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GENERAL STUDIES 2

1.1. POLITY & GOVERNANCE

1.1.1. THE ARCHITECTURE OF POLITICAL FINANCE

Context

A recent investigation found that **six Gujarat-based Registered Unrecognised Political Parties (RUPPs) received ₹1,700 crore in donations in 2023–24**, exceeding the **₹1,480 crore** received collectively by five major national parties. The anomaly highlights the potential misuse of **shell parties and opaque financial channels for tax evasion and money laundering**.



Introduction

Electoral funding is the financial backbone of representative democracy, enabling elections and political participation. However, opaque and unregulated funding can foster a **politico-corporate nexus, criminalisation of politics and plutocratic influence**. Hence, a **transparent and accountable political finance framework** is essential for safeguarding electoral integrity.

Constitutional and Legal Basis of Political Parties

- **Fundamental Right: Article 19(1)(c)** of the Indian Constitution grants citizens the fundamental right to form associations or unions, forming the bedrock for political organization.
- **Statutory Registration: Section 29A of the Representation of the People Act (RPA), 1951**, governs the formal registration of political parties with the **Election Commission of India (ECI)**.
- **Constitutional Recognition:** Political parties were not explicitly mentioned in the original Constitution but gained constitutional status via the **52nd Amendment Act (1985)**, which introduced the Anti-Defection Law under the Tenth Schedule.

Types of Political Parties in India

- **National Parties:** Parties that secure a widespread electoral footprint across multiple states, entitling them to an exclusive nationwide reserved symbol.
- **State Parties (Regional Parties):** Parties demonstrating significant electoral presence within a specific state or states, granted a reserved symbol within that jurisdiction.
- **Registered Unrecognised Political Parties (RUPPs):** Newly registered parties or those that have not secured a sufficient vote/seat share to attain State or National party status. They must choose from a list of "free symbols."

Recognition of Political Parties

- **Regulatory Framework:** The formal recognition of parties is strictly governed by the **Election Symbols (Reservation and Allotment) Order, 1968**.

- **Criteria for National Party:** Must secure 6% of valid votes in four or more states plus 4 Lok Sabha seats; OR win 2% of Lok Sabha seats from at least three states; OR be recognized as a State Party in at least four states.
- **Criteria for State Party:** Must secure 6% of valid votes and win 2 Assembly seats; OR win 3% of total Assembly seats (or 3 seats, whichever is higher); OR secure 8% of the total valid votes polled in the state.

The Mechanics of Electoral Funding in India

Registered Unrecognised Political Parties (RUPPs)

- Formed under Section 29A of the Representation of the People Act (RPA), 1951, RUPPs are granted common symbols, star campaigners, and 100% tax exemptions (Section 12, IT Act, 2025).
- While intended to expand grassroots representation, thousands exist solely on paper to harvest financial benefits without genuine electoral participation.

Corporate Funding and Trusts

- Regulated under Section 182 of the Companies Act, 2013, corporate funding was drastically expanded following the 2017 amendment that removed the 7.5% net-profit cap on donations.
- Electoral Trusts serve as pooled intermediary bodies (e.g., Prudent Electoral Trust), maintaining partial anonymity while transferring corporate funds to political entities.

The Electoral Bonds Scheme

- Introduced in 2018 as anonymous bearer instruments sold exclusively via the State Bank of India (SBI) to formalize donations.
- On February 15, 2024, the Supreme Court struck down the scheme as unconstitutional, citing severe violations of the citizens' fundamental Right to Information.

Global Paradigms & State Funding

- Unlike France or New Zealand, which employ strict state-funding models and corporate bans, India relies heavily on private capital.
- Committees like Indrajit Gupta (1998) and the 2nd Administrative Reforms Commission have repeatedly advocated for partial, in-kind state subsidies to establish a level playing field.

Significance of Transparent Electoral Funding

1. **Sustains Democratic Exercises:** Provides the necessary capital to conduct complex, large-scale electoral processes across a vast demographic without compromising systemic integrity.
2. **Fosters Political Inclusivity:** Fair funding distribution allows marginalized voices and independent grassroots candidates to effectively compete against legacy parties.
3. **Prevents Policy Capture:** Transparent financing restricts the influence of "Big Money," ensuring state policies are dictated by public welfare rather than corporate quid pro quo.
4. **Enhances Voter Empowerment:** Mandatory disclosures enable the electorate to make highly informed decisions by tracking the ideological and financial backers of their representatives.
5. **Curbs the Parallel Economy:** Formalizing political finance directly attacks the circulation of black money and illicit capital within the national economy.

Challenges

1. **The "Letter Pad Party" Loophole:** Hundreds of RUPPs act as opaque conduits for money laundering, protected by the Election Commission's lack of explicit statutory power to de-register inactive parties (upheld in the 2002 *INC vs. Institute of Social Welfare* ruling).
2. **Unchecked Corporate Nexus:** The removal of the corporate donation cap allows wealthy conglomerates to disproportionately influence democratic outcomes and skew the electoral playing field.
3. **Foreign Funding Risks:** Amendments to the Foreign Contribution (Regulation) Act (FCRA), 2010, permit foreign entities with Indian subsidiaries to fund parties, threatening sovereign policy autonomy.
4. **Cash Donation Anonymity:** Lowering the anonymous cash donation limit from ₹20,000 to ₹2,000 paradoxically increased the volume of untraceable micro-donations, defeating the purpose of transparency.
5. **Exorbitant Campaign Costs:** The soaring expense of modern elections acts as a high barrier to entry, forcing political parties into a perpetual cycle of fund-seeking from vested commercial interests.

Way Forward

1. **Empower the Election Commission:** Amend the RPA to grant the EC explicit authority to de-register political parties that fail to contest elections for ten consecutive years, as recommended by the Law Commission's 255th Report.
2. **Link Tax Benefits to Performance:** Stipulate a minimum legislative vote percentage threshold for RUPPs to avail of income tax exemptions, thereby deterring the formation of shell organizations.
3. **Bring Parties Under the RTI Act:** Classify recognized political parties as "public authorities" under the Right to Information Act to enforce absolute financial transparency and public accountability.
4. **Establish a National Election Fund:** Implement former CEC T.S. Krishnamurthy's proposal for an independent, state-managed fund that distributes corporate and public donations based on objective metrics like vote share.
5. **Reinstate Corporate Contribution Caps:** Restore the 7.5% net-profit ceiling on corporate donations to strictly limit business interference in legislative policymaking.
6. **Adopt Partial State Funding:** Operationalize the 2nd ARC recommendations for partial, in-kind state subsidies (e.g., free media airtime, transport logistics) to reduce reliance on illicit private capital.
7. **Enhance Inter-Agency Digital Tracking:** Mandate real-time digital integration between the EC, Income Tax Department, and Enforcement Directorate to proactively monitor and penalize financial anomalies within political entities.

Conclusion

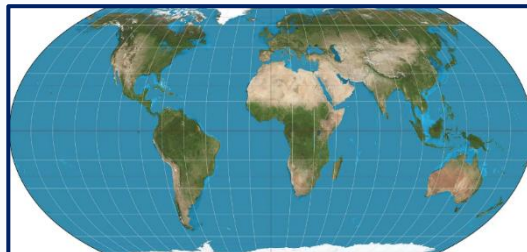
A robust democracy cannot function optimally if its electoral mandate is overshadowed by opaque financial transactions. Comprehensive reforms—ranging from empowering the Election Commission to enforcing RTI compliance—are imperative to cleanse political finance, ensuring governance remains a true reflection of the public will.

Q. To enhance the quality of democracy in India the Election Commission of India has proposed electoral reforms in 2016. What are the suggested reforms and how far are they significant to make democracy successful? 15 marks

1.1.2. MERCATOR TO EQUAL EARTH: RETHINKING THE WORLD MAP

Context

The **UN General Assembly** adopted a **Togo-led resolution**, supported by **164 countries**, calling for more accurate representation of the world's land areas, particularly **Africa**; the **US opposed** it and six countries abstained.



The **non-binding resolution** highlights how the **Mercator projection**, though useful for navigation, visually exaggerates the size of regions such as **Europe and North America** relative to Africa and other regions.

INTRODUCTION

The Earth's **curved surface** cannot be represented on a flat map without distortions in **area, shape, distance or direction**. Hence, **no projection is perfect**—the Mercator–Equal Earth debate highlights the need for **purpose-specific and geographically accurate representation**.

WHY IS THE MERCATOR PROJECTION BEING QUESTIONED?

- Inherent Area Distortion:** Mercator preserves **angles and local shapes**, but distorts **area increasingly towards the poles**. Thus, **high-latitude regions appear much larger** than their actual size.
- Misrepresentation of Africa's Size:** **Greenland appears comparable to Africa**, although Africa is nearly **14 times larger**. This can create a **misleading perception of continental scale**.
- Eurocentric Representation:** Enlargement of Europe and other northern regions has been criticised for reinforcing **Eurocentric geographical perceptions**. The debate links cartography with **colonial legacies, knowledge inequality and Global South representation**.
- Limited Purpose of Mercator:** Mercator was designed primarily for **navigation**, where preserving direction and angles is valuable. It is less suitable for **area-based maps**, such as population, resources and environmental analysis.
- Need for Purpose-Specific Projections:** Modern cartography requires different projections depending on whether the priority is **area, shape, distance or direction**. Hence, alternatives like **Equal Earth** are preferred when **accurate relative area** is the objective.

EQUAL EARTH: THE ALTERNATIVE

- Equal-Area Projection:** Developed in **2018**, Equal Earth is designed to preserve the **relative area of landmasses**. It reduces the extreme size distortion seen in **Mercator**, especially at higher latitudes.
- More Proportionate Representation:** Continents such as **Africa and South Asia** appear closer to their **actual relative sizes**. This provides a more balanced visual understanding of **global geography**.

3. **Corrects Cognitive Distortion:** Helps counter the tendency to **underestimate Africa's actual size** created by conventional maps. Strengthens **cartographic awareness** that maps are representations, not exact replicas of Earth.
4. **Useful for Thematic Mapping:** Particularly suitable for mapping **population, forests, agriculture, minerals, emissions and biodiversity**. Accurate area representation makes **spatial comparisons** more meaningful.
5. **Significance for Global South:** Challenges inherited **Eurocentric representations** of geographical space. Highlights the importance of **inclusive knowledge systems and balanced global representation**.

WHAT IS THE PROBLEM WITH THE NEW MAP?

1. **Area Accuracy ≠ Complete Accuracy:** Equal Earth corrects **area distortion**, but still distorts shape, distance and direction. Hence, no single projection can represent all geographical properties accurately.
2. **Cannot Completely Replace Mercator:** Mercator remains valuable for **navigation** because constant-bearing routes appear as straight lines. Therefore, replacing it universally would ignore its functional utility.
3. **Need for Purpose-Specific Projections:** **Equal-area projections** are better for population, resources and thematic comparisons. **Conformal projections** like Mercator remain suitable for navigation and certain technical applications.
4. **Risk of Treating Cartography as a Political Issue:** Criticism of Mercator as "Eurocentric" highlights representation, but its original purpose was primarily **navigation**. Cartographic reform should therefore remain evidence-based rather than purely political or symbolic.
5. **Limited Impact on Global Power Structures:** A new map can improve visual representation of the **Global South**, but cannot by itself correct historical inequalities. Structural issues of knowledge, technology, resources and geopolitical influence require broader reforms.
6. **India's Key Concern: Appropriate and Balanced Adoption:** India support projections that provide **accurate representation without sacrificing practical utility**. The focus is on **purpose-specific mapping**, rather than a binary choice between Mercator and Equal Earth.

WAY FORWARD

1. **Adopt Purpose-Specific Projections:** Instead of one universal map, projections should be selected according to the **purpose and required geographical property**.
 - **Navigation** → Mercator
 - **Area comparison** → Equal-area
 - **General reference** → **Compromise projections**.
2. **Promote Cartographic Literacy:** Schools and institutions should explain **why maps distort** and the strengths and limitations of different projections. This will prevent students from viewing any single map as an **absolute representation of geographical reality**.
3. **Use Equal Earth for Thematic Mapping:** Equal-area projections can be increasingly used for **population, environment, agriculture, resources and climate mapping**. This enables more accurate visual comparison of spatial data, particularly for the **Global South**.

4. **Modernise Digital Cartography:** GIS platforms and digital maps should provide **projection choices based on the user's objective** rather than defaulting to one conventional projection. This can make digital cartography more **scientifically accurate, flexible and context-sensitive**.
5. **Encourage Diverse Cartographic Perspectives:** Mapping should reflect the geographical realities of the **Global South** without compromising mathematical and scientific accuracy. Greater diversity in cartographic standards can reduce **historical representational biases** in global geographical understanding.
6. **Combine Cartographic Reform with Knowledge Reform:** Changing maps must be accompanied by **better geographical education, diversified knowledge production and wider Global South representation**. Thus, cartographic reform should become part of a broader effort towards **epistemic equity and balanced global representation**.

CONCLUSION

The **Mercator–Equal Earth debate is not about a “wrong” or “correct” map**, but about choosing the right projection for the right purpose. The way forward is **purpose-specific mapping, cartographic literacy and fair representation** to ensure scientifically accurate and cognitively balanced understanding of the world.

*Q. The choice of a map projection involves a trade-off between geographical accuracy, functional utility and representation. Examine with reference to the **Mercator and Equal Earth projections**.
15 Marks*

1.1.3. SANITATION WORKERS' STRIKE IN HARYANA: LABOUR RIGHTS & DIGNITY OF WORK

Context

The prolonged strike by sanitation workers in Haryana has brought the issue of **contractual employment in municipal sanitation services** into focus. Workers have raised concerns relating to **regularisation, wages, job security and social protection**, while the prolonged disruption has also affected the functioning of urban local bodies. The episode highlights the challenge of balancing **labour rights, municipal finances and continuity of essential civic services**.

Introduction

Sanitation workers perform a critical role in maintaining **urban hygiene, public health and environmental cleanliness**, yet many continue to work through contractual or outsourced arrangements with limited employment security.

Sanitation Workers: Pillars of Public Health and Social Justice

1. **Public Health & Disease Prevention:** Their work limits **waste accumulation, contamination and disease transmission**, making them a frontline component of preventive healthcare.
2. **Effective Urban Governance:** Reliable sanitation reflects the **capacity of Urban Local Bodies (ULBs)** to provide basic civic services and maintain liveable cities.
3. **Environmental Sustainability:** Proper collection, segregation and disposal of waste contribute to **cleaner surroundings, reduced pollution and sustainable urban development**.



4. **Social Justice & Inclusive Development:** Improving wages, safety, social security and working conditions addresses the **economic vulnerability and historical marginalisation** associated with sanitation work.
5. **Dignity of Labour & Constitutional Values:** Protecting sanitation workers' rights reinforces **equality, dignity, non-discrimination and decent work**, transforming sanitation from a socially undervalued occupation into recognised public service.

Structural Challenges Facing Sanitation Workers

A. Regularisation vs Constitutional Recruitment

- **Equality in public employment:** Regularisation must respect **Articles 14 and 16**, as permanent public employment ordinarily requires fair and transparent recruitment.
- **Balancing justice and legality:** Governments must address the claims of long-serving workers without creating **arbitrary or preferential entry into public service**.

B. Contractualisation of Essential Services

- **Fragmented accountability:** Outsourcing can separate the **municipality's responsibility for service delivery** from the contractor's responsibility towards workers.
- **Precarious employment:** Short-term contracts may result in **low job security, weak bargaining power and inadequate welfare protection** despite the essential nature of the work.

C. Fiscal Constraints

- **Recurring financial burden:** Regularisation can increase expenditure on **salaries, allowances, pensions and other employee benefits**.
- **Sustainability challenge:** Municipalities with limited revenues may struggle to balance **worker welfare with spending on other essential urban services**.

D. Occupational Health and Safety

- **High-risk working conditions:** Regular exposure to **sewage, hazardous waste, pathogens and toxic substances** creates significant occupational-health risks.
- **Safety deficit:** Inadequate **PPE, mechanisation, training and emergency safeguards** can increase workplace injuries and preventable deaths.

E. Inadequate Social Security

- **Protection gap:** Contractual workers may have limited access to **healthcare, insurance, paid leave, pensions and accident compensation**.
- **Vulnerability:** Irregular employment and weak institutional protection can deepen **economic insecurity among workers and their families**.

F. Weak Municipal Capacity

- **Poor workforce planning:** Dependence on contractual labour can indicate inadequate **long-term manpower planning and institutional capacity** within Urban Local Bodies.
- **Service-continuity risk:** Strikes can expose gaps in **contingency arrangements, waste-processing infrastructure and emergency sanitation systems**, affecting urban resilience.

Institutional Recommendations & Best Practices

A. National Commission for Safai Karamcharis (NCSK)

- **Worker protection:** Advocates stronger implementation of **labour rights, welfare measures and safe working conditions**.
- **Rehabilitation:** Focuses on the **rehabilitation of manual scavengers** and monitoring of measures aimed at their socio-economic upliftment.

B. Supreme Court

- **Dignity and protection:** Emphasises that workers engaged in **hazardous sanitation work are entitled to institutional protection and dignity**.
- **Accountability:** Strengthens the principle of **compensation and State accountability** in cases involving hazardous sanitation-related deaths.

C. Swachh Bharat Mission–Urban (SBM-U)

- **Systemic sanitation:** Promotes **scientific waste management, sanitation infrastructure and behavioural change** rather than merely waste removal.
- **Worker safety:** Encourages **safer sanitation practices, mechanisation and improved working conditions**, linking clean cities with worker welfare.

Way Forward: Towards Dignified, Safe and Sustainable Sanitation Work

1. Ensure Legally Sustainable Regularisation

- **Objective assessment:** Review existing workers using transparent criteria such as **tenure, nature of work, recruitment process and performance**.
- **Constitutional compliance:** Design regularisation policies consistent with **Articles 14 and 16**, avoiding arbitrary entry into public employment.

2. Create a Universal Social-Security Floor

- **Employment-neutral protection:** Ensure **health insurance, accident compensation, PF, pension/social-security benefits and paid leave** irrespective of contractual status.
- **Minimum protection:** Establish a **social-security floor** below which no sanitation worker can fall.

3. Make Outsourcing Accountable

- **Worker-centric contracts:** Mandate **minimum wages, timely payment, PF/ESI, PPE, health check-ups and safety training** in municipal contracts.
- **Contractor accountability:** Link compliance with **financial penalties, contract termination and blacklisting** for persistent violations.

4. Promote Safe Mechanisation

- **Eliminate hazardous manual work:** Accelerate **mechanisation of sewer cleaning, waste handling and other high-risk operations**.
- **Protect livelihoods:** Combine mechanisation with **reskilling and redeployment**, ensuring technology reduces occupational risk without creating avoidable displacement.

5. Strengthen Municipal Capacity

- **Service resilience:** Develop **emergency sanitation teams, backup equipment and ward-level contingency plans** to maintain services during disruptions.

- **Decentralised management:** Expand **local waste-processing capacity and real-time monitoring** to improve municipal responsiveness.

6. Institutionalise Social Dialogue

- **Tripartite engagement:** Establish a regular platform involving **municipalities, workers' unions and contractors**, with civil-society participation where appropriate.
- **Preventive resolution:** Strengthen **grievance redressal and collective negotiation mechanisms** so labour disputes do not escalate into prolonged service disruptions.

7. Adopt a "Just Transition" Approach

- **Worker-centred reform:** Combine **formalisation, social security, occupational safety and mechanisation** rather than treating regularisation as the sole solution.
- **Dignity with sustainability:** Ensure that reforms simultaneously deliver **decent work for sanitation workers and efficient, financially sustainable urban sanitation systems**.

Conclusion

The Haryana agitation highlights that **clean cities require dignified, safe and secure work**. The way forward is **social security, occupational safety, mechanisation and accountable governance**. A city's cleanliness must go hand in hand with the dignity of those who keep it clean.

Q. "The crisis of sanitation workers in urban India reflects not merely a labour dispute but deeper weaknesses in urban governance, social security and dignity of work." Discuss in the context of the recent sanitation workers' agitation in Haryana. 15 marks

1.2. SOCIAL JUSTICE

1.2.1. TEACHERS AS MULTIPLIERS OF HUMAN CAPITAL, SOCIAL JUSTICE AND CONSTITUTIONAL CITIZENSHIP

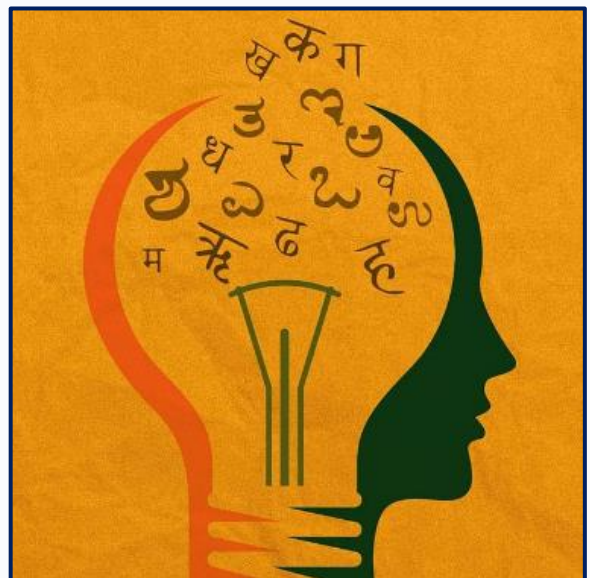
Context:

Teachers are the **critical link between educational infrastructure and actual learning outcomes**, transforming knowledge into capabilities and skills into employability. They also nurture **values, responsible citizenship and social inclusion**, enabling greater social mobility. With **10.12 million school teachers in 2024–25**, their collective impact on India's human capital is immense. **Thus, the quality of India's human capital depends substantially on the quality of its teachers.**

Significance of Teachers in Human Development and Nation-Building

1. Builders of Human Capital

- **Transform education into capabilities:** Teachers convert schooling into knowledge, skills, problem-solving ability and employability, thereby improving productivity and the quality of human capital.



- **Enable personalised learning:** With **10.12 million teachers** and an overall pupil-teacher ratio of about **24** in 2024–25, effective teacher availability can facilitate individual attention and early identification of learning gaps.

Teacher → Learning → Skills → Productivity → Human Capital → Growth

2. Improving Learning Outcomes

- **Shift from access to learning:** India's challenge is increasingly not merely getting children into school but ensuring that they actually learn. ASER 2024 found only **23.4% of Class 3 government-school children** could read a Class 2-level text.
- **Strengthen foundational learning:** Teachers are central to remedial teaching, foundational literacy and numeracy, activity-based learning and continuous assessment.

The real measure of educational expansion is not enrolment, but what children are actually able to understand and apply.

3. Agents of Social Justice

- **Break inherited disadvantage:** Teachers can help children facing poverty, caste, gender, disability and geographical disadvantages acquire capabilities necessary for upward mobility.
- **Convert equality into opportunity:** By providing additional support to disadvantaged learners, teachers can help translate **constitutional equality into substantive equality of opportunity**.

Good Teacher → Better Learning → Capability → Opportunity → Social Mobility

4. Drivers of Women Empowerment

- **Challenge gender stereotypes:** Teachers can encourage girls to pursue STEM, sports, leadership and higher education while challenging discriminatory classroom practices.
- **Build agency and participation:** Gender-sensitive education can strengthen confidence, decision-making and capabilities, contributing to women's economic and social empowerment.

Education → Capability → Agency → Economic Participation → Empowerment

5. Builders of Constitutional Citizenship

- **Internalise constitutional values:** Teachers can translate the Preamble's ideals of **justice, liberty, equality and fraternity** from textbook principles into everyday behaviour.
- **Develop responsible citizens:** By encouraging respect for diversity, rights, duties and democratic participation, teachers strengthen constitutional culture and democratic resilience.

Constitutional Values → Civic Behaviour → Social Trust → Democratic Resilience

6. Promoters of Social Cohesion

- **Transform diversity into learning:** Classrooms bring together children across caste, religion, language, region and socioeconomic backgrounds, creating opportunities for mutual understanding.
- **Challenge inherited prejudices:** Teachers can cultivate empathy, dialogue, tolerance and cooperation, preventing social divisions from being reproduced across generations.

The classroom can become India's first laboratory of fraternity.

7. Cultivators of Scientific Temper

- **Develop rational inquiry:** Teachers encourage students to question claims, examine evidence, distinguish fact from opinion and develop a spirit of inquiry.
- **Build resilience against misinformation:** In the age of fake news, deepfakes and AI-generated content, critical thinking enables citizens to verify information before accepting or sharing it.

Article 51A(h) — scientific temper, humanism and the spirit of inquiry and reform.

8. Builders of Character and Ethical Citizens

- **Develop ethical values:** Teachers cultivate integrity, empathy, fairness, discipline, responsibility and compassion through classroom practices and interactions.
- **Lead by example:** A teacher who demonstrates fairness, honesty and accountability converts abstract ethical principles into lived behaviour that students can internalise.

Values are transmitted most effectively when they are practised, not merely preached.

Role Model → Internalisation of Values → Ethical Behaviour → Public Good

9. Converters of Demographic Potential into Dividend

- **Build employability:** Teachers transform India's young population into skilled, adaptable and productive human resources.
- **Promote innovation:** By nurturing creativity, problem-solving and entrepreneurship, teachers help convert **population advantage into productivity advantage**.

Young Population → Education → Skills → Employment → Productivity → Growth

10. Human Anchors in the Age of AI

- **AI can augment learning:** Artificial intelligence can provide personalised content, information, feedback and learning assistance, enabling teachers to focus more on higher-order learning.
- **Teachers provide the human dimension:** Empathy, mentorship, contextual judgement, motivation and ethical guidance remain central to meaningful education.

Technology can personalise learning, but teachers humanise education.

Challenges Before Teachers

1. Uneven Teacher Distribution

- Despite **10.12 million teachers in 2024–25, 1,04,125 schools** remain single-teacher schools.
- This particularly affects rural, remote and disadvantaged areas by limiting subject diversity and individual attention.

2. Large Student–Teacher Gaps

- Single-teacher schools together serve around **3.38 million students**, indicating that teacher availability remains uneven despite improvements in aggregate numbers.
- The challenge is therefore not only “**how many teachers?**” but “**where are they located?**”

3. Poor Learning Outcomes

- **ASER 2024:** Only **23.4% of Class 3 government-school children** could read a Class 2-level text.

- This shows that expansion in enrolment has not automatically translated into **foundational learning**.

4. Administrative Burden

- Teachers often undertake substantial **non-teaching and administrative responsibilities**, reducing the time available for classroom teaching, assessment and mentoring.
- This weakens the teacher's role as a **learning facilitator**.

5. Inadequate Professional Development

- Rapid changes in pedagogy, technology and AI require continuous teacher training.
- Gaps in professional development can limit teachers' ability to address **diverse learning needs and new technological challenges**.

6. Digital, Regional and Linguistic Inequalities

- Rural–urban disparities, the **digital divide and multilingual classrooms** make uniform teaching approaches difficult.
- Teachers often have to bridge differences in access, language, learning levels and socioeconomic background.

7. Rote Learning and Examination Pressure

- Excessive focus on examinations can incentivise **memorisation over critical thinking, creativity and application**.
- This creates the core contradiction: **India has expanded educational access faster than it has ensured uniformly high-quality learning**.

Way Forward: Transforming Teachers into Nation-Building Assets

1. Shift from Enrolment to Learning Outcomes

- **Focus on foundational learning:** Move from *Attendance* → *Learning* → *Application* → *Capability*, with foundational literacy and numeracy as the first priority.
- **Outcome-based teaching:** Regular assessment and remedial support should identify and close learning gaps.

2. Strengthen Continuous Teacher Development

- **Continuous professional development:** Regular training in pedagogy, assessment, inclusive education, digital tools and AI literacy.
- **Peer learning:** Encourage teacher communities, mentoring and sharing of classroom practices.

3. Reduce Non-Teaching Burden

- **Protect teaching time:** Minimise administrative and non-academic duties so teachers can focus on teaching, assessment and mentoring.
- **Strengthen support systems:** Use administrative staff and digital systems for routine documentation and reporting.

4. Ensure Equitable Teacher Distribution

- **Rational deployment:** Match teacher availability with student needs and subject requirements, particularly in rural, tribal and remote areas.

- **Incentivise difficult postings:** Provide suitable incentives, housing and infrastructure to attract and retain teachers in underserved regions.

5. Move from Rote Learning to Critical Thinking

- **Experiential pedagogy:** Use projects, discussions, experiments, field-based learning and problem-solving.
- **Develop higher-order skills:** Move from **Rote Learning** → **Understanding** → **Application** → **Critical Thinking**.

6. Use Technology and AI as Enablers

- **Augment teachers:** Use AI and digital platforms for personalised learning, identifying learning gaps and generating teaching resources.
- **Retain the human element:** Technology should reduce repetitive work while teachers remain central to **mentorship, empathy, ethics and social-emotional learning**.

7. Restore Teacher Professional Dignity

- **Empower professionals:** Provide greater autonomy, continuous development, adequate infrastructure and supportive working conditions.
- **Balance autonomy with accountability:** Teachers should have freedom to innovate while being evaluated on meaningful learning outcomes.

Conclusion

A nation's strength ultimately depends on the **capabilities and character of its people**. India's one crore-plus teachers are therefore crucial nation-building assets. **Investing in teachers means investing in human capital, social justice, ethical citizenship and India's democratic future.**

Q. "Quality education can become an instrument of social justice only when teachers are empowered to address social and educational inequalities." Examine. 10 Marks

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Prelims Test Series

2.1. ECONOMY

2.1.1. A DECADE OF INFLATION TARGETING: EVALUATING INDIA'S MONETARY COMPASS

Context

India recently completed a decade of Flexible Inflation Targeting (FIT) under the Reserve Bank of India (RBI). However, empirical data reveals a growing disconnect between this theoretical framework and India's macroeconomic realities, prompting the need for a critical statutory review.



Introduction

The RBI is legally mandated to maintain retail inflation at 4% ($\pm 2\%$). While FIT initially stabilized price volatility, recent analyses suggest its reliance on orthodox Western economic models risks compressing industrial output and employment without effectively resolving India's structural inflation.

What is Inflation Targeting?

Inflation Targeting is a monetary policy framework where a central bank explicitly sets a publicly announced target for the inflation rate. Acting as a "compass for price stability," it uses monetary tools—primarily the policy interest rate (repo rate)—to steer the economy, ensure predictable prices, and anchor public economic expectations. It is a globally recognized mechanism adopted by nations like the UK, Australia, and Canada.

History of Inflation Targeting in India

India's monetary policy has undergone significant structural evolution:

- **1960s to Mid-1980s:** Governed by "credit planning," where policy operated primarily through Statutory Liquidity Ratio (SLR) and Cash Reserve Ratio (CRR).
- **Mid-1980s to Late 1990s:** Shifted to a "monetary targeting with feedback" model, aligning broad money supply with projected GDP growth (targeting 5-7% inflation).
- **2014:** The Urjit Patel Committee recommended transitioning to Flexible Inflation Targeting (FIT).
- **2015–2016:** Institutionalized via a Monetary Policy Framework Agreement and a formal amendment to the RBI Act, establishing the Monetary Policy Committee (MPC) and giving IT a statutory mandate.

Successes of Inflation Targeting in India

Before analysing its flaws, the framework's macroeconomic stabilization benefits must be acknowledged:

- **Lowered Inflation Volatility:** It successfully reduced the historical inflation average (which stood around 7.5% since the 1980s) to a more manageable regime.
- **Market Stability:** The framework reduced volatility in the exchange rate, stock market, and yields on government debt.

- **Enhanced Credibility:** By establishing a predictable policy path, it improved central bank credibility, fostered a stable climate for long-term corporate investments, and shielded Indian markets from global financial spill-overs.

Pros and Cons of Inflation Targeting

Pros	Cons
Enhanced Credibility: Anchors public expectations and fosters investor confidence.	Transmission Lags: Delayed policy impact on ground-level retail inflation.
Policy Predictability: Ensures transparency for long-term corporate investment planning.	Supply-Side Inefficacy: Ineffective against structural shortages and supply-driven shocks.
Systemic Resilience: Shields the domestic economy from external financial shocks.	Growth Constraints: Rigid rate hikes risk stifling GDP growth and industrial employment.

Why the Current Model Fails in India?

- **The Flat Phillips Curve:** Data from the Index of Industrial Production (IIP) and CPI (2012–2026) reveals India's NKPC is flat. Output and inflation simply do not move together in the way the theory assumes.
- **The Missing Wage Spiral:** Unlike Western economies, 92% of India's workforce is informal. They are "price-takers" with zero bargaining power. Wages do not naturally rise with output, rendering the RBI's theoretical model completely void.
- **Expectation Disconnect:** RBI surveys show that household inflation expectations consistently run 4 percentage points above the RBI's projections. Consumers form expectations from their daily grocery bills, not RBI policy statements.

Significance of Inflation Targeting

1. **Exposes Imported Policy Flaws:** It highlights the systemic dangers of force-fitting Western macroeconomic models onto a developing economy dominated by informal labor.
2. **Growth Protection:** Mathematically proves that blind demand compression via repo rate hikes sacrifices industrial output and jobs without actually buying disinflation.
3. **Focus on Informality:** Brings the structural vulnerability of the 92% unorganized workforce to the forefront of national monetary policy debates.
4. **Data-Driven Realignment:** Emphasizes formulating monetary decisions based on actual IIP and survey data rather than theoretical macroeconomic assumptions.
5. **Stagflation Warning:** Warns policymakers that continuing this framework without reform pushes the economy toward stagflation—stagnant growth coupled with high prices.

Challenges in the Current Framework

1. **Supply-Side Dominance:** Headline CPI is heavily weighted toward volatile food and fuel. A repo rate hike cannot lower vegetable prices during a supply shock.
2. **Outdated Statistical Base:** The current CPI relies on a 2011-12 base year containing obsolete consumption items, failing to reflect modern household expenditure patterns.
3. **Weak Transmission Lags:** While rate changes quickly impact external-benchmark retail loans, transmission remains sluggish for older loan books and deposit rates.

4. **Unmeasured Employment Cost:** The statutory objective prioritizes price stability but provides no instrument to measure or mitigate the jobs foregone during a tightening cycle.
5. **Unanchored Sentiments:** Because everyday consumers are disconnected from central bank communications, the RBI lacks the practical tools to effectively anchor retail inflation expectations.

Way Forward

1. **Formulate Indigenous Macro-Models:** The RBI must develop localized economic models that explicitly factor in India's informal, price-taking labor market rather than relying on the imported Phillips Curve.
2. **Shift to Core Target:** Set the operational monetary stance against *core inflation* (excluding volatile food/fuel) while managing food spikes via buffer stock releases and import duties.
3. **Revise Statistical Metrics:** The government must urgently update the CPI base year to capture current consumption patterns accurately.
4. **Publish Employment Trade-offs:** Mandate the MPC to publish an official estimate of the output and employment costs alongside every repo rate decision to ensure democratic accountability.
5. **Deepen Policy Transmission:** Extend the mandatory linking of loans to external benchmarks across a broader spectrum of the credit market to ensure faster real-economy transmission.
6. **Broaden Expectation Surveys:** Redesign the Inflation Expectations Survey to report by income group and publish its methodology, making the RBI's communication strategies testable and localized.

Conclusion

A decade of data demonstrates that the theoretical mechanisms of Flexible Inflation Targeting are fundamentally misaligned with India's labour and structural realities. Force-fitting an orthodox model risks economic stagnation over price stability. The upcoming statutory review must shift towards a localized, supply-sensitive monetary strategy to successfully balance inflation control with essential employment and growth.

Q. *What are the causes of persistent high food inflation in India? Comment on the effectiveness of the monetary policy of the RBI to control this type of inflation. 10 Marks*

2.2. ENVIRONMENT

2.2.1. INDIA'S EVOLVING DATA CENTRE ECOSYSTEM: BALANCING DIGITAL GROWTH AND WATER SECURITY

Context

Google's decision to adopt air-cooling for its 1-GW Visakhapatnam hyperscaler, following civil society protests, highlights the growing conflict between digital infrastructure expansion and regional water security.

Introduction

India's data-centre capacity, currently at 1.4–1.6 GW, is projected to reach 5 GW by 2030, backed by a \$30 billion investment pipeline. However, this rapid computational boom presents a critical resource challenge: balancing aggressive technological growth with local ecological carrying capacities and urban drinking supplies.



Reasons for Data Centres Water Demand

1. Heat Generation

- High-density **Artificial Intelligence (AI) workloads** produce extreme thermal loads.
- With national IT capacity exceeding **1,500 MW**, constant and massive thermal dissipation is required to prevent hardware failure.

2. Evaporative Cooling Reliance

- Traditional **cooling towers** rely heavily on evaporation.
- These conventional systems consume approximately **1.5–2.5 litres of water per kWh** of energy used.

3. Scale of Consumption

- Due to the sheer scale of operations, a standard **20-MW facility** extracts roughly **1–1.2 million litres of water daily (MLD)**.

4. Quality Maintenance

- Continuous evaporation concentrates **dissolved salts**, risking hardware corrosion and scaling.
- This necessitates continuous injections of **high-quality freshwater** (make-up water) to flush the systems.

5. Seasonal Vulnerability

- Peak cooling demands coincide directly with hot, dry summer months.
- During these periods, clustered data centres risk consuming **5–10% of total municipal water supplies**.

Significance of Resource Conservation

1. Hydrogeological Protection

- Regulating water use curbs **groundwater over-extraction**.
- This prevents severe **aquifer depletion** and widespread borewell failures in IT hubs.

2. Urban Equity

- It ensures that industrial mega-projects do not monopolize **municipal drinking** and **agricultural supplies** during drought cycles.
- This balances corporate utility with fundamental human resource rights.

3. Circular Economy

- Promotes the reuse of urban sewage, given that **80% of urban water supply** returns as wastewater.
- This converts a major urban pollution externality into a valuable industrial resource.

4. Ecosystem Preservation

- Sustainable cooling limits the discharge of untreated **thermal and chemical effluents** into local water bodies.
- This protects sensitive micro-climates and aquatic biodiversity.

5. Technological Catalyst

- Resource constraints drive the domestic adaptation of advanced **closed-loop systems**.

- It accelerates the shift toward innovative solutions like **Direct-to-Chip (DTC)** and immersion cooling.

Government Initiatives

1. BIS Standards

- The **Bureau of Indian Standards (BIS)** introduced specific metrics for the sector.
- These include **Water Usage Effectiveness (WUE)**, Cooling Efficiency Ratio, and Carbon Usage Effectiveness.

2. BEE Guidelines (2023)

- The **Bureau of Energy Efficiency (BEE)** formally recommends utilizing **treated wastewater** for cooling-tower make-up.
- This aims to drastically reduce the sector's freshwater reliance.

3. Groundwater Regulation

- The **Ministry of Jal Shakti** mandates explicit permissions for industrial extraction.
- It also requires strict **conservation measures** for large-scale infrastructure projects.

4. EIA Safeguards

- Under **Environmental Impact Assessment (EIA)** rules, qualifying projects must document regional water balances.
- They are also required to submit comprehensive **greywater recycling plans**.

5. NITI Aayog Push (2025)

- A recent workshop actively promoted **treated wastewater reuse** for emerging industrial sectors.
- This aligns national policy with **circular water management** goals.

Key Challenges

1. The AI "Thermal Wall"

- Traditional air-cooling physically cannot manage the **extreme heat densities** of modern AI chips.
- This limits its standalone viability for next-generation hyperscalers.

2. Energy-Acoustic Penalty

- Exclusively using dry air-cooling to save water demands **massive grid electricity** for industrial fans.
- This strains the power grid and creates localized **noise pollution (up to 100 dB)**.

3. Infrastructure Deficit

- Most Indian municipalities lack the necessary **tertiary-treatment facilities**.
- This makes it difficult to supply high-quality, usable **greywater** to tech parks.

4. Disclosure Gap

- The sector lacks mandatory, standardized **public reporting**.
- There is a deficit of transparency regarding baseline water sources and actual **recycling rates**.

5. Planning Disconnect

- State industrial policies often prioritize **power and land subsidies** to attract investments.
- This approach frequently bypasses cumulative **city-level hydrological assessments**.

Way Forward

1. Mandate Wastewater Use

- Legally require all new facilities to utilize **treated municipal effluent** for cooling needs.
- This should emulate **Chennai's successful wastewater recycling model**.

2. Deploy Hybrid Cooling

- Incentivize pairing optimized air-cooling for basic enterprise servers with advanced **liquid cooling** for high-density AI nodes.
- This creates a balanced, "**water-positive**" infrastructure ecosystem.

3. Enforce Smart Budgets

- Make environmental clearances contingent upon **regional carrying-capacity assessments**.
- This is especially critical in water-stressed states like **Maharashtra and Tamil Nadu**.

4. Statutory Water Audits

- Transform voluntary BIS standards into **mandatory regulations**.
- Enforce real-time, public disclosure of **WUE metrics** to ensure corporate accountability.

5. Differential Pricing

- Price industrial **freshwater at a steep premium** across all states.
- Simultaneously, heavily subsidize **treated greywater** to drive behavioral change among operators.

6. Policy Alignment

- Synchronize state-level industrial policies with **central groundwater guidelines**.
- This will effectively establish and enforce data-centre-specific **extraction limits**.

Conclusion

To sustain its digital leadership, India must institutionalize **circular water management** and advanced **hybrid cooling technologies**. Aligning computational growth with **ecological limits** will ensure the sector remains fundamentally resilient and water-secure.

***Q.** India's rapid data-centre expansion threatens regional water security. Analyse the reasons for this high water demand and suggest sustainable mitigation strategies. 15 Marks*

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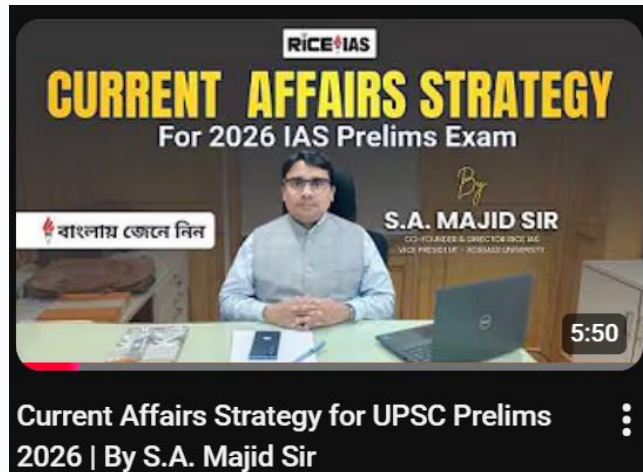
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