health and resilience.
- **Collaboration and Research:** The gene bank will facilitate collaboration between researchers, breeders, and farmers, leading to more effective crop improvement programs.

### International Context and Standards

- **Genebank Standards for Plant Genetic Resources:** The Food and Agriculture Organization (FAO) of the United Nations has established standards for conserving plant genetic resources. These standards provide guidelines for managing genebanks effectively, ensuring that genetic material is conserved and made available to breeders. The establishment of a new gene bank in India aligns with these international standards and highlights the country's commitment to global efforts in genetic resource conservation.
- **International Cooperation and Genebanks:** Genebanks like the one at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India have been instrumental in safeguarding global food security. International cooperation in genebank management and genetic resource sharing is crucial for addressing global challenges such as climate change and ensuring that all countries have access to the genetic material needed to develop resilient crops.

## Conclusion

The establishment of a new gene bank in India is a critical step towards ensuring food security and conserving genetic resources for future generations. By housing a large collection of germplasm lines and supporting crop improvement programs, the gene bank will play a vital role in promoting sustainable agriculture and adapting to environmental challenges. Addressing the challenges of integrating community seed banks and fostering international cooperation will be essential for the success of this initiative.

**Source:** [Indian Cooperative](#)

## UPSC Mains Practice Questions

**Q. Consider the following statements regarding Gene Banks:**

1. Gene banks help in the conservation of genetic material of plants and animals.

2. The National Bureau of Plant Genetic Resources (NBPGR) in India is responsible for conserving plant genetic resources.
3. Gene banks only store seeds and do not preserve any other plant materials.

Which of the statements given above is/are correct?

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

Answer: (a) 1 and 2 only

## [2.26] Reconciliation and Justice for Himalayan Communities

### Syllabus : Social Issues [GS Paper-2]

#### Context

The recent apology by Norway's Parliament for its past assimilation policies targeting indigenous groups like the Sami, Kven, and Forrest Finn peoples has sparked a global conversation about historical injustices faced by indigenous communities. This development raises important questions about similar injustices faced by Himalayan communities in India. The Himalayas, often referred to as the "Water Tower of Asia," are home to diverse indigenous tribes who have faced significant cultural erosion and resource exploitation over the years.

#### Historical Exploitation of Himalayan Communities

- **Historical Context of Exploitation:** The Himalayan communities have always been subject to all sorts of exploitation such as cultural suppression and resource extraction. The last example is the trade blockade of 1874, which touched iron and silk supplies and cut off local traditions and economies. This is indicative of long years of not hearing indigenous rights in the region.
- **Impact of Colonial and Post-Colonial Policies:** All such policies were framed. Most of these ignored local customs and land rights during colonial days, thus displacing traditional practices. Post-colonial policies are also criticized for prioritizing economic development over cultural and environmental sustainability. Hydropower projects, for example, are seen to have done a mass acquisition of land, bypassing local legislation, and ignoring tribal land rights.

#### Current Development Models and Challenges

- **Hydropower Projects and Controversies Associated:** Hydropower projects in the Himalayas have generated a great deal of controversy because they impact local ecosystems and communities. Projects often rake in profit at the expense of the ecology and culture of the people, resulting in an activity that civil societies call "hydro-criminality." A typical example is that of projects in Arunachal Pradesh, which have been observed to propagate ethnic homogenization and cultural practices.
- **Ecological Dimensions:** The Himalaya faces several ecological problems: deforestation, soil erosion, and climate change. It conditions further the vulnerability of indigenous people who depend largely on natural resources for their livelihoods. Therefore, models of sustainable development that can transform economies without endangering the environment or culture are needed.

### Lessons from Norway's Apology

- **Acknowledging Historical Injustices:** Norway's apology highlights the importance of acknowledging past injustices. Recognizing historical wrongs is a crucial step toward healing and reconciliation. For Himalayan communities, this means acknowledging the impact of past policies on their cultural heritage and land rights.
- **Protecting Indigenous Rights:** Norway's efforts to safeguard indigenous languages and cultures offer valuable lessons for India. Protecting the cultural practices and land rights of Himalayan tribes is essential for preserving their identity and ensuring their participation in development processes.
- **Legal and Policy Reforms:** Repealing discriminatory laws and establishing institutions that protect indigenous rights, as seen in Norway, could help address the historical injustices faced by Himalayan communities. This includes establishing bodies that monitor inclusion efforts and ensure that development projects respect local customs and environmental sustainability.

### Framework for Sustainable and Culturally Sensitive Governance

- **Inclusive Development Models:** Inclusive development models should prioritize the participation of indigenous communities in decision-making processes. This ensures that their cultural practices and land rights are respected and integrated into development projects.
- **Environmental Sustainability:** Policies should emphasize environmental sustainability, recognizing the critical role that natural resources play in the livelihoods of Himalayan communities. This includes measures to mitigate climate change and protect biodiversity.
- **Cultural Preservation:** Efforts to preserve cultural heritage should be integrated into development strategies. This includes supporting local languages, traditions, and customs, ensuring that they are not eroded by external influences.
- **Legal Protections:** Strengthening legal protections for indigenous rights is crucial. This involves repealing discriminatory laws and establishing robust mechanisms for enforcing land rights and cultural preservation.

Source: [The Hindu](#)

### UPSC Mains Practice Question

**Q. Discuss the challenges faced by Himalayan communities due to environmental degradation, displacement, and socio-political conflicts. How can reconciliation and justice mechanisms be implemented to ensure their sustainable development and cultural preservation? (250 words)**

## [2.27] India's Bioeconomy Sector

### Syllabus - Economy [GS Paper-3]

#### Context

Union Minister Dr. Jitendra Singh stated that India's Bioeconomy grew more than 10 cases in the last 10 years.

#### What is BioEconomy?

- The BioEconomy is the expertise based production and use of biological resources to provide products, procedures and services in all financial sectors in the frame of a sustainable financial system.

- It encompasses sectors like agriculture, forestry, fisheries, food production, biotechnology, and bioenergy.
- Subsectors of the BioEconomy in India are;
  - **BioPharma or BioMedical:** It consists of the development and production of medical products and services, including prescribed drugs, medical devices, and lab-grown organoids.
  - **BioAgri:** It consists of the development and production of genetically modified crops and animals, precision agriculture technology, and bio-primarily based products. Ex: Bt Cotton.
  - **BioIndustrial:** It includes the development and manufacturing of biobased chemical compounds and products, the usage of enzymes, biosynthetic routes, and recombinant DNA generation.

### BioEconomy of India

- India's BioEconomy has grown 13-fold over the last decade, from \$10 billion in 2014 to over \$130 billion in 2024, with a projection to attain \$three hundred billion with the aid of 2030.
- In the Global Innovation Index, India has climbed from 81st region in 2015 to 40th out of 132 economies.
- India ranks 3rd within the Asia-Pacific area and 12th globally in terms of biomanufacturing.
- Biotechnology, a dawn region, has done a valuation of Rs 75,000 crore over the last 10 years.
- In 2022, BioEconomy accounted for 4% of India's gross domestic product (GDP) of \$3.47 trillion and employs over 2 million human beings.

### Government Initiatives

- **Biotechnology Industry Research Assistance Council (BIRAC)** established through the Department of Biotechnology (DBT) is aimed toward strengthening and empowering rising biotechnology establishments to adopt strategic research and innovation.
- Policy initiatives of the Government of India (GoI) along with Startup India and Make in India programs are aimed to increase India as a world-elegance Biotechnology and Bio-manufacturing hub.
- Favorable Government Policies like Draft R&D Policy 2021, PLI Schemes and medical trial regulations have propelled India to be the 'pharmacy of the arena'.

### Challenges for BioEconomy of India

- **Global Competition:** India's BioEconomy faces stiff opposition from greater installed bio Economies in countries just like the USA, EU, and China, that have superior infrastructure, investment, and R&D abilities.
- **Intellectual Property (IP) Protection:** Protecting intellectual property in the biotech sector is tough, leading to issues over innovation robbery and shortage of incentives for studies.
- **Lack of Infrastructure:** Insufficient infrastructure for studies, development, and commercialization of biotechnology developments.
- **Brain Drain:** Talented scientists and researchers depart India for better opportunities abroad, reducing the country's capability for innovation.

### Way Ahead

- Encourage increased public and private investment in biotech R&D through offers, tax incentives, and task capital support.
- Engage in international research collaborations to leverage information, share resources, and boost up the development of recent technologies.

- Develop innovation clusters/ecosystems wherein academia, industry, and government entities can collaborate closely on BioEconomy initiatives.

**Source:** [The PIB](#)

### **Prelims PYQ**

**1. Other than resistance to pests, what are the prospects for which genetically engineered plants have been created? (2012)**

1. To enable them to withstand drought
2. To increase the nutritive value of the produce
3. To enable them to grow and do photosynthesis in spaceships and space stations
4. To increase their shelf life

**Select the correct answer using the codes given below:**

- (a) 1 and 2 only
- (b) 3 and 4 only
- (c) 1, 2 and 4 only
- (d) 1, 2, 3 and 4

**Ans:** (c)

Union Minister Dr. Jitendra Singh stated that India's Bioeconomy grew more than 10 cases in the last 10 years.

- The BioEconomy is the expertise based production and use of biological resources to provide products, procedures and services in all financial sectors in the frame of a sustainable financial system.
- It encompasses sectors like agriculture, forestry, fisheries, food production, biotechnology, and bioenergy.

## **[2.28] India-France Unique Ties: A Path to Peace**

### **Syllabus: International Relations [GS Paper-2]**

#### **Context**

India and France have a long-standing and multifaceted relationship that spans centuries, evolving from colonial ties to a robust strategic partnership. This relationship is built on mutual respect, shared democratic values, and cooperation in various global challenges. The history of India-France relations is rich and complex, with significant milestones marking their journey from colonial interactions to a modern strategic alliance.

#### **Historical Background**

- **Historical Encapsulations:** During the Colonial Era, the French were the slowest among the European powers to commence trade with India during the 17th century. In 1664, they formed the French East India Company and established the basis of the early French contacts with the Indian subcontinent. The French built several trading posts and colonies over the Indian subcontinent, like those of Pondicherry, Mahe, Yanam, Karaikal, and Chandannagar.

All these territories together are called French India; it was transferred to India in the year of 1954.

- **Indian Freedom Struggle:** During the independence movement, this French India became a refuge for a specific group of Indian freedom fighters, like Aurobindo Ghosh and Subramanya Bharathi, who were masters in evading the British.
- **Post-independence:** France recognized India in 1947 and started diplomatic relations. An agreement of 1948 allowed the people of French India to choose their political future which had eventually resulted in incorporation of such territories with India.

### Strategic Partnership

- The strategic partnership between India and France was formalized on January 26, 1998. This was India's first-ever strategic partnership, and was designed to enhance bilateral cooperation in strategic spheres like defense, nuclear energy, and space.
- **Pillars of Cooperation:** Defense and security, civil nuclear cooperation, and space exploration form the core pillars of this partnership. Gradually, it has been extended to cover various dimensions, including maritime security, digitization, cybersecurity, counter-terrorism, climate effects, and sustainable development.

### Key Areas of Cooperation

#### Defense Cooperation

- **History:** France has been an important defense partner for India since the 1950s and 1960s by being partners on aircraft such as the Mystère IV and Bréguet Alizé.
- **Recent Developments:** India bought 36 Rafale fighter jets from France in 2016 and is expected to procure more Rafale-M, which is specifically built for aircraft carriers, in the foreseeable future. France has also collaborated with India in Scorpène-class submarine projects and aims at incorporating Air Independent Propulsion systems in those submarines.
- **Joint Exercises and Technology Transfer:** Both countries jointly organize military exercises, such as the Varuna naval exercise, along with technology sharing for defense purposes.

#### Nuclear Energy

- **Civil Nuclear Cooperation:** In 2008, after the waiver of the Nuclear Suppliers Group, France became the first country to sign a civil nuclear agreement with India that allowed the country to enter into full civil nuclear cooperation with the world.

#### Space Exploration

- **Collaborative Missions:** India and France collaborated on several space missions, including the Megha-Tropiques satellite and the SARAL satellite, indicating an agenda for space exploration.

#### Indo-Pacific Cooperation

- **Strategic Partnership in the Indo-Pacific:** This partnership has strengthened their strategic partnership concerning the Indo-Pacific in terms of maritime security and region-wide cooperation.

### Economic and Cultural Ties

#### Economic Cooperation

- **Economic Cooperation:** Trade Relations- France emerges as the 11th largest trading partner of India in the European Union and with bilateral trade exceeding \$12 billion in the year 2023. Airbus, Dassault, Renault, and Michelin have set up industries in India, while Indian IT companies like TCS, Infosys, and Wipro happen to be strongly present in France.
- **Investment Initiatives -** The emphasis is steadily growing for augmenting investments in the areas of digital technology, green energy, and artificial intelligence, which came up for discussion at the India-France CEOs Forum.

### Cultural and Academic Ties

- **Cultural Exchange:** Both countries witness a high level of cultural exchange with France being a beloved destination for Indian students and tourists. The city of Puducherry meanwhile is a beloved destination for French tourists visiting India.
- **Academic Cooperation:** There run numerous academic projects between Indian and French universities that promote the above-mentioned research and student exchange programs.

### Conclusion

In conclusion, the India-France relationship is a testament to the enduring power of strategic partnerships built on mutual respect and shared values. As both nations look towards the future, their cooperation will play a significant role in shaping global dynamics, particularly in the Indo-Pacific region.

Source: [The Hindu](#)

### UPSC Mains Practice Question

Q. Discuss the strategic, economic, and cultural dimensions of the India-France relationship. How can their partnership contribute to global peace and stability? (250 words)

## [2.29] NITI Aayog highlights the potential of Quantum Computing

### Syllabus - Science and Technology [GS Paper-3]

#### Context

NITI Aayog's Frontier Tech Hub (NITI-FTH) highlights the capability of quantum computing for economic growth and national security and global competitiveness.

#### What is Quantum Technology?

- Quantum technology is a rapidly advancing area that leverages the concepts of quantum mechanics to broaden new technology with remarkable abilities.
- Quantum mechanics is the branch of physics that studies the conduct of debris on the quantum stage, whereas classical physics does not apply.
- Quantum computing uses 'qubit' (or quantum bit) as its essential unit.
- This technology exploits the principles of quantum mechanics, which encompass superposition, quantum entanglement, and interference.
- Superposition refers to the capacity of those particles to exist in multiple locations simultaneously.

#### Domains of Quantum Technologies

- **Quantum conversation:** It applies to the houses of quantum physics to offer better safety and improved long-distance communications.
- **Quantum simulation:** It refers to the use of a quantum system to simulate the behavior of some other quantum system.
- **Quantum computation:** It is a discipline of computing that makes use of the standards of quantum mechanics to carry out positive calculations more efficiently than classical computer systems.



- **Quantum sensing and metrology:** It leverages the standards of quantum mechanics to obtain especially unique measurements.

### **National Quantum Mission (NQM)**

- It was conceptualized by the **Prime Minister Science Technology Advisory Council (PM-STIAC)** with a complete outlay of Rs 6003.65 Crore for a period of 8 years.
- The Mission goals to seed, nurture, and scale up medical and industrial R&D and create a vibrant & innovative environment in Quantum Technology (QT).
- The Mission ambitions to set up 4 Thematic Hubs (T-Hubs) in domains which includes,
  - Quantum Computing,
  - Quantum Communication,
  - Quantum Sensing & Metrology, and
  - Quantum Materials & Devices.

### **Role of Quantum computing in reshaping National Security**

- **Cybersecurity and Cryptography:** The technology could smash conventional encryption strategies, threatening sensitive government and monetary facts. India ought to accelerate its transition to Post-Quantum Cryptography (PQC).
- **Intelligence Gathering:** Quantum computing will enhance intelligence-amassing capabilities, allowing countries to decode encrypted communications swiftly.
- **Defense Applications:** Quantum-more desirable AI will optimize battlefield logistics, autonomous structures, and missile guidance.
- **Geopolitical Power:** The document factors out that the dominance of a country in quantum technology will give it an area to shape worldwide technology standards and norms, as a result shaping international policies.

### **Key Recommendations**

- **PQC Transition Plan:** Involving danger prioritization-primarily based transition and roadmap, expanded POCs, trying out and certification, and changing information approximately the deployments.
- **Early Warning System:** Leverage medical intelligence for capacity breakthroughs.
- **Technology Access Agreements:** Establish bilateral partnerships for fast adoption, in particular the modalities that provide scalability, together with topology qubit.
- **Flexible R&D Investment:** Adapt investment priorities based on emerging breakthroughs.

### **Conclusion**

- India's quantum security method ought to combine technology tracking, studies flexibility, and supply chain safety while leveraging global partnerships and home innovation.
- A proactive, multi-pronged method will ensure national security remains resilient in quantum technology.

**Source:** [\*The Indian Express\*](#)

### **Mains PYQ**

**1. "The emergence of the Fourth Industrial Revolution (Digital Revolution) has initiated e-Governance as an integral part of government". Discuss. (2020)**

- NITI Aayog's Frontier Tech Hub (NITI-FTH) highlights the capability of quantum computing for economic growth and national security and global competitiveness.
- Quantum technology is a rapidly advancing area that leverages the concepts of quantum mechanics to broaden new technology with remarkable abilities.
- Quantum mechanics is the branch of physics that studies the conduct of debris on the quantum stage, whereas classical physics does not apply.
- Quantum computing uses 'qubit' (or quantum bit) as its essential unit.
- This technology exploits the principles of quantum mechanics, which encompass superposition, quantum entanglement, and interference.
- Superposition refers to the capacity of those particles to exist in multiple locations simultaneously.

## [2.30] India as the world's third-largest biofuel producer

### Syllabus - Economy [GS Paper-3]

#### Context

According to the Minister of Petroleum and Natural Gas, India has emerged as the sector's third-largest biofuel producer.

#### What are Biofuels?

- Biofuels are alternative fuels made from plant and plant-derived sources.
- **Example:** Bioethanol, Biodiesel, Green diesel, Biogas and so on.
- **Generations of Biofuels:** Biofuels may be categorized into distinctive generations based on the feedstocks used and the tactics involved in their production.
- **First Generation:** They are crafted from food plants like corn, sugarcane, wheat, and vegetable oils.
- **Second Generation:** They are crafted from biomass extracted from agricultural waste or waste plant material like non-food feedstocks corn stover.
- **Third Generation:** These are frequently derived from algae and other microorganisms.
- **Fourth Generation:** They are crafted from genetically modified species crops. These consist of artificial biology and microorganisms engineered to provide particular biofuels.

#### National Policy on Biofuels, 2018

- The National Policy on Biofuels 2018 (amended in 2022) gives a framework for growing the use of biofuels in India to decorate strength security.
- It will permit extra feedstocks for manufacturing of biofuels.
- The Policy allows use of surplus food grains for production of ethanol for blending with petrol with the approval of National Biofuel Coordination Committee.
- The coverage will increase the ethanol blending goal of 20% blending of ethanol in petrol to Ethanol Supply Year (ESY) 2025-26 from 2030.
  - It will promote the manufacturing of biofuels in the country, under the Make in India software, by gadgets placed in Special Economic Zones (SEZ)/ Export Oriented Units (EoUs).

## Significance of Biofuel Expansion

- **Economic Growth:** The initiative has additionally stored India about Rs. 85,000 crore in foreign exchange via decreasing crude oil imports.
- **Environmental Benefits:** The shift towards ethanol-primarily based fuels has caused a large reduction in CO<sub>2</sub> emissions, which is equivalent to planting 175 million trees.
  - It promotes a round economic system by converting waste into energy.
- **Benefits for Farmers:** Ethanol manufacturing affords an alternative market for sugarcane, maize, and surplus food grains, boosting rural earning.
  - It strengthens the sugar enterprise, making it less dependent on government subsidies.
- During the Ethanol Supply Year 2023-24, Ethanol Blended Petrol (EBP) programme helped in a cost of about Rs 23,100 crore to the farmers.

## Challenges in Biofuel Expansion

- **Feedstock Constraints:** Sugarcane-based ethanol is water-intensive, placing strain on water assets.
  - Slow adoption of second-generation (2G) biofuels, as technology is still evolving and luxurious.
- **Infrastructure Issues:** Limited ethanol blending infrastructure, along with dedicated pipelines and storage facilities.
  - Inadequate refineries and mixing stations, leading to supply chain inefficiencies.
  - There are challenges in transporting ethanol, as it's rather flammable and requires separate logistics.

## Government Efforts for Biofuel Expansion

- **Pradhan Mantri JI-VAN Yojana (Jaiv Indhan – Vatavaran Anukool fasal awashesh Nivaran Yojana):** It promotes 2G ethanol manufacturing from agricultural waste and residues.
- **GOBAR-Dhan Scheme (Galvanizing Organic Bio-Agro Resources Dhan):** It promotes biogas and bio-CNG production from farm animals dung and organic waste.
- **SATAT Scheme (Sustainable Alternative Towards Affordable Transportation):** It promotes Compressed Bio-Gas (CBG) manufacturing as a fuel alternative, and targets the status quo of 5,000 CBG plants by 2025.

## Way Ahead

- There is a need to reinforce monetary incentives for superior biofuels like 2G, 3G.
- Expand biogas and bio-CNG adoption in rural and urban shipping.
- Invest in biofuel R&D for value reduction and performance development.

**Source: The Hindu**

## Prelims PYQ

**1. According to India's National Policy on Biofuels, which of the following can be used as raw materials for the production of biofuels? (2020)**

1. Cassava
2. Damaged wheat grains
3. Groundnut seeds
4. Horse gram

5. Rotten potatoes

6. Sugar beet

Select the correct answer using the code given below:

(a) 1, 2, 5 and 6 only

(b) 1, 3, 4 and 6 only

(c) 2, 3, 4 and 5 only

(d) 1, 2, 3, 4, 5 and 6

Ans: (a)

- According to the Minister of Petroleum and Natural Gas, India has emerged as the sector's third-largest biofuel producer.
- Biofuels are alternative fuels made from plant and plant-derived sources.
- **Example:** Bioethanol, Biodiesel, Green diesel, Biogas and so on.
- **Generations of Biofuels:** Biofuels may be categorized into distinctive generations based on the feedstocks used and the tactics involved in their production.

## [2.31] Revised Livestock Health and Disease Control Programme

### Syllabus - Agriculture [GS Paper-3]

#### Context

The Union Cabinet authorized the Revision of Livestock Health and Disease Control Programme (LHDCP).

#### Key Highlights

- The Pashu Aushadhi is a new aspect brought to the LHDCP scheme.
- **Total Outlay:** ₹3,880 crore for the years 2024-25 and 2025-26
- **Objective:**
  - To enhance farm animals' health through prophylactic vaccination programs.
  - To enhance capacity building, disorder surveillance, and veterinary infrastructure.
  - To prevent financial losses because of farm animals diseases.

#### Key Components of the Revised Scheme

- **The revised LHDCP consists of three most important additives:**
  - National Animal Disease Control Programme (NADCP)
  - Livestock Health & Disease Control (LH&DC)
  - Pashu Aushadhi (Newly Introduced Component)
- **Sub-Components of LH&DC:**
  - **Critical Animal Disease Control Programme (CADCP):** Focuses on controlling Peste des Petits Ruminants (PPR) and Classical Swine Fever (CSF).
  - **Establishment & Strengthening of Veterinary Hospitals & Dispensaries – Mobile Veterinary Units (ESVHD-MVU):** Aims to offer doorstep veterinary healthcare to farmers.

- **Assistance to States for Control of Animal Diseases (ASCAD):** Covers country-prioritized specific, emergent, and zoonotic animal diseases, which include Lumpy Skin Disease (LSD).

### **Pashu Aushadhi Initiative**

- **Objective:** To ensure the availability of low cost regularly occurring veterinary drugs for livestock farmers.
  - To lessen remedy prices for farmers by promoting non-branded, price-powerful veterinary drugs.
- **Implementing Ministry:** Ministry of Fisheries, Animal Husbandry and Dairying.
- **Key Features:**
  - Major Livestock Diseases Targeted
  - LHDCP focuses on controlling various essential farm animals diseases that affect productivity and reason financial losses:
- **Foot and Mouth Disease (FMD):** Leads to reduced milk manufacturing and weight reduction in livestock, buffaloes, and pigs.
- **Brucellosis:** Causes infertility, abortions, and occasional milk yield in farm animals and buffaloes.
- **Peste des Petits Ruminants (PPR):** A tremendously fatal ailment affecting sheep and goats.
- **Classical Swine Fever (CSF):** A viral sickness in pigs, leading to high mortality costs.
- **Lumpy Skin Disease (LSD):** Affects livestock, causing skin lesions and severe financial losses.

### **Status of Livestock Sector in India**

- India has the world's largest populace of farm animals and plays a critical role within the global meat and dairy sector.
- India is the largest producer of buffalo meat and the second largest producer of goat meat.
- India ranks first in milk manufacturing, contributing 23% of global milk production.

### **Significance of the Livestock Sector in India**

- **Key financial Contributions:** In 2021-22, the entire Livestock Gross Value Added (GVA) at consistent fees was 30.19% of Agricultural and Allied Sector GVA and 5.73% of Total GVA.
- **Employment Generation:** Livestock rearing is a first-rate supply of livelihood for over 70% of rural families in India.
- **Food and Nutritional Security:** Livestock products which include milk, meat, and eggs are rich in essential nutrients, playing an important role in fighting malnutrition.

**Source:** [The Indian Express](#)

### **Mains PYQ**

**1. Livestock rearing has a big potential for providing non-farm employment and income in rural areas. Discuss suggesting suitable measures to promote this sector in India. (2015)**

- The Union Cabinet authorized the Revision of Livestock Health and Disease Control Programme (LHDCP).
- The Pashu Aushadhi is a new aspect brought to the LHDCP scheme.
- **Total Outlay:** ₹3,880 crore for the years 2024-25 and 2025-26

- **Objective:**
  - To enhance farm animals' health through prophylactic vaccination programs.
  - To enhance capacity building, disorder surveillance, and veterinary infrastructure.
  - To prevent financial losses because of farm animals diseases.

## **[2.32] Shaurya Vedanam Utsav**

### **Syllabus: Defence [GS Paper-3]**

#### **Context:**

Motihari, Bihar, witnessed a historic moment as the Armed Forces showcased their military strength and technological advancements during the 'Shaurya Vedanam Utsav' on March 07, 2025. This two-day event was the first of its kind in Motihari, bringing together military personnel, government officials, students, and citizens in a grand celebration of India's defense capabilities.

#### **An Enthralling Start to the Event**

- The event commenced with great enthusiasm and a spectacular display of military equipment, martial arts, mass performances by military bands, and thrilling combat demonstrations by special forces. Other attractions such as motorcycle stunts, a dog show, and various military exhibitions kept the audience captivated throughout. The presence of Bihar's Governor Shri Arif Mohammed Khan, Member of Parliament and Chairman of the Parliamentary Standing Committee on Defence Shri Radha Mohan Singh, Army Commander Central Command Lt Gen Anindya Sengupta, and other senior officials added to the event's prestige.
- The Governor paid tribute to the brave soldiers who sacrificed their lives for the nation's security, reminding everyone of their selfless service. The participation of school and college students, NCC cadets, and the general public ensured that the message of patriotism and national pride was widely spread.

#### **Spectacular Military Exhibitions**

- One of the main highlights of the festival was the exhibition featuring India's latest and most powerful military assets. The audience got a close view of the T-90 tank, known as the Indian Army's Main Battle Tank, the indigenous K-9 Vajra self-propelled artillery gun, BMP vehicles, and the domestically produced Weapon Locating Radar (WLR) Swathi. These displays emphasized India's commitment to becoming self-reliant in defense under the 'Aatmanirbhar Bharat' initiative.
- The Indian Air Force (IAF) put up an awe-inspiring aerial show with a flypast featuring three Su-30 fighter aircraft, two AN-32 transport aircraft, and Chetak helicopters. The audience was particularly thrilled by the Akash Ganga team's combat free-fall from 8,000 feet, demonstrating the elite skills of India's paratroopers.
- The Indian Navy also actively participated in the event, with personnel engaging with visitors and sharing insights into the Navy's three-dimensional capabilities. The Navy band's mesmerizing performances highlighted the jointmanship between the armed forces. Static displays of aircraft carriers, submarines, and destroyers provided an in-depth understanding of the Indian Navy's power and operations.

#### **A Tribute to the Bravehearts**

- A memorial was established at the venue to honor the sacrifices of the armed forces. Visitors were given an opportunity to learn about the courageous deeds of fallen soldiers and pay their

respects. This initiative aimed to instill a sense of pride and gratitude among the people, particularly the youth, encouraging them to consider a career in the military.

### **Focus on Indigenous Defense Technology**

- The event emphasized India's progress in defense manufacturing, showcasing indigenous versions of tanks and artillery guns. With recent advancements in military technology and defense production, India has been steadily reducing its reliance on foreign imports. Events like these highlight the success of the 'Make in India' and 'Aatmanirbhar Bharat' initiatives, reinforcing India's ambition to become a global leader in defense technology.

### **Opportunities for Youth and Veterans**

- A Job Fair, organized by the Directorate of Resettlement, served as a crucial platform for military veterans looking for second career opportunities. It provided resources, networking opportunities, and guidance for a smooth transition into civilian professions.
- Additionally, Zonal Recruiting Offices of the Indian Army actively interacted with the youth, providing them with insights into career opportunities in the armed forces. Information counters helped aspirants understand the recruitment process, eligibility criteria, and the latest developments in military service.

### **A Step Towards Nation-Building**

- 'Shaurya Vedanam Utsav' was not just a celebration of military strength but also an effort to inspire the younger generation. The event played a crucial role in spreading awareness about national security, the importance of self-reliance in defense, and the opportunities available in the armed forces.
- With India's defense sector growing rapidly and increasing investments in indigenous military technology, such events are instrumental in building national pride and encouraging more youth to join the armed forces. The success of 'Shaurya Vedanam Utsav' in Motihari marks a significant step in bringing the armed forces closer to the people and strengthening the nation's defense ecosystem.
- The event concluded with a resounding applause, leaving behind a deep sense of patriotism and admiration for India's brave soldiers who dedicate their lives to safeguarding the nation. With such initiatives, the Indian Armed Forces continue to stand as a pillar of strength, inspiring generations to come.

**Source:** [PIB](#)

### **UPSC Prelims Practice Question**

**Q. What is the Shaurya Vedanam Utsav?**

- A) A cultural festival celebrating Indian art.**
- B) A two-day event showcasing India's military prowess.**
- C) A historical reenactment of battles.**
- D) A sports tournament for military personnel.**

**Answer: B) A two-day event showcasing India's military prowess.**

## [2.33] AI and Critical Thinking: Challenges and Opportunities

### Syllabus: Science and Technology [GS Paper-3]

#### Context

Artificial Intelligence (AI) has become an integral part of modern life, transforming how we work, learn, and interact. While AI offers numerous benefits, such as enhanced productivity and efficiency, concerns have been raised about its impact on critical thinking skills. Critical thinking is the ability to analyze, evaluate, and synthesize information to make informed decisions.

#### Definition of Critical Thinking

Critical thinking involves several key components:

- **Analysis:** Breaking down information into parts to understand it better.
- **Evaluation:** Assessing the value or quality of information.
- **Synthesis:** Combining information to form a new understanding or perspective.
- **Reflection:** Considering one's own thought processes and biases.

#### The Rise of AI and Cognitive Offloading

AI tools, such as ChatGPT and digital assistants, have become ubiquitous. These tools perform tasks that previously required human cognitive effort, such as problem-solving, decision-making, and memory recall. This phenomenon is known as cognitive offloading, where tasks are delegated to external aids rather than relying on internal cognitive processes.

#### Negative Effects of AI on Critical Thinking

- **Cognitive Offloading and Critical Thinking:** Research indicates a strong negative correlation between AI tool usage and critical thinking skills. Studies have shown that frequent users of AI tools tend to score lower in critical thinking assessments compared to those who use these tools less frequently. This is because cognitive offloading reduces the need for individuals to engage in deep, reflective thinking, leading to a decline in critical thinking abilities over time.
- **Dependence on AI for Decision-Making:** AI tools often provide quick and convenient solutions, which can lead to a reliance on these tools for decision-making. This reliance can diminish the ability to critically evaluate information and discern biases inherent in AI recommendations. Participants in studies have expressed concerns that their dependence on AI might be eroding their critical thinking skills.
- **Digital Amnesia and AI:** The "Google effect" or "digital amnesia" refers to the tendency to forget information that can be easily accessed online. AI tools exacerbate this effect by further reducing the need to retain information internally. This can lead to a diminished capacity for critical thinking, as individuals rely more on external sources for information rather than internalizing and analyzing it themselves.

#### Positive Effects of AI on Critical Thinking

- **Balanced Use of AI:** While AI can negatively impact critical thinking if used incorrectly, it can also be a valuable tool when used appropriately. AI can enhance critical thinking by providing diverse perspectives, facilitating brainstorming, and aiding in the evaluation of complex information.
- **Educational Interventions:** Educational institutions can play a crucial role in promoting the balanced use of AI. By integrating AI into curricula in a way that encourages critical engagement, students can learn to use AI as a tool to augment their critical thinking skills rather than replace them.



- **AI for Critical Discussions:** AI can be used to foster critical thinking by encouraging users to engage in discussions and reflections about AI-generated content. For example, using AI to generate ideas and then critically evaluating these ideas can enhance problem-solving skills.

### **Conclusion**

The impact of AI on critical thinking is complex and multifaceted. While there is evidence that excessive reliance on AI can erode critical thinking skills, AI can also be a powerful tool for enhancing these skills when used thoughtfully. Educational interventions and balanced AI usage are key to ensuring that the benefits of AI are realized without compromising critical thinking abilities.

**Source:** [The Hindu](#)

### **UPSC Mains Practice Question**

**Q. Artificial Intelligence is revolutionizing education but raises concerns about critical thinking erosion. Analyze the potential impact of AI on critical thinking skills and discuss strategies to ensure that AI enhances rather than diminishes these skills in educational settings.**