RICE IAS

APRIL-2026

START YOUR **UPSC CSE JOURNEY** WITH **RICE IAS**

Expected

CURRENT AFFAIRS FOR MAINS

Sealdah, Kolkata 8100819447
Old Rajinder Nagar, New Delhi 9933118849
At Adamas University 8100971442

INDEX

***

GENERAL STUDIES 1

1.1. INDIAN SOCIETY

1.1.1. DEMOGRAPHIC REVOLUTION" IN INDIA

Context:

The "quiet demographic revolution" in India refers to the rapid and decisive transition from high to low fertility, moving the nation into a phase where the challenge is no longer "population explosion" but managing a "fragmented transition."

Historical background

The Malthusian Era: Fear of the "Population Explosion"

1. **The Core Logic: "Geometric vs. Arithmetic"**

   Based on **Thomas Malthus's** 1798 theory, Indian planners feared a "Positive Check" (famine, war, or disease) if growth wasn't halted.

   - **Population:** Grows **Geometrically** (2, 4, 8, 16...).
   - **Food Supply:** Grows **Arithmetically** (1, 2, 3, 4...).
   - **Result:** A "Malthusian Catastrophe" where the population exceeds the "Carrying Capacity" of the land.

2. **Why India Panicked**
   - **The "Great Leap":** Between 1951 and 1981, India's population nearly **doubled** (from 361 million to 683 million).
   - **Falling Mortality:** Modern medicine and vaccines reduced death rates, but birth rates remained high.
   - **Resource Strain:** The "Ship-to-Mouth" existence (relying on US wheat imports) made every extra birth seem like a threat to national security.
3. **Policy Manifestation: "The Red Triangle"**
   - **Global First:** In 1952, India became the first country to launch a **National Family Planning Programme**.
   - **The Shift to Coercion:** By the mid-1970s, frustration with slow progress led to the **Emergency (1975-77)**.
     - Target-driven approach.
     - Mass forced vasectomies.
     - Population was treated as a **"Liability"** to be liquidated.

4. **The Turning Point**

The Malthusian fear subsided due to two "Revolutions":

- **The Green Revolution:** Proved that food supply could also grow exponentially through technology, defying Malthus.
- **The Democratic Transition:** Proved that as literacy (especially female) rose, fertility fell naturally without state force.

Present Situation

Based on the latest **SRS (Sample Registration System) Statistical Report:**

- **National TFR:** Has officially dipped to **1.9**, well below the replacement level of 2.1.
- **Total Population:** Estimated at **1.47 Billion**. While fertility is down, the population continues to grow due to **"Population Momentum"** (a large base of young people entering reproductive age).
- **Replacement Achievement:** 31 out of 36 States/UTs have now achieved replacement-level fertility. Even **Rural India** has hit the **2.1** mark for the first time in history.

Regional Fertility Patterns: The Faultline

India is currently split into two distinct demographic realities:

- **The "Post-Transition" South & West:** States like **Kerala, Tamil Nadu, and Karnataka** have TFRs ranging from **1.3 to 1.7**. This is below the replacement level (2.1) and comparable to parts of Europe.
- **The "Late-Transition" North & East:** States like **Bihar and Uttar Pradesh** remain the outliers with TFRs between **2.4 and 2.9**. While they are declining faster than ever before, they still contribute the bulk of India's population growth.

Cause of Fertility Decline

I. **Primary Socio-Economic Drivers**

- **Female Literacy & Education:** Increased schooling for girls delays the age of marriage and expands their awareness of reproductive rights.
- **Economic Cost of Child-Rearing ("Quantity to Quality"):** Parents now prefer investing heavily in the education and health of one or two children rather than having many.
- **Urbanization & Housing:** Small urban apartments and the rising cost of living in cities like Bengaluru or Mumbai make large families impractical.
- **Labor Force Participation:** As more women enter the workforce, the "opportunity cost" of having children rises, leading to delayed parenthood.

II. **Health & Technological Factors**

- **Reduced Infant Mortality (IMR):** Historically, families had more children as "insurance" against high child mortality. As healthcare improved, the need for this insurance vanished.
- **Modern Contraceptive Prevalence (mCPR):** Improved access to a "basket of choices" (pills, injectables, IUCDs) through the public health system.
- **The Infertility Paradox:** In urban pockets, fertility is declining *involuntarily* due to lifestyle stress, late marriages, and environmental factors, pushing TFR in metros to ultra-low levels (1.1–1.2).

III. The "Aspiration" Shift

- **Social Mobility:** Families now view a smaller family as a status symbol of the middle class.
- **Weakening of "Son Meta-Preference":** While still present, the absolute necessity of a male child is fading in many states as daughters become primary economic contributors.

Impact of fertility decline

1. **Economic Impact**
   - **The Demographic Dividend:** Fewer children mean a lower "young-age dependency ratio". This allows for higher per-capita investment in education and health (Quality over Quantity).
   - **The Labor Market Shift:** In the long term, a shrinking youth base leads to labor shortages. Southern states are already experiencing this, leading to increased automation and reliance on migrant labor.
   - **Consumption Patterns:** A shift toward the **"Silver Economy."** Demand will move from baby products and schools to healthcare, insurance, and leisure for the elderly.
2. **Social & Household Impact**
   - **Women's Empowerment:** Lower fertility is strongly correlated with increased **Female Labour Force Participation (FLFP)**. Women spend fewer years in child-rearing, allowing for career longevity.
   - **The Loneliness Crisis:** With fewer children to provide traditional "old-age security," social isolation among the elderly is rising, especially in urban "nuclear" setups.
3. **Political & Federal Impact**
   - **Delimitation Conflict:** States that successfully reduced fertility (like Kerala and Tamil Nadu) face the risk of losing political representation in Parliament compared to states with higher fertility (like Bihar).
   - **Fiscal Pressure:** Aging states face higher healthcare and pension bills with a shrinking tax-paying youth base, straining state exchequers.
4. **Ecological Impact**
   - **Resource Relief:** Reduced population pressure leads to lower per-capita demand for water, land, and energy, aiding India's **Net Zero 2070** goals.
   - **Carbon Footprint:** Conversely, as fertility drops and incomes rise, the **per-capita** carbon footprint typically increases due to higher consumption levels.

Government Initiatives

1. **For High-Fertility Regions**
   - **Mission Parivar Vikas (MPV):** Now in its extended phase (2025-26), it targets **146 high-fertility districts** in 7 states (UP, Bihar, RJ, MP, CG, JH, Assam).
     - **Goal:** Reach a TFR of **2.1** in these specific pockets through "Awareness on Wheels" (SAARTHI) and door-to-door contraceptive delivery by ASHA workers.
   - **Antara & Chhaya:** Introduction of new-age injectables and non-hormonal pills to expand the "Basket of Choice" for women, focusing on spacing births rather than just sterilization.

2. **For the Aging Population**
   - **Ayushman Bharat (AB-PMJAY 70+):** As of **2024-25**, the health cover of ₹5 lakh is extended to **all senior citizens aged 70+**, regardless of income. This is a massive shift toward universal geriatric health security.
   - **Atal Vayo Abhyuday Yojana (AVYAY):** An umbrella scheme that includes:
     - **IPSrC:** Setting up Senior Citizen Homes (especially for indigent and elderly women).
     - **Rashtriya Vayoshri Yojana:** Free distribution of assisted-living devices (hearing aids, wheelchairs, dentures).
   - **Elderline (14567):** A national toll-free helpline providing information, guidance, and emotional support to seniors across India.
3. **Economic & Social Integration**
   - **SAGE (Seniorcare Ageing Growth Engine):** A portal to support startups creating products for the **"Silver Economy"** (geriatric tech, remote monitoring).
   - **SACRED Portal:** A job-exchange platform specifically for "Senior Able Citizens" who want to remain productive post-retirement.
   - **Project Sanjivani:** A recent initiative focusing on **Medical Value Travel** and wellness, positioning India as a global hub for geriatric rehabilitation.

Way Forward

I. **Strategy for the "Silver Tsunami" (Aging)**
   - **Geriatric Infrastructure:** Mandate a "Geriatric Wing" in every district hospital and integrate elderly care into the primary healthcare (PHC) level.
   - **The Silver Economy:** Incentivize startups through the **SAGE** initiative to develop assistive tech and remote monitoring for the "left-behind" elderly in rural areas.
   - **Flexible Retirement:** Re-examine retirement ages in sectors like education and consultancy to utilize the **"Silver Dividend"** (experienced workforce).

II. **Bridging the North-South Divide**
   - **Migration Management Policy:** Create a formal framework for "Inter-state Migration" to protect the rights of Northern workers in Southern states, ensuring social and linguistic integration.
   - **Skill Harmonization:** Align vocational training in high-fertility states (UP/Bihar) with the specific labor demands of aging states (TN/Kerala).

III. **Political & Economic Federalism**
   - **Delimitation Reforms:** Ensure the 2026/2031 delimitation exercise does not "punish" Southern states for successful population control. A **weighted formula** (population + performance in health/education) is essential.
   - **Fiscal Incentives:** The **Finance Commission** must continue rewarding states that have achieved replacement-level fertility to maintain the fiscal balance.

IV. **Gender & Reproductive Rights**
   - **Focus on 'Choice' not 'Targets':** Shift completely from female-centric sterilization to **male participation** in family planning and a wider basket of contraceptive choices.

- **Support for Urban Parenthood:** Address the ultra-low fertility in metros by improving childcare support and work-life balance to help couples who *want* children but cannot afford them.

Conclusion

India's demographic future lies in managing a **"Fragmented Transition."** By integrating the youthful North's labor with the aging South's capital, India can turn demographic divergence into a sustainable **Viksit Bharat**.

Q. India's demographic challenge is shifting from population explosion to population ageing. Examine in the context of declining fertility rates. (150 Words)

1.1.2. BLOOD, RITUAL AND REBIRTH: THE INVISIBLE LANGUAGE OF RED

Context:

Human civilization is often understood through visible institutions states, economies, and laws. Yet, beneath these structures lies a deeper, invisible foundation: **symbols**. Colours, rituals, myths, and metaphors silently shape human consciousness and collective behavior. As Ernst Cassirer observed, *"Man is not only a rational animal but a symbolic animal."*

Among all symbols, **red** stands out as one of the most powerful and enduring across cultures. It marks transitions between life and death, sacrifice and renewal functioning as a **liminal symbol**. Through the lens of red, one can understand how symbols act as **silent architects of civilization**, shaping values, social order, and ethical frameworks.

Red in Prehistory: The First Language of Meaning

- The symbolic importance of red dates back to prehistoric times. Archaeological findings reveal that early humans used **red ochre** in burial practices across regions such as Paviland (Wales), Qafzeh (Israel), and Lake Mungo (Australia). Bodies were often coated with red pigment, suggesting ritual intent.
- This widespread practice indicates that red symbolized **blood, life-force, and regeneration**. Death was not seen as an end but as a transition possibly a rebirth. Thus, even in early societies, symbols like red helped humans make sense of existential questions.
- As Clifford Geertz argued, culture is a "system of inherited conceptions expressed in symbolic forms." Red, therefore, was among the earliest tools through which humans constructed meaning and reality.

Liminality: Red as a Marker of Transitions

- The concept of **liminality**, developed by Victor Turner, is central to understanding the symbolic role of red. Liminality refers to **threshold phases** moments when individuals move from one state to another, such as birth, puberty, marriage, or death.

Red frequently appears in such contexts:

- Birth and fertility rituals
- Initiation ceremonies
- Funeral rites

It signifies both **danger and potential**, embodying transformation. In Indian society, the use of red in marriage (*sindoor*, bridal attire) symbolizes the transition into a new social role. Similarly, red in funerary rituals reflects the passage from life to afterlife.

Thus, red becomes a **visual language of transformation**, marking the **uncertain yet necessary transitions of human life**.

Body, Blood, and Ritual: Ethical and Social Dimensions

Red's deep association with **blood** connects it to the human body and biological processes such as menstruation, childbirth, and injury. These processes have historically been ritualized and imbued with symbolic meaning.

Anthropologist Camilla Power describes this as a **"technology of collective ritual"** a system that shaped human behavior long before formal institutions emerged. Ritual specialists often mediated these practices, operating at the boundary between sacred and profane.

From an ethical perspective:

- Such rituals created **shared moral frameworks**
- They ensured **social discipline without coercion**
- They reinforced ideas of purity, sacrifice, and duty

In India, concepts like *dharma* and *karma* similarly function as symbolic systems guiding ethical conduct, showing how symbolism precedes formal law.

Gender, Power and Symbolism

The symbolism of red is closely linked to **gender roles and social hierarchies**. While red often represents female biological processes (fertility, menstruation), its ritual control has frequently been in the hands of specialists or dominant groups.

In many cultures:

- Women use red in fertility and marriage rituals
- Ritual authority is mediated by social structures

This reflects how symbols are embedded in **power relations**. In Indian society, red symbolizes both **auspiciousness (marriage)** and **sacrifice (goddess traditions)**, showing its dual ethical and cultural dimensions.

Symbols and Social Cohesion: The Durkheimian Perspective

Symbols are not merely individual constructs; they are collective forces. Émile Durkheim emphasized that rituals reinforce the **collective conscience** the shared beliefs and values of society.

In India:

- Festivals like **Diwali** (light over darkness)

- **Holi** (Red colour, renewal, equality)
- National symbols like the **Tricolour and Ashoka Chakra**

These symbols foster **unity, belonging, and emotional integration**.

Thus, symbols like red are not passive they actively **bind communities**, maintain social order, and sustain cultural continuity.

Economic Dimension: Symbols Before Markets

Symbols also shaped early economic systems. The long-distance trade of ochre suggests that its value was not merely material but symbolic.

Marcel Mauss, in his theory of gift exchange, argued that objects carry **social value**, creating networks of reciprocity. Similarly, David Graeber noted that symbolic systems of value existed **before formal markets**.

In ancient India:

- Ritual offerings and sacrifices were forms of **value exchange**
- Red objects symbolized life and sacred value

Even today, economic behavior is influenced by symbols:

- Branding and status consumption
- Gifts during festivals and weddings

Thus, symbols bridge **economics and ethics**, shaping how value is perceived and exchanged.

Cross-Cultural Universality of Red

The symbolism of red transcends geographical boundaries:

- **China**: prosperity and good fortune
- **Egypt**: life and chaos
- **Greek literature**: emotional depth ("wine-dark sea")
- **Hebrew tradition**: link between earth (*adamah*) and human (*adam*)

In India:

- Sindoor, Kumkum: marriage and fertility
- Red in festivals: energy and renewal
- Red in goddess worship: power and sacrifice

This universality highlights that red consistently marks **thresholds and transformation**, making it a near-universal human symbol.

Philosophical Dimensions: Red and Human Experience

The philosophical significance of red was explored by Johann Wolfgang von Goethe, who described it as the most **intense and immediate colour**, situated between light and darkness.

Red is:

- Emotional rather than abstract
- Physical yet symbolic
- Immediate and confronting

It represents the **culmination of sensory experience**, linking the material and the metaphysical. This aligns with the broader idea that symbols bridge **reason and emotion**, a key theme in ethics and philosophy.

Modern Relevance: Symbols in a Changing World

In the contemporary era, symbols are evolving:

- Digital symbols (memes, hashtags) shape discourse
- Traditional meanings are reinterpreted
- Identity politics often revolves around symbolic markers

Yuval Noah Harari argues that large-scale human cooperation is possible because of shared symbolic systems religion, nation, or even money.

However, symbols can also divide:

- Religious or cultural symbols may create conflict
- Political misuse can lead to polarization

Thus, there is an ethical need to ensure that symbols promote **inclusion, not exclusion**.

Symbols as Agents of Change: The Indian Experience

Symbols are dynamic and can drive social transformation. Mahatma Gandhi transformed the **charkha** into a symbol of:

- Self-reliance
- Resistance
- National unity

Similarly, modern India continues to reinterpret symbols in debates on gender, caste, and identity. This shows that symbols are not static—they evolve with society.

Conclusion

The story of red is, ultimately, the story of human consciousness itself. From the silent graves of prehistory to the vibrant rituals of modern societies, red has not merely accompanied human life it has **interpreted it**, giving meaning to transitions that would otherwise remain incomprehensible. It transforms birth into hope, death into continuity, and sacrifice into renewal, reminding us that life is not a series of isolated events but a continuum of becoming.

Symbols like red are not passive reflections of culture; they are **active creators of reality**. They shape how we perceive the world, guide our ethical choices, sustain traditions, and bind individuals into a shared moral universe. In their absence, civilization would lose not only its coherence but also its soul.

As Rabindranath Tagore profoundly observed, *"A country is not just a piece of earth; it is an expression of the human mind."* It is through symbols embedded in rituals, narratives, and collective memory that this "mind" finds expression and continuity across generations.

Thus, red is more than a colour; it is a **philosophical bridge** between the material and the metaphysical, the individual and the collective, the finite and the eternal. As long as humanity seeks meaning in its existence, symbols will endure as the **silent architects of civilization**, guiding us through the thresholds of life with both depth and dignity.

Q. *"Symbols are the silent architects of civilization; they build what laws can only regulate."*

1.2. GEOGRAPHY

1.2.1. EARTHQUAKES

Context:

An **earthquake** is the sudden shaking of the Earth's surface caused by the **release of energy in the Earth's crust**, producing seismic waves. It usually occurs along **fault lines or tectonic plate boundaries**.

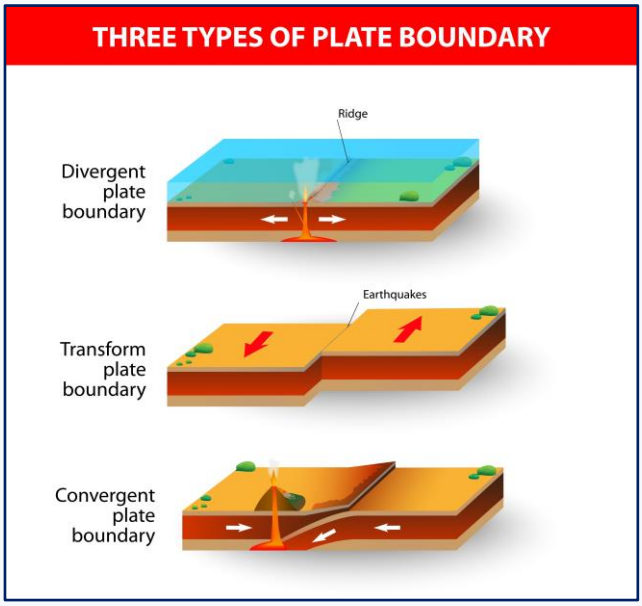
- Measured using **Richter Scale (magnitude)** and **Modified Mercalli Intensity (MMI) scale**.
- Most earthquakes occur along **plate boundaries** such as the Pacific Ring of Fire.
- India is highly vulnerable due to its location near the **collision zone of the Indian and Eurasian plates**.

Causes of Earthquakes

1. **Natural Causes**

   The Earth's lithosphere is broken into several tectonic plates that are constantly in motion due to convection currents in the mantle.

   - **Tectonic Movements:**
     - **Convergent Boundaries:** Plates collide (e.g., Indian Plate hitting the Eurasian Plate), creating the Himalayas and causing high-magnitude quakes.
     - **Divergent Boundaries:** Plates pull apart (e.g., Mid-Atlantic Ridge), allowing magma to rise and causing tremors.
     - **Transform Boundaries:** Plates slide past each other horizontally (e.g., San Andreas Fault), leading to a buildup and sudden release of friction.
   - **Volcanic Eruptions:** The violent movement of magma or the explosion of gases can trigger localized but intense seismic activity.
   - **Faulting and Folding:** Rocks under immense stress eventually fracture



(faulting) or bend (folding). When the elastic limit is exceeded, the "Elastic Rebound Theory" explains the sudden snap that releases seismic energy.

2. Anthropogenic (Human-Induced) Causes

Human activities can alter the stress distribution in the Earth's crust:

- **Reservoir-Induced Seismicity (RIS):** The weight of water in massive reservoirs (like the **Koyna Dam** in Maharashtra) puts pressure on underlying rock layers and can lubricate existing faults.
- **Mining and Quarrying:** Deep underground mining can cause "rock bursts" or the collapse of mine roofs, triggering tremors.
- **Nuclear Explosions:** Underground testing of nuclear devices releases a massive amount of energy that mimics a natural earthquake.

Types of Earthquakes

(1) Based on Origin

1. **Tectonic Earthquakes** – caused by plate movements (most common).
2. **Volcanic Earthquakes** – associated with volcanic eruptions.
3. **Collapse Earthquakes** – due to underground mine collapse.
4. **Explosion-induced Earthquakes** – due to nuclear or chemical blasts.

(2) Based on Depth

Type	Depth	Characteristics
Shallow Focus	0 – 70 km	**Most Destructive.** Energy has less distance to travel, hitting the surface with high intensity.
Intermediate Focus	70 – 300 km	Moderate impact; often occur at subduction zones.
Deep Focus	300 – 700 km	Also called **Plutonic** earthquakes. Usually felt over wide areas but cause less surface damage.

Impact of Earthquakes

1. Physical & Structural Impacts

- **Building Collapse:** The primary cause of fatalities.
  - Example: **2023 Turkey-Syria Earthquake** where "pancake collapses" of thousands of buildings led to over 50,000 deaths.
- **Infrastructure Destruction:** Damage to "lifeline" infrastructure like bridges, dams, and power grids.
  - Example: **1993 Latur Earthquake**, which decimated stone-masonry houses in rural Maharashtra.

2. Geological & Environmental Impacts

- **Surface Faulting:** Visible tearing of the Earth's crust.
- **Liquefaction:** Soft soil behaving like liquid, causing buildings to tilt.
  - Example: **2011 Niigata (Japan) Earthquake**, where entire apartment complexes tilted perfectly intact into the saturated soil.
- **Landslides/Avalanches:**

- Example: **2015 Nepal Earthquake**, which triggered a massive avalanche at the Everest Base Camp and buried the village of Langtang.

3. **Secondary Hazards (The "Follow-on" Disasters)**
   - **Tsunamis:** Displacement of the ocean floor.
   - Example: **2004 Indian Ocean Tsunami** (triggered by a Sumatra quake), affecting 14 countries including India's Andaman & Nicobar Islands.
   - **Flash Floods:** Landslides blocking rivers to create "artificial lakes" that eventually burst.
   - Example: Frequent risks in the **Sikkim-Himalayan belt** following tremors.
   - **Urban Fires:** Ruptured gas lines and electrical short circuits.
     - Example: **1923 Great Kanto Earthquake (Japan)**, where fire caused more deaths than the actual shaking.
4. **Socio-Economic Impacts**
   - **Economic Loss:** Massive drain on the national exchequer for reconstruction.
     - Example: The **2001 Bhuj Earthquake** caused an estimated loss of **$5 billion** and crippled the local handicraft and industrial sectors.
   - **Public Health Crisis:** Outbreak of waterborne diseases in relief camps and long-term PTSD.
   - **Digital/Communication Blackout:** Modern dependency on undersea cables and satellites makes communication fragile.

Earthquake Vulnerability in India

- India lies at the **convergent boundary of Indian and Eurasian plates**, making the Himalayan belt highly active.
- About **59% of India's landmass is prone to earthquakes of varying intensity**.
- **Population at Risk:** About **75% of India's population** lives in seismically active regions.
- **The "Seismic Gap":** Scientists are particularly concerned about the "Central Himalayan Gap"—a section of the Himalayas that hasn't seen a major earthquake in over 200 years, making it overdue for a "Great Earthquake" (M > 8.0).

Bureau of Indian Standards (BIS) divides India into **four seismic zones (II–V)** based on risk.

Approximate distribution:

- Zone V (Very High Risk): Himalayan region, Northeast India, Andaman & Nicobar
- Zone IV (High Risk): Delhi, Kashmir, Himachal Pradesh, Uttarakhand
- Zone III (Moderate Risk): parts of central India
- Zone II (Low Risk): stable peninsular regions

Mitigation Strategies

1. **Structural Mitigation (The "Engineering" Fix)**
   - **Seismic Retrofitting:** Strengthening older, vulnerable buildings (especially hospitals and schools) using steel bracing, base isolation, or jacketed columns.
   - **Base Isolation & Dampers:** Using flexible bearings or "shock absorbers" at the foundation to decouple the building from ground motion.
     - Example: The **Bhuj District Hospital** was rebuilt with base isolation after the 2001 quake.

- **Strict Enforcement of Building Codes:** Ensuring all new constructions adhere to **IS 1893: 2016** (Seismic Design) and **IS 13920** (Ductile Detailing).
- **Use of Lightweight Materials:** Promoting the use of hollow bricks or Bamboo-based reinforced structures in high-risk hilly terrains (Zone V).

2. **Non-Structural Mitigation (The "Policy" Fix)**
   - **Seismic Microzonation:** Dividing a city into small "micro-zones" based on soil type to determine which areas will shake more (e.g., Delhi and Bengaluru have completed this).
   - **Land Use Planning:** Prohibiting high-rise construction on "fault lines" or liquefaction-prone riverbeds through strict zoning laws.
   - **Early Warning Systems (EWS):** Installing sensors that detect **P-waves** (faster, less destructive) to provide a 10–60 second warning before **S-waves** (destructive) arrive.
     - Example: Uttarakhand's Earthquake Early Warning (EEW) app.
   - **Capacity Building:** Training "Aapda Mitras" (community volunteers) and conducting regular **Mega Mock Drills** (e.g., Annual 'Exercise Sahayta').
3. **Institutional & Global Frameworks**
   - **NDMA Guidelines:** A shift toward "Safe Construction Practices" and "Mandatory Technical Audits" for high-rise buildings.
   - **CDRI (Coalition for Disaster Resilient Infrastructure):** An Indian-led global initiative to ensure that new infrastructure (power, telecommunications) can withstand seismic shocks.
   - **Insurance Penetration:** Promoting "Catastrophe Insurance" to reduce the fiscal burden on the government post-disaster.

India's Preparedness on Earthquakes

1. **Institutional Framework**
   - **Disaster Management Act, 2005:** The bedrock of India's preparedness, establishing a three-tier structure: **NDMA** (National), **SDMAs** (State), and **DDMAs** (District).
   - **NDMA Guidelines (2026 Update):** The latest guidelines emphasize **"Building Back Better"** and shifting from generic risk assessment to **Probabilistic Seismic Hazard Assessment (PSHA)**.
   - **NDRF (National Disaster Response Force):** A specialized force with 16 battalions trained in collapsed structure search and rescue (CSSR).
2. **Technological & Monitoring Systems**
   - **National Seismological Network (NSN):** As of early 2026, the network has expanded to **169 stations** (up from 80 in 2014), providing real-time data to the National Center for Seismology.
   - **Earthquake Early Warning (EEW) Systems:** Operational in **Uttarakhand** (first of its kind in India).
     - Research is underway to expand this across the **Himalayan Arc** to provide a 10–60 second lead time before destructive S-waves hit densely populated plains.
   - **Sachet Portal (NDMA):** A pan-India integrated alert system that uses geo-intelligence to send real-time alerts to mobile phones in local languages.

3. **Structural Preparedness (Building Resilience)**
    - **Seismic Microzonation:** High-risk cities like **Delhi, Bengaluru, Kolkata, and Guwahati** have completed microzonation. This allows planners to identify which specific neighborhoods have soil that amplifies shaking (e.g., Yamuna floodplains in Delhi).
    - **National Building Code (NBC) 2016 & IS Codes:** Mandatory standards for seismic-resistant design.
    - **Retrofitting:** Government initiatives to strengthen "lifeline structures" (hospitals, schools, and bridges) in Zone IV and V.
4. **Community & Capacity Building**
    - **Aapda Mitra Scheme:** A central project that has trained over **1 lakh community volunteers** to be "first responders" before professional help arrives.
    - **School Safety Programs:** Conducted by NIDM (National Institute of Disaster Management) to ensure schools in high-risk zones have evacuation plans.
    - **Traditional Knowledge:** Integration of resilient traditional architecture like **Kath-Kuni** (Himachal) and **Dhajji-Dewari** (Kashmir) into modern building protocols.

Challenges in Earthquake Management

1. **Structural and Engineering Challenges**
    - **Enforcement Deficit:** ~80% of buildings in cities like Delhi/Guwahati violate **IS 1893** norms; prevalence of "non-engineered" structures built without expert supervision.
    - **Retrofitting Dilemma:** Over 12 crore buildings need strengthening. High costs, technical complexity, and **"occupancy disruption"** (e.g., inability to vacate hospitals/schools) hinder progress.
    - **Skill Shortage:** Acute lack of licensed structural engineers and masons skilled in **ductile detailing** and seismic-resistant masonry.
2. **Institutional and Policy Challenges**
    - **The 2026 "Seismic Rollback":** The recent withdrawal of the **IS 1893: 2025** code (which proposed 'Zone VI') due to industry pushback.
        - **Reason:** Concerns over 20–50% spike in construction costs and the risk of **"stranded assets"** in infrastructure.
    - **Top-Down Governance:** Over-centralization persists; **DDMAs** (Districts) lack independent budgets and technical staff to implement microzonation data.
    - **Connectivity Gaps:** Despite 169 monitoring stations, India lacks **"last-mile connectivity"** for real-time Early Warning Systems (EWS) in the Indo-Gangetic plains.
3. **Geographical and Socio-Economic Challenges**
    - **Himalayan Fragility:** Tectonic stress in the **"Central Himalayan Gap"** makes the region overdue for an M > 8.0 quake; compounded by unplanned hill urbanization.
    - **Soil Amplification & Liquefaction:** Soft alluvial soil in the North Indian plains amplifies tremors and causes ground failure (liquefaction) far from the epicenter.
    - **Rural-Urban Divide:** Rural reliance on **"Kutcha" masonry** leads to "pancake collapses," while urban density increases the risk of secondary hazards like fires.

Way Forward

- **Risk-Informed Governance:** Transition from the **2026 Seismic Rollback** to a phased implementation of **IS 1893:2025** standards, mandating "Seismic Compliance Certificates" for all lifeline infrastructure (Metros, Nuclear Plants, Hospitals) first.
- **National Retrofitting Mission:** Address the vulnerability of 12 crore existing structures through a dedicated mission providing **"Resilience Loans,"** tax rebates, and **Parametric Insurance** to ensure immediate liquidity post-event.
- **Technological Last-Mile Connectivity:** Scale the Himalayan **Early Warning System (EEW)** to enable automated triggers for shutting down gas grids and rail networks, while integrating **Seismic Microzonation** into Smart City Master Plans.
- **Decentralized Capacity Building:** Expand the **Aapda Mitra** program to every district and bridge the technical "Skill Gap" by certifying local masons in **ductile detailing** and resilient traditional styles like **Kath-Kuni**.
- **Mainstreaming DRI:** Utilize the **Coalition for Disaster Resilient Infrastructure (CDRI)** to "disaster-proof" the **National Infrastructure Pipeline (NIP)**, shifting the paradigm from "Reactive Relief" to **"Proactive Risk-Informed Development."**

Conclusion

Moving from a "Reactive Relief" to a **"Risk-Informed Development"** paradigm is vital. Integrating the **Sendai Framework** with cutting-edge **Early Warning Systems** and **CDRI** leadership will ensure India's $5 trillion economic vision remains resilient against seismic uncertainties.

Q. *The frequency of earthquakes appears to have increased in the Indian subcontinent. However, India's preparedness for mitigating their impact has significant gaps. Discuss various aspects.*

1.3. HISTORY & CULTURE

1.3.1. INDIAN NATIONAL FLAG & SYMBOLS

Context:

Recent allegations against Hardik Pandya for alleged disrespect to the national flag have renewed focus on the Flag Code of India, 2002 and the Prevention of Insults to National Honour Act, 1971.

Legal Framework on National Symbols

1. **Prevention of Insults to National Honour Act, 1971**
   - **Scope:** Prohibits desecration of or insult to the country's national symbols, including the **National Flag**, the **Constitution**, and the **National Anthem**.
   - **Key Offenses:** Burning, defacing, trampling, or showing disrespect to the flag in public or within public view.
   - **Punishment:** Imprisonment for up to **3 years**, or a fine, or both.

2. **Flag Code of India, 2002**
    - **Key Provisions:**
        - **Universal Rights:** Since 2002, private citizens, educational institutions, and organizations can hoist the flag on all days (with dignity).
        - **Material:** Allows hand-spun, hand-woven, or machine-made flags (Cotton, Polyester, Wool, Silk, Khadi).
        - **Display Rules:** The flag must occupy the **position of honor** and be distinctly placed. It should never be dipped in salute to any person or thing.
        - **2022 Amendment:** Changed to allow the flag to be flown **day and night** if displayed in the open or on a house (previously only sunrise to sunset).
3. **Constitutional Provisions**
    - **Article 51A(a):** It is a **Fundamental Duty** of every citizen to abide by the Constitution and respect its ideals and institutions, the National Flag, and the National Anthem.
    - **Article 19(1)(a):** The Supreme Court (**Union of India v. Naveen Jindal, 2004**) ruled that flying the National Flag is a **Fundamental Right** as an expression of one's allegiance and pride.
4. **Emblems and Names (Prevention of Improper Use) Act, 1950**
    - **Scope:** Restricts the use of the national flag, coat-of-arms used by a government department, the official seal of the President or Governor, etc., for **commercial or professional purposes** without prior permission.

Judicial Interpretations:

- **Union of India v. Naveen Jindal (2004):** The Supreme Court declared that flying the National Flag with respect and dignity is a Fundamental Right under Article 19(1)(a).

Evolution of the Indian National Flag

- **1906/1907 (Calcutta Flag):** Early tricolour (green, yellow, red) designed by Sachindra Prasad Bose and Sukumar Mitra.
- **1907 (Bhikaji Cama):** Madame Cama became the first to hoist the Indian flag on foreign soil (Stuttgart, Germany).
- **1917 (Home Rule):** Annie Besant and Tilak used a flag with five red and four green horizontal stripes.
- **1921 (Pingali Venkayya):** Proposed a design with a charkha (spinning wheel), endorsed by Mahatma Gandhi.
- **1947 (Final Adoption):** The Constituent Assembly adopted the Saffron, White, and Green tricolour with the Ashoka Chakra (24 spokes) replacing the charkha.

Symbolism & National Identity

1. **The Tricolour (Tiranga) – Core Symbolism**
    - **Saffron (Kesari):** Represents **strength and courage** of the country.
    - **White:** Represents **peace and truth** with the Dharma Chakra.
    - **Green:** Represents **fertility, growth, and auspiciousness** of the land.
    - **Ashoka Chakra:** The "Wheel of the Law of Dharma."
        - **24 Spokes:** Symbolize 24 hours of the day, representing **dynamism and progress** ("Movement is life, stagnation is death").

- **Historical Link:** Derived from the **Sarnath Lion Capital** of Maurya Emperor Ashoka.

2. **Emotional & Psychological Connect**
   - **Unifying Force:** During the Freedom Struggle, the flag acted as a common identity transcending caste, religion, and linguistic barriers.
   - **National Pride:** It represents the sovereignty of the nation. In **Union of India v. Naveen Jindal (2004)**, the SC noted that flying the flag is an expression of "allegiance and pride."
   - **Sacrifice:** The flag is a silent reminder of the martyrs who fought for independence.
3. **National Identity & Secularism**
   - **Inclusive Design:** While early versions had religious connotations (red for Hindus, green for Muslims), the final 1947 design moved toward **secular values** (courage, peace, and growth).
   - **National Anthem vs. National Song: Jana Gana Mana:** Chosen as the Anthem because its lyrics reflect the geographical and cultural diversity of India, reinforcing a **secular national identity**.
     - **Vande Mataram:** Remains a "National Song" with equal status, symbolizing the **revolutionary spirit** and personification of India as a Motherland.
4. **Constitutional Patriotism**
   - **Beyond Symbols:** Identity is not just about the flag but about the **values** it represents: Justice, Liberty, Equality, and Fraternity.
   - **Duty-Bound:** Respecting these symbols is a Fundamental Duty (**Art 51A**), linking individual identity with the collective national conscience.

National Anthem vs. National Song

Feature	National Anthem (Jana Gana Mana)	National Song (Vande Mataram)
Author	**Rabindranath Tagore** (1911)	**Bankim Chandra Chattopadhyay** (1870s)
Source	Originally a Brahmo hymn in Bengali.	From the novel ***Anandamath*** (1882).
Adoption	Adopted by Constituent Assembly on **Jan 24, 1950**.	Adopted on **Jan 24, 1950** (Equal Status).
Symbolism	Represents **Secularism & Diversity** (Geographic/Cultural).	Symbol of **Anti-Colonial Resistance** & Revolutionary Zeal.
Language	Highly Sanskritised Bengali (Tatsama).	Mixture of **Sanskrit and Bengali**.
First Sung	1911 Calcutta Session of INC.	1896 Calcutta Session of INC (by Tagore).
Legal Status	Protected under **the Prevention of Insults to National Honour Act, 1971**.	Held to have **"Equal Status"** but no specific penal law for not singing.

Jana Gana Mana was chosen as the Anthem specifically because its lyrics are considered more **inclusive** and **secular**, reflecting the vast geography and various communities of India.

Key Challenges: National Symbols & Identity

- **Compulsory vs. Voluntary Patriotism:** The debate over whether patriotism should be a **spontaneous emotion** or a **state-mandated duty**, highlighted by the Bijoe Emmanuel (1986) case which allows for silent respect over forced singing.

- **Misuse & Commercialization:** Preventing the desecration of symbols through **improper disposal** (especially plastic flags) and their illegal use in **commercial branding or clothing** under the 1950 Act.
- **Inclusivity vs. Religious Imagery:** Navigating the friction between the **revolutionary symbolism** of Vande Mataram (personifying India as a deity) and the requirements of a **modern secular state**.
- **Dissent vs. National Honour:** Balancing the **Right to Protest** with strict penal provisions under the 1971 Act, ensuring that political expression does not cross the line into intentional insult or desecration.
- **Coercive vs. Constitutional Patriotism:** The challenge of shifting focus from **ritualistic nationalism** (symbols/anthems) toward **Constitutional Patriotism**—upholding core values like Justice, Liberty, and Equality for all citizens.

Way Forward

- **Promote Constitutional Patriotism:** Shift from "coercive nationalism" (enforced rituals) to a values-based identity rooted in **Justice, Liberty, Equality, and Fraternity**.
- **Awareness & Education:** Integrate the **Flag Code of India, 2002** into school curricula to ensure citizens understand the dignity of symbols through education rather than fear of legal penalties.
- **Sustainable Symbolism:** Strictly enforce the ban on **plastic flags** and promote the use of biodegradable or khadi materials to prevent the undignified littering of national symbols post-events.
- **Judicial Consistency:** Maintain the balance set in the ***Bijoe Emmanuel (1986)*** case—protecting the right to silent, respectful dissent while penalizing intentional desecration under the **1971 Act**.
- **Inclusivity in Celebrations:** Ensure national symbols remain **unifying tools** that represent India's diverse cultural fabric, preventing them from being used for majoritarian exclusion.

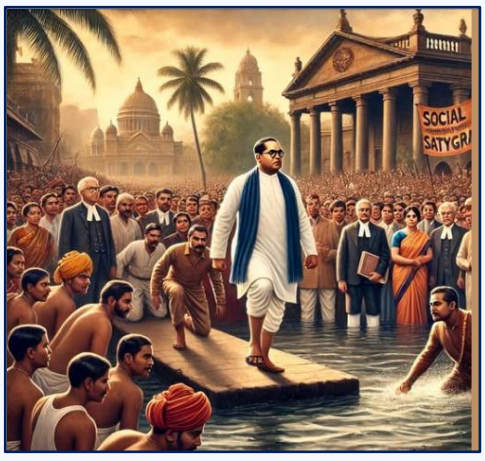
Conclusion

India must evolve from **ritualistic nationalism** to **Constitutional Patriotism**, balancing the sanctity of national symbols with **individual liberties**. Future progress lies in inclusive, voluntary respect that strengthens India's democratic fabric.

Q. *Trace the evolution of the Indian national flag and examine its role as a symbol of unity during the freedom struggle.*

1.3.2. MAHAD SATYAGRAHA

What is Mahad Satyagraha?



It was a non-violent social movement launched on **March 20, 1927**, in Mahad (Maharashtra) led by **Dr. B.R. Ambedkar**. It aimed to assert the right of the Dalit community (then "untouchables") to access water from the **Chavdar Tank**, a public resource they were traditionally barred from using.

Background of the Mahad Satyagraha

- **The S.K. Bole Resolution (1923):** The Bombay Legislative Council passed a resolution allowing "untouchables" access to all public watering places, wells, and schools maintained by the government.

- **Local Defiance:** Despite the law and a 1924 Mahad Municipal Council order, the high-caste Hindu community resisted, often through violence and social boycotts.
- **Institutional Mobilization:** Under the banner of the **Bahishkrit Hitakarini Sabha**, Ambedkar turned a local grievance into a national civil rights issue.

Key Features of the Mahad Satyagraha

1. **Symbolic Defiance (March 20, 1927)**
   - **Direct Action:** Dr. Ambedkar led a procession of thousands to the **Chavdar Tank**. He was the first to drink water, followed by his supporters.
   - **Breaking the Taboo:** This act shattered the "pollution by touch" myth. It wasn't about thirst; it was a demonstration of **civil equality**.
2. **The "Manusmriti Dahan" (December 25, 1927)**
   - **Phase Two:** After orthodox groups "purified" the tank with cow urine, a second Satyagraha was organized.
   - **Radical Break:** Ambedkar and his followers **burned the Manusmriti**, the ancient text seen as the source of caste-based discrimination. This symbolized the rejection of the religious basis of untouchability.
3. **Inclusion of Women**
   - **Gender Equality:** For the first time in such a large-scale social movement, women participated actively.
   - **Social Reform:** Ambedkar urged Dalit women to change their attire (e.g., wearing saris like other women) to shed the visual markers of "servitude" and reclaim their dignity.
4. **Non-Violent Approach**
   - **Strict Discipline:** Despite being attacked by orthodox mobs after the first march, Ambedkar ensured his followers did not retaliate with violence.
   - **Constitutional Method:** He maintained that the struggle was for the **legal enforcement** of a government resolution (the Bole Resolution).
5. **Secular and Rights-Based**
   - **Not a Religious Quest:** Unlike temple-entry movements, Mahad was about **Civic Rights**. It focused on access to a public utility (water), framing it as a natural right of every human being.
   - **"Manushki" (Humanity):** The core philosophy was centered on human dignity rather than seeking "purity" within the caste fold.
6. **Legal Victory (1937)**
   - **Rule of Law:** The struggle didn't end at the tank; it moved to the courts. After a decade-long battle, the **Bombay High Court** ruled in 1937 that Dalits had the legal right to use the water, affirming that "custom" cannot override "legal rights."

Significance of the Mahad Satyagraha

1. **The "First Rehearsal" of the Constitution**
   - **Rights over Charity:** It shifted the focus from seeking "mercy" or "reform" within the caste system to claiming **Fundamental Rights** as equal citizens.

- **Article 17 Precursor:** The demand for the abolition of untouchability at Mahad directly informed the drafting of **Article 17** (Abolition of Untouchability) and **Article 15** (Non-discrimination) in the Indian Constitution.

2. **Transition to Mass Mobilization**
   - **Political Awakening:** It was the first time the "Depressed Classes" organized on such a massive scale (thousands of participants) to challenge the social order through **Direct Action**.
   - **Institutional Strength:** It established the **Bahishkrit Hitakarini Sabha** as a potent force for social change, moving beyond mere petitions to active Satyagraha.
3. **Intellectual & Symbolic Break**
   - **Rejection of Hierarchy:** The burning of the Manusmriti (Dec 1927) was a radical intellectual break from traditional social laws. It signaled that the movement would no longer accept religious justifications for inequality.
   - **Secularization of Rights:** By fighting for **water** (a civic utility) rather than just temple entry, Ambedkar framed the struggle as a **Secular Human Rights** issue rather than a purely religious one.
4. **Empowerment of Women**
   - **The "Mahad Speech":** Ambedkar's address to Dalit women during the Satyagraha is considered a milestone in **Indian Feminism**. He urged them to shed symbols of slavery and educate their children, recognizing women as the primary drivers of social reform.

Comparison: Mahad vs. Salt Satyagraha

Feature	Mahad Satyagraha (1927)	Salt Satyagraha (1930)
Primary Adversary	**Internal:** The "Feudal-Caste" oppression and the Brahmanical social order.	**External:** The "Colonial-Imperial" exploitation by the British Raj.
The "Resource"	**Water:** A natural, life-sustaining resource denied based on birth (Caste).	**Salt:** A daily essential taxed by the state to generate revenue (Colonial Law).
Core Philosophy	**Manushki (Humanism):** Focused on reclaiming human dignity and "social citizenship."	**Swaraj (Self-Rule):** Focused on political sovereignty and "national independence."
Legal Trigger	Defiance of the **1923 Bole Resolution** by local orthodox groups.	Defiance of the **1882 Salt Act** by the Indian National Congress.
Gender Inclusion	**Radical:** Women were encouraged to shed visual symbols of caste slavery (Ambedkar's 1927 speech).	**Massive:** Women joined the frontlines of the Civil Disobedience Movement.
Key Symbolic Act	Drinking water from **Chavdar Tank** and burning the **Manusmriti**.	Making salt at the **Dandi** coast.
Constitutional Legacy	Direct precursor to **Articles 15, 17, and 21**.	Foundation for the **Fundamental Rights** of Political Participation.

Conclusion

The Mahad Satyagraha remains the foundational blueprint for **Article 17**, evolving today into a "Digital Mahad" ensuring equitable access to **Digital Public Infrastructure** and data dignity for all citizens.

Q. *"While the Salt Satyagraha challenged the legitimacy of a foreign power, the Mahad Satyagraha challenged the moral authority of an unequal internal social order." In light of this statement, evaluate the significance of the Mahad Satyagraha (1927) in laying the ethical and legal foundations of the Indian Constitution.*

***

Scan to attempt more questions...

GENERAL STUDIES 2

2.1. POLITY & GOVERNANCE

2.1.1. HATE SPEECH

Context:

While "Hate Speech" is not explicitly defined in the Indian Constitution or the BNS, legal and international bodies provide the following frameworks:

- **Law Commission of India (267th Report):** Defined as an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief, and the like.

Legal and Constitutional Provisions on Hate Speech

Constitutional Framework

- **Article 19(1)(a):** Guarantees Freedom of Speech and Expression.
- **Article 19(2):** Imposes **"Reasonable Restrictions"** on grounds of:
  - Sovereignty and integrity of India.
  - Security of the State.
  - Public Order, Decency, or Morality.
  - Incitement to an offence.
- **Preamble:** The values of **Fraternity** and **Dignity** act as the guiding spirit to curb speech that creates communal rifts.

Statutory Provisions (Bharatiya Nyaya Sanhita, 2023)

The BNS has replaced the IPC, bringing in specific sections to deal with hate-related offences:

- **Section 196 (formerly 153A IPC):** Penalizes promoting enmity between different groups on grounds of religion, race, place of birth, residence, language, etc.
- **Section 299 (formerly 295A IPC):** Punishes deliberate and malicious acts intended to outrage religious feelings.
- **Section 353 (New):** Targets the publication or circulation of "false or misleading information" that may jeopardize national sovereignty or create communal discord.
- **Section 103(2):** Specifically addresses **Mob Lynching** (murder by a group of five or more on grounds of race, caste, or community).

Other Laws

- **Representation of People Act (RPA), 1951:** Section 123(3A) and 125 bar the promotion of hatred for electoral gains, classifying it as a "corrupt practice."
- **SC/ST (Prevention of Atrocities) Act, 1989:** Prohibits speech intended to humiliate members of the SC/ST community in public view.

Key Judicial Judgements

- **Shreya Singhal v. Union of India (2015):** Struck down Section 66A of the IT Act for being "vague" and "overbroad." It distinguished between **Discussion, Advocacy, and Incitement**, holding that only "incitement" can be restricted.
- **Tehseen Poonawalla v. Union of India (2018):** Issued "preventive, remedial, and punitive" guidelines to tackle lynching and mob violence fueled by hate speech.
- **Shaheen Abdulla v. Union of India (2022/23):** The SC directed all States/UTs to register **suo motu FIRs** in hate speech cases without waiting for a formal complaint, irrespective of the religion of the maker.

Challenges in Curbing Hate Speech

1. **Legal & Definitional Ambiguity**
   - **Lack of Specific Definition:** Neither the Constitution nor the **Bharatiya Nyaya Sanhita (BNS)** explicitly defines "Hate Speech." This leads to subjective interpretation by law enforcement, often resulting in either over-regulation or inaction.
   - **The "Speech vs. Incitement" Divide:** As held in Shreya Singhal (2015), the law only restricts "incitement." Distinguishing between offensive advocacy (protected) and actual incitement to violence (prohibited) remains a legal gray area.
2. **Digital & Technological Hurdles**
   - **The "Viral Velocity":** On platforms like X (formerly Twitter) and WhatsApp, hate speech spreads faster than fact-checking or legal takedown notices can act.
   - **Anonymity & Encryption:** End-to-end encryption (WhatsApp) makes it difficult to trace the "first originator" of hate speech, while VPNs allow users to bypass territorial laws.
   - **Algorithmic Bias:** Recommendation engines often prioritize "high-engagement" (inflammatory) content to maximize watch time, inadvertently amplifying extremist views.
3. **Institutional & Enforcement Gaps**
   - **Low Conviction Rates:** Proving "malicious intent" under Section 196 or 299 of BNS is difficult. Cases often linger for years, losing their deterrent effect.
   - **Political Interference:** Hate speech is frequently used as a tool for **electoral mobilization**. Law enforcement agencies often face pressure when the speaker is politically influential.
   - **Burden on Judiciary:** The Supreme Court is increasingly overwhelmed, leading to the decentralization of these cases to High Courts, which may lead to inconsistent rulings across different states.
4. **Socio-Political Challenges**
   - **The "Chilling Effect":** Vague laws are often misused to target journalists, activists, or comedians, creating a climate of self-censorship and weakening Article 19(1)(a).
   - **Normalisation of Hate:** When hate speech becomes part of the "mainstream" public discourse, social sanction disappears, making legal intervention appear as "state high-handedness" to certain sections of the public.

Measures to Curb Hate Speech

1. **Legislative Measures: Plugging Legal Gaps**
   - **Specific Definition:** Introduce a standalone definition of "Hate Speech" in the **Bharatiya Nyaya Sanhita (BNS)** to reduce police subjectivity.

- **New Penal Sections:** Implement the **Viswanathan Committee** recommendations to insert:
  - **Section 153C:** Specifically targeting "incitement to hatred" on grounds of religion, race, caste, sex, or gender.
  - **Section 505A:** Penalizing "causing fear, alarm, or provocation of violence" through derogatory words or display.
- **Tiered Punishment:** Move away from "one-size-fits-all" sentencing to a tiered system (e.g., fines for first-time offensive speech vs. 5–10 years for incitement to genocide).

2. Administrative & Executive Measures

- **Suo Motu FIRs:** Rigorous enforcement of the SC directive (Shaheen Abdulla Case) requiring police to register cases immediately without a formal complaint, treating delays as **Contempt of Court**.
- **District Nodal Officers:** As per the Tehseen Poonawalla (2018) guidelines, designate a senior police officer in every district to monitor and prevent communal flare-ups fueled by hate speech.
- **24-Hour Digital Takedowns:** Under the **IT Rules 2026**, mandate social media platforms to remove "virally contagious" hate content within 24 hours of notification by a designated authority.

3. Judicial Measures: Ensuring Deterrence

- **Special Fast-Track Courts:** Establish dedicated benches to conclude hate speech and mob-lynching trials within **6 months** to ensure the deterrent effect isn't lost in pendency.
- **Three-Part Test:** Adopt the international standard (Rabat Plan of Action) to judge speech based on:
  I. Context
  II. Speaker's intent
  III. Imminence of harm
- **Restorative Justice:** For non-violent but prejudicial speech, the judiciary can mandate public apologies and community service, as observed in recent rulings.

4. Social & Technological Measures

- **Media Literacy:** Integrate "Digital Citizenship" into school curricula to help students identify misinformation and polarized narratives (e.g., the Karnataka Model of awareness).
- **Counter-Speech Strategy:** Promoting "positive speech" and community-led narratives to drown out extremist voices rather than relying solely on censorship.
- **AI for Detection:** Deploy Safe & Trusted AI (India AI Impact Summit 2026) to detect "organized hate" patterns in regional languages before they result in on-ground violence.

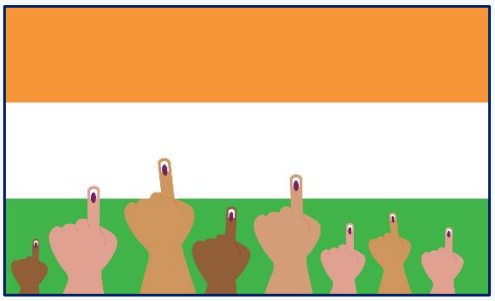
Conclusion

Curbing hate speech requires balancing **Article 19(1)(a)** with the Preamble's **Fraternity**. Future-proofing India's social fabric necessitates **BNS-aligned legal clarity**, AI-driven moderation under **IT Rules 2026**, and fostering a resilient, media-literate digital citizenry.

Q. *What do you understand by the concept "freedom of speech and expression"? Does it cover hate speech also? Why do the films in India stand on a slightly different plane from other forms of expression? Discuss.*

2.1.2. ONE NATION ONE ELECTION

Context:



The concept of **One Nation One Election** refers to a system where elections to the **Lok Sabha**, **State Legislative Assemblies**, and **Local Bodies** (Panchayats and Municipalities) are held simultaneously within a synchronized timeframe.

Historical Background of One Nation One Election (ONOE)

- **The Norm (1951–1967):** Simultaneous elections were the standard practice in India for the first two decades post-independence (1951-52, 1957, 1962, and 1967).
- **The Disruption:** The cycle was broken in **1968 and 1969** due to the premature dissolution of several State Legislative Assemblies (e.g., Haryana, UP) and the Lok Sabha itself in 1970.
- **Institutional Support: Law Commission (170th Report, 1999):** Recommended returning to simultaneous elections to ensure stability.
    - **Election Commission (1983):** First mooted the idea after the cycle was disrupted.
    - **NITI Aayog (2017):** Published a working paper advocating for a two-phase synchronization.

Significance of One Nation One Election (ONOE)

1. **Enhancing Governance and Policy Continuity**
    - **Ending "Policy Paralysis":** Frequent Model Code of Conduct (MCC) impositions halt new welfare schemes and infrastructure projects. ONOE ensures uninterrupted governance and long-term structural reforms.
    - **Focus on Delivery:** Shifts leadership focus from "permanent campaign mode" to administrative execution, providing a stable four-to-five-year window for performance over populist optics.
2. **Economic and Fiscal Significance**
    - **Massive Cost Savings:** Reduces duplicated logistical and security expenditures. Synchronized polls curb the massive public and private capital drained by frequent election cycles.
    - **Boosting GDP Growth:** Minimizes economic uncertainty and supply-chain disruptions caused by rallies. The HLC suggests a potential **1.5 percentage point** boost to real GDP growth.
    - **Controlling Inflation:** Limits the periodic surges in money supply triggered by massive, decentralized election spending, aiding macro-economic stability.
3. **Administrative and Security Efficiency**
    - **Optimal Resource Deployment:** Prevents the repetitive diversion of CAPF and civil staff (like teachers) from their primary duties, ensuring better internal security and consistent public services.
    - **Single Electoral Roll:** Streamlines the process through a common voter list and **Single EPIC**, eliminating data duplication and reducing the administrative burden on the ECI and State Election Commissions.

4. **Impact on the Democratic Fabric**
    - **Checking Populism:** Encourages fiscally responsible "hard" decisions over short-term "freebies" typically announced to influence immediate state-level outcomes.
    - **Curbing Corruption:** Fewer elections lower the constant pressure for political fundraising, potentially reducing the role of "black money" in the electoral process.
    - **Increasing Voter Turnout:** Combats "voter fatigue" and facilitates participation for migrant workers who can vote for multiple levels of government in a single trip.

Challenges of One Nation One Election (ONOE)

1. **Constitutional and Legal Hurdles**
    - **Major Amendments:** Requires amending **Articles 83, 85, 172, 174, and 356**. These govern the duration and dissolution of the Lok Sabha and State Assemblies.
    - **Ratification by States:** Amendments related to the "Union-State" balance and local bodies (73rd/74th Amendments) require ratification by at least **half of the State Legislatures** under Article 368.
    - **Mid-term Collapse:** A major dilemma arises if a government falls mid-tenure. The current proposal for "unexpired terms" (only serving the remaining period) may lead to frequent "interim" elections, defeating the purpose of ONOE.

2. **Threat to Federalism**
    - **Erosion of State Autonomy:** Forcing states to align their terms with the Center is seen as an encroachment on their independent constitutional existence (**S.R. Bommai case**).
    - **Marginalization of Regional Parties:** National issues often overshadow local concerns in synchronized polls. A study by the IDFC Institute suggests a **77% probability** of voters choosing the same party for both Center and State when elections are simultaneous.

3. **Logistical and Operational Complexity**
    - **EVM/VVPAT Shortage:** The ECI would need nearly **double the current number** of voting machines. This involves massive manufacturing costs and significant storage/warehousing challenges.
    - **Security Deployment:** Providing adequate security (CAPF) for a nationwide synchronized poll is a daunting task, potentially stretching the country's internal security apparatus thin.

4. **Impact on Democratic Accountability**
    - **Reduced Frequency of Feedback:** Staggered elections act as a "mid-term review," keeping governments accountable. ONOE might lead to "accountability only once in five years."
    - **Voter Confusion:** Voters may struggle to distinguish between national-level mandates (e.g., Foreign Policy) and state-level issues (e.g., Water/Roads) when casting multiple votes on the same day.

5. **Political Resistance**
    - **Lack of Consensus:** Many regional and opposition parties view ONOE as a move toward a "Unitary State" or a "Presidential" style of governance, leading to significant political pushback and lack of a unified national vision on the reform.

Recommendations of the High-Level (Kovind) Committee

The High-Level Committee (HLC) chaired by **Ram Nath Kovind** (2024) recommended a **Phased Approach**:

- **Step 1:** Synchronize Lok Sabha and State Assembly elections. This would not require ratification by the states.
- **Step 2:** Synchronize local body elections (Panchayats/Municipalities) within **100 days** of the general elections. This would require ratification by at least half of the states.
- **Single Electoral Roll:** Preparation of a common electoral roll and single ID card (EPIC) for all three tiers.
- **Unexpired Term:** In case of a hung house or no-confidence motion, the new house would only serve for the remaining ("unexpired") period of the 5-year cycle.

Global Practices

- **South Africa:** National and provincial elections are held simultaneously every five years.
- **Sweden:** Elections for the national legislature (Riksdag), regional councils, and local councils are held on the same day (second Sunday of September).
- **Germany:** Follows a **"Constructive Vote of No-Confidence,"** where a government cannot be toppled unless an alternative government is already in place. This ensures the term is completed and prevents premature elections.
- **Indonesia:** Indonesia demonstrates that high-volume simultaneous voting is logistically possible but extremely taxing on administrative staff (leading to health concerns for polling workers in past cycles).

Way Forward

1. **Phased Implementation (Two-Step Approach)**
    - **Phase I:** Synchronize elections for the **Lok Sabha** and all **State Legislative Assemblies**. This step focuses on the top two tiers of governance.
    - **Phase II:** Synchronize **Local Body elections** (Panchayats and Municipalities) with the first phase, ensuring they are conducted within **100 days** of the general elections.
2. **Constitutional and Legal Framework**
    - **Appointed Date:** The President should notify an "Appointed Date" (e.g., in 2029) to trigger the synchronization. Terms of assemblies ending after this date would be adjusted to align with the Lok Sabha.
    - **Minimum Amendments:** Focus on essential changes to **Articles 83 and 172** to define "unexpired terms," ensuring the cycle is not broken by mid-term dissolutions.
3. **Institutional Mechanisms for Stability**
    - **Handling Hung Houses:** In the event of a No-Confidence Motion or a hung house, fresh elections should be held only for the **remainder of the five-year cycle** (the "unexpired term"), rather than a full new five-year term.
    - **Constructive Vote of No-Confidence:** Explore the German model where a government cannot be removed unless an alternative government is ready, ensuring the legislature completes its synchronized tenure.

4. **Logistical Preparedness**
    - **Vast Scale-up:** The Election Commission must proactively plan for the massive procurement of **EVMs and VVPATs** (nearly double current levels) and develop specialized storage and security protocols for a nationwide single-window election.
5. **Building Political and Social Consensus**
    - **Bipartisan Dialogue:** Since ONOE impacts the federal structure, a **Joint Parliamentary Committee (JPC)** or a similar body should facilitate open deliberations with regional parties to address fears of "national issues overshadowing local ones."
    - **Public Awareness:** Conduct voter education programs to explain the benefits (reduced costs, governance continuity) and the process of casting multiple ballots, ensuring high democratic participation.

Conclusion

While **One Nation One Election** offers a blueprint for administrative and financial efficiency, its success depends on balancing the need for stability with the foundational principles of **Federalism** and **Democratic Accountability**.

Q. *Examine the need for electoral reforms as suggested by various committees with particular reference to "one nation-one election" principle.*

2.1.3. GOVERNORS, CONSTITUTIONAL BOUNDARIES AND CENTRE–STATE RELATIONS

Context:

The Erosion of Federal Etiquette

The Governor holds a pivotal position in India's constitutional framework as the **constitutional head of the State**. The office is expected to act as a **neutral authority safeguarding the Constitution and facilitating the elected government**, while also reflecting India's **federal system with a unitary bias** by serving as a link between the **Union and the State**.

However in recent years, several controversies involving gubernatorial actions have raised questions about the **scope of discretionary powers and the limits of constitutional authority**.

These debates have brought attention to the interpretation of key constitutional provisions and judicial principles, including:

- **Article 176** – Governor's address to the State Legislature.
- **Article 200** – Governor's power regarding assent, return, or reservation of Bills.
- **Doctrine of "Deemed Assent"** developed through judicial interpretation to address delays in gubernatorial action.

- **Article 164** – Governor's authority in relation to appointment and tenure of ministers.
- Constitutional principles clarified in **State of Punjab v. Governor of Punjab (2023)** regarding the limits of gubernatorial discretion.

The Constitutional Role of the Governor: Theory vs. Practice

The office of the Governor is established under **Article 153**, which provides that each State shall have a Governor. The Governor is appointed by the President and holds office during the President's pleasure under **Article 156**. Although the State's executive power is formally vested in the Governor under **Article 154**, it is ordinarily exercised on the **aid and advice of the Council of Ministers headed by the Chief Minister**. In constitutional theory, therefore, the Governor performs three key roles:

- **Constitutional Head of the State Executive**
- **Link between the Union Government and the State Government**
- **Guardian of Constitutional procedures within the State**

The normative expectation is that the Governor functions as a **non-partisan constitutional authority**, ensuring continuity and stability in governance.

Article 176: The Special Address and the Governor's Mandate.

Article 176 of the Constitution of India provides that the Governor shall address the State Legislature:

- At the commencement of the first session after each general election to the Legislative Assembly.
- At the first session of the Legislature each year.

Constitutional Significance

The Governor's address outlines the **policy framework and legislative agenda of the elected government** and is followed by a **Motion of Thanks**, allowing the Legislature to debate government policies. In practice, the speech is **prepared by the Council of Ministers**, reflecting the principle that the Governor acts on **ministerial advice**.

Constitutional Implications

When the Governor declines to deliver the address or substantially alters the text prepared by the government, it raises constitutional concerns because:

- The address represents the **policy statement of the elected government**, not the personal views of the Governor.
- Refusal or alteration may undermine the **principle of responsible government**.
- It may disrupt established **parliamentary conventions**.

Thus, adherence to Article 176 is essential for maintaining the procedural integrity of legislative functioning.

The Stalemate over Legislation.

Constitutional Provision

Under **Article 200 of the Constitution of India**, when a Bill passed by the State Legislature is presented to the Governor, the Governor may:

1. Give assent to the Bill.
2. Withhold assent and return the Bill to the Legislature for reconsideration (if it is not a Money Bill).
3. Reserve the Bill for consideration of the President.

Return of a Bill

If the Governor returns a Bill for reconsideration, the Legislature may re-pass the Bill with or without amendments. Once the Bill is re-passed, the Governor is generally expected to grant assent unless the Bill is reserved for the President under **Article 201 of the Constitution of India**.

Problem of Legislative Delay

Although Article 200 specifies the options available to the Governor, it does not prescribe a **time limit** for exercising these options. This constitutional silence has sometimes resulted in prolonged delays in granting assent to Bills.

Such delays may effectively obstruct legislative intent, thereby creating tensions between the Governor and the elected government.

The Doctrine of Deemed Assent

The absence of a clear timeline in Article 200 has led courts to evolve the doctrine of **deemed assent**.

Conceptual Basis

Deemed assent refers to a judicial interpretation whereby a Bill may be treated as having received assent if the Governor fails to act within a reasonable period or exercises powers in a manner inconsistent with constitutional principles.

Although the Constitution does not explicitly provide for deemed assent, the doctrine emerges from broader constitutional principles such as:

- **Democratic accountability**
- **Rule of law**
- **Functional efficiency of constitutional institutions**

Constitutional Rationale

The judiciary has emphasized that constitutional authorities must exercise their powers **within a reasonable timeframe**. Indefinite delay in the legislative process may amount to a violation of the spirit of parliamentary democracy.

Thus, the doctrine of deemed assent acts as a **constitutional safeguard against executive inaction**.

The Punjab Case (2023) and Judicial Clarification

The scope of gubernatorial powers was significantly clarified in the case of **State of Punjab v. Governor of Punjab (2023)**.

Background

The dispute arose between the Government of **Punjab** and the Governor regarding the summoning of the State Assembly and the processing of legislative Bills.

Supreme Court Observations

The **Supreme Court of India** held that:

- The Governor cannot indefinitely delay the legislative process.
- The Governor must ordinarily act on the **aid and advice of the Council of Ministers**.
- Constitutional authorities should facilitate democratic governance rather than impede it.

The judgment reinforced the principle that the Governor's role is **constitutional and procedural rather than political**.

Arrest of a Minister and Gubernatorial Authority

Constitutional Provision

Under **Article 164 of the Constitution of India**, ministers hold office during the pleasure of the Governor.

However, this "pleasure doctrine" operates within the framework of **parliamentary democracy**, where the Council of Ministers is collectively responsible to the Legislative Assembly.

Constitutional Practice

In practice, the Governor exercises the pleasure doctrine **on the advice of the Chief Minister**. Consequently:

- The Governor cannot unilaterally dismiss a minister without the recommendation of the Chief Minister.
- Arrest or criminal proceedings against a minister do not automatically terminate ministerial office.

Judicial interpretation has consistently emphasized that the **political accountability of ministers lies primarily with the elected government**.

Oath of Ministers in the State

Constitutional Provision

According to **Article 164(3) of the Constitution of India**, a minister must take the oath of office and secrecy before the Governor prior to assuming office.

Constitutional Convention

Although the Governor administers the oath, the appointment of ministers occurs **on the advice of the Chief Minister**. Therefore, the Governor's role in the oath-taking process is primarily formal.

If a court suspends the conviction of a minister, constitutional scholars generally argue that there is **no legal barrier to the person assuming ministerial office**, provided the disqualification provisions under the Representation of the People Act do not apply.

Implications for Indian Federalism: Key Challenges

1. **Absence of Clear Timelines** – The Constitution does not prescribe specific time limits for Governors to act on legislative Bills, leading to delays and uncertainty.
2. **Politicisation of the Governor's Office** – Gubernatorial appointments are often political, which can affect the perception of neutrality and impartiality.
3. **Frequent Judicial Intervention** – Constitutional ambiguities increasingly require judicial clarification, indicating institutional friction.

4. **Legislative Delays** – Prolonged gubernatorial inaction can obstruct or slow down the legislative process.
5. **Centre–State Tensions** – Disputes between Governors and elected State governments may intensify conflicts within the federal structure.
6. **Institutional Uncertainty** – Such conflicts can create instability in governance and weaken public trust in constitutional institutions.

Way Forward

1. **Implement Commission Recommendations** – The **Sarkaria Commission** recommended appointing eminent individuals detached from active politics as Governors to ensure neutrality and constitutional impartiality.
2. **Clarify Discretionary Powers** – As suggested by the **Punchhi Commission**, clearer constitutional guidelines should be framed regarding the discretionary powers of Governors to avoid institutional conflicts.
3. **Fix Reasonable Timelines for Assent to Bills** – Establishing clear timelines for gubernatorial decisions on Bills can prevent legislative delays and administrative uncertainty.
4. **Strengthen the Principle of Ministerial Advice** – Constitutional conventions must be reinforced to ensure that Governors ordinarily act on the **aid and advice of the Council of Ministers**.
5. **Ensure Non-Partisan Appointments** – Greater transparency and neutrality in the appointment of Governors can strengthen public trust and uphold the spirit of cooperative federalism.

Conclusion

The constitutional controversies surrounding the Governor's tenure highlight the complex interaction between **constitutional authority and democratic governance** Going forward, strengthening **constitutional conventions, judicial clarity, and cooperative federalism** will be essential to ensure that the Governor's office functions as a **neutral constitutional institution**, facilitating governance while respecting the democratic mandate of elected State governments.

Q. *"The office of the Governor is intended to function as a neutral constitutional authority, yet recent controversies have raised concerns regarding the erosion of federal etiquette." Discuss with reference to Articles 176, 200, and recent judicial interventions.*

2.1.4. PRISON OUTBREAKS IN INDIA: OVERCROWDING AS A PUBLIC HEALTH EMERGENCY

Context:

India's prison system faces a severe public health crisis, highlighted by the HSV outbreak in Jalpaiguri (2025–26), exposing deep structural weaknesses. Chronic overcrowding, poor sanitation, and inadequate healthcare have turned prisons into high-risk hubs for diseases like TB, HIV, and COVID-19. Consequently, prison health now stands at the intersection of public health, governance, and human rights.

Introduction

- Prisons in a constitutional democracy are not merely punitive spaces but institutions where the State must uphold dignity and fundamental rights; under Article 21, this includes the right to health and humane treatment for prisoners.
- Whereas a clear gap exists between constitutional ideals and ground realities, as Indian prisons suffer from overcrowding, outdated infrastructure, and systemic neglect of healthcare.

Why Prison Health is a Critical Governance Concern

1. **Public Health Externalities**
    - **High Disease Transmission within Prisons:** Overcrowding, poor ventilation, and delayed medical care turn prisons into "epidemiological amplifiers," with diseases like TB occurring at rates nearly five times higher than in the general population.
    - **Spillover to Wider Society:** Continuous interaction through staff, visitors, and released inmates enables infections to spread beyond prison walls, making it a broader public health concern.
2. **Human Rights and Constitutional Morality**
    - **Violation of Fundamental Rights:** Denial of adequate healthcare to prisoners infringes Article 21 and undermines constitutional morality.
    - **State's Positive Obligation:** Judicial pronouncements affirm that incarceration does not strip fundamental rights, placing a duty on the State to ensure humane conditions and proper medical care.
3. **Indicator of Criminal Justice Efficiency**
    - **High Undertrial Population:** The predominance of undertrials (75–80%) indicates inefficiencies in investigation, prosecution, and judicial processes.
    - **Structural Systemic Issues:** Overcrowding reflects deeper flaws in the criminal justice system, necessitating comprehensive institutional reforms.
4. **Social Justice Dimension**
    - **Marginalized Composition:** Prison populations largely consist of individuals from socio-economically disadvantaged groups.
    - **Deepening Inequality:** Neglect of prison healthcare worsens existing inequalities, perpetuating cycles of deprivation and exclusion.

Systemic Challenges in India's Prison Ecosystem

1. **Structural Overcrowding**
    - A significant proportion of Indian prisons operate at occupancy rates exceeding 150%, with extreme instances such as Kandi Sub-Jail surpassing 400%. Major facilities like Tihar Jail and Arthur Road Jail exemplify chronic congestion.

      Implication: Overcrowding severely constrains the implementation of basic hygiene, physical distancing, and disease containment measures.
2. **High Undertrial Population**
    - The excessive reliance on pre-trial detention, coupled with judicial delays and socio-economic barriers to bail, has resulted in a disproportionately large undertrial population.

Implication: Prisons function de facto as detention centres rather than correctional institutions, undermining the principle of "innocent until proven guilty."

3. **Inadequate Healthcare Infrastructure**
   - The prison healthcare system is characterized by a **43% vacancy rate** in medical personnel, suboptimal doctor-inmate ratios, and an acute shortage of mental health professionals.

     Implication: The absence of timely diagnosis and intervention transforms manageable health conditions into severe or fatal outcomes.
4. **High Disease Burden**
   - Recurring outbreaks of HSV, TB, HIV, and COVID-19 indicate systemic vulnerability. The confluence of overcrowding and poor sanitation exacerbates the spread of communicable diseases.

     Implication: Prisons evolve into persistent reservoirs of infection, posing risks beyond institutional boundaries.
5. **Governance and Policy Deficits**
   - The uneven implementation of the Model Prison Manual (2016), coupled with weak inter-agency coordination, reflects governance deficits.

     Implication: Policy frameworks remain largely aspirational due to inadequate enforcement mechanisms.
6. **Neglect of Mental Health**
   - The severe shortage of psychologists and counsellors, combined with stressful prison conditions, contributes to a silent mental health crisis.

     Implication: This undermines the rehabilitative objective of incarceration and increases the risk of recidivism.

Situation in Other Countries

Developing Countries

- The Philippines' Quezon City Jail, operating at over 500% capacity, epitomizes extreme overcrowding.
- Brazil's prison system is marked by a nexus of overcrowding, violence, and infectious diseases.
- South Africa faces high HIV and TB prevalence within prisons, reflecting systemic healthcare inadequacies.

Developed Countries

- The United States, despite advanced infrastructure, grapples with mass incarceration and outbreaks in facilities such as Rikers Island.
- The United Kingdom has reported rising overcrowding and deteriorating prison conditions.
- European nations such as Italy and France have faced judicial censure for violating human dignity norms due to overcrowding.

Way Forward

1. **Immediate Interventions**
   - Mandatory health screening at admission
   - Periodic testing for communicable diseases
   - Establishment of isolation and quarantine facilities
   - Emergency outbreak preparedness protocols
2. **Strengthening Healthcare Systems**
   - Expedited recruitment of medical and mental health professionals
   - Capacity-building of prison staff in primary healthcare
   - Deployment of telemedicine services
   - Creation of robust disease surveillance mechanisms
3. **Addressing Overcrowding**
   - Fast-tracking undertrial cases through judicial reforms
   - Liberalization of bail provisions for minor offences
   - Adoption of non-custodial alternatives such as probation and community service
   - Expedited repatriation of foreign inmates
4. **Structural and Institutional Reforms**

   a. Prison Infrastructure
   - Modernization of facilities
   - Improved sanitation, ventilation, and living conditions

   b. Criminal Justice Reforms
   - Reducing reliance on incarceration
   - Ensuring time-bound trials

   c. Public Health Integration
   - Incorporation of prison healthcare within the National Health Mission
   - Digitization of inmate health records

   d. Policy Enforcement
   - Uniform and strict implementation of the Model Prison Manual

Conclusion

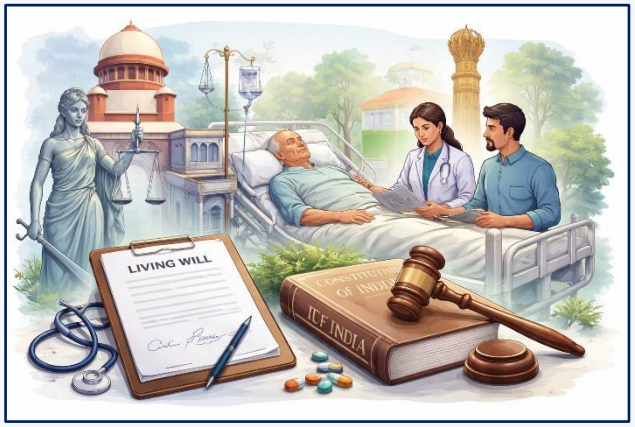
India's prison crisis reflects deeper structural and ethical failures in reconciling punishment with dignity under Article 21. Addressing it requires a shift to a reformative, rights-based approach. As Nelson Mandela noted, a society is judged by its treatment of the vulnerable, making humane prisons a civilizational imperative.

Q. *Prison health is not merely a correctional issue but a critical governance and public health concern." Examine in the context of overcrowding and institutional deficiencies in India's prison system.*

2.1.5. RIGHT TO DIE AND EUTHANASIA

Context:

In a landmark development, the Supreme Court in **Harish Rana v. Union of India** permitted the first-ever practical application of its passive euthanasia guidelines.



About Euthanasia

Derived from Greek words Eu (Good) and Thanatos (Death), it literally means "Good Death" or "Mercy Killing." It refers to the practice of intentionally ending a life to relieve pain and suffering.

Classification based on Consent:

- **Voluntary:** With the patient's explicit consent.
- **Non-voluntary:** Patient is unable to consent (e.g., coma), and the decision is made by family/guardians.
- **Involuntary:** Against the patient's will (Equivalent to murder; globally illegal).

Active vs. Passive Euthanasia

Feature	Active Euthanasia	Passive Euthanasia
Definition	Deliberate action to cause death	Withdrawal or withholding of life support
Nature	Direct intervention	Allowing natural death
Legal status in India	Illegal	Permitted (Under strict SC guidelines).
Example	Injecting lethal drug	Removing ventilator or feeding tube
SC 2026 Clarification	The term "Euthanasia" should now strictly refer to **Active Euthanasia**	Now officially termed **"Withdrawing or Withholding of Medical Treatment"**

Legal and Constitutional Provisions on Euthanasia

- **Article 21:** The "Right to Life" is a fundamental right. The SC has interpreted this to mean a **"Right to a Dignified Life,"** which inherently includes a **"Right to a Dignified Death."**
- **Article 226:** High Courts have the power to issue writs; often the first point of appeal for families seeking euthanasia for incompetent patients.
- **Bharatiya Nyaya Sanhita (BNS), 2023:** Active euthanasia attracts criminal liability under **Section 100** (Culpable Homicide) or **Section 101** (Murder).

Evolution of Judicial Proceedings on Euthanasia

The legal journey has shifted from "Sanctity of Life" to "Quality of Life":

1. **Maruti Shripati Dubal (1987):** Bombay HC held that "Right to Life" includes "Right to Die" (decriminalized suicide).
2. **Gian Kaur v. State of Punjab (1996):** SC reversed the above, stating Article 21 is about protection of life, not its extinction.

3. **Aruna Shanbaug v. Union of India (2011):** First-time recognition of **Passive Euthanasia** under "exceptional circumstances" with High Court approval.
4. **Common Cause v. Union of India (2018):** SC declared the **Right to Die with Dignity** as a Fundamental Right. It legalized **"Living Wills"** (Advance Medical Directives).
5. **Harish Rana Case (2026):** Confirmed that **CANH** (Clinically Assisted Nutrition and Hydration) qualifies as medical treatment and can be withdrawn if it offers no therapeutic benefit.

Arguments For and Against Euthanasia

The "Pro-Choice" Perspective

- **Fundamental Right to Dignity:** Under **Article 21**, the "Right to Life" is not merely animal existence; it includes the **Right to Die with Dignity** when life becomes an agonizing burden.
- **Bodily Autonomy:** An individual has the ultimate sovereignty over their own body, including the choice to refuse medical intervention (Living Wills).
- **Relief from Futile Suffering:** Modern medicine can keep a body "alive" (biologically) long after the person has "died" (mentally/socially). Euthanasia ends "meaningless" pain.
- **Economic & Resource Logic:** In a country like India with a high patient-to-bed ratio, utilizing intensive care resources for "terminally ill/brain-dead" patients limits access for those with a high chance of recovery.
- **Compassion over Cruelty:** Prolonging the life of a patient in a Persistent Vegetative State (PVS) via invasive tubes is increasingly viewed by the SC as "cruelty" rather than "care."

The "Pro-Life" Perspective

- **The "Slippery Slope" Risk:** There is a grave danger of misuse by relatives to inherit property early or by the state to "clear" the burden of elderly/disabled populations.
- **Sanctity of Life:** Many religious and ethical frameworks believe life is a gift/sacred; its end should be natural, and humans should not "play God."
- **Medical Ethics:** It contradicts the **Hippocratic Oath** ("First, do no harm"). It may damage the trust between a doctor and a patient.
- **Palliative Care Gap:** Critics argue the "demand" for euthanasia arises from a lack of quality pain management. If **Palliative Care** is robust, the desire to die often disappears.
- **Potential for Recovery:** Medical science is constantly evolving. A "terminal" condition today might have a cure tomorrow, and euthanasia is irreversible.

Way Forward

To move toward a more humane and efficient end-of-life framework, the following steps are essential:

- **Enact a Comprehensive "End-of-Life Care Act":** The Supreme Court has specifically urged the Union Government to create a legislative bridge. This would provide permanent clarity, replacing the current "interim" judicial guidelines with a robust parliamentary law.
- **Universalize Palliative Care:** The "Right to Die with Dignity" is inseparable from the **Right to Quality Palliative Care**. Palliative care must be integrated into the **Ayushman Bharat (PM-JAY)** scheme and medical curricula to ensure that the transition to natural death is painless and managed with medical expertise.
- **Digitization via ABHA:** Living Wills should be seamlessly linked to the **Ayushman Bharat Digital Health Account (ABHA)**. This ensures that in emergencies, doctors can instantly access a patient's "Advance Medical Directive" without the family needing to produce physical documents.

- **Standardize Medical Protocols:** As established in the *Harish Rana* case, there is a need for standardized protocols for withdrawing **Clinically Assisted Nutrition and Hydration (CANH)**. This prevents doctors from being accused of "starvation" or "active killing" while performing their duty of care.
- **Public Awareness Campaigns:** The concept of "Living Wills" remains largely urban and niche. A national awareness campaign is needed to normalize advance care planning, ensuring citizens exercise their autonomy while they are mentally competent.

Conclusion

India's legal shift from "sanctity of life" to "quality of life" ensures constitutional empathy. Future legislation must now bridge the gap between judicial guidelines and clinical practice to institutionalize dignity.

Q. *"The recognition of the Right to Die with Dignity reflects the evolving interpretation of Article 21 of the Indian Constitution." Discuss in the light of recent Supreme Court judgments on euthanasia.*

2.1.6. NCERT TEXTBOOK BAN: A TEST OF JUDICIAL ACCOUNTABILITY AND FREE SPEECH

Context:

In any democracy, the judiciary must maintain a careful balance between **independence** and **accountability**. In India, the judiciary has traditionally protected its **authority and institutional dignity** through powers such as **contempt of court**. However, scholars like Max Boot, in ***Out of Order: Arrogance, Corruption, and Incompetence on the Bench (1998)***, argue that meaningful reform in the judiciary is possible only when the public is aware of its **shortcomings and failures**.

This issue came to the forefront in **February 2026**, when the Supreme Court of India intervened in a **NCERT social science textbook** and imposed a ban. This rare instance of the judiciary acting as a **censor** has raised critical questions about **judicial transparency**, **accountability**, and **freedom of expression** in a democratic system.

The Subject of Controversy: What the NCERT Textbook Actually Contained

- The **Class 8 Social Science textbook** *Exploring Society: India and Beyond*, published by the **National Council of Educational Research and Training (NCERT)**, included a chapter titled **"The Role of the Judiciary in Our Society"**.
- The purpose of this chapter was simple and important: to help school students understand how the **Indian judiciary** works, its strengths, and the real challenges it faces. The content was written in a factual, educational, and neutral way — not to attack the judiciary, but to teach young citizens about its role in democracy.

A. Key Content That Sparked the Controversy

The passages that drew the Supreme Court's attention included the following factual and well-researched points:

- **Data on Judicial Delay** The chapter presented real statistics showing the huge number of **pending cases** in Indian courts.
  - Total national pendency: **over 4.76 crore cases** (as per recent National Judicial Data Grid figures).
  - Supreme Court pendency: **over 92,000 cases** at the end of 2025. It explained the famous principle: **"Justice delayed is justice denied"** — showing how long waits affect ordinary people's access to justice.
- **References to Judicial Corruption:** The **NCERT Social Science textbook** openly (but factually) mentioned that **corruption exists** in some parts of the judiciary — both at **lower courts** and **higher courts**. It did not name individuals or make wild accusations; it simply acknowledged this as a known challenge that needs to be addressed.
- **Bangalore Principles of Judicial Conduct (2002):** The chapter referred to these internationally accepted ethical standards for judges. These principles (adopted by many countries, including India) outline values such as **integrity**, **impartiality**, **independence**, **propriety**, **equality**, and **competence** that every judge must follow in their personal and professional life.
- **Accountability Mechanisms** It explained how the judiciary holds its own members accountable:
  - The **Supreme Court's in-house procedure** — an internal mechanism created by the Court itself to handle complaints against judges (without public trials).
  - The **constitutional process** for removal of judges (impeachment) under **Article 124** (for Supreme Court judges) and **Article 217** (for High Court judges).

These points were presented as part of civic education — teaching students that no institution is perfect, and that **transparency** and **accountability** are essential in a democracy.

B. The Supreme Court's Three-Pronged Ruling

A **three-judge Bench** led by the **Chief Justice of India** responded strongly to the chapter. The Supreme Court's order had three main parts:

1. **Complete Blanket Ban:** The entire textbook was prohibited — no more distribution, teaching, or use in schools. All physical copies were to be seized, and digital versions removed immediately.
2. **Observation on "Underlying Agenda":** The Bench stated that the content appeared to have an **"underlying agenda"** to **undermine the institutional authority** of the judiciary and **demean its dignity**. The Court felt the references were selective and one-sided.
3. **Administrative Punishment**: The Court directed that the **academics, experts, and NCERT officials** responsible for writing or approving those passages should be **"disassociated"** (**effectively blacklisted**) from all future projects funded by the government or public universities — a serious penalty imposed without giving them any opportunity to explain or defend themselves.

Arguments in Favor of the Court's Action

While heavily criticized, the Court's intervention is often justified through the lens of **Institutional**

Preservation:

- **Maintaining Public Faith:** The judiciary's power is derived from public trust. If school children are taught a cynical view of the courts, the long-term legitimacy of the rule of law may be compromised.
- **Ensuring "Balanced" Education:** The Court argued the text was **selective**, ignoring transformative reforms like **e-Courts**, **Legal Aid**, and the **National Judicial Data Grid (NJDG)**.
- **Article 129 (Power to Punish for Contempt):** The Supreme Court is a "**Court of Record**" with inherent powers to prevent the lowering of its authority in the eyes of the public.
- **Preventing Misinformation:** Proponents argue that academic freedom does not include the right to present incomplete facts that could "incite" a lack of confidence in the Constitution's third pillar.

Key Concerns Raised by the NCERT Textbook Ban

The Supreme Court's order banning the NCERT textbook raises serious questions about compliance with the Indian Constitution and established legal principles. The key concerns are:

1. **Violation of Freedom of Speech and Expression: Article 19(1)(a)** guarantees the **right to freedom of speech and expression**, including the **right to publish educational material**.
   - Restrictions are allowed **only** by a **law** enacted by the State and only on grounds listed in **Article 19(2)** (e.g., contempt of court, public order).
   - A **judicial order** does **not** qualify as "**law**" under Article 19(2), as clearly held by the Supreme Court in **Naresh Shridhar Mirajkar v. State of Maharashtra (1966)**.
2. **Contempt Threshold Not Satisfied:** Under **Section 2(c)** of the **Contempt of Courts Act, 1971**, criminal contempt requires material that:
   - Scandalises or lowers the authority of the court, or
   - Prejudices/interferes with judicial proceedings, or
   - Obstructs the administration of justice.
   - The textbook's general, factual references to delays and corruption (without naming individuals or using abusive language) do not meet this high threshold. The Court did not examine whether there was **malicious intent** or **actual harm** caused.
3. **Breach of Natural Justice and Due Process**: The order directed that the authors and NCERT officials be **"disassociated"** (blacklisted) from future government and university projects — a severe punitive measure imposed:
   - Without issuing any notice
   - Without giving an opportunity to be heard
   - Without allowing any defence or explanation.
   - This violates core principles of **natural justice** (**audi alteram partem**) and the guarantees of **equality** (**Article 14**) and **life and personal liberty** (Article 21).
4. **Paradox of Judicial Review and Absence of Remedy**: Constitutional courts are the final guardians of **fundamental rights** and exercise **judicial review** to strike down actions that violate **Part III of the Constitution**. When the courts themselves restrict free speech through bans:
   - Citizens are left **without effective remedy**, as there is no higher authority to challenge the judiciary.

- This creates a **dangerous situation** where the protector of rights becomes the source of their infringement, undermining public confidence in the **rule of law**.

Implications for Indian Democracy

- **Erosion of Public Trust**: Suppressing discussion signals that the judiciary is above scrutiny, damaging its moral authority.
- **Chilling Effect on Free Speech and Education**: Authors, publishers, and teachers may avoid any critical content, weakening democratic values in young citizens.
- **Threat to Separation of Powers**: When one organ silences debate about itself, accountability weakens across all institutions.
- **Long-term Damage**: Students lose the chance to learn balanced civic education, harming the future of informed citizenship.

Global Best Practices: Transparency Through Acknowledgment, Not Suppression

In contrast to the Indian approach, advanced democracies often address judicial credibility concerns through openness:

- In **Kenya**, Chief Justice Willy Mutunga (2011–2013) established judicial ombudspersons, court users' committees, and performance management systems. By acknowledging issues openly, public trust rose from **27% in 2009** to **61% in 2013** — and reforms continued thereafter.
- In the **United States** and **United Kingdom**, media, academia, and citizens freely discuss judicial performance. Courts lead transparency efforts rather than banning criticism.

India's own judiciary has repeatedly acknowledged problems:

- In ***K. Veeraswami vs Union of India*** **(1991),** the **Supreme Court** held that High Court and Supreme Court judges are "**public servants**" under the **Prevention of Corruption Act**.
    - It stressed that "**society's demand for honesty in a judge is exacting and absolute**," and even one dishonest judge "**jeopardises the integrity of the entire judicial system.**"
    - Further, the **Supreme Court** itself has repeatedly warned about "**bad apples**", **delays,** and **the need for in-house mechanisms** — yet banned a book that merely echoed these concerns.

  To reform governance in both the judiciary and higher education, we must move from a culture of **suppression** to one of **transparency and empowerment**.

Way Forward: Strategic Roadmap for Institutional Reform

1. **Formalizing Accountability**
    - **Judicial Transparency:** Revive the **National Judicial Appointments Commission (NJAC)** or pass the **Judicial Standards and Accountability Bill** to handle complaints via a clear, statutory process.
    - **Performance-Based Autonomy:** Link college independence to **NIRF** rankings and **NBA** accreditation. Colleges that prove quality should automatically receive **academic and financial freedom**.
2. **Prioritizing Structural Fixes over Bans**
    - **Filling Vacancies:** Address the **30% vacancy** in High Courts and faculty shortages in colleges. Solving the **root cause** of delay is more effective than censoring its mention in textbooks.

- **Decoupling Administration:** Universities should shift from "bureaucratic overseers" to **academic mentors**, outsourcing high-volume administrative tasks (like conducting mass exams) to specialized bodies.

3. **Adopting Institutional Restraint**
   - **The "Last Resort" Principle:** Powers of **Contempt** or **Blanket Bans** should be used only when absolutely necessary, not as a tool to silence criticism.
   - **The Scrutiny Principle:** Adhere to **Lord Atkin's** view that institutions are not "**cloistered virtues**." They must be robust enough to withstand public scrutiny to foster genuine growth.
4. **Modernizing the Curriculum (NCERT Model)**
   - **Problem-Solution Pedagogy:** Move away from **"sanitizing"** challenges. Textbooks should honestly present **systemic hurdles** (e.g., pendency, archaic affiliation) alongside **modern solutions** (e.g., AI-led courts, Lok Adalats, and Autonomous Colleges).
5. **Promote Media and Academic Freedom**
   - To resolve the tension between protecting judicial dignity and preserving democratic values, India must actively **promote media freedom** and **academic freedom** — allowing open, responsible debate about institutional strengths and shortcomings. The approach should follow the principle illustrated by **Max Boot**'s work and Kenya's judicial reform success: **"acknowledge, address, reform"**.

Conclusion

The **NCERT** textbook ban is not merely about one book — it is a litmus test for Indian democracy in 2026. While protecting judicial dignity is essential, **true dignity flows from transparency, not silence**. As the authors **Kaleeswaram Raj and Thulasi K. Raj** rightly conclude, "**The first step in fighting systemic problems is acknowledging them**."

A judiciary that continuously reforms itself, educates citizens about its challenges, and remains open to dissent will remain the strongest pillar of our Constitution. Only through openness and accountability can public trust be rebuilt and democracy truly strengthened.

This balanced approach — respecting the institution while safeguarding fundamental rights — is the way forward for a mature democracy.

Q. *"Suppressing criticism weakens institutions more than it protects them." Evaluate this statement in the context of the judiciary.*

2.1.7. JUDICIAL RECUSAL AND CONFLICT OF INTEREST

Context:

- The integrity of the Indian Judiciary is anchored in the principle of **impartiality**. Recently, **Chief Justice of India (CJI) Surya Kant** recused/stepped aside himself from hearing petitions challenging the **Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023**.

- This legislation notably removed the CJI from the selection panel for appointing **Election Commissioners**, replacing the office with a **Union Cabinet Minister**. The CJI stepped aside citing a potential **conflict of interest**, directing that the case be heard by a bench excluding judges in the **line of succession** for the **office of the CJI**.
- This development has reignited a critical debate on judicial ethics, the **Doctrine of Necessity** and the urgent **need for a clear legal framework** on **judicial recusal** in India.

What is Judicial Recusal and Its Legal Foundations?

Judicial recusal simply means a judge removes himself or herself from a case to avoid any chance of bias. It comes from an ancient **rule of natural justice**: **nemo judex in causa sua** – **no one shall be a judge in their own cause.**

Indian courts have developed clear but flexible rules over time:

- In **Manak Lal v. Dr. Prem Chand (1957)**, the Court said that even a small financial interest is enough for automatic disqualification.
- In **Ranjit Thakur v. Union of India (1987)**, the Supreme Court moved to a practical test: there must be a **real likelihood of bias** or **reasonable apprehension of bias** in the mind of a fair person. A very small or imaginary fear is not enough.

Key point: The decision to recuse is left completely to the **judge's own conscience**. No lawyer or party can force a judge to step aside. India still has **no statute** that lists exact rules for recusal. In contrast, the United States has **Section 455 of Title 28**, which clearly says a judge must disqualify himself if his impartiality "**might reasonably be questioned**".

Key Precedents and the Doctrine of Necessity

- A significant tension exists between the ethics of recusal and the **Doctrine of Necessity**, which states that a judge must hear a case if no other competent forum is available, regardless of potential bias.
- The most relevant earlier case is the challenge to the **National Judicial Appointments Commission (NJAC) Act, 2014** in ***Supreme Court Advocates-on-Record Association v. Union of India*** **(2015).** A **five-judge Constitution Bench** heard the matter. Lawyers asked **Justice J.S. Khehar** to recuse because he would one day become **Chief Justice** and would have an interest in whether the **Collegium system** or the NJAC continued.

Justice Khehar refused to step aside. He gave **two strong reasons**:

1. Every judge on the bench faced the same possible conflict because all of them would be part of the Collegium if the petitioners won.
2. The **doctrine of necessity** applied. This doctrine says that when no other court of equal power exists, the judges must hear the case even if there is a technical conflict. Otherwise, justice would be denied.
    - He added that stepping aside would set a "**wrong precedent**". **Justice Kurian Joseph**, in his separate opinion, said that when a judge recuses, he or she should clearly explain the reasons as part of the constitutional duty of transparency under the oath of office.
    - In contrast, in the **present CEC case**, **two Chief Justices** have chosen to recuse even though the same logic of the NJAC case could have been used. This shows that the Court is treating the matter differently.

Critical Issues and Challenges in the Current Recusal

The recusal has raised several practical and constitutional questions:

- **Conflict that affects everyone**: Under the **seniority rule fixed by the Second Judges Case,** every Supreme Court judge can become Chief Justice one day. So the conflict is not personal to one judge but common to the entire institution.
- **Pre-emptive direction by the Chief Justice**: By ordering that future benches must exclude judges in the line of succession, the **Chief Justice** has decided the issue of bias for judges who have not even heard the case. Recusal is supposed to be an individual decision of conscience, not a command from the **Master of the Roster**.
- **Uncertain future**: The line of succession can change because of resignation, death or ill health. A judge who is told today that he or she is "**outside the line**" might still become Chief Justice tomorrow.
- **Master of the Roster power**: Even after recusing, the **Chief Justice** keeps the **power to choose** which bench will hear the case. This raises the same conflict-of-interest doubt that the recusal was meant to remove.
- **Lack of a clear law**: Unlike the **United States**, India has no statute that lists **objective grounds** for recusal. Everything depends on the personal sense of the judge.

Past examples illustrate the application:

- **Recusal occurred**: Justices Indira Banerjee and Aniruddha Bose recused from West Bengal-related cases in 2021 due to perceived links.
- **Recusal refused**: Justice M.R. Shah declined to recuse in the Sanjiv Bhatt case (2023), holding that public demand alone is insufficient. Justice Arun Mishra also refused recusal in a review of his own judgment.
- **Vague apprehension rejected**: In **State of Punjab v. Davinder Pal Singh Bhullar (2011)**, the Court ruled that mere suspicion or emotional distrust cannot justify recusal.

Impact on the Judiciary and Public Trust

The way recusal is handled has direct consequences for the health of a democracy:

- **Erosion of Institutional Authority:** Frequent or unexplained recusals can give the impression that the judiciary is avoiding "politically sensitive" cases.
- **Bench Hunting:** Without clear rules, lawyers might pressure certain judges to recuse themselves simply to get a bench they perceive as more favorable to their cause.
- **Transparency Deficit:** When oral remarks suggest bias but the written order is silent, it creates a gap in the public record, affecting the transparency of the judicial process.

Global Best Practices

Country	Mechanism
United States	**Section 455 of Title 28** provides a statutory standard requiring judges to disqualify themselves where their impartiality might be reasonably questioned.
United Kingdom	Uses the **"Fair-Minded and Informed Observer"** test; if such an observer perceives a real possibility of bias, recusal is mandatory.

Germany	Parties have a statutory right to challenge a judge for **"fear of bias,"** and the decision is often made by the rest of the bench, not the judge alone.

Way Forward: Strengthening the Judicial Recusal Framework

To strengthen the system, India needs the following practical steps:

- **Enact a Judicial Recusal Law or Guidelines**: Enact a short, clear **Judicial Recusal Act** or issue **binding guidelines** by the **Supreme Court** itself. The law should list **objective grounds** such as financial interest, family links and prior association, while keeping the "reasonable apprehension of bias" test.
- **Mandatory Recording of Reasons**: Make it compulsory for a judge to give **brief recorded reasons** for recusal or for refusing to recuse. This will increase **transparency** without forcing every reason into open court.
- **Application of Doctrine of Necessity**: Respect the **doctrine of necessity** in genuine institutional conflicts, but combine it with an **open acknowledgment** of the conflict so that the public understands the decision.
- **Internal Advisory Committee**: Consider creating a small **internal committee** of senior judges (not including the **Chief Justice** in that case) to give **non-binding advice** on recusal in sensitive matters.
- **Regular Ethics Training**: Train judges regularly on **ethics** and **conflict-of-interest** issues.
- **Separation of Powers in Roster**: Ensure that the **Master of the Roster** power is exercised only after the **recusal issue** is settled, so that the appearance of conflict is completely removed

Conclusion

The principle that **"Justice must not only be done but also be seen to be done"** remains the foundation of judicial legitimacy. While recent recusals show high **personal ethics**, they highlight a **structural vacuum** that requires moving beyond subjective **individual conscience**. Only a **principled, transparent framework** can protect the **Supreme Court's integrity** and ensure the long-term stability of India's **democratic processes**.

Q. *"Judicial recusal in India is guided more by personal discretion than institutional rules." Critically examine.*

2.1.8. FROM FREEDOM TO FORCE? THE DEBATE ON COMPULSORY VOTING

Context:

The announcement of Assembly elections (April–May 2026) and observations by the **Supreme Court of India** have revived the debate on compulsory voting. While low turnout remains a concern, the key issue is whether mandatory voting is constitutionally valid and practical.

As the world's largest democracy, India values free and fair elections with voluntary participation—posing a core dilemma between **greater participation and individual freedom**.

Constitutional and Legal Framework of Voting in India

Constitutional Basis

- **Article 326** provides for **universal adult suffrage**, ensuring that every citizen above 18 years has the right to vote.
- It prohibits discrimination based on religion, race, caste, sex, or place of birth.
- However, this right is **subject to conditions** such as non-disqualification (e.g., unsound mind, crime, corruption).

Statutory Provisions

- **Representation of the People Act, 1950 (Section 19):**
  - Requires a person to be 18+ and ordinarily resident in a constituency to be registered as a voter.
- **Representation of the People Act, 1951 (Section 62):**
  - Grants the right to vote to those listed in electoral rolls.

Nature of the Right to Vote

- The Supreme Court has consistently held that the **right to vote is a statutory right**, not a fundamental right.
- However, elements of voting—such as the right to know candidates and the right to NOTA—are linked to **freedom of expression under Article 19(1)(a)**.

Key Data

- **Rising but Incomplete Participation:** Turnout increased from **58.2% (2009) to 67.4% (2019)**, yet **30%+ voters still abstain**.
- **State vs National Gap: Assembly elections (70–80%)** see higher turnout than **Lok Sabha**, while **urban areas lag (50–60%)**.
- **Social Patterns: Rural turnout (65–80%) > Urban turnout**, highlighting urban apathy vs rural engagement.
- **Inclusion Trends: Women's turnout now matches/exceeds men**, but **youth participation remains inconsistent**.

Concept of Compulsory Voting and Global Pratice

Compulsory voting refers to a legal requirement for eligible citizens to participate in elections, often enforced through penalties.

- Countries like **Australia, Brazil, Argentina, and Peru** have compulsory voting.
- Enforcement mechanisms include:
  - Monetary fines (Australia, Brazil)
  - Denial of public services (Peru)

These countries generally report **higher voter turnout rates**.

Arguments in Favour of Compulsory Voting

Enhancing Democratic Participation

- Ensures **higher voter turnout**, strengthening the legitimacy of elected governments.

- Law Commission (255th Report, 2015) notes a **~7% increase** in turnout in countries with compulsory voting.

Reducing Electoral Distortions

- Prevents situations where candidates win with a **minority of total votes**.
- Promotes more representative outcomes.

Promoting Civic Responsibility

- Voting is seen as a **civic duty**, similar to paying taxes.
- Encourages political awareness and engagement.

Arguments Against Compulsory Voting

Violation of Fundamental Freedoms

- Compulsory voting may violate **freedom of expression under Article 19(1)(a)**.
- The right to vote includes the **right not to vote**.

Practical Challenges in India

India's scale and diversity pose serious constraints:

- **Population size**: Over 900 million voters.
- **Administrative burden**: Monitoring compliance is impractical.
- **Enforcement issues**: Identifying and penalizing non-voters would be complex.

Harsh and Inequitable Penalties

- Fines or denial of services may disproportionately affect:
  - Poor and marginalized communities
  - Migrant workers
- Could lead to **coercive democracy**, undermining voluntary participation.

Risk of Uninformed Voting

- Forced participation may result in:
  - Random or uninformed voting
  - Increase in invalid votes
- This may dilute the **quality of democratic decision-making**.

Views of Expert Committees

Dinesh Goswami Committee (1990)

- Rejected compulsory voting.
- Emphasized **voter awareness and facilitation** instead.

Law Commission of India (255th Report, 2015)

- Acknowledged increased turnout in compulsory voting countries.
- However, concluded that:
  - It is **neither feasible nor desirable in India**.
  - Coercion is not suitable for a democratic society.

Broader Democratic Perspective

Democracy thrives not just on participation, but on **voluntary, informed participation**.

- Compulsory voting shifts focus from **freedom to obligation**.

- True democratic maturity lies in:
  - Awareness
  - Engagement
  - Trust in institutions

India's democratic ethos is rooted in **choice, not coercion**.

Way Forward: Enhancing Voter Turnout Without Compulsion

A democratic approach to increasing voter turnout must focus on **enabling and motivating citizens**, rather than coercion. The emphasis should be on **behavioral change, institutional facilitation, and technological innovation**, making voting a conscious civic choice.

Strengthening Voter Awareness

- Expand **SVEEP** and use social media, influencers, and community outreach.
- Target **urban apathy** and **first-time voters** to build long-term participation habits.

Facilitating Migrant & Urban Voters

- Ensure **paid holiday on polling day**.
- Provide **special transport (buses/trains)**.
- Explore **flexible or multi-location voter registration**.

Leveraging Technology

- Develop **secure remote voting systems**.
- Explore **blockchain-based voting** with safeguards of **security, transparency, and political consensus**.

Enhancing Ease & Inclusivity

- Increase **polling booths** and accessibility.
- Expand **postal ballots** and introduce **early voting** for eligible groups.

Positive Incentives

- Use **recognition, civic rewards, and awareness campaigns** instead of penalties.
- Promote voting as a **national duty and civic pride**.

Strengthening Electoral Trust

- Address **malpractices and misinformation**.
- Ensure transparency in **EVM–VVPAT systems**.

Conclusion

Compulsory voting may raise turnout, but it poses serious constitutional, administrative, and ethical challenges in India, as noted by the Dinesh Goswami Committee and the Law Commission. The core issue is not enforcement, but inspiring citizens to participate. Democracy derives legitimacy from free, informed, and voluntary participation, not mere numbers. Thus, India must move **from compulsion to conviction**—strengthening democracy through awareness, accessibility, and trust.

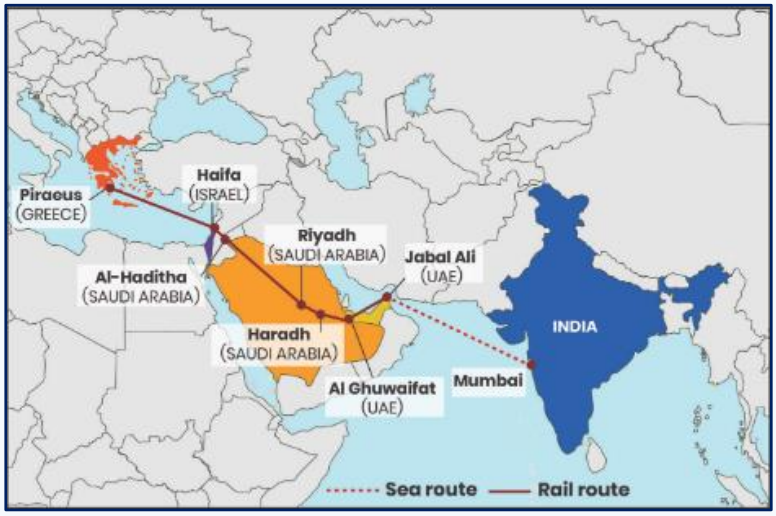
Q. *Critically evaluate the feasibility and desirability of introducing compulsory voting in India in light of constitutional provisions and expert committee recommendations.*

2.2. INTERNATION RELATION

2.2.1. INDIA'S WEST ASIA POLICY

Context:

West Asia (Middle East) is one of the **most strategically important regions for India's foreign policy** due to its significance for energy security, trade, diaspora, and geopolitical stability. India considers West Asia as its **"extended neighbourhood"** and has gradually shifted from a passive diplomatic approach to **active strategic engagement** in the region.



About West Asia

West Asia refers to the region located between **Europe, Africa, and South Asia**, often overlapping with what is called the **Middle East**. It includes countries of the **Arab world, Israel, Iran, and Turkey**.

Key Elements of India's West Asia Policy

1. **The "De-Hyphenation" Strategy**

   India has successfully separated its bilateral ties with traditional rivals. It maintains a **"Special Strategic Partnership"** with **Israel** (focusing on defense and high-tech) while simultaneously engaging with the **Iranian Interim Leadership Council** for strategic connectivity. This allows India to pursue national interests without being forced to choose sides in regional sectarian or political conflicts.

2. **Energy Security 2.0: Transition & Buffering**

   While the Gulf still provides ~55% of India's crude, the agenda has shifted toward:

   - **Strategic Reserves:** Speeding up the expansion of **Strategic Petroleum Reserves (SPR)** to create a 90-day supply buffer against shocks like the current Strait of Hormuz instability.
   - **Green Energy:** Investing in **Green Hydrogen** and solar projects with the UAE and Saudi Arabia to ensure long-term energy synergy beyond fossil fuels.

3. **"Net Security Provider" in Maritime Lanes**

   With the 2026 conflict threatening the Strait of Hormuz and the Red Sea, India has institutionalized **Operation Sankalp**. The Indian Navy now acts as a stabilizer, providing permanent maritime escorts for merchant vessels to protect trade routes and counter piracy or kinetic threats from non-state actors.

4. **Connectivity: The "Two-Gateway" Approach**

   India is aggressively pursuing two distinct corridors to reduce dependency on traditional routes:

   - **IMEC (India-Middle East-Europe Economic Corridor):** Using the Gulf (UAE/Saudi) and Israel as a bridge to Europe.

- **INSTC & Chabahar:** Developing Iran's **Chabahar Port** as a vital gateway to Central Asia and Russia, ensuring India's land-link despite the blockade of overland routes through Pakistan.

5. **Diaspora Welfare & "Remittance Diplomacy"**

   Protecting the **9 million+ Indians** in the Gulf is a top-tier security priority. The agenda includes:

   - **Crisis Response:** Maintaining active evacuation protocols (like the 2026 Ministerial Committee led by the Home Minister).
   - **Economic Protection:** Signing **Migration and Mobility Partnerships** to ensure job security and social protection for Indian workers during regional economic shifts.

6. **Multilateralism & "Minilateralism"**

   India leverages new, flexible groupings to embed itself into the regional architecture:

   - **I2U2 (India, Israel, UAE, USA):** Focusing on joint projects in food security, water, and space.
   - **BRICS+ Engagement:** Utilizing the inclusion of Saudi Arabia, Iran, and the UAE into BRICS to coordinate on global financial architectures and "Rupee-Trade" settlements.

Advantages of India's West Asia Policy

1. **Energy Resilience & Price Stability**

   By cultivating deep ties with major producers like Saudi Arabia and the UAE, India secures **preferential energy access**. These partnerships also facilitate the development of **Strategic Petroleum Reserves (SPR)** within India, funded partly by Gulf investments.

2. **Strategic "Bridging" Capability**

   India is one of the very few nations that can talk to **Israel, Iran, and the Arab states** simultaneously. This "strategic autonomy" allows India to:

   - Act as a neutral mediator in regional crises.
   - Protect its interests without being dragged into sectarian conflicts.
   - Maintain defense ties with Israel while securing connectivity via Iran's **Chabahar Port**.

3. **Economic Windfall: Remittances & Investment**

   - **Remittances:** The 9 million-strong diaspora sends back over **$120 billion** annually (2025-26 estimates), providing a massive cushion for India's Current Account Deficit (CAD).
   - **Sovereign Wealth Funds:** India has become a primary destination for massive investments from the UAE's ADIA and Saudi Arabia's PIF in infrastructure, green energy, and digital startups.

4. **Countering China's "String of Pearls"**

   A proactive West Asia policy prevents the region from becoming a Chinese lake. By leading initiatives like the **IMEC (India-Middle East-Europe Economic Corridor)**, India offers a transparent, debt-free alternative to China's Belt and Road Initiative (BRI), ensuring the western flank of the Indian Ocean remains open and balanced.

5. **Enhanced Maritime Security**

   Through **Operation Sankalp** and joint naval drills, India has gained "docking rights" and logistical access in places like **Duqm (Oman)**. This extends the Indian Navy's reach, allowing it to protect vital sea lanes of communication (SLOCs) from piracy and drone threats in the North Arabian Sea.

6. **Food and Tech Security (Minilateralism)**

   Through the **I2U2 Group**, India leverages:

   - **Israeli Technology:** For arid-land farming and water recycling.
   - **UAE Capital:** To build "Food Parks" in India.
   - **Result:** This ensures a steady food supply chain for the Middle East while boosting Indian farmers' income and technological prowess.

Challenges of India's West Asia Policy

1. **The "Chokepoint" Paralysis:** Over **40-50% of India's crude oil** and nearly **90% of its LPG** imports pass through the **Strait of Hormuz**. With the current naval blockade and Iranian threats to close the waterway, India faces an existential energy threat.
2. **Connectivity Under Fire (IMEC vs. Reality):** The **India-Middle East-Europe Economic Corridor (IMEC)** is currently inoperable due to active conflict in Israel and the UAE. Failure of IMEC forces reliance on the **Suez Canal** (Houthi threat) or the costly **Cape of Good Hope** route.
3. **The Diaspora Dilemma**

   With nearly **10 million Indians** living in the Gulf, any major regional war is a logistical nightmare.

   - **Evacuation:** While over 52,000 Indians were evacuated in early March, a total regional war would require a rescue operation exceeding the scale of *Operation Rahat*.
   - **Economic Shock:** A decline in production in the Gulf directly hits the **$120 billion+** annual remittance flow, threatening India's foreign exchange stability.
4. **Imported Inflation and Fiscal Strain:** The spike in Brent crude (hitting **$100-$120/barrel**) is driving "cost-push inflation" in India.

   - **Fertilizer Crisis:** India imports 40% of its Urea and NPK inputs from the Gulf. Disruptions are currently inflating the government's subsidy burden and threatening domestic food security.
   - **Currency Pressure:** Increased import bills are putting the Rupee under depreciation pressure (forecasted to hit **₹92-95/$** if tensions persist).
5. **China's "Mediation" Diplomacy:** China is increasingly positioning itself as the regional "peacebroker" (e.g., the Saudi-Iran deal). As Beijing expands its **Belt and Road Initiative (BRI)** into Gulf ports like Gwadar and Jebel Ali.
6. **De-hyphenation Stress:** Balancing a defense pact with **Israel** while engaging **Iran's Interim Council** (for Chabahar) is increasingly difficult. India faces rising domestic criticism and friction with the US-led axis over its strategic autonomy.

Way Forward

1. **Strengthening Strategic Petroleum Reserves (SPR):** India must accelerate the Phase II expansion of its SPR (Strategic Petroleum Reserves) to build a **90-day buffer**. Inviting investments from Saudi Aramco and UAE's ADNOC into these reserves will tie their commercial interests to India's energy security, ensuring supply even during regional volatility.
2. **Operationalizing the "Trans-Continental" Backup:** Given the current paralysis of IMEC, India should prioritize the **International North-South Transport Corridor (INSTC)** via **Chabahar Port**. Strengthening this "middle corridor" provides a vital hedge against chokepoints in the Red Sea and ensures uninterrupted trade with Russia and Central Asia.

3. **Institutionalizing "Rupee-Trade" Hubs:** To counter currency pressure (₹92-95/$) and potential sanctions, India must institutionalize **Local Currency Settlement (LCS)** systems.
4. **Transitioning to Energy 2.0 (Green Hydrogen):** India should pivot from being a "buyer" of oil to a **"partner" in Green Hydrogen**. By co-developing renewable energy infrastructure in the Gulf, India can leverage West Asia's low-cost solar energy to meet its "Net-Zero" goals while reducing the fiscal strain of fossil fuel imports.
5. **Multi-Lateral "Security Architecture":** Utilizing the **I2U2** and **BRICS+** platforms, India can advocate for a "Code of Conduct" in the North Arabian Sea, positioning itself as a net security provider and a stabilizing force between the US-Israel axis and Iran.

Conclusion

India must transition from a "buyer-seller" to a **"strategic stakeholder,"** leveraging **IMEC** and **Green Hydrogen** to anchor its extended neighborhood, ensuring regional stability while securing long-term **energy and maritime sovereignty.**

Q. *The question of India's Energy Security constitutes the most important part of India's economic progress. Analyze India's energy policy cooperation with West Asian Countries.*

2.2.2. INDIA'S NEIGHBOURHOOD POLICY

Concept and Core Philosophy

The Neighbourhood First Policy (NFP) is the cornerstone of India's foreign policy, viewing India's prosperity as intrinsically linked to the stability and growth of its neighbors.

- **Principles (The 5S Framework):** Samman (Respect), Samvad (Dialogue), Shanti (Peace), Samriddhi (Prosperity), and Sanskriti (Culture).
- **Approach:** Shift from "Big Brother" dominance to a **non-reciprocal, consultative, and outcome-oriented** partnership (inspired by the Gujral Doctrine).
- **Institutional Frameworks:** Focus on sub-regional groupings like **BBIN** (Bangladesh, Bhutan, India, Nepal) and **BIMSTEC**, often as a functional alternative to the stalled SAARC

Scope of Neighborhood

1. **Immediate Neighborhood**
   - **Land Neighbors:** Afghanistan, Pakistan, China, Nepal, Bhutan, Bangladesh, and Myanmar.
   - **Maritime Neighbors:** Sri Lanka and Maldives.
2. **Extended Neighborhood**
   - **Act East Link:** Thailand, Laos, Vietnam, Cambodia, Malaysia, Singapore, Indonesia, and the Philippines (via **BIMSTEC** and **ASEAN**).
   - **Connect Central Asia:** Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.
   - **West Asia/Middle East:** UAE, Saudi Arabia, Oman, Qatar, and Iran (crucial for energy security and the **IMEC** corridor).

3. **Strategic Space (IOR & SAGAR)**

   Focuses on the island nations and littoral states of the **Indian Ocean Region** where India acts as a "Net Security Provider."

   - **Island Nations:** Mauritius, Seychelles, Comoros, Madagascar, and Reunion Island (French territory).
   - **Littoral States:** Mozambique, Tanzania, Kenya, and South Africa (Western IOR).

Objectives of India's Neighbourhood First Policy

- **Regional Stability:** Preventing the spillover of cross-border terrorism and radicalization from **Afghanistan, Pakistan,** and **Myanmar** to ensure domestic security.
- **Strategic Autonomy:** Countering China's "String of Pearls" and BRI footprint in **Sri Lanka, Maldives,** and **Nepal** to maintain regional leadership.
- **Economic Integration:** Boosting physical and digital connectivity via BBIN and energy grids in **Bangladesh, Bhutan,** and **Nepal** for shared prosperity.
- **Net Security Provider:** Leading maritime security and HADR (Disaster Relief) missions in **Mauritius, Seychelles,** and **Maldives** under the **SAGAR** vision.
- **Civilizational Soft Power:** Utilizing shared religious and linguistic heritage to bridge trust deficits with **Nepal, Bhutan, Bangladesh,** and **Sri Lanka.**

Key Pillars of India's Neighbourhood First Policy

1. **Connectivity: Physical & Digital**
   - **Infrastructure:** Focus on "Multimodal Transit" such as the **Kaladan Project** (Myanmar) and **Agartala-Akhaura Rail** (Bangladesh) to integrate the North-East.
   - **Digital:** Exporting the **"India Stack"** (UPI, RuPay) to countries like **Bhutan, Nepal,** and **Sri Lanka** to create a regional digital economy.
2. **Economic Integration & Energy Security**
   - **Trade Concessions:** Non-reciprocal trade benefits (under the **Gujral Doctrine**) for smaller neighbors to facilitate duty-free access to Indian markets.
   - **Energy Grids:** Landmark projects like the **India-Nepal-Bangladesh** tripartite power trade (2024–2026) allowing for a regional electricity market.
3. **Strategic & Maritime Security**
   - **Net Security Provider:** Leading maritime patrolling and anti-piracy efforts under the **SAGAR** (Security and Growth for All in the Region) vision.
   - **Strategic Balancing:** Proactively countering external influences (specifically China's **BRI**) through faster project execution and currency swap agreements with **Maldives** and **Sri Lanka**.
4. **Humanitarian & First Responder Role**
   - **Disaster Relief:** India's role as the first to arrive during crises, such as the **Nepal Earthquake** or the **Sri Lankan Economic Crisis** ($4 billion assistance).
   - **Health Diplomacy:** Leveraging initiatives like **Vaccine Maitri** to provide critical medical aid during pandemics/outbreaks.
5. **Civilizational & Cultural Connect (Soft Power)**
   - **Shared Heritage:** Promoting the **Buddhist Circuit** (Nepal/Bhutan) and **Ramayana Circuit** (Sri Lanka) to bridge the trust deficit through "Sanskriti."

- **People-to-People:** Expanding scholarships and ITEC programs for students and professionals across the subcontinent.

Recent Developments

Several critical shifts are redefining regional diplomacy:

- **Political Transitions:** Following the recent elections in **Bangladesh** and **Nepal**, India is pivoting from "Palace Diplomacy" (focusing on specific leaders) to "People Diplomacy," engaging with new youth-led movements and diverse political stakeholders.
- **West Asia Spillover:** Today's editorials highlight how escalating tensions in West Asia are forcing India to secure its maritime neighborhood to protect energy corridors and the **IMEC** (India-Middle East-Europe Economic Corridor).
- **Climate & Health Diplomacy:** A move toward "Low-Intensity Security" through Joint Disaster Relief (HADR) and sharing digital governance tools (Open-source platforms) to build long-term institutional dependency.

Key Challenges to India's Neighbourhood First

- **Energy Insecurity:** Heightened volatility in the **Strait of Hormuz** (mostly shut as of today) has caused oil prices to surge over **$100/barrel**, straining the economies of India and its neighbors (Bangladesh, Sri Lanka), who now look to India for energy bailouts.
- **Diaspora Vulnerability:** The conflict directly threatens nearly **25 million South Asians** (including 10 million Indians) living in the Gulf. Recent missile shrapnel deaths in **Abu Dhabi** and evacuations highlight the massive humanitarian risk.
- **Maritime "Net Security" Test:** Increased attacks on commercial tankers in the **Indian Ocean** (e.g., near UAE's Fujairah) challenge India's image as a "Net Security Provider." The Indian Navy is currently forced to divert resources for warship escorts (**OP Sankalp**).
- **Diplomatic Balancing (Trust Deficit):** Neighbors like **Bangladesh, Maldives, and Sri Lanka** have taken more vocal stances on the conflict. India's initial perceived alignment with Western/Israeli positions creates a "credibility gap" within its own neighborhood.
- **Connectivity Disruptions:** The conflict has halted progress on the **IMEC (India-Middle East-Europe Corridor)**, forcing India to double down on the **INSTC (via Iran/Chabahar)**, which is itself complicated by ongoing strikes.
- **The China Squeeze:** While India is distracted by West Asian maritime security, China continues to offer faster, non-political infrastructure funding, appealing to neighbors facing fuel-driven economic crises.
- **Af-Pak Radicalization:** Today's news of **Pakistan's airstrikes on Afghanistan** (hospital in Kabul) highlights the persistent threat of regional radicalization and cross-border "open war" that destabilizes India's western flank.

Way Forward

- **Pivot to "People Diplomacy":** Moving away from "Palace Diplomacy" (reliance on specific leaders) to engage with youth-led movements and civil society, as seen in the recent **Bangladesh and Nepal** transitions.
- **Out-Implement, Don't Out-Argue:** Prioritizing the rapid completion of existing **Lines of Credit (LoC)** projects (e.g., Kaladan, Agartala-Akhaura) to match the execution speed of China's BRI.

- **Exporting India Stack (DPI):** Scaling the integration of **Digital Public Infrastructure** (UPI, RuPay, ONDC) across the neighborhood to create a shared, India-centric regional digital economy.
- **"First Responder" Institutionalization:** Creating a permanent **Regional Disaster & Health Task Force** to provide predictable aid during climate crises or energy shocks caused by the West Asia war..
- **Decoupling Domestic Rhetoric:** Ensuring that internal political narratives (e.g., migration or CAA) do not "poison the well" of bilateral trust with key partners like **Bangladesh**.
- **Maritime Collective Security:** Strengthening the **Columbo Security Conclave** and **SAGAR** to address the new maritime threats in the Arabian Sea arising from the West Asia conflict.

Conclusion

India must evolve into a **"Strategic Anchor,"** leveraging Digital Public Infrastructure and asymmetric concessions to foster a resilient, integrated subcontinent that withstands external shocks while securing its status as a **Net Security Provider.**

Q. *"India's Neighbourhood First Policy is increasingly being tested by evolving regional and global challenges." Examine in the context of recent geopolitical developments.*

2.2.3. STRAIT OF HORMUZ CRISIS: GLOBAL OIL DISRUPTION & ENERGY GEOPOLITICS

Context:

In simple words, a narrow sea passage called the **Strait of Hormuz** is like the main pipe that carries almost one-fifth of the world's traded oil. After the recent **US-Israel military action** against **Iran**, Iran blocked ships through this strait of Hormuz. This sudden stop has caused **oil prices to jump above $110 per barrel**, created chaos in energy markets, and forced big countries like **India**, the **USA**, and **Russia** to change their plans quickly.

Significance of the Strait of Hormuz as a Global Energy Chokepoint

The **Strait of Hormuz** is a narrow waterway located **between Iran (north) and Oman and the UAE (south)**. It connects the **Persian Gulf** (home to huge oil producers like Saudi Arabia, UAE, Iraq, Kuwait, and Iran) to the **Gulf of Oman** and the open **Arabian Sea** (leading to the Indian Ocean).

- Narrowest point: Only **21–33 km** wide (about the width of a small city).
- **Daily transit (pre-closure, 2024–2025 data)**: Around **20–21 million barrels per day** of crude oil and products — roughly **20–25%** of global seaborne oil trade and about **20%** of total world oil consumption.
- Also carries ~**20%** of global **LNG** (liquefied natural gas).
- **80–90%** goes to Asia (**China, India, Japan, South Korea**).
- Alternatives (pipelines like **Saudi Arabia's East-West pipeline**) can handle only **3.5–7 million barrels per day** max, far less than needed.

Why it matters: It's a global "chokepoint." Any block here creates instant supply shortages, panic buying, and price spikes worldwide. Right now, with the closure, hundreds of tankers are waiting, and Gulf exports are shifting to limited pipelines or getting stuck.

Energy Production and Consumption Dynamics in the World

Oil and **natural gas** together supply **slightly more than half** of the world's total energy (IEA 2024 data), while the remaining portion comes from **coal**, **renewables**, **nuclear**, and other sources.

- **Main uses**:
  - Fuel for **transport** (cars, trucks, airplanes, ships)
  - Generation of **electricity**
  - Production of **cooking gas** (LPG)
  - Essential raw materials for **industries** (plastics, chemicals, fertilizers)
- **Production and Consumption Pattern**
  - **Major producers**: Concentrated in **West Asia** (Persian Gulf region), especially **Saudi Arabia**, **UAE**, **Iran**, **Iraq**, and **Kuwait** — the world's leading exporters of crude oil and natural gas.
  - **Major consumers**: Rapidly growing economies in **East Asia** and **South Asia**, particularly **China**, **India**, and **Japan**.
  - **Limited domestic reserves**: These Asian countries have very little oil of their own (although **China** is a significant **producer of natural gas**).
- **Heavy Reliance on Imports**
  - **China**, **India**, and **Japan** depend heavily on **imported crude oil** and **natural gas** to support their expanding economies and populations.
  - A large share of these imports especially from the Persian Gulf passes through the narrow **Strait of Hormuz**, making this chokepoint critical for global energy security.

Thus, there is a clear mismatch of **huge production in West Asia** and **massive demand in Asia** creating strong dependence on safe passage through the Strait of Hormuz.

Major Players in Global Oil

Only a **few regions and countries dominate global oil reserves and production**:

1. **OPEC (Organization of the Petroleum Exporting Countries)**

   (Role: coordinates production levels to influence global oil prices and ensure supply stability)

   - It consists of around **12–13 major oil-producing countries**.
   - **Leading members:** Saudi Arabia (dominant leader), UAE, Iran, Iraq, Kuwait, etc.
   - OPEC countries together hold **over 70% of global oil reserves**
   - They regulate the market through **output cuts or increases** to maintain **price stability**.
   - **West Asia (Persian Gulf Countries)**
     - The **key producers** include **Saudi Arabia, UAE, Iran, Iraq, and Kuwait**.
     - This region holds a **major share of global oil reserves** and controls **large export flows through the Strait of Hormuz**.

- Most of these countries are part of **OPEC**, which gives the region strong influence over global oil supply.

3. **Other Strategic Players**
   - **Venezuela and Iran together hold a massive share of global reserves (~39%)**
   - **For example**, Venezuela alone has around **17% of global oil reserves**
   - However, their **current production remains limited** due to: **Sanctions** and **Infrastructure constraints**

Shifting Power Dynamics among United States, Russia, and India

1. **America's Central Role in Energy Geopolitics**

The **United States** is both a **major producer and consumer** of energy:

- Its economy is dominated by **high-energy sectors** (transport, industry, manufacturing), leading to **very high per capita energy use**.
- US per capita energy consumption is roughly **10 times higher than India's** and about **2.4 times higher than China's** because of this, **securing reliable energy supplies** has long been a core driver of **US foreign policy**.

A. Historical Shift in West Asian Oil Control

From the **1950s onward**, control over **West Asian oil** shifted:

- Initially dominated by **large American and European oil companies**.
- Gradually transferred to **state-owned national oil companies** in the producing countries.

By the **1970s**, sharp **oil price spikes** occurred as **Arab members** gained more influence in **OPEC (Organization of the Petroleum Exporting Countries)**, using oil as a political and economic weapon.

B. US Strategic Responses

The United States countered these shifts with a **two pronged strategy**:

1. **Boosting Domestic Production**
   - Heavily expanded **shale oil** extraction (oil trapped in **hard shale rock**, extracted using modern technology called fracking and horizontal drilling), especially from the **mid 2000s onward**.
   - As a result, the US became the **world's largest oil producer**, reducing dependence on imports.
2. **Shaping Global Oil Geopolitics**

Through **military and political interventions**, including:

- **Gulf War (1990–1991)**
- **Iraq War (2003–2011)**
- **Recent actions in Venezuela (2026)**
- **Ongoing US–Israel conflict with Iran**

These moves aimed to secure **energy routes**, influence **regional regimes**, and maintain **access to Gulf oil**.

C. "Future Oil" Calculus

- Countries like **Iran and Venezuela together hold a large share of global proven oil reserves (~39%)**, making them crucial for future **energy supply**,
- For the U.S., **access to these reserves is important for long-term strategic and economic planning**. However, the **Strait of Hormuz closure has disrupted these plans in the short term**.
- At the same time, it has **benefited Russia**, as reduced **West Asian** supply has increased reliance on **Russian oil**, making it a **key stabiliser of global energy prices**.

2. Russia's Rise as a Beneficiary

- After the **2022 Russia-Ukraine war**, Russia faced Western sanctions, becoming isolated in Europe and struggling to export oil freely.
- Now, with **West Asian** production and exports hit hard, **Russian oil** is suddenly essential.
- Outside **West Asia**, Russia is the only major country with a large **tradable oil surplus** (ready for export).

A. Russian Oil and India's Role

Oil markets are tightly linked — small changes in one area can create massive ripples worldwide.

India's Position

- India ranks as the world's **second-largest importer** of crude oil and **third-largest consumer**.
- Disruptions raise prices for fuel, transport, food, and everyday goods in India.
- India's buying decisions also influence global oil prices significantly.

B. Europe's Energy Shift

- European nations have limited domestic reserves and historically relied on Russian imports for winter heating.
- Post-2022 sanctions forced Europe to pivot toward West Asian sources.

C. India's Pivot to Russian Oil

- To secure affordable supplies, India increased purchases of discounted **Russian crude**.
- **Share of Russian oil in India's imports jumped dramatically**: from **2.5% in 2021 to 39% in 2023** (peaking around **36–44% in 2023–2024**; recent data shows decline to **~33% in 2025** overall, with monthly lows around 27% due to sanctions pressure, but still significant).
- India refines **imported crude** into products like **petrol**, **diesel**, **LPG**, and **petrochemicals**.
- With large refining capacity, India (and China) export some refined products.
- Indian refiners earned strong profits from processing cheap Russian crude and selling outputs.

Western Response to the Strait of Hormuz Crisis

- Despite public criticism, Western leaders quietly supported this shift because India's diversion to sanctioned Russian oil helped stabilize global prices from 2022 onward.
- **Current Strain:** With the **Strait of Hormuz** closed and oil prices surpassing **$110 per barrel,** the US now urgently wants increased purchases of stranded **sanctioned Russian oil** to ease market pressure.

India's Multi-Pronged Response to the Energy Crisis

1. **Government Regulation under Essential Commodities Act (ECA), 1955**
   - The government invoked the **Essential Commodities Act, 1955** through the **Natural Gas (Supply Regulation) Order, 2026** to manage the crisis.
   - A **priority-based allocation system** has been introduced:
     - **Top priority:** PNG (households), CNG (transport), LPG production
     - **Reduced supply:**
       - Fertilizer sector (~70%)
       - Other industries (~80%)
       - To prevent **hoarding and panic buying**, a **25-day gap between LPG bookings** has been enforced.
2. **Diversification of Energy Imports**
   - India is reducing dependence on **vulnerable routes like the Strait of Hormuz**.
   - It has expanded imports from **alternative suppliers** such as: **Algeria, Norway, Canada, Australia**
   - Supplies are being routed through **longer but safer routes** like the **Cape of Good Hope** to ensure continuity.
3. **Increased Dependence on Russian Oil**
   - India has **stepped up oil imports from Russia** to compensate for supply disruptions from West Asia. This has been made possible by a **temporary easing of Western sanctions**, helping India maintain a steady energy supply.
4. **Enhancing Domestic Energy Production**
   - The government has directed refineries to **increase domestic production**, especially **LPG**.
   - As a result LPG output has increased by **~10% in the short term**
   - The additional supply is being **prioritised for households** to meet essential needs.

Way Forward: Building Resilience Against Future Energy Shocks

1. **For India: Strengthening Energy Security**
   - India should **diversify its import basket** by sourcing oil from multiple regions such as **Russia, West Asia, the United States, and Africa** to reduce overdependence on any single route.
   - It must **expand Strategic Petroleum Reserves (SPR)** from the current limited capacity (around 2 weeks) towards **90 days of reserve cover**, in line with global best practices.
   - There is a need to **accelerate the transition to renewable energy** (solar, wind) and promote **electric vehicles (EVs)** to reduce long-term dependence on fossil fuels.
   - India should also **strengthen its refining capacity and flexibility** to process diverse crude types efficiently and maintain export competitiveness.
2. **For the United States and Russia: Stabilising Global Supply**
   - The **United States** should prioritise **diplomatic efforts to ensure the reopening and security of critical chokepoints like the Strait of Hormuz**, while also **boosting domestic shale oil production** to ease global supply pressures.

- **Russia**, as a major surplus producer, can play a constructive role by **offering stable, long-term supply contracts**, especially to energy-importing countries like India, thereby contributing to market stability.

3. **For the Global Community: Ensuring Systemic Stability**
   - Countries should **invest in alternative energy transport routes**, such as pipelines and new LNG terminals, to reduce dependence on vulnerable chokepoints.
   - Greater **coordination among oil-producing nations**, including through platforms like **OPEC+**, is necessary to manage supply and avoid extreme price volatility.
   - There must be a **faster transition towards renewable energy**, as global agencies like the **International Energy Agency (IEA)** highlight its potential to meet a large share of future energy demand.
   - Finally, nations should emphasise **diplomacy and conflict resolution** to ensure stable trade flows.

Conclusion

The **Strait of Hormuz crisis highlights the deep interlinkage between energy security and geopolitics**, where disruptions in a single chokepoint can trigger global economic and strategic shifts. Going forward, a balanced approach combining **diversification, domestic resilience, clean energy transition, and international cooperation** will be essential to ensure a stable and secure energy future.

Q. *Discuss how geopolitical conflicts in West Asia influence global energy flows and reshape power dynamics among major countries like the U.S., Russia, and India.*

2.3. SOCIAL JUSTICE

2.3.1. WOMEN'S DIGITAL SAFETY IN THE AGE OF ARTIFICIAL INTELLIGENCE

Context:

- The **rapid integration of artificial intelligence** into daily life has transformed societies, yet it has simultaneously amplified vulnerabilities, particularly for women in the digital realm.
- On the eve of **International Women's Day 2026**, the imperative to align technological progress with **ethical AI** and **robust safeguards for women's digital safety** has gained urgency.

How AI and Digital Technologies Are Empowering Women

- **Expanding Economic Opportunities:** Digital platforms enable women to participate in **e-commerce, freelancing, and home-based entrepreneurship**. For instance, platforms such as **Meesho** have enabled many women from small towns to earn income through online reselling.

- **Improving Access to Education and Skills:** Digital learning initiatives under **Digital India** and **Pradhan Mantri Gramin Digital Saksharta Abhiyan** (PMGDISHA) have improved **digital literacy and access to online education**, especially for rural women.
- **Strengthening Financial Inclusion:** Schemes such as **Pradhan Mantri Jan Dhan Yojana** have enabled millions of women to open bank accounts and access **digital banking and Direct Benefit Transfers (DBT)**.
- **Enhancing Access to Healthcare:** Telemedicine platforms such as **eSanjeevani** allow women, particularly in rural areas, to **consult doctors remotely and access health services**.
- **Promoting Social and Political Participation:** Digital platforms help women **express opinions, participate in public debates, and mobilise social movements**, as seen in campaigns such as the #**MeToo** movement.
- **Encouraging Women's Participation in Technology:** Increasing women's representation in **AI research and STEM (Science, Technology, Engineering, and Mathematics) fields** can lead to more inclusive and ethical technology design, helping address **gender-specific concerns in digital systems**.

Key Challenges in Ensuring Women's Digital Safety in the AI Era

1. **Rising Online Harassment and Digital Abuse**
   - Expansion of internet access has increased women's exposure to **cyberbullying, trolling, stalking, and doxxing (revealing personal information online without consent)**.
   - A study by **UN Women** and **The Economist Intelligence Unit** (2021) found **38% of women globally have experienced online violence**, while **85% have witnessed digital abuse**.
   - In India, the **National Crime Records Bureau** recorded **over 65,000 cybercrime cases in 2022**, indicating the growing shift of gender-based violence into digital spaces.
2. **Misuse of Deepfake and AI Technologies**
   - Advances in **Artificial Intelligence** have enabled **deepfakes—manipulated videos, images, or audio that falsely portray individuals**.
   - Research by **Deeptrace** shows **around 96% of deepfake videos online are non-consensual pornographic content**, largely targeting women.
   - A 2023 analysis by Sensity AI also found that **women constitute the primary victims of deepfake-based sexual exploitation**.
3. **Anonymity and Weak Platform Accountability**
   - **Online anonymity and pseudonymity** make identifying perpetrators of cyber abuse difficult. Harmful content spreads rapidly across platforms, often outpacing moderation efforts.
   - Despite the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, **enforcement and accountability mechanisms remain uneven**, allowing abusive content to persist.
4. **Gender Gap in AI Development**
   - Women are **significantly underrepresented in AI research and leadership**. According to United Nations Development Programme and UNESCO, **women constitute about 22% of AI professionals globally and less than 14% hold senior roles**.

- Limited diversity in AI development can lead to **algorithmic bias and inadequate safeguards against gender-based misuse**.

5. **Absence of Specific Legal Provisions for Deepfakes**
   - India addresses cyber offences through laws such as the Information Technology Act, 2000 and the **Bharatiya Nyaya Sanhita, 2023**, covering obscenity, impersonation, and privacy violations.
   - However, **no dedicated legislation currently regulates AI-generated deepfakes**, creating challenges in addressing AI-enabled harassment.
6. **Lack of Digital Awareness and Education**
   - Many users, particularly **youth and new internet users**, lack awareness of **cyber safety, AI misuse, and reporting mechanisms**.
   - According to the **Internet and Mobile Association of India**, India had **over 820 million internet users in 2023**, but digital literacy remains uneven.
   - This limits the reporting of cyber offences through platforms like the **National Cyber Crime Reporting Portal**, increasing vulnerability to online exploitation.
   - India has a **40% gender gap** in mobile internet use — women's lower digital access means lower digital safety awareness and fewer tools to protect themselves. (GSMA Mobile Gender Gap 2024)

Existing Policy and Institutional Measures in India

- **IT Act, 2000 (Section 66E):** Section 66E of the Information Technology Act, 2000 penalises the **violation of privacy through capturing, publishing, or transmitting images of a person's private area without consent**, with punishment of **up to three years' imprisonment or a fine up to ₹2 lakh, or both**.
- **IT Act, 2000 (Section 67A):** This provision under the Information Technology Act, 2000 criminalises the **publication or transmission of sexually explicit material in electronic form**. Although it can be applied in cases involving deepfake content, **it does not specifically address AI-generated media**.
- **BNS, 2023:** The Bharatiya Nyaya Sanhita, 2023 criminalises the **non-consensual distribution of intimate images**, strengthening protections compared to the earlier IPC framework. However, **the law still lacks specific provisions dealing with AI-generated deepfakes**.
- **MeitY Deepfake Guidelines, 2023:** The Ministry of Electronics and Information Technology has issued guidelines requiring online intermediaries to **remove reported deepfake content within three hours of receiving a takedown notice.**

International Best Practices for AI Governance

- **EU AI Act, 2024:** The **Artificial Intelligence Act** is the **first comprehensive global legislation on Artificial Intelligence**, categorising systems that generate **non-consensual intimate images (NCII) and deepfakes as unacceptable risk**, and imposing strict restrictions on their use.
- **AI Ethics Framework:** The **UNESCO Recommendation on the Ethics of Artificial Intelligence (2021)** emphasises **conducting gender impact assessments before deploying AI systems and promoting diversity in AI development teams**.

- **Responsible AI Principles:** The **Organisation for Economic Co-operation and Development** outlines **principles of inclusive growth, human-centred values, transparency, and accountability in AI governance**, which India has endorsed but still needs to **translate effectively into domestic regulatory frameworks**.

Way Forward: Strategic Policy Interventions for Ensuring Women's Digital Safety

A multi-stakeholder strategy is required to align **AI innovation** with **women's digital safety** through focused, actionable measures.

1. **Strengthening the Legal and Institutional Framework**
   - **Dedicated Deepfake Legislation:** Enact a specific law to regulate **deepfakes and synthetic media**, criminalising the **creation, distribution, or hosting of non-consensual AI-generated intimate content** and ensuring stronger victim protection.
   - **Enhanced Platform Accountability:** Amend provisions such as **Section 79** of the Information Technology Act, 2000 to require **proactive AI-based detection and moderation of harmful content**, with stricter liability for platforms in cases of systemic negligence.
   - **Fast-Track Cyber Justice Mechanisms:** Establish **specialised cybercrime courts and trained digital-forensics units** in states to ensure **speedy investigation and timely disposal of cyber offences**, including deepfake-related crimes.
2. **Increasing Women's Participation in AI Development**
   - **Promoting Women in AI Research:** Encourage **greater participation of women in government-supported AI initiatives**, including programmes under the IndiaAI Mission, through targeted fellowships and research incentives.
   - **Strengthening the STEM-to-AI Pipeline:** Expand scholarships, mentorship programmes, and industry internships to promote women's entry into **STEM (Science, Technology, Engineering and Mathematics) and AI-related careers**.
   - **Encouraging Diversity in the Tech Sector:** Promote **gender diversity audits and inclusive hiring practices** in technology companies to reduce algorithmic bias and strengthen ethical AI development.
3. **Enhancing Digital Safety and Awareness**
   - **Digital Safety Education:** Integrate **AI ethics, deepfake awareness, and cyber safety modules** into school curricula developed by National Council of Educational Research and Training to build early awareness.
   - **Strengthening Reporting and Support Systems:** Improve cybercrime response mechanisms, including **dedicated helplines and rapid response teams** for victims of AI-enabled harassment.
   - **Community-Level Digital Literacy:** Use grassroots platforms such as **Self-Help Groups under the Deendayal Antyodaya Yojana – National Rural Livelihoods Mission** to promote **digital literacy, reporting awareness, and support networks for women**.

Conclusion

Balancing AI innovation with women's digital safety requires **urgent and coordinated action** to harness technological benefits without compromising dignity and rights. Prioritising **ethical AI governance, stronger legal enforcement, and greater gender diversity in technology development** can ensure that women become equal stakeholders in the digital ecosystem.

Q. *While Artificial Intelligence offers new opportunities for women's empowerment, it also creates emerging risks to their digital safety. Examine the challenges and suggest measures to ensure safe and inclusive digital spaces for women. (250 Words)*

2.3.2. PROTECTING WOMEN'S RIGHTS AMID CONFLICT AND INSTABILITY

Context:

- The observance of **International Women's Day (8 March)** has once again highlighted the urgency of safeguarding **women's rights in an increasingly unstable global environment**.
- The **2026 global theme — "Rights, Justice, Action: For All Women and Girls"**, announced by the **United Nations**, has drawn attention to the severe vulnerabilities faced by women and girls in conflict zones.

About International Women's Day

- **Origin:** Emerged from early **20th-century labour movements**, when women workers demanded **better working conditions, fair wages, voting rights, and political equality**.
- **Expansion:** Gradually evolved into a **global movement for gender justice, labour rights, and women's empowerment**.
- **UN Recognition:** The **United Nations formally recognised International Women's Day in 1977**, giving it global institutional legitimacy.
- **Contemporary Significance:** International Women's Day today serves multiple purposes:
    - **Recognition of achievements:** Acknowledges women's contributions in **politics, economy, science, and society**.
    - **Policy advocacy platform:** Governments and civil society highlight **gender inequality and discrimination**.
    - **Accountability mechanism:** Encourages states to strengthen **legal and institutional frameworks for gender justice**.

Evolution of International Women's Rights Framework and Protection in Conflict Situations

A. International Legal Framework for Protection of Women in Armed Conflicts

1. Geneva Conventions (1949)

- Provide **special protection for women in armed conflicts**.
- Safeguards against **sexual violence, inhumane treatment, and degrading practices**.
- Ensure **humane treatment of women prisoners of war and civilians**.

2. Women, Peace and Security (WPS) Agenda

- Initiated through **UN Security Council Resolution 1325 (2000)**.
- Recognised the **disproportionate impact of conflict on women**.

- The resolution established **four key pillars**:
  - **Participation** – Inclusion of **women in peace negotiations, governance, and decision-making**
  - **Protection** – Safeguarding women from **violence, exploitation, and human rights violations** during conflicts
  - **Prevention** – Integrating **gender perspectives in conflict prevention strategies**
  - **Relief and Recovery** – Ensuring women's participation in **post-conflict reconstruction and humanitarian responses**

3. Key Subsequent UN Security Council Resolutions

- **UN Security Council Resolution 1820 (2008)** – Recognised **sexual violence as a tactic of war**.
- **UN Security Council Resolution 1889 (2009)** – Promoted women's participation in **post-conflict peacebuilding**.
- **UN Security Council Resolution 2242 (2015)** – Linked women's participation with **counter-terrorism and peacebuilding**.
- **UN Security Council Resolution 2493 (2019)** – Reaffirmed commitments to implement the **Women, Peace and Security agenda**.

B. Gender Equality as a Fundamental Human Right

Gender equality has been widely recognised as a **core human rights principle** and an essential component of **inclusive and sustainable development**.

Several global frameworks reinforce this commitment:

- **Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), 1979**
  - Often referred to as the **international bill of rights for women**.
  - It obligates states to eliminate discrimination against women in **political, economic, social, and cultural spheres**.
- **Beijing Declaration and Platform for Action (1995)**
  - Provides a **comprehensive agenda** for **advancing women's empowerment**.
  - It identifies **"Women and Armed Conflict"** as one of the **twelve critical areas of concern**, highlighting the **need to protect women** during **wars and involve them in peace processes.**
- **2030 Agenda for Sustainable Development**
  - **Sustainable Development Goal-5 (SDG-5)** aims at **achieving gender equality and empowering all women and girls**.

Rights, Justice and Action: The Global Imperative

The **2026 International Women's Day theme** emphasises **three interconnected pillars** essential for achieving **gender equality**, especially in **conflict-affected and fragile regions**.

1. **Ensuring Women's Rights:** Women's rights must be safeguarded even during **armed conflicts, humanitarian crises, and political instability**. Protection should include:

- **Freedom from gender-based violence (GBV)** and harassment
- Protection from **sexual exploitation, trafficking, and forced displacement**
- **Equal access to humanitarian assistance** such as food, shelter, and healthcare
- Protection of **reproductive and maternal health rights**
- **Access to justice and legal remedies**

2. **Ensuring Justice for Victims:** Achieving justice requires **strong accountability mechanisms** to address violations against women during conflicts. **Key measures include**:
   - **Investigation and prosecution** of **conflict-related sexual violence**
   - Legal safeguards for **refugee and internally displaced women**
   - **Rehabilitation, psychological support, and compensation** for survivors
   - Strengthening **gender-sensitive judicial and legal systems**
3. **Translating Commitments into Action:** International commitments must be implemented through **concrete institutional and policy measures**:
   - **Gender-responsive humanitarian aid and relief programmes.**
   - Meaningful participation of women in governance, peace negotiations, and conflict resolution.
   - Enhanced security and protection mechanisms for women in refugee camps and conflict zones.
   - Adequate financial allocation for women-centric development and protection programmes.

Promises but No Progress: The Reality Gap

While international policies exist, current global trends reveal a "**promises but no progress**" scenario, where institutional protections are failing under the weight of **extreme volatility**.

Alarming Global Trends (2024–2026):

- The world is currently witnessing the **highest number of armed conflicts since 1946,** with **nearly 676 million women living within 50 km of conflict zones.**
- Civilian casualties among women and children increased fourfold compared to the previous two-year period, while incidents of conflict-related sexual violence rose by nearly 87% within the same timeframe.

Structural Challenges Hindering the Protection of Women in Conflict Situations

The protection of **women's rights during periods of conflict and instability** remains difficult due to several **structural barriers**.

- **Institutional Breakdown and Weak Legal Enforcement:** Armed conflicts often weaken or collapse institutions such as the **judiciary, police, and administration**, making **laws protecting women ineffective and allowing perpetrators of violence to escape accountability**.
  - **For example**, during the **Sudanese civil conflict**, the breakdown of law enforcement has been associated with increased reports of sexual violence and limited legal recourse for survivors.
- **Entrenched Patriarchal Social Norms:** Conflict situations often reinforce **patriarchal structures**, restricting women's **mobility, education, employment, and participation in decision-making**, thereby deepening **gender inequalities and limiting their access to humanitarian support**.

  - Following the **Taliban's return to power in Afghanistan**, policies have significantly **restricted women's access to education, employment, and public participation**.
- **Gender-Insensitive Humanitarian Responses:** Many humanitarian relief programmes adopt a **generalised approach** and fail to address the **specific needs of women and girls**. This results in inadequate provision of **food security, maternal healthcare, reproductive services, menstrual hygiene facilities, and safe spaces** in refugee camps.
  - In **Syrian refugee camps in Lebanon and Jordan**, the **absence of gender-segregated sanitation facilities** increased the risk of **harassment and insecurity for women and girls**.
- **Exclusion of Women from Peace and Security Processes:** Women remain **severely under-represented in peace processes**, with **only about 7% of peace negotiators and around 14% of mediators being women**, and nearly **nine out of ten peace negotiations taking place without female negotiators**.
- **Use of Sexual Violence as a Weapon of War:** In several modern conflicts *such as the **Russia–Ukraine war***, **sexual violence is deliberately used as a strategy of warfare** to terrorise communities, force displacement, and weaken social structures. Such acts lead to **severe physical, psychological, and social consequences for survivors**.
- **Digital Violence:** The growing use of **online harassment, gendered disinformation, and digital threats against women activists and human rights defenders** undermines their participation in public life and, in many cases, escalates into **real-world intimidation and physical harm**.

Rights Require Action: Way Forward for Sustainable Peace

To translate the 2026 theme **"Rights, Justice, Action"** into a tangible reality, the following multi-pronged strategy is required to bridge the gap between global policy and local security:

- **Mandatory Quotas in Peacebuilding:** Transitioning from voluntary to **binding targets** (minimum 30%) for women's participation in all **UN-led** and **national peace negotiations** to ensure inclusive and durable agreements.
- **Institutionalizing Gender-Responsive Budgeting (GRB):** Shifting from military-centric spending to human-centric investment, aiming for the **15% allocation** of **humanitarian** and **peacebuilding funds** toward **gender equality** by **2026.**
- **Strengthening Legal Accountability:** Prioritizing the prosecution of **Conflict-Related Sexual Violence (CRSV)** at the **International Criminal Court (ICC)** to end the cycle of impunity and treat gender-based crimes as major war crimes.
- **Direct Support for Local Collectives:** Providing unrestricted, flexible funding to **grassroots women's organizations** who serve as frontline responders providing psychosocial and life-saving aid when state structures fail.
- **Digital Security for Women Defenders:** Implementing robust **cyber-protection frameworks** to shield women human rights defenders from gendered disinformation, state-sponsored surveillance, and online harassment.
- **Universal Access to Gender-Sensitive Corridors:** Establishing **protected evacuation routes** that specifically cater to maternal healthcare, safe sanitation, and protection against trafficking during active displacement.

Conclusion

Protection of **women's rights** in **conflict zones** is **not merely a humanitarian obligation but a core requirement for sustainable peace and justice**. Therefore, translating global commitments into **concrete action, institutional reforms, and inclusive governance mechanisms** is essential. In an increasingly unstable world, **safeguarding the rights, dignity, and participation of women** must remain a **collective international priority** for achieving lasting peace and gender equality.

Q. *Gender equality is not only a human rights issue but also a prerequisite for sustainable peace. Discuss in the context of contemporary global conflicts. (250 Words)*

2.3.3. DUTY OF CARE: VACCINE INJURY COMPENSATION PROGRAMMES

Context:

- Recently, the **Supreme Court of India**, in **Rachana Gangu vs Union of India**, directed the **Ministry of Health and Family Welfare** to formulate a **"no-fault compensation scheme"** for **serious Adverse Events Following Immunisation (AEFI)** arising from India's **COVID-19 vaccination campaign**, marking a shift from a **fault-based liability system to a no-fault framework** in state-run public health programmes.
- Furthermore, the Supreme Court emphasised that in a **welfare state**, the government must assume a **duty of care** when it actively promotes public health interventions such as mass vaccination.

Background: Vaccine Injury Cases and Legal Context

A. Petitions Before the Supreme Court

- The issue of **vaccine injury compensation** came before the **Supreme Court of India** through petitions filed by families alleging that **young individuals aged between 18 and 40 years** had died or suffered serious complications after receiving COVID-19 vaccines such as the **Covishield vaccine** and **Covaxin**.
- A key petition was **Rachana Gangu vs Union of India**, which arose from the deaths in **2021 of two women aged 18 and 20** who were allegedly affected by **Vaccine Induced Immune Thrombotic Thrombocytopenia (VITT)**, a rare complication associated with the **Covishield vaccine**.
- **Key Issues Raised by Petitioners:**
  - **Lack of Informed Consent:** Petitioners argued that individuals were not adequately informed about **possible rare side effects**, including clotting disorders.
  - **Vaccination Practically Mandatory**: Although vaccination was officially voluntary, **administrative restrictions** (travel, workplace entry, etc.) allegedly made vaccination **de facto compulsory**.
  - **Absence of Compensation Mechanism**: India lacked a **dedicated national vaccine injury compensation programme**, leaving victims' families without clear legal remedies.

B. Government's Response to the Petitions

The **Union Government** presented the following arguments:

- **Rigorous Safety Approval:** Vaccines deployed in India had undergone **scientific evaluation and regulatory approval**, and the country maintains a **robust AEFI monitoring system**.
- **Extremely Rare Adverse Events:** Serious clotting disorders were reported at an **extremely low rate (around 0.001 per lakh doses)**.
- **Alternative Legal Remedies:** Affected individuals could seek compensation through **civil or consumer courts** by proving negligence or liability.

A critical turning point occurred when **AstraZeneca** acknowledged in a **U.K. court** in 2024 that its vaccine (**Covishield in India**) could, in rare instances, cause **VITT**. This undermined the government's earlier stance that such adverse events were purely coincidental.

Core Issues and Policy Challenges

The absence of a dedicated compensation framework created several systemic problems:

- **Heavy Burden of Proof:** In a **fault-based system**, victims must prove negligence by the **State or manufacturer**, which is difficult in **complex medical cases** like VITT.
- **Legal Vacuum:** Despite running **one of the world's largest immunisation programmes**, India lacked a **formal mechanism to compensate vaccine injuries**.
- **Voluntary vs Mandatory Paradox:** While vaccination was declared **voluntary**, administrative mandates effectively made it **compulsory**, raising questions about **state responsibility**.
- **Equality Concerns:** Forcing families into **lengthy individual litigation** could produce **unequal outcomes**, violating **Article 14 (Equality before Law)**.

Supreme Court's Key Findings

- **Rejection of Individual Litigation**: The Supreme Court of India rejected the idea that affected families should file **separate cases in lower courts**, stating that this approach is not suitable for addressing vaccine injury cases arising from a **large public health programme**.
- **Difficulty in Proving Negligence**: The Court noted that proving negligence in vaccine injury cases requires **complex scientific and medical evidence**, which makes the legal process **difficult and burdensome for ordinary families**.
- **Risk of Inequality and Inconsistent Judgments**: The Court warned that forcing families to fight **multiple individual cases** could lead to **different outcomes in different courts** and **unequal access to compensation**, which may weaken the **principle of equality before the law under Article 14 of the Constitution of India**.

Judicial Reasoning: "No-Fault" Doctrine and State Accountability

The Supreme Court's directive is a landmark shift in Indian law, moving from "proving guilt" to "ensuring welfare." It anchors the state's responsibility in a compassionate, constitutional framework.

1. The Principle of "No-Fault" Liability

Traditionally, getting compensation required proving that the manufacturer or the state was **negligent** (at fault). The Court has replaced this with **No-Fault Liability**.

- **Direct Relief:** Compensation is granted based on a **plausible link** between the vaccine and the injury. Families do not need to prove a mistake; the injury itself triggers the right to support.
- **Recognition in Indian and Global Legal Framework:** The principle of **no-fault compensation** is already recognised in certain areas of Indian law. **Examples**
  - **Motor Vehicles Act compensation framework**, where victims of road accidents may receive compensation without proving fault.
  - **Industrial accident compensation regimes**, which provide relief to workers injured during employment.
  - **Global Practice**: Similar **no-fault vaccine injury compensation systems** operate in several countries, including **Australia, the United Kingdom, and Japan**, where claimants are not required to prove negligence but only establish a **reasonable connection between vaccination and injury**.
- **Article 14 (Right to Equality):** Forcing families to fight expensive, scientific legal battles against powerful entities violates **Article 14**. This doctrine ensures that even the most vulnerable have an equal path to justice.

2. **Right to Health and Life (Article 21)**

   The Court expanded the scope of **Article 21**, stating that the "Right to Life" inherently includes the **"Right to Health."**

   - **The State as a "Parens Patriae" (Guardian):** In a state-led public health drive, the government does not act merely as a service provider but as a **Guardian of Welfare**. Its role is to protect the life and dignity of every citizen.
   - **Duty of Care:** When the state endorses a medical intervention for the "**public good**" (like herd immunity), it assumes a **Duty of Care**. It cannot abandon the few individuals who suffer rare, severe side effects while serving a collective social goal.

3. **The Welfare State and Constitutional Mandates**

   This judgment reinforces India's identity as a **Welfare State**, governed by the **Directive Principles of State Policy (DPSP)**.

   - **Article 38:** Mandates the state to secure a social order that promotes the **welfare of the people**.
   - **Article 39(e) & Article 47:** These articles specifically task the state with protecting the **health of its citizens** and regard the **improvement of public health** as a primary duty.
   - **Core Logic:** In a welfare state, the "**Duty of Care**" means that the protection of the majority cannot come at the uncompensated cost of a few.

4. **Reference to Earlier Judicial Precedents (Jacob Puliyel Case)**

   The Court referred to **Jacob Puliyel vs Union of India**, which:

   - **Upheld the legality of the emergency vaccine approval process**.
   - Recognised the **AEFI (Adverse Events Following Immunisation) monitoring system** as an important safety mechanism.
   - Reaffirmed that **bodily autonomy and personal integrity under Article 21** mean that **vaccination cannot be forcibly imposed on individuals**.

5. **Precedent of Ex Gratia (Gaurav Kumar Bansal Case)**
    - The Court's present approach also reflects its earlier intervention during the pandemic in **Gaurav Kumar Bansal vs Union of India**, which addressed **financial relief for families of COVID-19 victims**.
    - In that case, the Court directed the National Disaster Management Authority to **frame guidelines for providing ex-gratia compensation** to families of those who died due to COVID-19.
    - **NDMA Compensation Framework**: Following this judgment:
        - The National Disaster Management Authority issued **September 2021 guidelines**.
        - **₹50,000 ex-gratia compensation** was provided for **each COVID-19 death**.
        - Payments were made by **States through the State Disaster Response Fund (SDRF)**.
        - **District grievance committees** were created to resolve disputes regarding **death certification and compensation claims**.
        - **Definition of COVID-19 Death:** Deaths occurring **within 30 days of a positive COVID-19 test** were treated as COVID-19 deaths for compensation purposes.

Global Best Practices: The International Landscape

India's move aligns with established global norms where vaccine injury is treated as a collective social responsibility rather than an individual legal burden.

- **United States:** Operates the **National Vaccine Injury Compensation Program (VICP)**, funded by a small tax on vaccine doses.
- **United Kingdom:** Utilizes the **Vaccine Damage Payment Scheme (VDPS)** to provide lump-sum payments for severe disabilities.
- **COVAX Facility:** Established a no-fault mechanism specifically for **92 low- and middle-income countries** to ensure **equity** during the pandemic.

Way Forward: Framework for a Robust Policy

To bridge the gap between public health goals and individual rights, the following steps are required:

- **Creation of a Dedicated Fund:** The government should establish a permanent **Vaccine Injury Compensation Fund**, possibly through a public-private partnership or manufacturer levies.
- **Simplified Claim Procedure:** Following the NDMA model, the process must be administrative and time-bound, avoiding the complexities of traditional courtrooms.
- **Enhanced AEFI Transparency:** Data regarding side effects must be made **publicly available** to ensure informed consent for future drives, such as the upcoming **HPV vaccination** for cervical cancer.
- **Independent Medical Boards:** While existing AEFI committees monitor data, independent boards could be utilized to adjudicate complex compensation claims fairly.

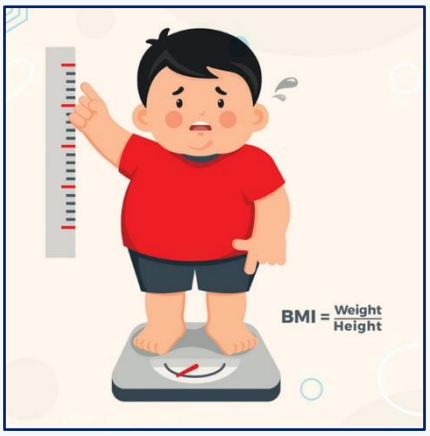
Conclusion

The Supreme Court's directive effectively bridges the gap between public health goals and individual rights by establishing that the State cannot endorse medical risks without providing a safety net. This transition to a **no-fault framework** ensures that India's identity as a **Welfare State** is upheld through a compassionate "**Duty of Care**" that prioritizes human dignity over statistical insignificance.

Q. *Mass vaccination programmes involve collective benefits but may impose rare risks on individuals. Evaluate how a vaccine injury compensation framework can strengthen public trust and vaccine acceptance.*

2.3.4. ADDRESSING THE GROWING CHALLENGE OF CHILDHOOD OBESITY IN INDIA

Context:



- The **World Obesity Federation** recently released the **World Obesity Atlas 2026**, highlighting the **rapid rise of childhood obesity globally and in India**.
- The **World Obesity Atlas 2026** report indicates that **India has the second-highest number of children with high Body Mass Index (BMI)** after **China**.
- With millions of children already affected and projections indicating a sharp rise by 2040, **childhood obesity is emerging as a major public health concern** with long-term implications for **non-communicable diseases (NCDs), economic productivity, and demographic dividend**.

Understanding Childhood Obesity

A. Definition of Obesity

- According to the **World Health Organization**, **obesity** is defined as a **chronic, relapsing disease characterised by abnormal or excessive fat accumulation that poses a risk to health**.

B. Measurement: Body Mass Index (BMI)

- **BMI = Weight (kg) / Height² (m²)**
- It is widely used to classify **overweight and obesity** in both adults and children.

C. WHO Growth Reference for Children (5–19 years)

- **Overweight:** BMI greater than **1 standard deviation above the WHO median**
- **Obesity:** BMI greater than **2 standard deviations above the WHO median**

Thus, **childhood obesity refers to excessive body fat accumulation in children and adolescents that significantly increases health risks**.

World Obesity Atlas 2026: Key Findings

A. Global Scenario

- Prevalence of obesity among children **(5–19 years)** increased from **4% in 1975 to nearly 20% in 2022**.
- Majority of affected children reside in **middle-income countries**.
- **Ten countries alone account for over 200 million children with high BMI**, led by **China, India, and the United States**.
- **Childhood obesity often persists into adulthood**, increasing risk of **NCDs such as diabetes, cardiovascular diseases, and certain cancers**.

B. Indian Scenario

India is experiencing a **rapid nutritional transition.**

1. Current Statistics (2025)

- **14.9 million children (5–9 years)** are overweight or obese.
- **26.4 million children (10–19 years)** are overweight or obese.
- **41 million children** have **high BMI**.

2. Health Indicators

- **8.39 million children** have **BMI-attributed metabolic dysfunction-associated steatotic liver disease (MASLD)**.
- **2.98 million children** suffer from **BMI-related hypertension**.

3. Projections for 2040

- **20 million children likely to be obese**.
- **56 million children expected to be overweight**.
- **120 million school-going children may show early signs of chronic diseases**, including: **Hypertension**, **Cardiovascular diseases**, **Diabetes**

Global Shift in Child Nutrition: Rising Childhood Obesity Trends

According to a **2025 report by the UNICEF**, global child nutrition patterns are undergoing a major transformation. For the **first time, the proportion of children and adolescents affected by obesity has surpassed those who are underweight**.

A. Rising Prevalence of Overweight and Obesity in India (NFHS-3 to NFHS-5)

Data from the **National Family Health Survey** indicate a consistent increase in overweight and obesity across various age groups between **NFHS-3 (2005–06)** and **NFHS-5 (2019–21)**.

- **Children under five years:** prevalence increased from **1.5% to 3.4%**.
- **Adolescent girls:** rose from **2.4% to 5.4%**.
- **Adolescent boys:** increased from **1.7% to 6.6%**.
- **Adult women:** prevalence nearly doubled from **12.6% to 24.0%**.
- **Adult men:** rose from **9.3% to 22.9%**.

B. Key Findings of the UNICEF Report

- Among children and adolescents aged **5–19 years**, **obesity prevalence (9.4%) has slightly exceeded the share of underweight children (9.2%)**, reflecting a shift in malnutrition patterns.
- Since **2000**, obesity in this age group has **tripled**, rising from **3% to 9.4%**, while underweight prevalence has declined from **around 13% to 9.2%**.
- Globally, about **5% of children below five years** and **20% of children and adolescents aged 5–19** are affected by **overweight or obesity**.
- The **steepest rise in overweight prevalence is observed in low- and middle-income countries**, highlighting the rapid nutrition transition.

- In most regions of the world, **obesity rates have surpassed underweight levels**, except in **sub-Saharan Africa and South Asia**, where undernutrition still remains a major concern.

Factors Contributing to the Rise in Childhood Obesity

- **Shift Towards Unhealthy Diets:** Children increasingly consume **ultra-processed foods (UPFs)** that contain high amounts of **sugar, salt, unhealthy fats, and additives**. These foods are widely advertised, which strongly influences children's eating habits.
- **Economic Factors:** Ultra-processed foods are often **cheaper and more easily available than fresh and nutritious foods**. This price difference partly results from **agricultural subsidies for crops such as corn, soy, and wheat**, along with preservatives that increase shelf life.
- **Unhealthy Foods in School Meal Programmes:** The **2024 Global Survey of School Meal Programs** indicates that **about one in four school meal programmes globally include processed meat**, while many also provide **sweets, fried foods, and sugary drinks**, which can contribute to unhealthy diets.
- **Declining Physical Activity:** Physical activity among children has decreased due to **urbanisation, limited play areas, increased use of motorised transport, and higher screen time**, leading to more sedentary lifestyles.
- **Genetic Factors:** In some cases, obesity may be influenced by **genetic variations and metabolic conditions**, making certain individuals more prone to gaining excess weight.
- **Weak Policy Measures:** Many countries still lack strong regulations. Only a **small proportion of countries have mandatory front-of-pack nutrition labelling**, and **very few provide subsidies to promote healthy foods**, limiting effective control over unhealthy diets.

Impact of Increasing Childhood Obesity

Childhood obesity substantially increases the likelihood of **long-term health complications**, affecting metabolic, physical, and psychological well-being. Major health risks include:

- **Metabolic and Cardiovascular Disorders:** Childhood obesity increases the risk of **type-2 diabetes, hypertension, hyperglycaemia, high cholesterol, and cardiovascular diseases**, as excessive body fat disrupts normal metabolic functioning and elevates long-term disease susceptibility.
- **Liver-Related Complications:** Excess fat accumulation can lead to **Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)**, a condition characterised by abnormal fat deposition in the liver, which may progress to serious liver damage if untreated.
- **Musculoskeletal Problems:** Increased body weight places excessive stress on bones and joints, often resulting in **joint disorders, skeletal strain, and reduced mobility**, which can limit physical activity and overall fitness.
- **Psychological and Social Consequences:** Children with obesity frequently experience **low self-esteem, anxiety, depression, and social stigma**, often aggravated by bullying and discrimination in schools and social settings.
- **Persistence into Adulthood:** Childhood obesity often continues into adulthood, significantly increasing the **lifetime risk of non-communicable diseases and chronic health conditions**.

Key Government Initiatives to Promote Healthy Nutrition and Prevent Obesity

- **POSHAN Abhiyaan:** Aims to improve **nutritional status of children, adolescent girls, and mothers** through better nutrition services and awareness.
- **Eat Right India Movement:** Promotes **safe, healthy, and sustainable diets** through consumer awareness campaigns, supply-side reforms, and initiatives in schools.
- **'Aaj Se Thoda Kam' Campaign:** A nationwide awareness programme that encourages people to **gradually reduce the intake of fat, sugar, and salt** in their daily diet.
- **RUCO (Repurpose Used Cooking Oil) Initiative:** Ensures that **used cooking oil is collected and converted into products such as biodiesel or soap**, preventing its reuse in food preparation.

Global Policy Measures

- **Frameworks of World Health Organization and UNICEF:** Recommend measures such as **healthy school food environments, taxes on sugary beverages, regulation of junk-food marketing, and national monitoring of childhood obesity trends**.

Way Forward to Address Childhood Obesity

- **Promoting Healthy Diets:** Improve access to **affordable and nutritious foods** through measures such as **food assistance programmes**, **vouchers, cash transfers**, and strengthening **local food systems**.
- **Strengthening Regulatory Measures:** Implement **stricter regulations** on **junk-food advertising, front-of-pack nutrition labelling, and taxation of ultra-processed foods** to discourage unhealthy consumption.
- **Encouraging Active Lifestyles:** Promote regular physical activity among children and adolescents through initiatives such as **Fit India Movement** and **Khelo India**, while integrating sports and fitness into daily routines.
- **Improving Physical Infrastructure for Children:** Ensure strict enforcement of **Right to Eductaion (RTE) norms** mandating playgrounds and sports facilities in schools and develop parks and open recreational spaces in residential areas to encourage outdoor activities.
- **Advancing Medical Interventions:** New **anti-obesity drugs** such as **semaglutide** and **tirzepatide** show promising results. While high costs currently limit access, the availability of affordable generic versions in the future may improve treatment options.
- **Enhancing Public Awareness:** Promote awareness among families and communities about balanced diets, the risks of excessive junk food consumption, and the importance of regular exercise.

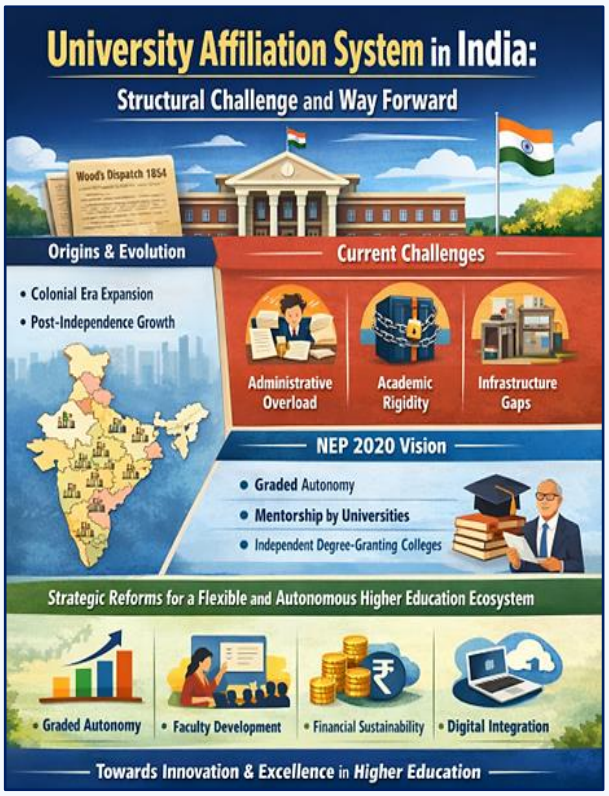
Conclusion

Childhood obesity has emerged as a **significant public health challenge in India**, driven by changing dietary habits, sedentary lifestyles, and rapid socio-economic transitions. Addressing it through **preventive strategies such as healthy nutrition, regular physical activity, effective regulations, and public awareness** is essential to safeguard the health of future generations and sustain India's demographic dividend.

Q. *Rising childhood obesity reflects deeper structural issues related to food systems, urbanisation, and lifestyle changes. Critically examine.*

2.3.5. UNIVERSITY AFFILIATION SYSTEM IN INDIA

Context:



- An often-overlooked aspect of the **National Education Policy (NEP) 2020** is its new regulatory framework for affiliating colleges, which seeks to promote **empowerment and autonomy** by phasing out the affiliation system **over 15 years via graded autonomy,** ultimately enabling affiliated colleges to become independent **degree-granting institutions** with **improved quality, flexibility, and innovation**.
- While the conventional university affiliation model once provided **centralised control** and **administrative stability**, it now **hinders** the **growth**, **autonomy**, and **quality** of colleges. The system is riddled with **systemic inefficiencies**, **archaic academic rigidity**, and **administrative challenges** that impede college progress.

Evolution and Rationale of the Affiliation System

The **college–university affiliation system** in India traces its origin to the colonial period, particularly following Wood's Dispatch, 1854, which is often regarded as the **"Magna Carta of English Education in India."** It laid the foundation for a **structured and regulated higher education system** in the country.

A. Colonial Foundations and Institutional Design

- **Wood's Dispatch recommended**:
  - Establishment of **universities in presidency towns** (**Calcutta, Bombay, Madras**)
  - Adoption of the **affiliating model** inspired by the **University of London (then a purely examining body)**
- **Universities were envisioned primarily as:**
  - **Examining and affiliating bodies**, rather than teaching institutions
- **Objective**:
  - To create a **centralized system of regulation and standardization**

B. Post-Independence Expansion:

After 1947, the system was kept to help **spread education to the masses**. It allowed the government to grow higher education quickly across the country. By using one large university to give **"brand-name" degrees** and a **fixed syllabus** to hundreds of small, rural, or low-budget colleges, education became accessible to millions.

Core Objectives of the Affiliation Model

- **Expansion of Access**: Allowed rapid growth of colleges without establishing full-fledged universities

- **Uniformity and Standardisation**: Ensured a common **curriculum, examination system, and academic benchmarks**
- **Administrative Efficiency (in colonial context)**: Enabled centralized control over a **large and diverse territory**

Present Structure of the Affiliation System

- Universities, especially **State universities**, are affiliated with **hundreds of colleges**
- **Key responsibilities include**:
  - **Conducting examinations and awarding degrees**
  - **Curriculum design and revision**
  - **Regulation of faculty and infrastructure standards**
  - **Academic and administrative monitoring**

How the University Affiliation System Works

Universities in India affiliate colleges in accordance with the **University Grants Commission (UGC)** guidelines. The primary purposes of affiliation are:

- To **maintain academic standards** across institutions
- To **ensure uniform curriculum** and **standardised examinations**
- To **regulate infrastructure**, **faculty quality**, and overall institutional functioning

Key Features of the Affiliation Process

- **Provisional and Time-Bound**: Affiliation is **not a one-time approval**. It is typically granted **provisionally** for an initial period of **one year** and must be **renewed annually** or at periodic intervals **(usually 1–3 years),** depending on the **university** and **UGC norms**.
- **Strict Compliance Required**: Affiliated colleges are **mandatory** to follow the affiliating university's:
  - **Regulations** and administrative instructions
  - **Prescribed syllabi** and course structure
  - **Examination patterns**, evaluation methods, and result processing
  - Rules related to **admissions**, **attendance**, **fee structure**, and other academic/administrative matters
- **Centralised Oversight by the University** The affiliating university exercises extensive control and responsibility over its affiliated colleges, including:
  - **Designing** and updating the **curriculum**
  - Conducting **university examinations** and **centralised evaluation** of answer scripts
  - **Monitoring compliance** with UGC, university, and statutory norms
  - Overseeing **academic quality**, **infrastructure**, and **faculty appointments**
  - Supervising **academic** and **extracurricular activities**

This oversight often extends to **hundreds of colleges** and **lakhs of students** under a single university — especially large state universities — creating a highly centralised and bureaucratic structure.

Structural Challenges Hindering Quality Education

The current system is characterized by **"centralized control without standardized quality,"** leading to several critical challenges:

1. **Administrative Overburdening of Universities**
   - **Bureaucratic Congestion:** Large state universities often manage **800 to 1,000 colleges**, forcing them to prioritize **examination management**, result processing, and compliance monitoring over academic leadership.
   - **Diversion from Research:** Resource-strained institutions function as **administrative secretariats**. Consequently, core functions such as **innovation, faculty development, and international collaboration** are often neglected.
   - According to **AISHE 2021-22**, there were **147 affiliating universities** with more than **100 colleges** each, and **20 universities** had over **500 colleges**.
   - **State Public Universities (SPUs)** — numbering around **495** — oversee more than **46,000 affiliated institutions** (including ~43,467 affiliated colleges), accounting for **81%** of total higher education enrolment.
   - **Examples** include universities in Uttar Pradesh (over **8,000 colleges** across affiliating bodies), Maharashtra (~4,600+), and Rajasthan (~3,800+). Some individual state universities historically affiliate over **1,000 colleges** (e.g., older reports cite Rajasthan University with ~1,052).
2. **Academic Rigidity and Stifled Innovation**
   - **Lack of Curricular Autonomy:** Affiliated colleges are legally bound to the syllabi of the parent university. This prevents institutions from designing courses that align with **local industry requirements** or emerging global markets (e.g., AI, Fintech).
   - **Uniformity vs. Creativity:** The system imposes a "one-size-fits-all" model that discourages specialized courses and **modern pedagogical practices**, effectively stifling the creative potential of faculty and students.
3. **Inertia in Curricular Reforms**
   - **Lagging Syllabus Updates:** Revising a curriculum for hundreds of colleges involves exhaustive committee approvals. By the time a reform is implemented, the content is often **obsolete**, particularly in fast-paced fields like **Engineering and Biotechnology**.
   - **Agility Deficit:** The affiliation model lacks the structural speed required to respond to the rapidly changing educational needs of the 21st-century workforce.
4. **Infrastructure and Quality Disparity**
   - **Uneven Delivery:** Despite a uniform syllabus, the actual quality varies drastically due to gaps in **laboratory facilities and teacher-student ratios**.
   - **Skill Competency Gaps:** Students graduating from different colleges under the same university possess vastly different skill levels, undermining the credibility of the **standardized degree**.

NEP 2020 Reform Vison

The **NEP 2020** proposes a transformative shift:

- Existing universities will act as **mentors** to affiliated colleges.

- Colleges must achieve minimum benchmarks in academics, teaching, governance, finance, and administration.
- Through **graded autonomy**, colleges will progressively attain **accreditation** and become **self-reliant autonomous degree-granting institutions**.
- The affiliation system will be **phased out over 15 years**.

Global Best Practices

Many leading higher education systems worldwide have moved away from rigid affiliation models towards **institutional autonomy** backed by strong quality assurance:

- **United States**: Colleges and universities are largely independent and accredited by **regional bodies** (e.g., **NEASC, HLC**). There is no central affiliating university managing hundreds of institutions. Autonomy allows **rapid innovation**, **industry alignment**, and **specialised programs**.
- **United Kingdom**: All universities enjoy full **degree-awarding powers** and autonomy. Quality is maintained through external frameworks like the **Teaching Excellence Framework (TEF) and Research Excellence Framework (REF),** not bureaucratic oversight.
- **Germany & Australia**: Strong emphasis on institutional autonomy with federal or national accreditation systems. Universities focus on research and teaching excellence while responding quickly to market and societal needs.

Way Forward: Structural Reforms for Enhancing Quality, Equity, and Flexibility

To bridge the gap between policy intent and ground reality, a multi-pronged approach is required:

- **Transition to Graded Autonomy:** Implementation must be transparent, using the **National Institutional Ranking Framework (NIRF)** and **NAAC accreditation** scores as triggers for granting colleges more independence.
- **Capacity Building for Faculty:** For colleges to become self-reliant, there must be a focus on training faculty in **curriculum design and internal assessment** methodologies.
- **Financial Robustness:** The government and parent universities must support colleges in establishing **sustainable financial models** that do not depend solely on student fees or meager grants.
- **Digital Integration:** Leveraging the **Academic Bank of Credits (ABC)** will facilitate student mobility and allow autonomous colleges to focus on niche specializations without losing institutional credibility.

Conclusion

The university affiliation system, while once a tool for expanding education, has become a bottleneck in the era of **massification and specialization**. The future of Indian higher education depends on fostering an ecosystem of **autonomy, flexibility, and innovation**. Phasing out the affiliation system is not merely a regulatory change; it is an essential step toward empowering institutions to become **globally competitive** and ensuring that the Indian youth are equipped with contemporary, high-quality skills.

Q. *The university affiliation system, once a tool for expansion of higher education, has now become a constraint on quality and innovation." Critically examine in the light of the National Education Policy (NEP) 2020.*

2.3.6. TUBERCULOSIS

Context:

India aimed to eliminate TB by **2025**, five years ahead of the Sustainable Development Goal (SDG 3.3) target of 2030. While India recorded the **fastest global decline** in TB incidence (21% reduction since 2015), it missed the 2025 elimination target.

- **Current Burden:** India still accounts for **25% of global TB cases** and **32% of global Multi-Drug Resistant TB (MDR-TB)** cases.
- **Latest Theme (World TB Day 2026):** "Yes! We Can End TB!"

Tuberculosis (TB): Clinical Overview

- **Pathogen:** Mycobacterium tuberculosis (Bacterium).
- **Transmission:** Airborne (droplets from coughing/sneezing).
- **Classification:**
  - **Pulmonary TB:** Affects lungs (most common and contagious).
  - **Extrapulmonary TB:** Affects lymph nodes, bones, kidneys, or the brain (Meningitis).
  - **Latent TB:** Infected but not ill; cannot spread the disease (25% of the global population has latent TB).

Key Government Initiatives for TB Elimination

1. **National Strategic Plan (NSP) 2017-2025:** A multi-pronged framework aiming to eliminate TB by **2025** (5 years ahead of the SDG 2030 target) through the pillars of **Detect, Treat, Prevent, and Build (DTPB)**.
2. **Nikshay Poshan Yojana (NPY):** A flagship **Direct Benefit Transfer (DBT)** scheme that provides **₹500–₹1,000 per month** to every notified TB patient for nutritional support throughout the duration of their treatment.
3. **Pradhan Mantri TB Mukt Bharat Abhiyaan:** A community-driven initiative that introduced **Nikshay Mitras**. It allows individuals, NGOs, and corporates to "adopt" TB patients and provide them with additional diagnostic, nutritional, and vocational support.
4. **Universal Drug Susceptibility Testing (U-DST):** A policy shift ensuring that every diagnosed TB patient is screened for drug resistance (using molecular tests like **CB-NAAT** or **TrueNat**) at the very start of treatment, rather than waiting for treatment failure.
5. **Introduction of BPaLM Regimen:** As of 2024-2025, India has rolled out the **BPaLM regimen** (Bedaquiline, Pretomanid, Linezolid, and Moxifloxacin), which reduces the treatment time for Multi-Drug Resistant TB (MDR-TB) from 20 months to just **6 months**.
6. **TB Mukt Panchayat Abhiyaan:** A decentralized "Jan Andolan" (People's Movement) that empowers **Panchayati Raj Institutions** to track cases, reduce stigma, and achieve "TB-Free" status at the village level through a certification and award system.

Major Challenges in TB Elimination

- **Drug Resistance (MDR/XDR-TB):** India has the world's highest burden of Multi-Drug Resistant TB. Treatment is long, expensive, and often has severe side effects, leading to **patient non-compliance.**

- **The "Social Determinants" Gap: Undernutrition** remains the leading risk factor, responsible for nearly 40% of TB cases. Coupled with overcrowded housing and poor ventilation in urban slums, these socio-economic factors sustain the transmission cycle despite medical interventions.
- **Private Sector Fragmentation:** A significant portion of patients first seek care from private practitioners. Gaps in **mandatory notification**, inconsistent treatment protocols, and delayed referrals to the government system often lead to "missing cases" and improper treatment.
- **Latent TB Pool:** An estimated **350–400 million Indians** have Latent TB Infection (LTBI). These individuals are not sick but carry the bacteria; without massive scaling of **TB Preventive Treatment (TPT)**, this pool remains a "ticking time bomb" for future active cases.
- **Stigma and Delayed Diagnosis:** Deep-rooted social stigma leads to the concealment of symptoms, particularly among women and marginalized groups. This results in **delayed diagnosis**, increased community transmission, and higher mortality rates before treatment even begins.

Global Achievements in TB Control: Comparative Analysis

Region/ Country	Key Achievement (2015–2024)	Primary Drivers & Strategies
African Region	**-46% Mortality** (Fastest global decline) & -28% Incidence.	→ **HIV-TB Integration:** 90% co-infected patients on Antiretroviral Therapy (ART). → **Fiscal Shift:** Transitioned from donor aid to national funding. → **Community Outreach:** Massive deployment of rural health workers.
European Region	**-39% Incidence** (Global leader in rate reduction).	→ **Digital Health:** Whole Genome Sequencing & video-based adherence tools. → **Modern Regimens:** All-oral 6-month treatments. → **Targeted Screening:** Focus on migrants, prisoners, and elderly.
China	**"Moderate-to-Low" Prevalence** status (WHO 2025).	→ **Zero-TB Communities:** Mass screening + preventive treatment (TPT). → **AI-Smart Screening:** 40% faster diagnosis using AI-chest X-rays. → **Governance:** Three-tier network linking CDC, hospitals, and clinics.

Way Forward for TB Elimination

- **Scaling TB Preventive Treatment (TPT):** Transition from just treating active cases to aggressively managing **Latent TB**. Expanding TPT to all household contacts of pulmonary TB patients is critical to exhausting the reservoir of future cases.
- **Integrating "One Health" Approach:** Addressing TB not just as a respiratory disease but as a **comorbidity-linked crisis**. This involves mandatory screening for Diabetes, HIV, and tobacco use, which significantly increase the risk of treatment failure.
- **Strengthening Nutritional Security:** Moving beyond the ₹1,000 DBT to direct **food fortification** and high-protein ration kits for vulnerable families. Addressing undernutrition is the most effective "social vaccine" against TB.

- **Private-Public Mix (PPM) Optimization:** Universalizing the **"Patient Provider Support Agencies" (PPSA)** model to ensure that every patient treated in the private sector is notified, tracked, and provided with free government-funded molecular diagnostics and drugs.
- **R&D for an Adult Vaccine:** Since the 100-year-old BCG vaccine loses efficacy in adults, India must fast-track indigenous clinical trials for candidates like **VPM1002** or **MTBVAC** to provide long-term community immunity.
- **Community-Led Advocacy (Jan Andolan):** Leveraging the **Panchayati Raj Institutions** and "Nikshay Mitras" to de-stigmatize the disease. Transforming TB elimination from a medical program into a social movement is the only way to reach the "missing millions."

Conclusion

To end TB by 2030, India must shift from a clinical approach to a **socio-technological movement**, leveraging **adult vaccines**, **AI-driven diagnostics**, and **nutritional sovereignty** to ensure a "TB-Mukt Bharat."

Q. *"Evaluate the shift from 'Symptom-based' to 'Molecular-based' diagnostics in India's National TB Elimination Programme. How does this technological leap address the challenge of Multi-Drug Resistant TB (MDR-TB)?"*

***

Scan to attempt more questions...

GENERAL STUDIES 3

3.1. ECONOMY

3.1.1. WOMEN FARMERS IN INDIA

Context:

As the United Nations has declared **2026 as the International Year of the Woman Farmer**. , the focus is on transforming these laborers into empowered entrepreneurs.

The Reality of Women in Agriculture

- **Workforce Participation:** Over **80%** of economically active women in rural India are employed in agriculture.
- **Labor Contribution:** Women perform approximately **70%** of all agricultural activities (sowing, weeding, harvesting, and post-harvest management).
- **Ownership Gap:** Despite their labor, only about **13.9%** of operational landholdings are held by women (Agriculture Census).
- **Productivity Potential:** According to the FAO, if women had the same access to productive resources as men, they could increase yields on their farms by **20–30%**.
- **FLFPR Trend:** The **Economic Survey 2025-26** indicates a rise in Female Labour Force Participation Rate (FLFPR) to **42%**, largely driven by the rural agricultural sector.

The Importance of Women Farmers in India

1. **Nutritional Security & SDG 2 (Zero Hunger)**
   - Women prioritize "Nutrition-Sensitive Agriculture." Unlike commercial cash-cropping, women-led farms often focus on diverse food crops that directly impact the health of rural households.
     Example: The **"Nutri-Garden" (Poshan Vatika)** initiative under the POSHAN Abhiyaan, where women grow green leafy vegetables and fruits to combat stunting and anemia in their families.
2. **Conservation of Biodiversity & Indigenous Knowledge**
   - Women act as the primary "Seed Keepers" of India. They possess specialized knowledge for selecting, treating, and storing traditional seeds that are often more resilient than high-yield varieties.
     Example: Rahibai Popere (the "Seed Mother" of India), who was awarded the Padma Shri for conserving hundreds of native secondary landraces and promoting traditional seed banks.
3. **Leadership in "Natural Farming" (BPKP)**
   - Women are the natural pioneers of **Bhartiya Prakritik Krishi Paddhati**. Their traditional role in livestock management makes them experts in using organic inputs like Jeevamrut and Ghanajeevamrut.
     Example: In **Andhra Pradesh**, the Community-Managed Natural Farming (APCNF) model has succeeded largely due to the participation of over **6 million women** who transitioned away from expensive chemical fertilizers.

4. **Pillars of the Rural Post-Harvest Economy**
   - Women bridge the gap between the farm and the market by leading "Value Addition" activities, which prevents post-harvest losses and increases farm income.
     Example: Women-led FPOs (Farmer Producer Organizations) in states like Madhya Pradesh and Maharashtra that process raw millets into "Ready-to-Eat" snacks, significantly increasing the profit margin compared to selling raw grain.
5. **Resilience Against "Male Out-Migration"**
   - As rural men migrate to urban centers for work, women have stepped up as the de facto managers of the entire farm ecosystem, ensuring national food production remains stable.
     Example: In the **Himalayan and Bihar regions**, where male migration is highest, women have taken over "ploughing to peak-harvest" duties, preventing the "fallow land" crisis.
6. **Technology Pioneers & Digital Inclusion**
   - Women are breaking the "technological glass ceiling" in agriculture, proving that gender is not a barrier to adopting high-tech precision farming tools.
     Example: The **Namo Drone Didi Scheme**, where thousands of women in Self-Help Groups (SHGs) are being trained to operate drones for precision spraying of pesticides and fertilizers, transforming them into "Agri-Technicians."

Critical Challenges for Women Farmers

1. **Land Ownership & Legal Invisibility:** Patrilineal inheritance ensures men hold the majority of titles; women own **<14%** of operational land. This lack of "Farmer" status creates a **"recognition gap,"** relegating them to "agricultural laborers" despite performing the bulk of the work.
2. **Credit & Insurance Exclusion:** Banks mandate land as collateral, creating a **"Collateral Barrier."** This denies women access to institutional credit and central safety nets like **PM Fasal Bima Yojana**, pushing them toward exploitative informal moneylenders.
3. **Technological & Drudgery Bias:** Most farm machinery is designed for the male physique (**"Gender-neutrality gap"**). Lack of ergonomic, woman-friendly tools leads to high physical drudgery and chronic health issues, limiting productivity and mechanization.
4. **Structural Wage Disparity:** A persistent **Gender Pay Gap** exists in the unorganized sector. According to **PLFS 2025-26**, women earn only **70-80%** of male wages for identical labor, despite often working longer hours.
5. **Digital Divide & Info-Asymmetry:** Limited access to smartphones and the internet creates a **"Knowledge Gap."** Women are often excluded from **e-NAM** price discovery and "Lab-to-Land" extension services, which remain predominantly male-centric.
6. **"Time Poverty" (The Dual Burden):** Rural women face a **"Double Day"**—balancing intensive farm labor with nearly **360 minutes/day** of unpaid care work. This "Time Poverty" restricts their ability to attend training, engage in leadership, or access distant markets.

Key Government Initiatives for Women Farmers

1. **Namo Drone Didi:** Empowering Women SHGs through **80% drone subsidies** (up to ₹8 lakh) to transition from manual labor to high-tech **Agri-Entrepreneurs**.
2. **Lakhpati Didi Mission:** Aiming to elevate **6 crore rural women** to an annual income of **₹1 Lakh** by 2029 through diversified SHG-led livelihoods.
3. **Krishi Sakhi Program (KSCP):** Training women as **certified para-extension workers** (56-day module) to earn ₹60,000–80,000 annually by bridging the "Lab-to-Land" gap.

4. **Mahila Kisan Sashaktikaran Pariyojana (MKSP):** A DAY-NRLM sub-component empowering **3.5 crore women** in **climate-resilient natural farming** via community resource centers.
5. **Womaniya on GeM:** Facilitating direct market linkage for **2 lakh women-led MSEs** to secure government procurement orders worth over **₹80,000 crore**.
6. **Gender Budgeting & Earmarking:** Mandating **30% fund allocation** in agriculture schemes (RKVY/MIDH) and providing **3% interest subvention** via the Agriculture Infrastructure Fund.

Way Forward

1. **Recognise Women as Farmers:** Revive the spirit of the **2011 Women Farmers' Entitlement Bill (proposed by MS Swaminathan)** to create a legal framework that recognizes a "farmer" based on cultivation, not just land ownership.
2. **Strengthen Land Rights:** States should incentivize the registration of agricultural land in women's names through **Stamp Duty waivers** (e.g., as seen in UP and Haryana) and promote **Joint Titling**.
3. **Improve Access to Credit and Resources:** Scaling "Livelihood Finance" through **Joint Liability Groups (JLGs)** to provide collateral-free institutional credit.
4. **Promote Women-Centric Farmer Institutions:** Strengthening **Women-only FPOs (Farmer Producer Organizations)** to eliminate middlemen and improve bargaining power in platforms like **e-NAM**.
5. **Improve Technology and Extension Services:** R&D by institutes like **ICAR (Central Institute for Women in Agriculture)** must prioritize the "feminization of tools"—creating lightweight, adjustable machinery (power tillers, weeders) suited for the female physique to reduce drudgery.
6. **Nutrition-Sensitive Agriculture:** Leveraging women's expertise in **Shree Anna (Millets)** to lead India's nutritional security and climate adaptation strategy.

Conclusion

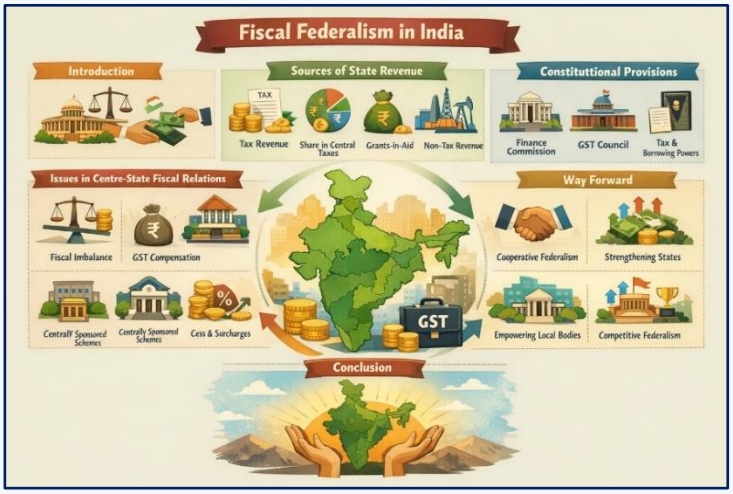
Empowering women farmers via land rights and **Agri-Tech** is vital for **Viksit Bharat @2047**. As 2026 honors their leadership, integrating them into the digital value chain ensures a climate-resilient, food-secure future.

Q. *"Women farmers play a crucial role in India's agri-food systems, yet they remain largely invisible in policy and land ownership." Examine the challenges faced by women farmers in India and suggest measures to empower them.*

3.1.2. FISCAL FEDERALISM IN INDIA

Context:

- **Definition:** Fiscal Federalism is the study of how revenues and expenditures are allocated across different layers of the government.
- **Nature:** India follows a **Quasi-Federal** fiscal structure. While the Centre has more elastic revenue sources (Income Tax, Corp Tax), the States bear the majority of "ground-level" expenditures (Health, Education, Agriculture).



- **Musgrave's Three Functions:** It aims to achieve **Allocation** (public goods), **Distribution** (equity), and **Stabilization** (macroeconomic health).

Constitutional Provisions on Fiscal Federalism

The legal framework is primarily contained in **Part XII** (Articles 268-293).

1. **Division of Taxing Powers (The Foundation)**
   - **Article 246 (Seventh Schedule): Union List (List I):** Centre has exclusive power over Income Tax (except agriculture), Customs, Corporate Tax, and Central Excise (on tobacco, petroleum, etc.).
     - **State List (List II):** States have exclusive power over Land Revenue, State Excise (on alcohol), Stamp Duty, and Agricultural Income Tax.
     - **Concurrent List (List III):** Minimal taxation powers; mostly regulatory.
   - **Article 246A (101st Amendment):** The "Special Provision" that bypasses the Seventh Schedule to allow both Centre and States to levy **GST** on the same transaction.
2. **Revenue Distribution (The Mechanism)**
   - **Article 268:** Duties levied by the Union but **collected and appropriated by the States** (e.g., Stamp duties).
   - **Article 269:** Taxes levied and collected by the Union but **assigned to the States** (e.g., taxes on inter-state trade, though largely subsumed by IGST).
   - **Article 270 (The Divisible Pool):** Mandatory sharing of "Net Proceeds" of all Union taxes (except cesses and surcharges) between the Centre and States.
     - *Current Status:* The **16th Finance Commission** has maintained the vertical devolution at **41%** for 2026-31.
   - **Article 271:** Power of the Union to levy **Cesses and Surcharges**. These are **not part of the divisible pool**, meaning the Centre keeps 100% of this revenue. This remains a major point of friction.
3. **Grants-in-Aid (The Gap Filler)**
   - **Article 275 (Statutory Grants):** Mandatory grants given to specific states based on the Finance Commission's recommendations. Charged on the **Consolidated Fund of India**.
   - **Article 282 (Discretionary Grants):** Allows the Centre or States to make grants for any "public purpose." Most **Centrally Sponsored Schemes (CSS)** are funded under this article.
     - **N.B**: The 16th FC has signaled a shift toward **performance-linked grants** (e.g., 20% of local body grants are now performance-tied).
4. **Institutional Pillars**
   - **Article 280 (Finance Commission):** A quasi-judicial body appointed every 5 years to recommend the formula for horizontal and vertical tax devolution.
   - **Article 279A (GST Council):** A constitutional body for joint decision-making. Decisions require a **75% majority**, where the Centre has **1/3rd voting power** and States have **2/3rd**.

5. **Financial Management & Borrowing**
    - **Article 292:** Union's power to borrow upon the security of the Consolidated Fund of India (within limits set by Parliament).
    - **Article 293:** States' power to borrow.
        - **Constraint:** A State **cannot** borrow without the Centre's consent if it has any outstanding loan due to the Union (Art. 293(3)).
        - *Recent Conflict:* The Centre has used this to include **Off-Budget Borrowings** in the state's debt ceiling, a move challenged by states like Kerala.

Sources of State Revenue

1. **State's Own Tax Revenue (SOTR)**

    This is the most critical component for a state's fiscal autonomy.

    - **State GST (SGST):** The single largest source. It is the state's share of the Goods and Services Tax levied on intra-state supply.
    - **State Excise Duty:** Primarily levied on the manufacture of **alcohol for human consumption** and narcotics. (A major "sin tax" revenue source).
    - **VAT on Petroleum:** Since petrol, diesel, and aviation turbine fuel are outside GST, states levy a Value Added Tax (VAT) on them.
    - **Stamp Duty & Registration Fees:** Levied on the transfer of property and legal documents.
    - **Taxes on Vehicles:** One-time or annual life taxes on motor vehicles.
    - **Land Revenue:** Tax on agricultural land (historically significant, now a smaller share).
    - **Electricity Duty:** Tax on the consumption or sale of electricity.

2. **State's Own Non-Tax Revenue (SONTR)**

    Often underutilized, this includes:

    - **User Charges:** Fees for social and economic services (e.g., irrigation charges, tuition fees in govt colleges, health hospital fees).
    - **Interest Receipts:** Interest earned on loans provided by the State to PSUs or local bodies.
    - **Dividends & Profits:** Income from State Public Sector Undertakings (SPSUs).
    - **Mining Royalty:** Fees paid by mining companies for extracting minerals (crucial for states like Odisha, Jharkhand, and Chhattisgarh).
    - **Lottery Proceeds:** Significant for states like Kerala and Sikkim.

3. **Transfers from the Centre**

    - **Tax Devolution (Art. 270):** States receive **41%** of the "Divisible Pool" of central taxes (Income Tax, Corp Tax, CGST, etc.).
    - **Grants-in-Aid (Art. 275): Revenue Deficit Grants:** Given to states facing a fiscal gap after devolution.
        - **Local Body Grants:** For Panchayats and Urban Local Bodies (RLBs/ULBs).
    - **Centrally Sponsored Schemes (CSS):** Funds transferred for specific schemes (e.g., Jal Jeevan Mission, PM-Kisan) under **Article 282**.

Issues In Center-state Fiscal Relations

I. **Vertical Fiscal Imbalance:** The Centre collects roughly **60%** of total revenue but the States perform **60%** of total public expenditure. This creates a dependency of States on the Union.

II. **Growth of Cesses and Surcharges:** Under Article 271, the Centre levies cesses (e.g., Health & Education Cess) which are **not shared** with states. This has effectively reduced the "divisible pool."

Note: The **16th FC** recently proposed a **"Grand Bargain"** where States might accept a lower devolution percentage if Cesses are merged into the shared pool.

III. **Erosion of Autonomy (GST):** The "One Nation, One Tax" regime has taken away the States' power to vary tax rates on most goods, making them "pensioners of the Centre."

IV. **Borrowing Constraints (Article 293):** The Centre imposes a **Net Borrowing Ceiling (NBC)**. States like Kerala have challenged this in the Supreme Court, arguing it infringes on their constitutional right to manage their own finances.

V. **Centrally Sponsored Schemes (CSS):** States argue that CSS (like MGNREGA or Ayushman Bharat) are "one-size-fits-all" and force states to spend their limited resources on Central priorities, often with a 60:40 or 90:10 funding pattern.

Way Forward: Strengthening Fiscal Federalism

1. **Cess Neutralization:** Implement a **"Grand Bargain"** by merging major cesses into the divisible pool. This ensures transparency and prevents the "shrinking" of the states' share of Gross Tax Revenue.
2. **GST 2.0 Reform:** Move toward a **simplified two-slab structure** (e.g., 5% and 18%) and establish a clear roadmap for including **Petroleum and Electricity** under GST to reduce cascading costs and broaden the revenue base.
3. **Revenue Floor Guarantee:** To mitigate the "North-South" divide created by efficiency-linked criteria (like GDP contribution), the Centre should guarantee that no state's absolute revenue falls below its previous levels during the transition.
4. **Local Body Empowerment:** Shift focus from "Grant-Dependency" to **"Fiscal Autonomy"** for Panchayats and ULBs. States must mandate the implementation of **State Finance Commission (SFC)** reports to improve local property tax collection.
5. **Flexi-CSS Model:** Replace rigid **Centrally Sponsored Schemes** with "Outcome-based Tied Grants." This allows states the flexibility to customize scheme implementation based on local geographical and demographic needs.
6. **Institutional Consensus:** Revitalize the **Inter-State Council (Art. 263)** to resolve disputes over **Net Borrowing Ceilings (NBC)** and off-budget liabilities, shifting the resolution of fiscal friction from the Judiciary to collaborative Executive dialogue.

Conclusion

India's fiscal architecture must evolve from "Centralized Coordination" to **"Equitable Partnership."** Leveraging the 16th Finance Commission's efficiency-linked criteria while absorbing cesses into the divisible pool will ensure a fiscally resilient, **Viksit Bharat @ 2047**.

Q. *Examine the evolving pattern of Centre-State financial relations in the context of planned development in India. How far have the recent reforms impacted the fiscal federalism in India?*

3.1.3. SUSTAINABLE ENERGY FOR INDIA

Context:

Sustainable energy refers to **energy that meets present needs without compromising the ability of future generations to meet their needs**, ensuring **energy security, environmental protection and economic growth**.

Core Principles of Sustainable Energy

(a) Environmental Sustainability: Energy production should **minimize environmental damage and carbon emissions.**

(b) Economic Sustainability: Energy systems must be **cost-effective and support economic development**.

(c) Social Equity: Energy should be **accessible and affordable for all sections of society**.

(d) Energy Security: Ensuring **continuous and reliable energy supply** for economic growth.

Why Sustainable Energy is Crucial for India

1. **Economic Resilience (The "Import Bill" Crisis)**
   - **Fiscal Stability:** India spends over **$160 billion annually** on crude oil imports. This drain on foreign exchange reserves directly impacts the value of the Rupee.
   - **Inflation Control:** High oil prices lead to **"imported inflation,"** raising transport costs for food and essential goods. Sustainable energy (Solar/Wind) has **zero fuel cost**, stabilizing long-term energy prices.
2. **Energy Security & Geopolitical Autonomy**
   - **The "Hormuz" Risk:** 60% of India's oil comes from the Middle East. Any conflict in the Persian Gulf can cripple the Indian economy in days.
   - **Strategic Autonomy:** By generating power domestically via Renewables and **Green Hydrogen**, India reduces its "Energy Dependency" and can maintain a neutral foreign policy without fear of energy blackmail.
3. **Environmental & Health Mandates**
   - **Air Quality:** 14 of the world's 20 most polluted cities are in India. Moving away from coal-fired plants reduces PM2.5 levels, saving billions in healthcare costs.
   - **Climate Leadership:** As the world's 3rd largest CO_2 emitter, meeting **Net Zero 2070** targets is essential for India's global standing and to avoid "Carbon Border Taxes" imposed by the EU/USA.
4. **The "Demographic Dividend" & Job Creation**
   - **Green Jobs:** The renewable sector is more labor-intensive than fossil fuels. India's RE sector could create **3.4 million jobs** by 2030 in manufacturing, installation, and maintenance.
   - **Rural Electrification:** Decentralized solar (PM-KUSUM) empowers farmers to become "Urjadatas" (energy providers), increasing rural incomes.

Major Sources of Sustainable Energy in India

1. **Solar Energy (The Dominant Lead)**

   Solar power is the "anchor" of India's green transition. India has surpassed Japan to become the **world's 3rd largest solar producer**.

   - **Current Capacity:** ~143.6 GW.
   - **Ground-Mounted:** ~109.5 GW, dominated by massive parks like **Khavda** (Gujarat), which is becoming the world's largest renewable energy zone.
   - **Rooftop Solar:** Reached **~25 GW**, accelerated by the PM Surya Ghar Yojana aiming to solarize 1 crore homes.
   - **Floating Solar:** Increasing deployment in reservoirs (e.g., Omkareshwar Dam) to save land and reduce water evaporation.

2. **Green Hydrogen (The Decarbonizer)**

   - **Production Status:** Costs have dropped below **$4/kg.**
   - **Strategic Hubs:** Three dedicated ports are now "Green Hydrogen Hubs": **Kandla (Gujarat), Tuticorin (Tamil Nadu), and Paradip (Odisha)**.
   - India is integrating Green Hydrogen into "hard-to-abate" sectors like Steel and Fertilizer to reduce dependence on imported LNG.

3. **Wind Energy (Onshore & Offshore)**

   - **Current Capacity:** ~54 GW (Onshore).
   - **Offshore Leap:** Following the VGF (Viability Gap Funding) scheme, the first 1 GW offshore tenders off the coasts of **Gujarat and Tamil Nadu** are now in the execution phase.
   - **Hybridization:** Most new projects are now "Solar-Wind Hybrids" (3.5 GW currently) to ensure a more stable, round-the-clock power supply to the grid.

4. **Nuclear Energy (The "Base Load" Pillar)**

   Under the **SHANTI Act of 2025**, India has opened the nuclear sector to limited private participation to reach **100 GW by 2047**.

   - **Current Capacity:** ~8.8 GW.
   - **Bharat Small Reactors (BSRs):** 220 MW indigenous reactors are being deployed as "captive power plants" for heavy industries.
   - **SMR-55:** India's first dedicated 55 MWe Small Modular Reactor is now under construction, specifically designed for decentralized industrial use.

5. **Bio-Energy & Circular Economy**

   - **Ethanol Blending:** Having achieved **20% blending (E20)** in 2025, India is now testing E100 (pure ethanol) vehicles in select cities.
   - **CBG (Compressed Biogas):** Utilizing agricultural waste (parali) to produce gas, effectively reducing the LPG import bill and urban pollution.

Major Government Policies & Initiatives

1. **PM Surya Ghar: Muft Bijli Yojana (2024–2027):** Decentralized solar adoption through rooftop installations.
2. **National Green Hydrogen Mission (NGHM):** Production of **5 MMT (Million Metric Tonne)** of Green Hydrogen per annum by 2030.

3. **SHANTI Act, 2025 (Sustainable Harnessing of Nuclear Energy):** Ending the state monopoly by allowing **limited private participation** and accelerating the deployment of **Small Modular Reactors (SMRs)** for industrial captive power.
4. **PM-KUSUM:** De-dieseling the farm sector by providing solar pumps and allowing farmers to become **"Urjadatas"** (selling surplus solar power back to the grid).
5. **PM E-DRIVE Scheme (2024–2028):** Accelerate the transition to **Electric Mobility**. Support for e-2Ws, e-3Ws, e-trucks, and e-ambulances, while establishing a pan-India public charging network (EVPCS).
6. **National Policy on Biofuels (Amended 2022):** Achieve **20% Ethanol Blending (E20)** by ESY 2025-26. Using surplus food grains and agricultural residue for fuel.

Challenges in Achieving Sustainable Energy

1. **Storage Infrastructure Gap:** India lacks sufficient **Battery (BESS)** and **Pumped Hydro** capacity to store surplus midday solar power for nighttime use.
2. **Critical Mineral Dependency:** India relies heavily on imports for Lithium, Cobalt, and Rare Earths required to manufacture EV batteries and solar panels.
3. **High Capital Cost:** Renewable projects require massive upfront investment, and high interest rates in India increase the overall "Levelized Cost of Electricity."
4. **Land Acquisition Conflicts:** Solar/Wind farms require vast areas, leading to competition with agriculture and threats to biodiversity (e.g., the Great Indian Bustard).
5. **Transmission Bottlenecks:** Most green energy is produced in a few states (Rajasthan/Gujarat), but the **Green Energy Corridor** lacks the capacity to evacuate all of it to the rest of India.
6. **DISCOM Financial Health:** State-owned distribution companies are in deep debt, making them hesitant to sign long-term Power Purchase Agreements (PPAs) for green energy.
7. **Technological Import Reliance:** Despite "Make in India," a significant portion of high-efficiency solar cells and electrolyzers for hydrogen are still imported.

Way Forward

1. **Integrated Storage Policy:** Accelerate the deployment of **Pumped Hydro Storage** and **Battery Energy Storage Systems (BESS)** to manage the intermittency of solar and wind power.
2. **Mineral Security Partnerships:** Secure long-term supplies of Lithium and Cobalt through the **KABIL** (Khanij Bidesh India Ltd) joint venture and the "Mineral Security Partnership" to reduce import reliance.
3. **Green Hydrogen Scaling:** Transition from pilot projects to industrial-scale production to decarbonize heavy industries like steel, cement, and refineries.
4. **Grid Modernization:** Complete the **Green Energy Corridor** and implement "Smart Grids" that can automatically balance fluctuating renewable inputs..
5. **Incentivizing Domestic Manufacturing:** Use the **PLI (Production Linked Incentive) Scheme** to move beyond assembly and start manufacturing high-efficiency solar cells and electrolyzers in India.
6. **Agricultural Synergy:** Expand **PM-KUSUM** and **Agrivoltaics** to ensure energy production doesn't compete with food security for land use.

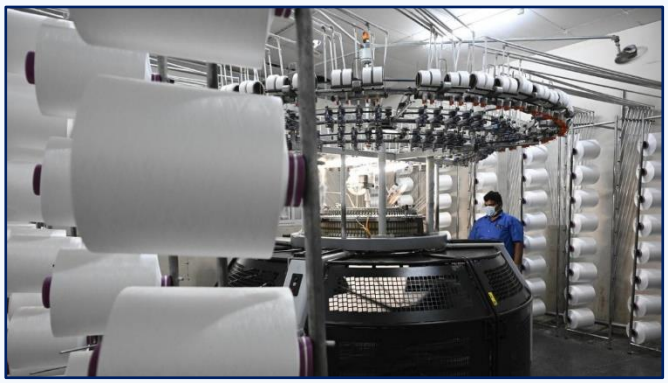
Conclusion

India must transition from **energy dependency to energy sovereignty** by integrating Green Hydrogen, SMRs, and DAC, ensuring a resilient, Net-Zero future that decouples economic growth from geopolitical oil shocks.

Q. *In light of rising geopolitical tensions affecting global oil supply, evaluate the role of sustainable energy in strengthening India's energy security.*

3.1.4. LABOUR REFORMS IN INDIA: ECONOMIC SURVEY PROMISES VS. STRUCTURAL REALITIES

Context:



- The consolidation of **29 central labour laws** into **four comprehensive Labour Codes**, finalized with draft rules in late 2025, represents a paradigm shift in India's regulatory architecture.
- While the **Economic Survey 2025–26** projects these reforms as a catalyst for formalization and massive job creation, deep-seated structural informality and evolving employment patterns present significant hurdles to achieving these optimistic macroeconomic goals.

Background: Constitutional Foundations and Structural Transformation of Labour Laws in India

The evolution of India's labour governance represents a transition from a fragmented, archaic legal system to a unified, modern regulatory architecture. This shift is deeply rooted in India's democratic values and judicial mandates.

A. Constitutional and Judicial Foundations of Labour Rights

Labour welfare is not merely a policy goal but a fundamental mandate under the Indian Constitution.

1. Fundamental Rights (Part III):

- **Article 14:** Ensures **equality before the law**, preventing arbitrary discrimination among different classes of labour.
- **Article 19(1)(c):** Guarantees the **right to form associations or trade unions**, essential for collective bargaining.
- **Article 21:** Interpreted by the Supreme Court to include the **Right to Livelihood** as part of the Right to Life.
- **Article 23:** Prohibits **forced labour and human trafficking**, protecting vulnerable sections of workers.

2. Directive Principles of State Policy (Part IV):

- **Article 38:** Directs the State to promote a **social order based on social, economic, and political justice**.
- **Article 39(d):** Advocates **equal pay for equal work** for both men and women.

- **Article 41:** Calls for ensuring the **right to work and public assistance** in cases of unemployment or old age.
- **Article 43:** Aims to secure **living wages and decent working conditions ensuring a dignified standard of life**.

3. **Key Supreme Court Judgements:**
   - ***Olga Tellis v. Bombay Municipal Corp.***: Established that the right to life includes the **right to a means of subsistence**.
   - ***Randhir Singh v. Union of India***: Ruled that **"Equal Pay for Equal Work"** is a constitutional goal, even if not a fundamental right per se.
   - ***Bandhua Mukti Morcha v. Union of India***: Emphasized that the **right to live with human dignity** is paramount for the working class.

B. Institutional Reform through Consolidation of Labour Laws

1. **Consolidation of Labour Laws**: To address **complex compliance requirements** and reduce **legal ambiguities**, the Government of India consolidated **29 central labour statutes** into four streamlined codes. This reform aims to balance **industrial productivity** with **worker protection**.
   - **Code on Wages (2019):** Simplifies the definition of wages and universalizes the provision of **minimum wages** and timely payment to all employees, irrespective of the sector.
   - **Industrial Relations Code (2020):** Enhances **labour market flexibility** by introducing **Fixed-Term Employment (FTE)** and increasing the threshold for layoffs and retrenchment in industrial establishments.
   - **Code on Social Security (2020):** Extends **social protection** to previously excluded categories, specifically **gig workers** and **platform workers**, facilitating a more inclusive safety net.
   - **Occupational Safety, Health and Working Conditions Code (2020):** Standardizes **workplace safety norms** and health standards, specifically easing the compliance burden for multi-state establishments.

Economic Survey 2025–26: Projections for Labour Market Transformation

The **Economic Survey 2025–26** presents an optimistic roadmap for India's labour market, suggesting that the reduction in **regulatory complexity** will catalyze a **"virtuous cycle"** of investment and employment. By streamlining 29 laws into four codes, the government aims to modernize the workforce through the following strategic projections:

- **Ambitious Formalization Targets:** The Survey projects a substantial increase in **formal employment**, rising from the current **60.4% to 75.5%** by 2030.
  - This transition is expected to be driven by the **legal recognition** of **Fixed-Term Employment (FTE)**, which allows **firms to hire workers on a temporary basis** while providing them with formal benefits like **gratuity** and **appointment letters**.
- **Employment Generation Dividend:** Simplified compliance, such as **single-window licensing** and easier entry-exit norms, is anticipated to generate approximately **77 lakh jobs**.

- The economic survey suggests that when businesses face fewer administrative hurdles, they are more likely to expand their operations and payrolls.

- **Expanding Female Participation:** A major highlight is the transformative rise in the **Female Labour Force Participation Rate (LFPR)**, which has surged from **23.3% in 2017–18 to 41.7% in 2023–24**. This growth is supported by **gender-responsive provisions**, including:
  - Legislative enabling of **night shifts** for women with mandated safety protocols.
  - Mandatory provision of **creche facilities** and expanded **maternity benefits**.
  - Removal of statutory barriers preventing women from working in hazardous industries.
- **Macroeconomic Impact and Governance:** The effective implementation of these reforms is projected to contribute an additional **1.25% to the GDP** by 2029–30.
  - This growth is facilitated by a shift from a **punitive inspection regime** to an **"Inspector-cum-Facilitator"** model.
  - Moreover, this new approach prioritizes **administrative guidance**, **digital transparency,** and **cooperative compliance** over traditional litigation.
- **Enhanced Skill Development:** By integrating the **National Apprenticeship Promotion Scheme (NAPS)** and industry-aligned training, the reforms aim to bridge the **skill gap**. Tools such as **Skill Impact Bonds** and **Direct Benefit Transfer (DBT)** for stipends are designed to link funding directly to verified employment outcomes.

Key Challenges and Structural Gaps in the Implementation of Labour Codes

Despite the ambitious objectives of India's labour reforms, several **structural constraints, labour market realities, and institutional weaknesses** raise concerns about the effectiveness of the labour codes. While the reforms aim to promote **formalisation, labour flexibility, and economic efficiency**, the **dominance of informal employment and weak enforcement mechanisms** may limit their actual impact.

1. **Persistently High Informality**
   - **More than 80% of India's workforce** is employed in the **informal sector**, often lacking **written contracts, job security, social protection, and labour rights**.
   - A large proportion of these workers **remain outside the effective coverage of labour regulations**, including several provisions of the labour codes.
   - As a result, labour reforms may **benefit only a limited segment of the workforce**, while the majority continues to remain in precarious employment.
2. **Rising Contractualisation and Decline of Stable Employment**
   - There has been a growing shift from **permanent employment to contractual and casual labour**, even in the organised sector.
   - **Direct factory employment declined from 61% (2011) to 47% (2023)**, while **contract workers increased to around 42%** of the factory workforce.
   - In **2024, regular employment in Central Public Sector Enterprises declined by about 30,000 workers**, many of whom were replaced by **casual or contract workers**.

- Greater labour market flexibility under the codes may further **encourage firms to prefer temporary or fixed-term hiring** over permanent employment.

3. **Higher Regulatory Thresholds and the Risk of "Formalisation Illusion"**
   - The labour codes **raise several regulatory thresholds**, which may reduce the number of establishments covered by labour protections.
     - The **definition of a factory** has been increased to **20 workers (with power) and 40 workers (without power)** under the Occupational Safety, Health and Working Conditions Code.
     - The **contract labour threshold** has been raised from **20 to 50 workers**.
     - Government approval for **layoffs and retrenchment** is now required only for establishments employing **more than 300 workers**, compared to **100 earlier**.
   - While these changes reduce compliance burden, they may also **exclude many establishments from regulation**, creating **formalisation in statistics rather than improvements in job quality or security**.
4. **Expansion of Fixed-Term Employment (FTE)**
   - The labour codes recognise **Fixed-Term Employment**, allowing firms to hire workers for **short-term contracts**.
   - Workers receive **appointment letters, equal wages and certain benefits**, including **gratuity eligibility after one year**.
   - However, FTE may weaken **job security, stable income, and collective bargaining power**, making formal jobs **more precarious and temporary in nature**.
5. **Ambiguities in Gig Worker Welfare**
   - The **Code on Social Security** provides welfare provisions for **gig workers *(workers engaged in platform-based, on-demand or app-mediated jobs such as ride-hailing or food delivery services).***
   - Platform companies are required to contribute **1–2% of their annual turnover** towards gig worker welfare schemes.
   - However, key aspects remain unclear, including **contribution mechanisms, benefit coverage, eligibility criteria, and fund management**, raising concerns about **effective implementation and utilisation of welfare funds**.
6. **Uncertainty in the Reskilling Framework**
   - The labour codes propose a **reskilling fund for retrenched workers**, requiring employers to deposit **15 days' wages per worker**.
   - However, there is limited clarity regarding **access mechanisms, training institutions, skill programmes, and monitoring of outcomes**, which may reduce the effectiveness of this initiative.

7. **Lack of Clarity in Wage Determination**
    - The **Code on Wages** introduces the concepts of **National Floor Wage** (the minimum benchmark wage set by the Central Government below which states cannot fix minimum wages) and National Minimum Wage (a statutory wage level ensuring a minimum income standard across sectors).
    - However, the framework lacks clarity regarding **methodology, coordination with state wages, and revision mechanisms**, leading to potential **policy inconsistencies across states**.
8. **Weakening of Labour Enforcement**
    - Labour inspectors have been redesignated as **"Inspector-cum-Facilitators"**, focusing on **guidance rather than strict enforcement**.
    - Employers may **compound certain violations by paying fines**, which may weaken deterrence if penalties remain low.
    - In sectors with **weak unions and limited worker awareness**, reduced inspection powers may **limit grievance redressal and regulatory accountability**.

Way Forward: Toward Inclusive Labour Governance

To ensure that the labour reforms meet their intended goals of equity and growth, the following strategic interventions are necessary:

- **Universal Social Security Portability:** Fully operationalize the **Universal Account Number (UAN)** to ensure that social security benefits remain attached to the worker, regardless of their sector, state, or employment type.
- **Evidence-Based Wage Fixing:** Establish a clear, inflation-indexed methodology for the **National Minimum Wage** to ensure it effectively supports consumption-led economic growth.
- **Institutionalizing the Care Economy:** To sustain the projected rise in **Female LFPR**, the government must treat the "**Care Economy**" (**Anganwadis and creches**) as a critical infrastructure sector, providing the support system necessary for women to remain in the workforce.
- **Strengthening Enforcement Accountability:** Enhance the **Facilitator model** with technology-driven, randomized inspections to prevent employer harassment while ensuring that the safety and rights of the worker remain non-negotiable.
- **Enhance Skill Development and Reskilling:** Strengthen training and reskilling programmes for workers affected by automation, restructuring, or retrenchment by promoting **STEM enrolment** and supporting workforce reintegration initiatives such as **"Back to Work" and "Returnship" programmes.**

Conclusion

The new Labour Codes offer a roadmap for an aspirational economy. However, as the **Economic Survey** notes, success depends on whether "flexibility" for firms is balanced with **socio-economic resilience** and **dignity of labor** for the Indian workforce.

Q. *Effective implementation of labour reforms requires strong institutional capacity. Evaluate the statement in the light of prevailing labour market realities in India.*

3.1.5. REVISION OF INDIA'S GDP SERIES: KEY HIGHLIGHTS AND IMPLICATIONS

Context:

India periodically revises its **National Accounts Statistics (NAS)** to better capture the evolving structure of the economy. In **2026**, the **Ministry of Statistics and Programme Implementation (MoSPI)** released a **new GDP series with 2022–23 as the base year**, replacing the earlier **2011–12 base year series introduced in 2015**.

Concept of GDP and Related Measures

1. **Gross Domestic Product (GDP): Gross Domestic Product (GDP)** refers to the **total monetary value of all final goods and services produced within a country's borders during a specific period**, usually a **financial year**. It is the most widely used indicator to measure the **size and performance of an economy**.
   - **Importance of GDP:** GDP is widely used to:
     - **Measure the size of an economy** and overall economic activity.
     - **Track economic growth or contraction** over time.
     - **Compare economic performance across countries.**
     - **Assess changes in living standards** and general economic welfare.

   An **increase in GDP** generally indicates **economic expansion**, while a **decline in GDP** may signal **economic slowdown or contraction**.
2. **GDP at Market Price (GDP-MP) and Factor Cost (GDP-FC):**
   - **GDP at Market Price (GDP-MP):** Value of output measured at **prices paid by consumers**, including **indirect taxes and excluding subsidies**.
   - **GDP at Factor Cost (GDP-FC):** Measures income earned by **factors of production (land, labour, capital, entrepreneurship)**.
   - **Relationship:**
     GDP at MP = GDP at FC + Indirect Taxes − Subsidies.
   - **GVA at Basic Prices** is currently used to derive **GDP at Market Prices** in India's national accounts.
3. **Nominal GDP and Real GDP**
   - **Nominal GDP: Nominal GDP** refers to GDP measured at **current market prices**.
     - **Key characteristics include:**
       - It is calculated using **prevailing prices in the current year**.
       - It **includes the effects of inflation or price changes**.
       - It reflects the **actual monetary value of goods and services produced**.
   - **Real GDP: Real GDP** refers to GDP measured at **constant prices using a base year**.
     - **Key characteristics include:**
       - It **removes the impact of inflation or price fluctuations**.
       - It reflects the **actual change in production levels**.
       - It provides a **more accurate measure of economic growth over time**.

Therefore, **Real GDP is considered a better indicator of economic performance** when comparing growth across different years.

4. **Gross Value Added (GVA): Gross Value Added (GVA)** measures the **value created by different sectors of the economy** during the production process. It is calculated using the formula: **GVA = Value of Output − Value of Intermediate Inputs**

   Thus, **GVA represents the net value added by producers** after deducting the cost of inputs used in production.

   - **Relationship Between GDP and GVA** GDP is derived from GVA through the following relationship: **GDP = GVA + Taxes on Products − Subsidies on Products.**
   - Hence:
     - **GVA reflects sector-wise production performance** in the economy.
     - **GDP represents the total economic output**, including the effect of **government taxes and subsidies on products**.

5. **Base Year and Rebasing**

   - **Base Year:** The **Base Year** is the **reference year whose prices are used to calculate Real GDP** and measure economic growth over time.
   - For India's latest GDP series:
     - **Current Base Year: 2022–23**
     - **Previous Base Year: 2011–12**
   - **Rebasing: Rebasing** refers to the **process of updating the base year using improved data sources, updated methodologies, and revised statistical techniques**.
     - This process helps capture:
       - **Changes in production patterns**
       - **Technological advancements**
       - **Shifts in consumption behaviour**

   Periodic rebasing ensures a **more accurate and realistic measurement of economic activity**.

   Methodology for Estimating GDP in India

   India compiles its GDP estimates in accordance with the **United Nations System of National Accounts (SNA 2008)** and plans to transition towards **SNA 2025 standards** in future revisions.

   Additionally, as a subscriber to the **International Monetary Fund's Special Data Dissemination Standard (SDDS)**, India follows **globally accepted norms of statistical transparency, consistency, and data quality**.

A. Approaches to GDP Calculation

GDP can be estimated using **three standard approaches**, each capturing a different dimension of economic activity.

1. **Production Approach (Output Method)**

   This approach measures the **value added by different sectors of the economy**.

   Major sectors include:

   - **Agriculture and allied activities**
   - **Industry (manufacturing, mining, construction, etc.)**

- **Services sector**

The total **value added across these sectors** forms the basis for estimating GDP.

2. **Expenditure Approach**

This approach measures GDP by **summing total expenditure on final goods and services** in the economy.

It includes:

- **Private Final Consumption Expenditure (PFCE)**
- **Government Final Consumption Expenditure (GFCE)**
- **Gross Capital Formation (Investment)**
- **Net Exports (Exports − Imports)**

Thus, **GDP = Consumption + Government Spending + Investment + Net Exports**

3. **Income Approach**

The income approach measures GDP by **summing all incomes generated from production activities**.

These incomes include:

- **Wages and salaries**
- **Profits of firms**
- **Rent earned from property**
- **Interest earned on capital**

The revised GDP series attempts to **better reconcile these three approaches using improved datasets and statistical techniques**.

B. Quarterly GDP Estimation

In addition to annual estimates, **Quarterly GDP estimates** are prepared by the **National Statistical Office (NSO)**.

These estimates are calculated using the **Benchmark–Indicator Method (Proportional Denton method)**, which is widely used internationally.

- **Process:**
  - **Annual GDP estimates serve as the benchmark reference point.**
  - **High-frequency indicators**, such as **monthly or quarterly economic data**, are used to track short-term movements in economic activity.
  - These indicators are then **applied to the benchmark estimates to derive quarterly GDP figures**.

This methodology follows internationally accepted standards, including:

- **UN System of National Accounts (SNA 2008)**
- **IMF Quarterly National Accounts Manual (2017)**.

Key Highlights of the Revised GDP Series

- **Revised Base Year (2022–23):** The **base year for the National Accounts Statistics has been revised to 2022–23**, replacing the earlier **2011–12 base year**. The year **FY 2022–23** was selected

because it represents the **latest relatively stable or "normal" economic period after the disruptions caused by the COVID-19 pandemic (2019–2021).**

- **Incorporation of High-Frequency Data:** The revised GDP series incorporates **high-frequency and administrative datasets** to improve the **accuracy and coverage of economic activity**. These include **GST collections**, the **e-Vahan vehicle registration portal**, and the **Public Financial Management System (PFMS)**.
- **Shift from Single Deflation to Double Deflation:** The new methodology introduces **Double Deflation**, particularly in **manufacturing and agriculture**, where **both input prices and output prices are adjusted for inflation**.
    - This replaces the earlier **Single Deflation method (a technique where only the output price is adjusted for inflation while the cost of intermediate inputs is not separately deflated).**
- **Adoption of the Supply and Use Tables (SUT) Framework:** The **Supply and Use Tables (SUT) framework** has been aligned with the **National Accounts system**. This helps **reduce inconsistencies between production-based and expenditure-based GDP estimates** and improves the **overall coherence of national accounts data**.
- **Enhanced Estimation of Private Final Consumption Expenditure (PFCE):** Estimation of **PFCE** has been strengthened by combining **direct production-based estimates**, **administrative datasets**, and the **commodity flow approach**, resulting in a **more accurate measurement of household consumption patterns**.
- **Adjustments in Government Sector Accounting:** Government sector estimates now incorporate the effects of both the **National Pension System (NPS)** and the **Old Pension Scheme (OPS)**, allowing for **better accounting of government expenditure and pension liabilities**.
- **Enhanced Domestic Sector:** Inclusion of **hired domestic workers** and activities related to the **digital, platform, and gig economy** in the revised GDP estimates.
- **Improved Measurement of Informal Sector**: Use of data from the **Annual Survey of Unincorporated Sector Enterprises (ASUSE)** and the **Periodic Labour Force Survey (PLFS)** to **improve the measurement of the household and informal sectors**.

Implications of the Revised GDP (Base Year 2022–23)

- **Reduction in Nominal GDP:** The revised statistical framework has **lowered India's nominal GDP by around 3–4%** for **FY 2025–26 and the preceding three years**, reflecting adjustments in estimation methods and datasets.
- **Pressure on Fiscal Deficit Targets:** Since the **fiscal deficit is calculated as a percentage of nominal GDP**, a **smaller GDP base increases the deficit ratio**.
    - The **FY 2025–26 fiscal deficit target**, earlier estimated at **4.4%**, rises to **about 4.5% under the new series**.
    - Achieving the **4.3% fiscal deficit target for FY 2026–27** would now require **nominal GDP growth of around 13–14%**, which is significantly higher than the **10% growth assumption in the Union Budget 2026–27**, potentially necessitating **adjustments in government borrowing strategies**.

- **Increase in Debt-to-GDP Ratio:** A **lower estimated GDP size** leads to a **higher debt-to-GDP ratio**. The **Centre's debt ratio** is projected to increase from **56.2% to about 58.1% in FY 2025–26** under the revised series.

Conclusion

The shift to the **2022-23 base year** is a landmark move toward statistical accuracy. While the reduction in absolute GDP size presents fiscal challenges, it provides a more grounded and **"honest"** baseline for India's growth story. By integrating modern data sources like GST and gig-work metrics, the new series ensures that India's economic measurements are fit for the 21st century.

Q. *How does the revision in GDP base year affect fiscal indicators and sectoral estimates in India? Analyse with reference to the 2022–23 base year GDP series.*

3.1.6. CORPORATE SOCIAL RESPONSIBILITY (CSR) IN INDIA

Introduction

Corporate Social Responsibility (CSR) refers to the idea that businesses should balance their profit-making activities with activities that benefit society. In India, CSR is not just a philanthropic act but a **legal mandate** under the Companies Act, 2013.

Statutory Framework: Section 135 of Companies Act, 2013

India was the first country in the world to make CSR mandatory for certain classes of companies.

- **Threshold for Applicability:** A company must spend on CSR if it meets any of these criteria in the preceding financial year:
  - **Net Worth:** ₹500 crore or more.
  - **Turnover:** ₹1,000 crore or more.
  - **Net Profit:** ₹5 crore or more.
- **Spending Requirement:** Eligible companies must spend at least **2% of their average net profits** made during the three immediately preceding financial years.
- **Governance:** Companies must constitute a **CSR Committee** of the Board (with at least one independent director) to formulate and monitor the CSR policy.

Key Areas of Corporate Social Responsibility (CSR) Activity

The diverse activities listed under **Schedule VII** of the Companies Act, 2013, can be strategically grouped into these **6 key pillars:**

1. **Human Capital & Social Welfare**
   - **Health & Nutrition:** Eradicating hunger, poverty, and malnutrition; promoting preventive healthcare and sanitation (including contribution to the *Swachh Bharat Kosh*).
   - **Vulnerable Groups:** Setting up old age homes, day care centers, and hostels for women/orphans; measures for reducing inequalities faced by SCs, STs, OBCs, and minorities.

2. **Education & Skill Empowerment**
    - **Education:** Promoting literacy and special education.
    - **Livelihood:** Employment-enhancing vocational skills, especially among children, women and the differently-abled to ensure economic self-reliance.
3. **Environmental Stewardship & Sustainability**
    - **Ecological Balance:** Protection of flora and fauna, animal welfare and agroforestry.
    - **Resource Conservation:** Maintaining the quality of soil, air and water (including contributions to the *Clean Ganga Fund*).
4. **Heritage, Culture & National Identity**
    - **Cultural Preservation:** Protection and restoration of historical buildings, sites and works of art.
    - **Promotion of Arts:** Development of traditional handicrafts and setting up public libraries.
5. **Research, Innovation & Sports**
    - **R&D:** Contributions to public-funded universities, IITs and national laboratories (DRDO, ICAR, CSIR) for research in science, technology and medicine.
    - **Sports:** Training to promote rural, nationally recognized, Paralympic and Olympic sports.
6. **National Resilience & Relief Funds**
    - **Armed Forces:** Measures for the benefit of veterans, war widows and their dependents (including CAPF and CPMF families).
    - **Disaster Management:** Relief, rehabilitation, and reconstruction activities; contributions to the **PM CARES Fund** or the PM National Relief Fund.

Significance of Corporate Social Responsibility (CSR) in India

1. **Supplementing State Capacity**

    CSR acts as a vital bridge between public policy and private efficiency. It allows corporate capital, technology, and managerial expertise to reach developmental sectors (like health and education) that the state alone may struggle to fully fund or implement.
2. **Localization of SDGs**

    CSR activities are a primary vehicle for achieving the **UN Sustainable Development Goals (SDGs)** at the grassroots level. By investing in local sanitation, gender equality, and renewable energy, companies localize global targets into tangible Indian outcomes.
3. **Promoting Ethical Corporate Governance**

    The mandate pushes companies beyond a "profit-only" motive toward a **"Triple Bottom Line"** approach (People, Planet, Profit). It fosters transparency, accountability and a culture of social responsibility within the Indian corporate ecosystem.
4. **Human Capital Development**

    Through massive investments in vocational training and skill development, CSR helps address India's **"Skill Gap."** This creates a more employable workforce, directly supporting national initiatives like *Skill India* and *Atmanirbhar Bharat*.

5. **Strengthening Social Infrastructure**

   CSR funding has led to the creation of durable community assets such as schools, clinics and solar-powered irrigation particularly in rural areas, improving the overall quality of life and social stability.

6. **Environmental Stewardship**

   By mandating spending on ecological balance and resource conservation, CSR encourages industries to mitigate their carbon footprints. It promotes green technologies and helps India meet its **Nationally Determined Contributions (NDCs)** under the Paris Agreement.

Challenges of Corporate Social Responsibility (CSR) in India

1. **Geographic & Regional Imbalance**

   There is a severe concentration of CSR funds in industrialized states like **Maharashtra, Gujarat, and Karnataka**, while developmentally backward regions (including the North-East and several **Aspirational Districts**) remain neglected. This defeats the goal of "inclusive growth."

2. **Sectoral Skewness**

   Corporate spending is heavily tilted toward **Education and Healthcare** (the "easy" sectors), while critical areas under Schedule VII such as the protection of national heritage, promotion of rural sports, and slum area development receive negligible funding.

3. **Issues with Implementing Agencies (NGOs)**

   Many companies lack the internal expertise to execute projects and rely on NGOs. However, many local NGOs lack **professionalism, transparency, and the capacity** to handle large-scale corporate funds or provide the rigorous "Impact Assessment" now required by law.

4. **"Greenwashing" & Superficial Compliance**

   Some companies treat CSR as a mere **compliance burden** or a PR exercise ("Greenwashing"). Instead of long-term sustainable transformation, they focus on "cheque book philanthropy" or one-off events that provide visibility without substantial social impact.

5. **Lack of Community Participation**

   CSR projects are often designed using a **"Top-Down" approach** by corporate boards without adequately consulting the local communities. This leads to a lack of "local ownership," where the assets created (like toilets or libraries) often fall into disuse due to a lack of community involvement.

Way Forward

1. **Focus on Aspirational Districts**

   To correct the **geographic imbalance**, the government and corporates should prioritize projects in the **112 Aspirational Districts**. Incentivizing spending in North-Eastern and tribal states through tax benefits or "CSR credits" can ensure more inclusive regional development.

2. **Transition from "Outlays" to "Outcomes"**

   Companies must move beyond merely reporting "money spent" to measuring **"social impact."** Mandatory **Third-Party Impact Assessments** and Social Audits should be standardized to ensure that assets created (like schools or clinics) are functional and delivering long-term benefits.

3. **Promoting "Collective CSR"**

   Encouraging a **Consortium Model** where multiple companies pool their 2% funds for large-scale, high-impact infrastructure projects (e.g., massive water desalination plants or regional waste management units). This prevents "fragmented spending" on small, ineffective programs.

4. **Convergence with Government Schemes**

   CSR initiatives should be strategically aligned with flagship national missions like **Gati Shakti (Infrastructure)**, **Poshan 2.0 (Nutrition)**, and the **Lighthouse Tourism** initiative. This creates a "Multiplier Effect," where private funds complement the scale of government machinery.

5. **Strengthening NGO Capacity & Transparency**

   The government should develop a **National CSR Exchange Portal**—a digital marketplace that connects verified, high-performing NGOs with corporate donors. This would reduce "middleman" issues, improve transparency, and help smaller NGOs in rural areas access professional funding.

Conclusion

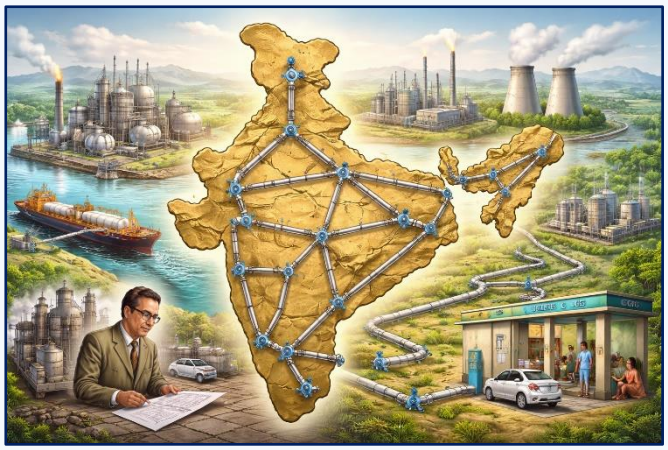
Corporate Social Responsibility (CSR) funds bridge the gap between profit and purpose. By investing in sustainable development, businesses drive measurable social impact, enhance brand reputation, and ensure long-term ethical growth.

Q. *With a consideration towards the strategy of inclusive growth, the new Companies Bill, 2013 has indirectly made CSR a mandatory obligation. Discuss the challenges expected in its implementation in right earnest. Also discuss other provisions in the Bill and their implications.*

3.1.7. NATIONAL GAS GRID

Context:

West Asia conflict involving the **U.S., Israel, and Iran** effectively closed the **Strait of Hormuz**, disrupting 90% of India's LPG imports. Consequently, the government issued the **Natural Gas (Supply Regulation) Order, 2026**, prioritizing **PNG** and **fertilizers** to mitigate the severe national energy shortage.



Background of National Gas Grid (NGG)

1. **Early Conceptual Origins (1950s–1970s)**

   The idea of a **National Gas Grid** in India dates back to **1955**, when Syed Husain Zaheer proposed a **nationwide gas pipeline network** based on **coal gasification**.

   - He envisioned a **"Town Gas Supply Scheme"**:
     - Gas produced from coal
     - Transported through pipelines to cities and industries

2. **Vision & Goals**

   - **"One Nation, One Gas Grid":** Integrating regional networks into a single national unit for equitable gas distribution.

- **Objective:** Increase the share of natural gas in the energy mix from **~6.7% to 15% by 2030**.

3. **Regulatory Framework**
   - **PNGRB Act, 2006:** Established the statutory board to regulate the downstream sector (transport, storage, and distribution).
   - **Common Carrier Principle:** Mandates "open access" to pipelines, preventing infrastructure monopolies.
   - **Unified Tariff (2023):** Replaced multiple additive fees with a single "One Nation, One Tariff" model, drastically lowering costs for consumers far from gas sources (e.g., NE India).
4. **Structural Evolution**
   - **Initial Phase:** Centered on the **HBJ (Hazira-Vijaipur-Jagdishpur)** pipeline, primarily serving Northern India's fertilizer and power sectors.
   - **Regional Integration:**
     - **South:** Connection via the **Kochi-Mangaluru** pipeline.
     - **East: Pradhan Mantri Urja Ganga (JHBDPL)** connecting Bihar, Jharkhand, West Bengal, and Odisha.
     - **Northeast: Indradhanush Gas Grid (IGGL)** linking all eight NE states to the national network.

Need for the National Gas Grid

1. **Transition to a Gas-Based Economy**
   - **Target Alignment:** Essential to increase natural gas share in the energy mix from **~6.7% to 15% by 2030**.
   - **Bridge Fuel:** Necessary to move away from "dirtier" fossil fuels (coal/oil) toward **Net Zero 2070** goals.
2. **Ending "Energy Poverty" (Regional Balance)**
   - **Geographical Equity:** Connects the "gas-starved" Eastern and North-Eastern regions to the supply-rich Western and Southern coasts.
   - **Uniform Growth:** Ensures that industrial development is not restricted to coastal states with LNG terminals.
3. **Strategic Energy Security**
   - **Import Diversification:** Allows India to move gas from any port (West or East coast) to any inland demand center, crucial during maritime disruptions (e.g., **2026 West Asia crisis**).
   - **Strategic Storage:** Required to link future **strategic gas reserves** to industrial and domestic hubs.
4. **Industrial & Agricultural Productivity**
   - **Fertilizer Subsidy Control:** Reliable gas supply to urea plants via the grid reduces the high cost of production and the government's subsidy burden.
   - **Industrial Feedstock:** Vital for "Hard-to-Abate" sectors like Steel and Cement that require high-heat energy.
5. **Clean Urban Mobility & Cooking**
   - **Pollution Control:** Necessary to expand **City Gas Distribution (CGD)** networks, reducing urban smog by replacing diesel/petrol with CNG.

- **LPG Substitution:** Reduces the logistics and foreign exchange drain associated with importing and transporting LPG cylinders.

6. **Future-Proofing (Hydrogen & Biogas)**
   - **Blending Hub:** The grid is the only viable infrastructure for the large-scale transport of **Green Hydrogen** and **Compressed Biogas (CBG)** from rural production centers to urban markets.

Significance of the National Gas Grid

1. **Energy Security & Stability**
   - **Buffer Against Volatility:** Reduces reliance on a single fuel source (like coal or oil).
   - **Supply Resilience:** Enables rapid diversion of gas to deficit regions during geopolitical crises (e.g., the **2026 West Asia supply crunch**).
2. **Economic Growth**
   - **Industrial Competitiveness:** Provides reliable, cheaper fuel to fertilizer, steel, and glass industries.
   - **Cost Reduction:** The **Unified Tariff** makes gas affordable for industries far from coastal LNG terminals.
3. **Environmental Impact**
   - **"Bridge Fuel":** Emits **40% less CO_2** than coal and nearly zero Particulate Matter (PM), aiding India's **Net Zero 2070** goal.
   - **Decarbonization:** Facilitates the transition of heavy transport (trucks/buses) from diesel to **CNG**.
4. **Social & Infrastructure Benefits**
   - **Consumer Convenience:** Direct-to-kitchen **PNG** eliminates the logistics and safety risks of LPG cylinders.
   - **Regional Development:** Connects under-developed regions (East and Northeast India) to the mainstream industrial economy.
5. **Strategic Integration**
   - **Multi-fuel Synergy:** Essential for injecting **Compressed Biogas (CBG)** and **Green Hydrogen** into existing pipelines, future-proofing India's energy infrastructure.

Challenges to the National Gas Grid

1. **High Import Dependency**
   - India imports nearly **50% of its natural gas** as LNG. Global price volatility (spiked by the **2026 West Asia crisis**) makes gas expensive compared to domestic coal, leading to underutilization of gas-based power plants.
2. **Exclusion from GST**
   - Natural Gas remains outside the **Goods and Services Tax (GST)**. This leads to a cascading effect of taxes (VAT and Central Excise) across state borders, increasing the final cost for industries by **10-15%** compared to other fuels.

3. **Land Acquisition & RoW Issues**
    - Securing the **Right of Way (RoW)** for laying pipelines is a major bottleneck. Legal disputes and compensation delays in densely populated states (like West Bengal and Kerala) often lead to significant project cost overruns.
4. **Underutilized "Stranded" Assets**
    - Approximately **14.3 GW of gas-based power capacity** remains "stranded" or underutilized because the high cost of imported gas makes the electricity produced commercially unviable for Discoms.
5. **Last-Mile Connectivity**
    - While the "trunk" pipelines (main arteries) are expanding, the **City Gas Distribution (CGD)** networks face "last-mile" hurdles in old, congested cities, delaying the transition of households to PNG.
6. **Technical & Safety Risks**
    - Integrating **Green Hydrogen** and **Compressed Biogas (CBG)** into existing steel pipelines poses technical challenges like "hydrogen embrittlement" (weakening of metal), requiring expensive infrastructure upgrades.

Government Initiatives

1. **Infrastructure Projects**
    - **Pradhan Mantri Urja Ganga (PMUG):** Connecting the "gas-starved" East (UP, Bihar, Jharkhand, WB, Odisha). It revitalizes defunct fertilizer plants and supports the **Matix Fertilizer** plant in West Bengal.
    - **North East Gas Grid (NEGG):** Implemented by **IGGL**, this 1,656 km pipeline aims for full commissioning by **March 31, 2026**, linking all eight North-Eastern states to the national grid.
2. **Pricing & Tariff Reforms**
    - **Unified Pipeline Tariff (2023-2026):** A "One Nation, One Grid, One Tariff" model. It eliminates multiple transit fees, ensuring that a consumer in a remote area (like Agartala) pays a transport rate similar to one near a coastal terminal (like Dahej).
    - **Kirit Parikh Committee Implementation:** Moving toward a market-linked pricing regime with a "floor" and "ceiling" price for domestic gas to protect both producers and consumers.
3. **Bio-Fuel Integration**
    - **SATAT Initiative:** Promoting **Compressed Biogas (CBG)**. As of **2026**, the government has mandated a **CBG Blending Obligation (CBO)** for all City Gas Distribution (CGD) entities to reduce LNG imports.
    - **National Green Hydrogen Mission:** Upgrading the grid to be "hydrogen-ready" for blending green hydrogen into existing natural gas pipelines.
4. **Expanding Access**
    - **City Gas Distribution (CGD) Bidding:** The **12th CGD Bidding Round (2024-25)** has brought nearly **100% of India's map** under authorized gas coverage.
    - **PM Ujjwala Yojana 2.0:** While focused on LPG, it acts as a precursor to PNG by building the "clean cooking" habit in rural India, with over **10.4 crore beneficiaries** by early 2026.

Way Forward

1. **Fiscal Integration (GST):** Include natural gas under the **GST regime** to eliminate the cascading effect of varied state taxes (VAT/Entry tax). This will reduce industrial fuel costs by **10–15%** and create a truly unified national market.
2. **Creation of Strategic Gas Reserves:** Establish **Strategic Natural Gas Reserves** (similar to Strategic Petroleum Reserves) in salt caverns or depleted wells. This is critical to buffer against 30–60 day supply shocks caused by maritime chokepoints (e.g., **2026 Strait of Hormuz crisis**).
3. **Infrastructure "Teeth" (Legal Reform):** Enact a **"National Transmission Corridor Act"** to grant gas pipelines the same legal status as Highways or Railways. This would streamline **Right of Way (RoW)**, reduce land acquisition litigation, and prevent "project-stretch" in states like West Bengal.
4. **Independent Transmission System Operator (TSO):** Establish an **Independent TSO** to manage the grid. This ensures "neutral" third-party access to pipelines, separating the *transport* of gas from the *marketing* of gas, which encourages private investment and prevents monopolies.
5. **Future-Proofing with "Green Blending":** Mandate and subsidize the blending of **Compressed Biogas (CBG)** and **Green Hydrogen** into the existing grid. This reduces LNG import dependency and leverages the National Gas Grid as a "decarbonization highway."
6. **Demand Aggregation & Digital Twins:** Deploy **Real-time Data Monitoring (under the 2026 Information Order)** and "Digital Twins" of the grid. This allows for predictive maintenance and "Demand Aggregation" to negotiate better long-term LNG contracts with non-Gulf suppliers like the U.S. and Australia.

Conclusion

The National Gas Grid is the strategic backbone of India's **Net Zero 2070** journey, evolving into a multi-fuel "Energy Highway" that seamlessly integrates natural gas, green hydrogen, and biogas.

Q. *"Examine the role of the National Gas Grid in enhancing India's energy security and regional equity. What are the major bottlenecks in its effective implementation?"*

3.2. ENVIRONMENT

3.2.1. BUILDING INDIA'S CLIMATE RESILIENCE WITH WATER AT THE CORE

Context:

- During the **30th session of the United Nations Climate Change Conference** (**COP 30**) **COP30** held in **Belém**, global adaptation indicators under the **UAE Framework for Global Climate Resilience** placed **water, sanitation and hygiene (WASH)** systems at the **core** of **climate adaptation strategies**, marking a paradigm shift by establishing water as the central pillar of global climate adaptation.

How Climate Change Affects Water Systems

Climate change acts as a **"threat multiplier"** by disrupting the natural balance of the hydrological cycle.

- **Intensification of Extreme Events (Flood–Drought Paradox):** Rising temperatures intensify the water cycle; warmer air holds **about 7% more moisture per 1°C increase**, leading to short bursts of intense rainfall followed by prolonged dry spells.
  - This results in simultaneous **urban flooding and rural droughts**. Urban areas with heavy **concrete sealing** cannot absorb rainfall, worsening floods.
  - **Examples**: The **2023 North India floods** and recurring floods in **Chennai** illustrate how extreme rainfall combined with poor drainage causes disasters, while regions like **Marathwada in Maharashtra** frequently face crop failures due to delayed or failed Southwest Monsoons.
- **Himalayan Glacial Destabilisation ("Third Pole" Crisis):** The Himalayas—often called the **"Third Pole"**—feed major **perennial river systems** such as the **Ganga River**, **Brahmaputra River**, and the Indus.
  - **Climate warming** accelerates glacier melting. Initially this increases river flows and flood risks, but over time it depletes the natural **"water bank,"** threatening the perennial nature of these rivers. Retreating glaciers also form unstable lakes, increasing the risk of **Glacial Lake Outburst Floods (GLOFs)**.
  - **Example***:* The **2023 South Lhonak Lake outburst in Sikkim** damaged the **Teesta-III hydropower project**, highlighting risks to Himalayan infrastructure.
- **Coastal Vulnerability and Saline Intrusion:** Sea-level rise pushes saltwater into freshwater aquifers, a process known as **saline intrusion**, contaminating groundwater used for drinking and irrigation. It also increases soil salinity in delta regions, reducing agricultural productivity.
  - **Example***:* In the **Sundarbans**, rising sea levels and cyclones have forced farmers to shift from traditional rice cultivation to salt-tolerant crops or shrimp farming, which further degrades soil quality.
- **Agricultural Stress and the Water–Food–Climate Nexus:** Agriculture depends heavily on water and is both affected by and contributes to climate change. Traditional **flooded paddy cultivation contributes around 10–15% of global methane emissions**, while changing monsoon patterns disrupt crop cycles.
  - Over **50% of India's net sown area remains rain-fed**, making it highly vulnerable to shifts in the **onset, progress, and withdrawal of the monsoon**.
  - **Example***:* The **2024 heatwaves followed by erratic rains in Punjab and Haryana** reduced wheat yields, affecting national food stocks and contributing to food inflation.
- **Water–Energy Feedback Loop:** Climate change increases dependence on **groundwater extraction when surface water fails**, requiring significant electricity for pumping.
  - This electricity often comes from **coal-based power plants**, creating a feedback loop where higher energy use increases greenhouse gas emissions and further intensifies climate change.
  - **Example***:* In states like **Tamil Nadu and Telangana**, groundwater levels have fallen to **300–500 metres**, leading to a sharp rise in agricultural electricity consumption and deepening the water-energy-climate cycle.

Belém Adaptation Indicators

The **59 Belém Adaptation Indicators**, adopted under the **UAE Framework for Global Climate Resilience** redefines **Water Security**, moving the focus away from simple "asset creation" toward the **functional reliability of systems** under intense climate stress. It is structurally divided into two primary strategic clusters:

- **Cluster 1 - Climate-Resilient WASH Systems:** Focuses on mitigating climate-induced water scarcity and building resilience to floods/droughts. The objective is **universal access to safe drinking water** by ensuring infrastructure can withstand extreme events without service disruption.
- **Cluster 2 - Proactive Risk Governance:** Focuses on institutional preparedness. It sets a **2027 deadline** for universal multi-hazard early warning systems and a **2030 deadline** for updated national vulnerability assessments.

Significance of Water-Centric Climate Resilience

Water is the **primary medium** through which the impacts of climate change are felt, acting as the "**connective tissue**" between environmental stability and human survival.

Urban water bodies—**lakes, wetlands,** and **tanks**—are not mere aesthetic features; they are **critical blue-green infrastructure** essential for **Regenerative Urbanism"** (letting **nature manage the water cycle** by soaking up, storing, and cleaning water where it falls, rather than simply draining it away.)

Defining Blue-Green Infrastructure (BGI): Unlike "Grey Infrastructure" (concrete drains and pipes), **BGI** is a strategically planned network of natural and semi-natural areas.

- **"Blue"** refers to water bodies like rivers, lakes, and wetlands.
- **"Green"** refers to land-based elements like parks, trees, and gardens.
- **The Primary Climate Messenger:** Climate change is experienced most viscerally through the hydrological cycle. It manifests as a "**trilemma**" of water extremes: **too much** (flash floods), **too little** (chronic droughts), or the **wrong kind** (salinity in coastal aquifers). Resilience, therefore, depends on systems that can manage these rapid transitions without service disruption.
- **Natural Flood Mitigation and Buffering:** Urban wetlands and lakes serve as "**natural sponges**" that absorb and detain excess stormwater during heavy rains. By reducing surface runoff, they protect low-lying neighborhoods from inundation.
    - **Data Point:** Historical loss of water bodies in **Chennai** and **Mumbai** has been directly linked to the increased frequency of catastrophic urban floods.
- **Groundwater Recharge and Aquifer Replenishment:** Water bodies act as critical "entry points" for rainwater to percolate into the ground. In cities where "concrete sealing" has blocked natural recharge, these zones are vital for replenishing drying aquifers.
    - **Data Point:** In **Bengaluru**, the water table has plummeted from **28m to over 300m** in just 20 years due to the disappearance of nearly **79% of its water bodies** between 1973 and 2016.
- **Micro-Climate Regulation and Heat Mitigation:** Through the process of **evapotranspiration,** water bodies moderate ambient temperatures. This is a primary defense against the **Urban Heat Island (UHI)** effect, where dense concrete cores become significantly hotter than surrounding areas.
    - **Validation:** Research shows that the loss of lakes in **Bengaluru** contributed to a **1.5°C rise** in local temperatures over two decades.

- **Water Purification and Ecological Filtration:** Wetlands act as the **"natural kidneys"** of an urban region, filtering pollutants, sediments, and excess nutrients from wastewater.
  - **Global Benchmark:** The **East Kolkata Wetlands (EKW)** naturally treat over **900 million litres** of wastewater daily, simultaneously supporting local fisheries and agricultural economies without expensive chemical plants.
- **Preservation of Biodiversity and Ecological Corridors:** Lakes and wetland fringes serve as **biodiversity hotspots** and **ecological corridors** within "**grey**" urban landscapes. They provide essential breeding grounds for amphibians, fish, and migratory birds, maintaining the urban food web and ecological balance.
  - **Case Study:** The **Neknampur Lake** in **Hyderabad** used "**floating treatment wetlands**" to restore habitats, successfully reviving local bird and amphibian populations.

Key Challenges Hindering Water-Centric Climate Resilience

India's urban population is projected to hit **675 million by 2035**. However, the **2023 Waterbody Census** reveals that only **2.9%** of India's **2.4 million water bodies** are in urban areas, many of which are "not in use" due to pollution and encroachment.

1. **Systemic Scarcity and Infrastructure Vulnerability:** Water scarcity in India is **unevenly distributed** and managed. Most water infrastructure is built for average weather, meaning it is rarely **"stress-tested"** for extreme climate events. When record floods or droughts hit, these rigid systems often fail.
   - **Core Issue:** The focus remains on expanding the number of connections rather than ensuring **diversification of sources** and system **redundancy** (backup capacity) for emergencies.
2. **Uncertain and Fragile Adaptation Finance:** While global targets aim for **$1.3 trillion annually by 2035**, actual funding remains unreliable. A major mindset barrier is that water projects are treated as **"sectoral costs"** (basic municipal expenses) instead of high-value **"climate investments."**
   - **Core Issue:** Without **predictable finance**, cities focus on "post-disaster recovery" (reactive) rather than "long-term resilience planning" (proactive).
3. **Anthropocentric vs. Eco-centric Conflicts:** Many "revival" projects prioritize **cosmetic beautification**—such as **granite jogging tracks**, **fences,** and **fountains**—over ecological restoration. These "hard" interventions often destroy the **hydrological functions** of the water body, like its ability to recharge groundwater or filter pollutants.
4. **Institutional Fragmentation and Silos:** Water governance is split across multiple agencies with **overlapping jurisdictions**. For example, **Revenue Departments** own the land, **Pollution Boards** monitor quality, and **Urban Local Bodies (ULBs)** manage supply.
   - **Core Issue:** This lack of coordination causes **"implementation paralysis,"** where one department's cleaning efforts are neutralized by another department's drainage or construction decisions.
5. **Digital Gaps and Fragmented Data:** India has massive amounts of hydrological data, but it is **fragmented and isolated** within different departments. There is very little **AI-driven, real-time integration** of weather and water data into local planning or budgeting.
   - **Core Issue:** Without **interoperable platforms**, city managers cannot perform real-time monitoring or use **climate-stress indicators** to make quick, data-backed decisions.

Global Best Practices

Case Study	Location	Key Innovation/Model
Jakkur Lake	Bengaluru	**Integrated Model:** Combines a sewage plant with a natural wetland to clean water.
East Kolkata Wetlands	West Bengal	**"Natural Kidneys":** Treats 900 million liters of wastewater daily while supporting local fisheries.
Neknampur Lake	Hyderabad	**Nature-based Solutions (NbS):** Used "Floating Treatment Wetlands" made of recycled materials.
Cheonggyecheon	Seoul, S. Korea	**Greenway Model:** Removed a highway to restore a buried stream; lowered local heat by 3-5°C.
Singapore/China		**Sponge City Model:** Utilizing naturalized rivers and floodplains (e.g., Bishan-Ang Mo Kio Park) to manage stormwater via infiltration and detention.

Major Government Initiatives for Water-Centric Resilience

- **Integrated Water Governance:** The **Ministry of Jal Shakti** was created to **integrate and streamline water-related departments**, enabling coordinated management of water resources.
- **Groundwater Management:** The **National Aquifer Mapping and Management Programme** focuses on **scientific mapping of aquifers and sustainable groundwater utilisation**.
- **Drinking Water Security:** The **Jal Jeevan Mission** aims to provide **functional household tap connections to rural households**, ensuring safe drinking water access.
- **River Rejuvenation:** The **National Mission for Clean Ganga** works towards **restoration, pollution control, and ecological conservation of the Ganga river basin**.

Way Forward: A Regenerative Roadmap for Water Resilience

1. **Policy Convergence & Institutional Integration:** Instead of reinvention, India must align existing missions like **Jal Jeevan**, **AMRUT 2.0**, and **Smart Cities** with the **Belém Indicators**.
    - **Institutional Strength:** Building on the **2019 consolidation** of water governance under the **Ministry of Jal Shakti**, India is well-positioned for integrated stewardship.
    - **Key Action:** Integrate **Climate Stress Metrics** into mission dashboards to track how infrastructure performs during extreme weather events.
2. **Integrated Hydrological Planning:** Cities must stop treating lakes as isolated "assets" or real estate spots. **Lake Management Plans (LMPs)** should be legally integrated into **City Master Plans**.
    - Utilize **National Aquifer Mapping and Management (NAQUIM) Programme 2.0** data to move from simple mapping to implementing **aquifer-level management plans** grounded in hydrogeological knowledge.
    - **Key Action:** Protect the entire **catchment area** and **feeder channels** (inlet/outlet drains) to ensure water actually reaches the urban basins.
3. **Adopting the "Sponge City" Framework:** Urban design should shift from "draining" water to "absorbing" it. Cities must be designed to act like a sponge—absorbing, storing, and purifying rainwater.

- **Key Action:** Deploy **Nature-based Solutions (NbS)** like permeable pavements, bioswales, and rain gardens to reduce runoff and prevent urban flooding.

4. **Mainstreaming a Circular Water Economy**

   Shift from a "linear" (use and throw) to a **"circular"** (reduce-recycle-reuse) model. Treated sewage must be viewed as a valuable resource for rejuvenating local water bodies.

   - **Key Action:** Mandate the reuse of treated wastewater for **industrial and cooling purposes** to reduce the extraction of fresh groundwater.

5. **Climate Stress-Testing of Infrastructure:** All water infrastructure—including dams, pipes, and drains—must be **"stress-tested"** for extreme scenarios.
   - **Key Action:** Ensure designs can handle **"1-in-100-year" flood events**, moving beyond historical average rainfall data to account for future climate volatility.
6. **Digital Public Infrastructure & AI Integration:** Leverage India's technology prowess to create **interoperable digital platforms** that connect sensors with decision-makers.
   - **Key Action:** Use **Artificial Intelligence (AI)** to link real-time **weather forecasts** directly to city water management systems for proactive disaster response.
7. **Community Stewardship & Protecting the "Commons":** Resilience is only successful if it is inclusive. Local governance should move toward a **stewardship model** that protects the rights of traditional users.
   - **Key Action:** Empower **Mohalla Samitis** and local NGOs (e.g., **PNLIT in Bengaluru**) to lead governance, ensuring that fisherfolk and farmers maintain access to water bodies as shared heritage.

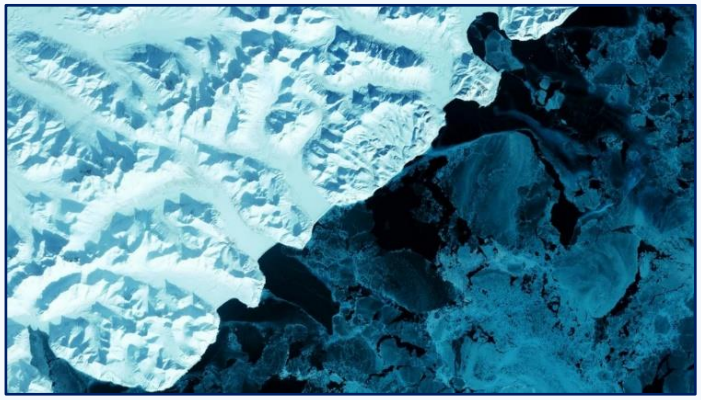
Conclusion

Climate change is fundamentally a water challenge, as disruptions in the hydrological cycle intensify floods, droughts, and water insecurity. By shifting from simple asset creation to systemic resilience and aligning domestic missions with the **Belém indicators**, India can build a scalable model for the **Global South** while advancing the goals of **Water Vision 2047**.

Q. *Climate change is fundamentally a water crisis. Examine how disruptions in the hydrological cycle are intensifying socio-economic vulnerabilities in India.*

3.2.2. UNDERSTANDING THE CREDIBILITY OF CLIMATE SCIENCE

Context:



- Climate science has been established on the foundation of **systematic observations, physical laws and independent verification**.
- Recent claims questioning the reality of global warming particularly regarding **ocean heat content** and **Earth's energy imbalance (EEI)** have necessitated a closer examination of how scientific credibility is ensured.

- It is demonstrated that climate science derives its strength not from isolated datasets, but from **convergence across multiple independent methods**, thereby ensuring **accuracy, reliability, and policy relevance**.

Background

Climate change refers to long-term shifts in temperature, precipitation, and other atmospheric conditions, primarily driven by **increased greenhouse gas concentrations** from human activities. The **Intergovernmental Panel on Climate Change (IPCC)**, established in **1988** by the **World Meteorological Organisation** and **UNEP**, synthesises global evidence in its **Assessment Reports** (**AR6 being the latest key milestone**).

- **IPCC AR6 Findings:**
  - **>90% of excess heat** is absorbed by oceans.
  - **Recent observations confirm acceleration**: **ocean heat content** reached record highs in 2025, with the **rate of warming** more than doubling since 2005 compared to earlier decades. These facts support international frameworks such as the **Paris Agreement** and inform **India's climate policy** under **Nationally Determined Contributions**.
  - **Earth's Energy Imbalance (EEI)** (difference between **incoming solar radiation** and **outgoing terrestrial radiation**) **increased** from ~0.57 W/m² (1971–2018) to ~0.79 W/m² (2006–2018).
  - **Global temperature rise ≈ 1.1°C** above pre-industrial levels.

Key Scientific Concepts

- **Temperature (Intensive Property):** Independent of mass.
- **Thermal Energy (Extensive Property):** Depends on **mass + temperature**, used to measure **heat content**.

Core Issues Raised and Scientific Clarifications

Recent scrutiny has focused on three specific assertions regarding data handling. Each has been evaluated against established scientific practices, revealing that standard methods already incorporate and resolve the raised concerns.

1. **Claim on Temperature and Heat Measurement**

   Temperature measures **average kinetic energy** per molecule and does not depend on the mass of the material, making it an **intensive property**. Critics argue this prevents meaningful averaging for total ocean heat.

   - However, scientists calculate **thermal energy** (**an extensive quantity**) as the **product of temperature, mass, and specific heat capacity**. This **total kinetic energy** content rises measurably over time, confirming warming.
   - The same logic applies consistently to other metrics such as **average air temperature, atmospheric pressure or sea-level rise** without invalidating them. This distinction clarifies why direct temperature averages, when combined with volume and density data, yield reliable heat-content estimates.

2. **Uncertainties in Argo Floats Data and Ocean Monitoring**

   The **Argo programme** deploys thousands of **free-drifting profiling floats** that measure **temperature and salinity** up to **2,000 metres** depth across the global ocean. Concerns highlight

data gaps leading to underreported uncertainties, including mesoscale aliasing and limited deep-ocean coverage.

Oceanographers address these through:

- Multiple independent calculation methods that produce consistent results.
- Validation against known measurement sites and sensitivity tests (removing subsets of data).
- **Cross-comparison with independent satellite systems**:
  - **Altimetry satellites** measure total sea-level rise.
  - **GRACE satellites** track added water mass via gravity changes.
  - The residual "steric" expansion (due to heat) matches Argo-derived heat content exactly.

This multi-method convergence demonstrates that uncertainties are neither ignored nor overstated; instead, they are quantified and minimised through rigorous robustness checks.

3. **Claim on Circularity in CERES-Argo Cross-Calibration**

CERES (**Clouds and the Earth's Radiant Energy System**), operated by NASA, consists of satellite instruments that measure **incoming solar radiation and outgoing shortwave (visible light)** and **longwave (heat) radiation** at the top of the atmosphere. Subtracting outgoing from incoming radiation gives the **net energy flux and thus Earth's energy imbalance**.

- CERES instruments achieve accuracy of **about 1% for shortwave** and **0.75% for longwave radiation,** implying an absolute uncertainty of roughly **2 W/m² in net flux**.
- The **EBAF** (**Energy Balanced and Filled**) product adjusts fluxes so the **global mean net flux (July 2005–June 2015)** aligns with **Argo's estimate of 0.71 W/m².**

  Critics label this "**circular**" because Argo informs calibration while CERES validates heat content. In reality:

- **Balancing** applies a constant offset to the long-term mean only.
- **Filling** separately patches data gaps caused by clouds.
- The warming **trend** derives from raw monthly differences in CERES data, which the constant adjustment does not alter.

For example, if EBAF adds **3.6 W/m² uniformly**, the difference between any two months **(e.g., 4 vs. 5 W/m² raw becomes 7.6 vs. 8.6 W/m² adjusted)** remains exactly **1 W/m².** Thus, evidence of an increasing energy imbalance comes from raw instrument readings, independent of Argo.

Additional Independent Lines of Evidence

Scientists estimate **Earth's energy imbalance** through several other approaches that align with **CERES-Argo** results:

- **Atmospheric reanalyses**.
- **Deep-ocean temperature** records from research vessels.
- **Physical climate models** informed by observed surface warming.

If the **imbalance** were zero, all these independent systems would need to be wrong for unrelated reasons — a highly improbable scenario. Credible studies perform such independent tests and falsification checks, which the recent paper did not adequately address.

Implications for Global and Indian Policy Frameworks

The credibility of climate science rests on **convergence of evidence** rather than any single dataset or journal prestige. This foundation supports evidence-based policymaking under the **United Nations Framework Convention on Climate Change**, the **Kyoto Protocol**, and the **Paris Agreement**.

For India, a highly vulnerable country with a long coastline and monsoon-dependent agriculture, reliable data justify:

- **Adaptation measures** such as coastal regulation and heat action plans.
- **Mitigation** through renewable energy targets (**500 GW non-fossil capacity by 2030**).
- Claims for **climate finance and loss-and-damage support** in global negotiations, guided by the principle of **common but differentiated responsibilities**.

Delaying action due to unresolved doubts risks exacerbating impacts on food security, biodiversity, and sustainable development goals.

Way Forward: Strengthening Credibility and Climate Action

1. **Strengthening Observation Systems**
    - Expand **Argo network to deeper oceans (below 2000 m)**
    - Ensure **continuity of satellite missions (CERES, GRACE)**
    - Reduce **data gaps and uncertainties**
2. **Promoting Data Transparency and Accessibility**
    - Ensure **open-access climate datasets**
    - Encourage **independent verification by global researchers**
    - Build **public trust through transparency**
3. **Enhancing Scientific Rigor and Peer Review**
    - Strengthen **peer-review mechanisms**
    - Encourage **replication studies and falsification tests**
    - Discourage **selective or biased interpretation of uncertainties**
4. **Improving Climate Literacy and Scientific Temper**
    - Integrate **climate science in education and UPSC curriculum**
    - Promote **evidence-based reasoning in public discourse**
    - Counter **misinformation with scientific clarity**
5. **Integrating Science into Governance**
    - Mainstream climate data into:
    - **Disaster management (NDMA frameworks)**
    - **Urban planning and coastal regulation**
    - Use **scientific evidence for policy formulation**
6. **Strengthening Global Cooperation**
    - Support **IPCC-led synthesis of evidence**
    - Promote **multilateral collaboration in climate research**

- Align national policies with **global climate goals**

Conclusion

The credibility of climate science does not depend on silencing dissent but on the **requirement of independent proof**. For any new theory to "overturn" current climate science, it must not only point out a minor uncertainty but also explain why multiple independent systems—satellites, ocean floats, ice cores, and physical models—all show a consistent warming trend.

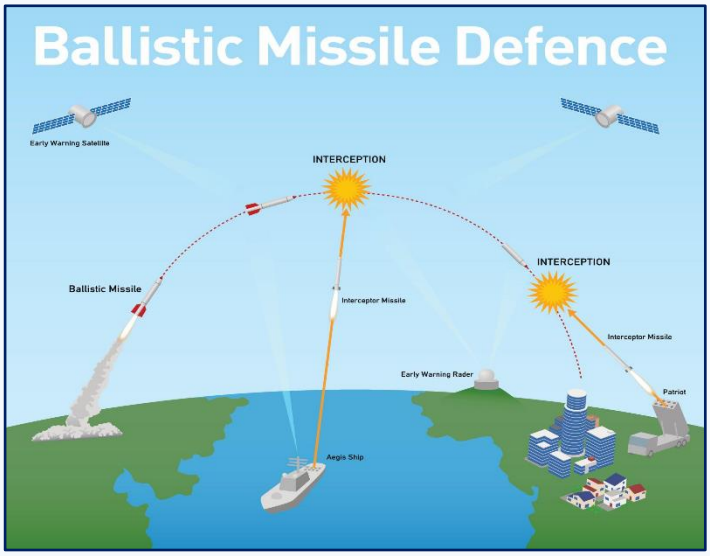
Q. *Uncertainty is inherent in climate science, but it does not undermine its conclusions. Discuss how scientific methods address uncertainties in climate data.*

3.3. SCIENCE & TECHNOLOGY

3.3.1. INDIAN MISSILE DEFENCE SYSTEM

Context:

The recent **USA-Iran escalation** underscored the criticality of **interceptors** like the **Patriot** and **Arrow** systems in neutralizing **saturation strikes**, reinforcing India's need for a robust, multi-layered ballistic missile shield.



What Is A Missile Defence System?

A **Missile Defence System (MDS)** is a military system designed to **detect, track, intercept, and destroy incoming missiles** before they reach their target.

It acts like a **protective shield in the sky**, defending cities, military bases, and critical infrastructure from:

- **Ballistic missiles** (long-range, high-speed missiles following a parabolic path)
- **Cruise missiles** (low-flying, guided missiles)
- **Rockets and artillery shells**
- **Unmanned aerial vehicles (drones)**

How it Works: The Four Key Stages

- **Detection:** High-powered ground-based radars or satellites detect the heat signature or radar reflection of a missile launch.
- **Tracking & Discrimination:** Computers calculate trajectory and speed, distinguishing the actual warhead from "decoys" designed to confuse the system.
- **Interception:** An **Interceptor Missile** is launched, using onboard sensors to home in on the incoming threat.
- **Destruction:** The interceptor destroys the missile via direct collision (**"Kinetic Kill"**) or an explosion near the target (**"Blast Fragmentation"**).

Significance of India's Missile Defence System

1. **Strategic Significance: Anchoring "No First Use" (NFU)**
   - **Survivability of Second Strike:** Ensures India survives an initial nuclear attack to launch a credible retaliatory strike, reinforcing its **Credible Minimum Deterrent**.
   - **Countering "Nuclear Blackmail":** Neutralizes low-yield tactical nuclear threats, preventing adversaries from using "limited" strikes to stall India's conventional military operations.
2. **National Security & Asset Protection**
   - **Protection of High-Value Targets (HVTs):** Safeguards critical nodes like **New Delhi, Mumbai**, nuclear plants, and refineries from aerial destruction.
   - **Layered Security:** Provides a 360-degree shield against a spectrum of threats, including long-range ballistic missiles, tactical missiles, and drones.
3. **Geopolitical Significance**
   - **Strategic Autonomy:** Reduces reliance on foreign systems (S-400/Patriot), ensuring operational independence during international sanctions or supply disruptions.
   - **Regional Balance of Power:** Acts as a stabilizing counterweight to neighboring missile expansions, discouraging regional military adventurism.
4. **Technological & Economic Significance**
   - **Spin-off Technologies:** Advances in **Swordfish radars** and mission software propel the **"Atmanirbhar Bharat"** initiative in high-tech defense.
   - **Defense Exports:** Enhances India's profile as a global manufacturing hub, supporting the **₹50,000 crore** export target by 2029 through systems like Akash.
5. **Psychological Significance**
   - **Public Confidence:** Provides a visible security shield that maintains civilian morale and prevents panic during high-tension border standoffs.

India's Multi-layered Defence Programme

1. **Long-Range Defence (Ballistic & Strategic)**

   This layer handles threats from 300 km to over 5,000 km away, focusing on nuclear-capable ballistic missiles.

   - **Ballistic Missile Defence (BMD):**
     - **Phase-I:** Intercepts missiles up to **2,000 km** range (Operational). Includes **PAD** (Exo-atmospheric, 50–80 km altitude) and **AAD** (Endo-atmospheric, up to 30 km).
     - **Phase-II:** Intercepts **5,000 km+** range missiles (Under testing). Includes **AD-1** and **AD-2** interceptors.
   - **S-400 Triumf:** Russian-origin system with a range of **400 km**. It can track 100 targets and engage 36 simultaneously.
   - **Project Kusha:** India's upcoming indigenous "S-400 equivalent." It features a three-tiered interceptor approach with ranges of **150 km, 250 km, and 350–400 km**.
2. **Medium-Range Defence (70 km – 150 km)**

   Targets aircraft, cruise missiles, and high-speed drones.

- **MRSAM (Barak-8):** Jointly developed with Israel. Range of **70–100 km**. Used by all three services (Army, Navy, Air Force) for area defense.
- **Akash-NG (Next Generation):** An indigenous upgrade with a range of **70 km**. Features a faster response time and 90% kill probability.

3. **Short-Range & Terminal Defence (Under 50 km)**

The "last line of defense" for specific high-value assets or battlefield troops.

- **Akash (Standard):** Indigenous workhorse with a range of **25–30 km**.
- **QRSAM (Quick Reaction SAM):** Specifically for protecting mobile army columns; range of **25–30 km** with rapid 360-degree coverage.
- **VSHORADS (Very Short Range):** Man-portable (MANPADS) system for ultra-short range (**up to 6 km**) and low altitude.

Global practices

- **USA:** layered homeland defence (THAAD, Patriot, Aegis/SM-3, space sensors) and expeditionary missile-defence arrays.
- **Israel:** integrated multi-layer model (Iron Dome for rockets, David's Sling for mid-range, Arrow for long-range) demonstrates cost-effective, tiered interception for short/select threats.
- **Russia/China:** operational long-range area denial air/missile defence (S-400, S-500 class) — emphasis on integrated radar and anti-aircraft missiles.
- **China (The Emerging Shield)**
  - **HQ-9 Series:** Comparable to the S-300/Patriot; used for area air defense.
  - **CNMD (Chinese National Missile Defence):** Actively testing mid-course interceptors (similar to U.S. GMD) to counter regional ballistic threats.

Challenges of India's Missile Defence System

1. **Technical Challenges**
   - **Hypersonic Threats:** Existing systems struggle to track and intercept **Hypersonic Glide Vehicles (HGVs)** that travel at Mach 5+ with unpredictable maneuvering.
   - **MIRV Technology:** Multiple Independently Targetable Re-entry Vehicles (like China's DF-41) can overwhelm a shield by releasing several warheads from a single missile.
   - **Target Discrimination:** Difficulty in distinguishing between the actual nuclear warhead and "decoys" (balloons or metallic strips) in the vacuum of space.
2. **Strategic & Geopolitical Challenges**
   - **Arms Race (Security Dilemma):** Adversaries may increase their missile stockpiles to "saturate" and bypass the defense shield, leading to regional instability.
   - **False Sense of Security:** Over-reliance on a shield might encourage riskier conventional military actions, potentially escalating to nuclear levels.
   - **Strategic Encirclement:** China views India's BMD and S-400 as a threat to its "second-strike" capability, complicating bilateral relations.
3. **Economic & Operational Challenges**
   - **High Interception Cost:** A single interceptor missile (e.g., S-400 or PAD) often costs significantly more than the incoming rocket or drone it destroys.

- **Geography:** India's vast landmass requires a massive number of radar and battery units for comprehensive 360-degree coverage.
- **System Integration:** The challenge of "sensor-to-shooter" integration—ensuring Russian (S-400), Israeli (Barak), and Indian (Akash) systems communicate seamlessly.

Way forward

1. **Technological Upgradation**
   - **Counter-Hypersonic Capability:** Accelerated development of the **AD-1 and AD-2 interceptors** (Phase-II) to track and neutralize high-speed, maneuvering glide vehicles.
   - **Directed Energy Weapons (DEWs):** Investing in laser-based systems (like the "Durga-2" project) to lower the "cost-per-kill," specifically for neutralizing cheap drone swarms.
2. **Space-Based Architecture**
   - **Early Warning Satellites:** Deploying a dedicated constellation of infrared sensors in space to detect missile plumes the moment they launch, providing crucial extra minutes for interception.
   - **Network Centricity:** Integrating all platforms (S-400, Project Kusha, and Naval Aegis-like systems) into a single **Integrated Air Command and Control System (IACCS)** for a unified "sensor-to-shooter" loop.
3. **Strategic & Diplomatic Depth**
   - **Expanding "Kusha":** Expediting **Project Kusha** to achieve "Atmanirbharta" and reduce long-term reliance on Russian or Western spare parts.
   - **Regional Cooperation:** Engaging in radar data-sharing with "Quad" partners or friendly neighbors to enhance deep-look tracking capabilities.

Conclusion:

Integrating **AI-driven Phase-II interceptors** and **Directed Energy Weapons**, India is building a futuristic, "Atmanirbhar" shield to neutralize hypersonic threats, ensuring strategic stability and a credible second-strike capability.

3.3.2. ANTHROPIC'S RESISTANCE TO THE U.S. DEPARTMENT OF DEFENCE

Context:

- A disagreement emerged recently between the **United States Department of Defense** and the AI company **Anthropic**, developer of **Claude AI**. The conflict arose when the U.S. military sought broader access to **Anthropic's AI systems for defence applications**, including potential use in **autonomous strike capabilities**.
- Anthropic declined to permit such unrestricted access because its internal AI governance framework prohibits involvement in **fully autonomous weapons and large-scale surveillance**.
- Subsequently, **OpenAI** negotiated a separate agreement with the Department of Defence that allows military use of its AI systems under specified safeguards.

Background: Increasing Role of Artificial Intelligence and Private Technology Firms in Defence

A. Growing Importance of Artificial Intelligence in Defence

Artificial Intelligence is increasingly becoming a critical component of **modern military capability**. Governments across the world are integrating AI into defence systems to enhance **strategic advantage, operational efficiency, and technological superiority**.

AI technologies are currently being applied in:

- **Cybersecurity and cyber warfare**
- **Military intelligence analysis**
- **Autonomous and semi-autonomous weapons systems**
- **Drone operations and battlefield logistics**
- **Predictive analytics for strategic decision-making**

Major powers such as the **United States**, **China**, and **Russia** have prioritised AI development as part of their **national security strategies**.

B. Role of Private Technology Firms

- Unlike earlier periods when defence technologies were largely developed by government laboratories, advanced AI capabilities are now concentrated in **private technology firms**.
- Companies such as **Anthropic**, **OpenAI**, and **Google** have become central to the development of **cutting-edge large language models and AI platforms**.
- This has led to increasing **collaboration and tension** between governments and private AI developers.

Key Technological Pillar

A. Introduction to Claude AI

Claude AI is an advanced **AI chatbot and coding assistant** created by **Anthropic**.

Key Characteristics

- Claude is based on **Large Language Model (LLM)** architecture capable of generating sophisticated text and programming code.
- It can assist users in **creating, editing, and optimising software programs**.
- The system can also support **tool creation and software integration** when provided access to relevant software libraries.

B. What is Claude Code Platform?

A specialised feature called **Claude Code** has gained prominence due to its ability to assist in **complex coding tasks and software development**.

C. Relevance for Defence and Strategic Applications

Claude AI has attracted considerable interest from defence agencies due to its potential to support **high-technology defence development**.

The system can contribute to defence innovation by:

- **Accelerating the development of complex software systems** used in military technologies.
- Assisting improvements in **advanced defence platforms and strategic technologies**.

- **Reducing delays associated with security clearance requirements** for specialised programmers.

Military software development often occurs within **highly classified environments**, which slows the recruitment of qualified engineers. In such contexts, AI coding assistants like Claude can **significantly shorten development timelines**, particularly when utilised by **experienced software developers working on sensitive defence systems**.

Disagreement between Anthropic and the U.S. Department of Defense

A disagreement emerged between **Anthropic** and the **United States Department of Defense**, primarily centred on the **ethical restrictions imposed by Anthropic on the use of its AI systems**, particularly concerning **autonomous weapons and surveillance**.

- **Initial Collaboration:** In **2025**, Anthropic entered into a **$200 million agreement** with the U.S. Department of Defense. Under this arrangement, the government was allowed to use **Claude AI** through secure cloud infrastructure provided by **Amazon Web Services** for defence-related technological development.
- **Shift in U.S. Military AI Policy:** In **January 2026**, U.S. Defence Secretary **Pete Hegseth** issued a memorandum titled **"Accelerating America's Military AI Dominance."**
  The policy aimed to **accelerate the deployment of AI in military systems** by removing barriers such as:
  - Restrictions on **data sharing**
  - Lengthy **testing and certification processes**
  - Delays in **contracting procedures**
  - **Bureaucratic hurdles** affecting rapid technology adoption
- **Anthropic's AI Governance Framework:** Anthropic follows an ethical framework known as the **"AI constitution,"** which discourages the use of its AI systems for:
  - **Mass surveillance**
  - **Fully autonomous weapons**
  - **High-risk decisions without human oversight**

  CEO **Dario Amodei** insisted that the agreement include **legal safeguards** preventing the use of AI for **domestic surveillance** and **fully autonomous lethal weapons**.
- **Threat of "Supply Chain Risk" Designation:** In response, the Department of Defense threatened to classify Anthropic as a **"supply chain risk."** Such a designation could discourage **government contractors and defence partners** from using Anthropic's technology, potentially affecting its **future collaborations with the defence sector**.

OpenAI Entry: OpenAI's Agreement and Key Differences

Following the dispute, **OpenAI** negotiated its own agreement with the **United States Department of Defense**.

A. **Key Provisions of the Agreement:** The agreement allows the military to use OpenAI's systems under defined safeguards:
   - AI systems may be used for **lawful defence purposes**.
   - AI cannot independently **control autonomous weapons** when regulations require human oversight.

- Critical decisions must remain under **human authority and supervision**.

B. Operational Safeguards: OpenAI indicated that its framework includes:

- Deployment primarily through **cloud-based infrastructure**
- **Human-in-the-loop oversight mechanisms**
- Continued functioning of **internal AI safety systems**

C. Difference in Approach: The main difference lies in the **legal interpretation of safeguards**.

- **Anthropic** reportedly sought **more explicit and binding restrictions**, ensuring that its AI could not be used for autonomous weapons **even if laws or military policies changed in the future**.
- OpenAI's agreement instead focuses on compliance with **existing laws and regulations** governing military operations.

Broader Implications of the Anthropic–DoD Dispute

1. Militarisation of Artificial Intelligence:

- The episode illustrates the **rapid expansion of AI integration into defence systems**.
- **Advanced AI tools** can significantly enhance military capability, but they also increase the risks associated with **autonomous warfare and algorithmic decision-making**.

2. Ethical Governance of AI:

- The conflict highlights the tension between **corporate ethical commitments** and **state security priorities**.
- Technology companies are increasingly required to balance **commercial opportunities, ethical obligations, and geopolitical pressures**.

3. Expanding Role of Technology Companies in National Security

- **Private technology firms now play a critical role in developing advanced AI systems that influence military power.**
- **This development raises important questions regarding:**
  - **Corporate responsibility in defence applications**
  - **Government regulation and oversight**
  - **Transparency and accountability in the use of AI technologies**

4. Global Debate on Autonomous Weapons

- The use of AI in warfare has intensified debates on **Lethal Autonomous Weapons Systems (LAWS)**.
- Several countries and international organisations have called for **global norms and regulatory frameworks** to ensure **meaningful human control over lethal technologies**.

Strategic Implications for India

As India modernizes its armed forces and builds its "IndiaAI" ecosystem, the Anthropic–DoD dispute serves as a crucial case study.

- **Defence Modernisation:** India's AI initiatives by **Defence Research and Development Organisation** and programmes like **Innovations for Defence Excellence (iDEX)** highlight growing AI integration in defence; however, ensuring **human oversight in autonomous systems** is crucial.

- **Strategic and Technological Autonomy:** Under the **IndiaAI Mission**, India must strengthen indigenous AI capabilities and reduce reliance on foreign technologies through domestic AI models and innovation.
- **Regulatory and Economic Preparedness:** Strengthening AI governance frameworks through bodies like **NITI Aayog** and ensuring data protection under the Digital Personal Data Protection Act, 2023 will be essential to support responsible AI growth and protect Indian startups.

Way Forward

1. **Establish International Norms for Military AI:** Global frameworks under organisations such as the **United Nations** should promote regulations governing **autonomous weapons and AI-enabled warfare**.
2. **Strengthen AI Governance Mechanisms:** Governments and companies should develop **clear regulatory frameworks**, including:
   - Mandatory **human oversight in high-risk systems**
   - Robust **accountability and audit mechanisms**
   - Transparency in **AI deployment practices**
3. **Promote Responsible Public–Private Partnerships:** Collaboration between governments and technology companies should be guided by **ethical principles, legal clarity, and effective oversight structures**.
4. **Balance Innovation and Security:** Policies should ensure that innovation in artificial intelligence continues while maintaining **strict safeguards against misuse in surveillance or autonomous lethal systems**.

Conclusion

The dispute involving **Anthropic** and the **United States Department of Defense**, along with an agreement by **OpenAI**, highlights the growing intersection of artificial intelligence, military use, and ethical governance. It underscores the need for **human oversight, legal accountability, and international cooperation** to ensure AI strengthens national security while being used responsibly.

Q. *Artificial Intelligence is increasingly becoming a critical component of modern military capability. Examine the growing role of AI in defence systems and discuss the strategic and ethical challenges associated with its militarisation. (250 Words)*

3.3.3. SOVEREIGN AI: STRATEGIC AUTONOMY IN THE DIGITAL AGE

Context:

The concept of Sovereign AI gained significant momentum in the present time as a response to "Compute Colonialism"—where AI power is concentrated in the hands of a few Global North corporations.

What is Sovereign AI?

Sovereign AI refers to a nation's capacity to develop, deploy, and govern AI technologies using its own **indigenous infrastructure, data, and talent**, free from external dependencies.

The Four Pillars of the Sovereign Stack:

1. **Data Sovereignty:** Keeping Indian data within national borders and using it to train models that understand local nuances.
2. **Compute Sovereignty:** Hosting the "Compute Bank" (GPUs) locally to prevent "API Gatekeeping" by foreign entities.
3. **Algorithmic Sovereignty:** Developing foundational models (like LLMs) that reflect Indian culture and languages rather than "Western Hallucinations."
4. **Governance Sovereignty:** Ensuring AI ethics and regulations are rooted in Indian legal frameworks (e.g., **DPDP Act 2023**).

Why India Needs Sovereign AI?

1. **Strategic Autonomy (Ending "Digital Colonialism")**
   - **Geopolitical Resilience:** Reduces dependence on the "U.S. AI Stack" (OpenAI, Google) or "China AI Stack" (Baidu, Alibaba).
   - **Kill-Switch Protection:** Ensures critical services (defense, policing, and space) remain operational even if foreign entities throttle access or change geopolitical stances.
2. **Cultural & Linguistic Inclusion (The "Bhashini" Factor)**
   - **Vernacular Access:** Global models are trained primarily on Western data. India needs models like **Vachana** and **BharatGen** to understand the nuances of 22 scheduled languages and local dialects.
   - **Democratizing Tech:** Allows a farmer in rural India to access government advisories in their mother tongue without data leaving the country.
3. **Data Sovereignty & Security**
   - **Zero Data Egress:** Prevents sensitive national data (Aadhaar, UPI, Health records) from being processed on foreign servers, ensuring compliance with the **DPDP Act**.
   - **Shielding IP:** Protects Indian startups' intellectual property from becoming training fuel for foreign frontier models.
4. **Economic Multiplier**
   - **Retaining Value:** AI is expected to contribute nearly **$500 Billion** to India's GDP by 2025-26. Sovereign AI ensures this economic value stays within the domestic startup ecosystem.
   - **Cost Predictability:** Reduces reliance on expensive, "token-based" pricing from foreign giants, offering subsidized compute (like the **₹65/hour GPU access** under IndiaAI Mission).
5. **Population-Scale Governance**
   - **DPI Integration:** Seamlessly integrates AI with India's **Digital Public Infrastructure (Aadhaar, UPI, ONDC)** to improve service delivery in healthcare, agriculture, and education.
   - **Addressing Local Challenges:** Foreign models are "General Purpose"; India needs "Task-Specific" models for local problems like monsoon prediction or regional crop diseases.
6. **Ethical & Biased-Free AI**
   - **Removing Western "Accents":** Prevents the structural bias where Western legal or social norms are treated as the "default" (e.g., the legal interpretation of maritime laws in the EEZ).
   - **Auditability:** Sovereign models allow the government to audit algorithms for fairness, transparency, and safety.

Challenges in Implementing Sovereign AI

1. **The "Compute" Deficit:** India faces critical **Hardware Dependency** on foreign GPUs (Nvidia H100s), leading to risks of "API Gatekeeping." Despite the 2026 expansion to ~58,000 units, a massive **Capacity Gap** remains compared to global tech giants.
2. **Data Quality & "Token Inequality":** India generates 20% of global data, but it remains **Fragmented and Siloed** in government records. A lack of annotated datasets for 22 scheduled languages creates **Token Inequality**, making AI more expensive and less accurate for non-English speakers.
3. **Western Hallucinations:** Most base models are trained on Western datasets, leading to **"Cultural Hallucinations"** where AI fails to grasp Indian social norms, caste nuances, or local traditions, resulting in biased outputs.
4. **Talent "Brain Drain" & Skill Gap:** While rich in software engineers, India suffers an **82% shortage** in "Deep-Tech" researchers. High-end talent is often lost to **Salary Arbitrage** from Silicon Valley, leaving a domestic research vacuum.
5. **Regulatory & Ethical Fault Lines:** The lack of a dedicated "AI Law" creates **Legal Fragmentation**. "Black Box" algorithms also raise concerns regarding **Algorithmic Bias** in critical welfare delivery systems like Direct Benefit Transfer (DBT).
6. **Financial & Sustainability Constraints:** Developing foundational models requires **"Patient Capital,"** which is scarce compared to low-risk consumer-tech funding. Additionally, the massive energy/water needs of AI data centers conflict with India's **Net Zero 2070** goals.

Key Government Initiatives for Sovereign AI

1. **IndiaAI Mission:** A ₹10,372 crore "Full-Stack" mission to build a domestic AI ecosystem. It includes a **subsidized GPU-as-a-Service** model (approx. ₹65/hour) to lower R&D costs for startups.
2. **IndiaAI Compute Pillar:** A strategic push to bridge the "Compute Gap" by onboarding **100,000 GPUs** by late 2026, ensuring high-speed domestic processing power for sovereign models.
3. **BharatGen & Bhashini:**
   - **BharatGen:** India's first state-funded multimodal LLM tailored for local social and cultural contexts.
   - **Bhashini:** A mission enabling real-time AI translation across **22 scheduled languages**, democratizing digital access.
4. **AIKosh (National Dataset Platform):** Known as the **"Data-Sagar,"** it hosts 9,500+ indigenous datasets to provide high-quality training fuel, reducing reliance on biased Western data "scrapes."
5. **IndiaAI Future Skills:** A talent-tiering program targeting **13,500+ specialists** (PhDs, PGs, UGs) and setting up **AI Data Labs** in Tier-2/3 cities for localized data curation and annotation.
6. **Sovereign Capacity Hubs:** Regional AI-optimized data centers (e.g., in **Odisha & Tamil Nadu**) providing specialized backbones for local industries like mining, safety, and regional language skilling.

Way Forward

- **Frugal Innovation (Small Language Models):** Shift focus toward **SLMs (Small Language Models)** that are task-specific (e.g., for agriculture or law). These require less "Compute" and energy.
- **Silicon-to-Software Integration:** Align the **India Semiconductor Mission (ISM)** with the AI Mission. Designing indigenous **AI Accelerators (ASICs)** will ensure India is not just writing the code, but also owning the hardware it runs on.

- **Incentivizing "Patient Capital":** Create a dedicated **AI Sovereign Fund** to provide long-term equity to deep-tech startups. This reduces the pressure on startups to seek foreign VC funding that often comes with data-sharing strings attached.
- **Global South Leadership:** Export the **"India AI Stack"** as a Digital Public Good (DPG) to other developing nations. By leading a "Global South AI Alliance," India can set international standards that challenge the U.S.-China bipolarity.
- **Sustainable AI (Green Compute):** Mandate the use of renewable energy for new AI Data Centers and invest in **"Circular Cooling"** technologies to ensure AI growth doesn't compromise India's Net Zero 2070 targets.

Conclusion

Sovereign AI is not just a technological upgrade; it is a **civilizational necessity**. As the world moves toward the "Fifth Industrial Revolution," India cannot afford to "outsource its cognition." By building its own AI stack, India ensures that its digital future is **inclusive, ethical, and truly 'Atmanirbhar'.**

Q. *"The rise of Artificial Intelligence has triggered debates on technological sovereignty." Discuss the need for a Sovereign AI ecosystem in India and the challenges in achieving it.*

***

Scan to attempt more questions...

GENERAL STUDIES 4

4.1. ETHICS

4.1.1. UNDERSTANDING AMARTYA SEN'S CAPABILITIES APPROACH

Context:

Development has traditionally been measured through economic growth, industrial expansion, and rising national income, with indicators such as **Gross Domestic Product (GDP)** and **per capita income** serving as the primary benchmarks of progress.

Challenging this narrow view, economist and philosopher Amartya Sen proposed the **capabilities approach**, redefining development as the **expansion of human freedoms and choices** rather than mere economic growth.

The Idea of Capability: Moving Beyond Skills and Income

- At the heart of Sen's framework lies the **idea of capability**, a concept that goes far beyond the conventional understanding of skills or competencies. In the capabilities approach, capabilities refer to the **substantive freedoms individuals possess to achieve valued ways of living**.
- Sen draws a crucial distinction between **functionings** and **capabilities**. Functionings represent the actual achievements of individuals—such as being healthy, educated, or politically active. Capabilities, by contrast, represent the **real opportunities or freedoms to achieve those functionings**.
- Individuals with the same income may still have very different opportunities depending on their access to education, healthcare, and social mobility. Such access expands life choices, while its absence restricts them. Therefore, development must focus not only on income or outcomes but on the **freedom and opportunities people have to achieve them**.

Rethinking Development: The Limits of GDP and Per Capita Indicators

1. **Economic Reductionism:** GDP and per capita income measure economic activity but provide only a partial picture of overall societal progress.
2. **Distributional Blindness:** High economic growth may coexist with inequality, leaving large sections of the population marginalized or impoverished.
3. **Neglect of Social Dimensions:** GDP fails to capture access to essential public goods such as healthcare, education, social security, and civil liberties.

Instrumental Role of Growth: As emphasized by Amartya Sen, economic indicators should be treated as means, while true development lies in the **expansion of human capabilities and freedoms**.

Development as the Expansion of Human Freedom

Building upon this critique, Sen conceptualizes development as a process of **expanding human freedom**. Freedom, in this framework, is both the **primary objective** and the **principal means** of development.

Human freedoms encompass several interrelated dimensions:

- **Political freedoms**, including the right to vote, express opinions, and participate in democratic governance.
- **Economic facilities**, such as access to employment, credit, and markets.
- **Social opportunities**, including education, healthcare, and public services.
- **Protective security**, which safeguards individuals against extreme deprivation, exploitation, or social exclusion.

These freedoms are **mutually reinforcing**—for example, education improves employment opportunities, which enhances economic security and social participation.

By strengthening these linkages, development expands the **range of choices available to individuals**. In this sense, people are not merely beneficiaries but **active agents of change** shaping their own lives and societies.

Equality of Autonomy and the Role of Human Agency

- An essential element of Amartya Sen's framework is the principle of **Equality of Autonomy**, which stresses that individuals should have equal opportunities to shape their own lives and pursue their aspirations.
- Autonomy requires enabling conditions such as **education, access to information, and democratic participation**, without which formal freedoms remain ineffective. Thus, development must strengthen **human agency**, enabling individuals not just to receive benefits but to actively participate in decisions affecting their lives.

Niti and Nyaya: Institutions versus Realized Justice

Drawing on classical Indian philosophy, Amartya Sen distinguishes between **niti** and **nyaya**.

- **Niti** refers to the correctness of institutional rules and arrangements.
- **Nyaya** refers to the realization of justice in actual social outcomes.

This distinction shows that well-designed institutions alone do not guarantee justice. Consequently, development policy must evaluate not only the design of institutions but also their **practical impact on human well-being**.

Challenges to the Capabilities Approach

1. **Normative Debate on Defining Capabilities**
    - One of the major challenges to the capabilities approach concerns the **identification of core capabilities**. Martha Nussbaum attempted to address this issue by proposing a **definite list of central human capabilities**—such as bodily health, emotional well-being, practical reason, and political participation—which she argues should be guaranteed by the state as a minimum threshold for human dignity.

- However, Amartya Sen cautions against prescribing a universal list of capabilities and argues that they should emerge through **democratic public reasoning** within societies. This creates a key challenge: the **absence of a universally agreed framework** for identifying and prioritizing capabilities.

2. **Difficulty in Translating Theory into Policy (Praxis Problem)**

   Another major limitation lies in the gap between **theoretical insight and practical implementation**, often described through the philosophical concept of **praxis**—the integration of theory and practice.

   - **Policy Translation Challenge:** Although the capabilities approach offers a strong normative framework, translating it into concrete policies remains complex.
   - **Operationalization in Governance:** Governments must convert ideas of **freedom and opportunity** into policies such as universal education, public healthcare, social protection, and inclusive labour markets.
   - **Institutional Effectiveness:** The key challenge is ensuring that institutions **genuinely expand real opportunities** rather than merely adopting the rhetoric of capability.

3. **Measurement and Contemporary Political Challenges:**
   - **Measurement Challenge:** Capabilities such as **freedom, dignity, and participation** are qualitative and difficult to quantify compared to indicators like **GDP or income**.
   - **Political Challenge:** The rise of **plutocratic populism**, where economic elites consolidate power while appealing to popular sentiments, reduces development discourse to **mere economic growth**.
   - **Normative Impact:** This trend shifts attention away from **human freedom, justice, and democratic participation**, thereby undermining the core principles of the **capabilities approach**.

4. **Institutional Justice versus Real Outcomes**
   - The capabilities approach also raises debates within theories of justice. John Rawls introduced the concept of the **veil of ignorance**, emphasizing the design of fair institutions that protect equality and justice. While Sen appreciates Rawls's framework, he argues that justice cannot be judged solely by institutional design.
   - Instead, attention must focus on **actual social outcomes and lived experiences**. Institutions may appear just in theory but fail to produce equitable results in practice. This raises the practical challenge of ensuring that institutional frameworks genuinely translate into **expanded human capabilities**.

Way Forward for Strengthening the Capabilities Approach

1. **Democratic Deliberation for Defining Capabilities**: Societies should encourage **inclusive democratic public reasoning** to identify and prioritize core capabilities. Participatory policymaking involving citizens, experts, and institutions can help create a **context-specific yet broadly acceptable framework of capabilities**.
2. **Translating Capability Theory into Effective Public Policy**: Governments must integrate the capabilities approach into **development planning and governance frameworks** by strengthening policies on universal education, public healthcare, social protection, and inclusive labour markets, ensuring that these policies expand **real freedoms and opportunities**.

3. **Developing Multidimensional Indicators of Human Development**: To address measurement challenges, policymakers should adopt **multidimensional indicators**—such as the Human Development Index (HDI), social progress indicators, and well-being metrics—that better capture aspects like **health, education, participation, and dignity** beyond GDP.
4. **Strengthening Democratic Institutions and Accountability**: To counter challenges such as plutocratic populism and the gap between institutional design and real outcomes, states must reinforce **transparent governance, rule of law, and institutional accountability**, ensuring that development policies translate into **tangible improvements in human capabilities and freedoms**.

Conclusion

The capabilities approach, advanced by Amartya Sen, offers a **future-oriented vision of development** where progress will be measured by the expansion of human freedoms, choices, and agency rather than merely by economic growth.

Q. *While the Capabilities Approach has transformed development discourse, it faces several conceptual and practical challenges. Critically examine.*

Scan to attempt more questions...

***

PROF. (DR.) SAMIT RAY
Chairman of RICE Group and
Chancellor of Adamas University

RICE IAS

Delhi's Top Notch IAS Faculty Now At Kolkata

2-YEAR GS PRELIMS & MAINS
Classroom/LIVE Online Foundation Programme

FOR UPSC-CSE 2028

Under the guidance of
S.A. MAJID
Co-Founder & Director **RICE IAS**
Vice President -ADAMAS UNIVERSITY

KNOW YOUR FACULTY MEMBERS

AKSHAY VRAT
Experience – 12+ Yrs
Subject – Environment

DR. K SHIVESH
Experience – 20+ Yrs
Subject – Modern History

ALOK KUMAR
Experience – 10+ Yrs
Subject – Science & Tech.

DR. KUMUD RANJAN
Experience – 20+ Yrs
Subject – Polity & Constitution

AMIT KUMAR
Experience – 10+ Yrs
Subject – Economics

VIJAY KUMAR
Experience – 07+ Yrs
Subject – Society

ANKIT SHARMA
Experience – 10+ Yrs
Subject – International Relations

KARUNA MISHRA
Experience – 07+ Yrs
Subject – Geography

PANKAJ SINGH
Experience – 10+ Yrs
Subject – AMC

DR. P M TRIPATHI
Experience – 25+ Yrs
Subject – Essay

Sealdah, Kolkata | Old Rajinder Nagar, New Delhi | At Adamas University

8100819447 | 9933118849 | 8100971442

Through the Eyes of Aspirants

Monthly Current affairs magazine of RICE IAS is really helping me alot. It is comprehensively covering current events with segregation of topics in subject wise.

P.V Surendra

The topics are comprehensively covered in each magazine content was crisp, clear & to the point that are very much important for the preparation & the current is also covered with the static part. Keep up the good work:

Kishore Muddada

By reading current affairs, it has become easy to conclude the important news at the end of monthly magazine.

Shreya Mondal

The monthly magazines for current affairs are exam-oriented and written in a very concise manner suitable for performing well in the examinations.

Aindrila saha

By reading Current Affairs it has become easy to conclude the important news at the end of the month.

Kashish Kapoor

Provides gainful insights about the current relevant news. Really beneficial.

Sulagna Roy

RICE IAS

GET CLOSER TO YOUR IAS & IPS DREAMS

"Bengal once led India in the Civil Services, producing pioneers like Satyendra Nath Tagore and Subhas Chandra Bose. Today, we must revive that legacy. With the right guidance and training, Bengal's youth can again shape governance and nation-building. When Bengal's students rise, the whole nation prospers".

Prof. (Dr.) Samit Ray

CHAIRMAN OF RICE GROUP
& CHANCELLOR OF ADAMAS UNIVERSITY

S.A. MAJID

Co-Founder & Director **RICE IAS**
Vice President -ADAMAS UNIVERSITY

Rishita Das
UPSC CSE 2024
AIR 840

Pemba Narbu Sherpa
UPSC CAPF (AC) 2022
AIR 140

Tamali Saha
IFoS 2021
AIR 94

Sealdah, Kolkata 8100819447

Old Rajinder Nagar, New Delhi 9933118849

At Adamas University 8100971442