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# GENERAL STUDIES 2

## 1.1. POLITY & GOVERNANCE

### 1.1.1. NTA'S 'ZERO ERROR' POLICY FAILURE

#### Context:

- Recently, nine days after nearly **22.79 lakh medical aspirants** appeared for the **National Eligibility cum Entrance Test (NEET-UG) 2026**, the **National Testing Agency (NTA)** announced that the **examination had been compromised and ordered a full re-test**, an unprecedented move in NEET's history.
- The decision triggered nationwide outrage, with the **Federation of All India Medical Association (FAIMA)** approaching the **Supreme Court** demanding either sweeping structural reforms within the NTA or its complete replacement, exposing deep cracks in India's examination governance framework.



#### Understanding the Role of NTA and the Growing Crisis of Trust

##### A. What is the National Testing Agency (NTA)?

- The **National Testing Agency (NTA)** was established in **2017** by the Ministry of Education as an autonomous and specialised examination conducting body.
- It was created to ensure **transparent, efficient, standardised, and technology-driven examinations** for higher education admissions across India.

##### B. Role of National Testing Agency (NTA):

- NTA conducts major national-level examinations such as:
  - **NEET-UG** for medical admissions like MBBS, BDS, AYUSH, and other medical courses.
  - **JEE Main** for engineering admissions.
  - **CUET** for undergraduate admissions.
  - UGC-NET and several other entrance examinations.
- In **2026**, nearly **22.79 lakh students** appeared for the examination across **5,432 centres**, making it **one of the world's largest entrance tests**.
- The stakes are extremely high because:
  - Medical seats remain limited.
  - Social pressure on aspirants is enormous.
  - Coaching expenses and years of preparation are involved.
  - The examination directly shapes students' career trajectories.

##### C. NEET Result Controversy:

- **In 2024:**

- **67 of the top 100 candidates scored full marks**, whereas only **2 students** achieved full marks in 2023 and none in 2022.
- This led to massive **rank inflation**, making admissions into top medical colleges highly competitive.
- With approximately **13 lakh qualifying students** competing for only around **1.1 lakh MBBS seats** in government and private colleges, competition intensified sharply.
- Investigations revealed that around **155 students** allegedly **benefited from leaked question papers**, yet demands for a re-test were dismissed, creating a perception of **inconsistent decision-making**, lack of accountability, and weak institutional response to malpractice.
- **In 2026:**
  - Despite NTA's stated '**Zero Error, Zero Tolerance**' policy and elaborate security arrangements, Rajasthan Police investigations found that a '**guess paper**' containing **120 out of 410 actual exam questions** had allegedly been circulating **nearly a month before the exam**.
  - The NTA itself confirmed the compromise and announced a re-test, making it the first such instance in NEET's history.

## Why NTA's 'Zero Error' Promise Fell Short

### A. Promises Made — But Leadership Instability Undermined Execution

- After the 2024 scandal, the then **NTA Director General, IAS officer Subodh Kumar Singh**, was transferred and the agency **remained without a full-time chief for over a year**, creating a dangerous administrative vacuum.
- In March 2026, **Abhishek Singh**, former CEO of the IndiaAI Mission, took charge and announced a strict '**Zero Error, Zero Tolerance**' policy, promising structural renewal.
- Despite the fresh leadership and strong public commitments, NTA could not prevent the 2026 paper leak, underscoring that **changing personnel without reforming systems** does not address the root problem.

### B. Security Measures That Were Put in Place — Yet Failed

- **Physical and Technological Safeguards** deployed for NEET-UG 2026 included:
  - **Sealed handling** of confidential examination materials under strict protocols.
  - **GPS-enabled vehicles with police escorts** for transportation of question papers.
  - **CCTV surveillance** at all **5,432 exam centres**, with feeds linked to centralised control rooms with up to 1,50,000 cameras.
  - **Aadhaar-based biometric authentication** to eliminate impersonation.
  - **Metal detector frisking** and real-time monitoring through centralised systems.
  - Blocking of **120 Telegram channels** allegedly spreading fake papers and misleading candidates.

- **Despite these measures**, a leaked '**guess paper**' with a large portion of actual exam questions reportedly circulated for weeks before the exam, pointing to failures in **intelligence gathering, source-level security, and institutional enforcement**.

### Challenges That Continue to Persist in NTA Examination Governance

- **Infrastructural Bottleneck:** NTA's **CBT capacity** covers only about **1.5 lakh students per day** across **552 centres**. Moreover, **NEET-UG** involves nearly **22–23 lakh candidates** annually, making it one of the largest single-day examinations in the world. A tender floated in 2024 to expand **computer lab infrastructure** could not be finalised, leaving the system structurally underprepared.
- **Political and Bureaucratic Inertia:** Shifting NEET to CBT requires approval from both the **Ministry of Education and Ministry of Health**. Despite proposals circulating for **at least five years**, no decision has been made, reflecting a **failure of political will and inter-ministerial coordination**.
- **Organised Leak Networks:** Paper leaks are increasingly driven by **criminal networks** operating through **encrypted messaging apps, regional coaching centres, and corrupt insiders**, posing a law enforcement challenge that goes well beyond NTA's institutional mandate.
- **Weak Legal Deterrence:** While the **Public Examinations (Prevention of Unfair Means) Act** exists, its enforcement remains limited. The CBI filed chargesheets against **45 accused** in the 2024 case, yet no public conviction has followed.
- **Leadership Instability:** Prolonged periods without a full-time NTA chief and frequent leadership changes **disrupt long-term reform momentum**, preventing consistent policy implementation.
- **Human Cost on Aspirants:** Re-examinations inflict serious **psychological distress** on lakhs of students, disproportionately harming **economically weaker aspirants** who lack the resources to prepare again, making every governance failure a social justice issue.

### Key Recommendations of Radhakrishnan Committee After the 2024 Crisis

Following the **NEET-UG 2024 controversy**, the **Ministry of Education** constituted a high-level committee headed by former **ISRO Chairman K. Radhakrishnan**. The **Radhakrishnan committee** submitted its report in **October 2024** and recommended major reforms in examination governance.

- **Key Recommendations:**
  - **Transition to Computer-Based Testing (CBT):** The panel identified the traditional **pen-and-paper testing (PPT) model as a major security risk** and recommended a shift to CBT format, similar to **JEE Main**, which successfully handles **13–15 lakh students annually** over four to five days.
  - **Computer-Assisted Secure PPT:** For an interim transition period, the panel recommended **digitally encrypted question papers** transmitted to **exam centres and printed locally** just before the test, eliminating the vulnerable printing-and-transit stage where most leaks occur.
  - **Infrastructure Expansion:** The panel highlighted the need to significantly augment **CBT centre capacity** beyond the existing limited infrastructure.

## Global Best Practices India Can Learn From

### A. China's Use of Advanced Surveillance and AI Monitoring

- China deploys:
  - AI-enabled surveillance,
  - Biometric verification,
  - Signal jammers, and
  - Real-time digital monitoring during high-stakes examinations like the **Gaokao**.
- Severe legal penalties act as a strong deterrent against organised cheating.

### B. United Kingdom's Independent Examination Regulation

- The UK separates examination conduct from independent regulatory oversight through bodies such as **Ofqual**.
- Independent auditing and transparent grievance redressal improve public trust in examination systems.

## Way Forward for Building a Credible and Secure Examination Ecosystem

- **Immediate Transition Towards CBT:** NTA must be given a firm, time-bound mandate and adequate budget to expand CBT infrastructure to at least **20–25 lakh daily capacity** within three years. NEET must transition to online mode in a phased manner, beginning with urban centres.
- **Adopt Computer-Assisted Secure PPT as Interim Solution:** Until full CBT capacity is ready, the **Radhakrishnan Panel's recommendation** for digitally encrypted, locally printed papers must be implemented immediately to eliminate the transit-and-printing vulnerability.
- **Establish an Independent Examination Regulatory Authority:** A **statutory, independent body**, insulated from ministerial interference, should oversee all national examinations, similar to the NBME in the US or the GMC in the UK.
- **Strengthen the Legal Framework:** The **Public Examinations (Prevention of Unfair Means) Act** must be enforced stringently with fast-track courts for paper leak cases, ensuring visible deterrence through timely convictions.
- **Create Large, Rotating Question Banks:** NEET should move to an **adaptive testing model** with a dynamic pool of thousands of validated questions, so that leaking any single set of papers becomes irrelevant.
- **Fast-Track CBI Investigations with Transparent Outcomes:** The government must ensure that investigations into exam leaks result in **visible, public convictions** within a defined timeframe to rebuild public trust.
- **Psychological Support for Aspirants:** The government must set up **mental health helplines and counselling services** specifically for students affected by examination disruptions, recognising the serious human cost of systemic failures.

## Conclusion

- The repeated failure of examination integrity is not merely an administrative lapse; it is a **governance crisis** that strikes at the heart of India's commitment to **meritocracy, equal opportunity, and the right to education**.
- Transforming NEET from a system prone to leaks into a benchmark of fairness and trust demands **urgent political will, institutional independence, technological investment, and legal accountability**.

*Q. Evaluate the effectiveness of the National Testing Agency (NTA) in conducting large-scale examinations in India. What reforms are necessary to restore public trust in the examination system? 15 Marks*

## 1.1.2. UNDERSTANDING GOVERNOR'S CONSTITUTIONAL ROLE IN GOVERNMENT FORMATION

### Context

- In recent times, several instances across Indian states have brought into sharp focus a **critical constitutional question**: whether a **Governor** can delay the formation of a **legitimately elected government** by imposing conditions that the **Constitution of India** itself does not prescribe.
- Governors insisting on **pre-oath proof of majority**, directing freshly sworn-in governments to face a **confidence vote within 72 hours**, and **selectively applying constitutional conventions** have made the office of the Governor a **central point of India's ongoing federal debate**.



### Office of the Governor: Constitutional Position, Powers, and Limitations

- **Constitutional Position of the Governor**: The Governor is the **constitutional head of a state** under **Article 153** of the Constitution of India. The President appoints the Governor under **Article 155**, and the Governor holds office at the **pleasure of the President under Article 156**. Crucially, the Governor is **not directly elected by the people of the state** and therefore does not carry an independent popular mandate.
- **Executive Powers and the Bound Role**: Under **Article 154**, the executive power of the state is vested in the Governor. However, **Article 163** makes it clear that the **Governor** exercises these powers on the **aid and advice of the Council of Ministers**, headed by the **Chief Minister**. The scope of the Governor's personal discretion is thus **narrow, bounded, and well-defined** by both the Constitution and established conventions.
- **Government Formation and Article 164**: Under **Article 164(1)**, the Chief Minister is appointed by the Governor. The Governor's role here is to **identify the person most likely to command the confidence of the House** and invite that person to be sworn in. The Governor is not an arithmetic examiner.
  - The Governor has no power to sit in judgment on whether a Chief Minister-designate has produced sufficient signed letters of support before being administered the oath of office.

- **Floor of the House Is the Only Test of Majority:** Under **Article 164(2)**, the **Council of Ministers** is **collectively responsible to the Legislative Assembly**. The Constitution places the test of majority squarely on the floor of the House, not in the **Governor's chamber**. This is the essence of **parliamentary democracy**, where a government stands or falls by a vote of the legislature, not by the **personal assessment of a constitutional appointee**.

### **Constitutional Conventions on Government Formation and Where the Governor Has Gone Wrong**

- **Expert Commissions Have Unanimously Laid Down the Correct Order of Preference:** The **Sarkaria Commission (1988)**, the **Venkatachaliah Commission (2002)**, and the **Punchhi Commission (2010)** all recommended the same sequence: the **single largest pre-poll alliance** is invited first, followed by the **single largest party that stakes a claim** and can form a stable government. Pre-poll combinations are prioritised because the voter knew precisely what they were choosing at the time of voting.
- **Selective Application of these Conventions Across States Has Damaged the Governor's Credibility:** These commission recommendations have not been applied uniformly. There have been documented instances where the **second largest legislative group was invited ahead of the single largest party**, and where unequal timelines were granted to different formations in comparable situations.
  - This inconsistency creates a justified perception of **partisan conduct over constitutional obligation** and erodes public trust in the Governor's office as a neutral constitutional authority.
- **Minority Governments Are a Fully Legitimate Feature of Parliamentary Democracy:** India's own parliamentary history is rich with examples of **minority governments** that were validly sworn in and functioned without any pre-oath proof of majority.
  - **For instance, on May 1996, President Shankar Dayal Sharma** swore in **Atal Bihari Vajpayee** as **Prime Minister even though the ruling party (BJP)** did not have a majority, and gave him 13 days to prove his numbers.
  - **Similarly, P.V. Narasimha Rao** led a **minority Congress government** for a full five-year term and survived a no-confidence vote in **July 1993 by a single vote**.
  - **H.D. Deve Gowda** and **I.K. Gujral** both led **minority United Front governments** at the Centre.
  - In **2004**, the first **Manmohan Singh government** began as a **minority arrangement** and **ran a full term with outside support**. In none of these cases was the incoming government asked to prove an **absolute majority before taking the oath**.
- **Ordering a Confidence Vote Within 72 Hours Creates the Very Conditions the Anti-Defection Law Was Built to Stop:** Directing a **newly sworn-in Chief Minister** to prove confidence within **72 hours** opens an artificial window for **horse-trading and floor crossing**, precisely what the **anti-defection law under the Tenth Schedule** was enacted to prevent. Legislators are forced into consequential decisions without adequate time for deliberation, and bad actors are handed a short but exploitable opportunity.
- **Only Correct Constitutional Remedy Is a No-Confidence Motion Brought by the Opposition:** When a government's majority is genuinely in doubt, the Constitution prescribes one democratic

remedy: the Opposition must bring a **no-confidence motion on the floor of the Assembly**, with full debate and legislators voting on public record.

- Directing a newly sworn in government to prove its majority even before it has started functioning **may weaken the people's mandate** at the very beginning of democratic governance.

### Key Supreme Court Judgements on the Governor's Constitutional Role

- **S.R. Bommai v. Union of India (1994)**: This landmark ruling established that the **floor of the Legislative Assembly** serves as the sole valid constitutional test for a government's majority, thereby prohibiting Governors from dismissing governments based on **subjective assessments** and ensuring that the imposition of **President's Rule under Article 356** remains strictly subject to **judicial review**.
- **Rameshwar Prasad v. Union of India (2006)**: The Court reinforced the principle that the Governor must act as an **agent of the Constitution** rather than a representative of the Central government, explicitly declaring that **partisan political motivations** cannot be used to justify gubernatorial actions or the unconstitutional dissolution of state assemblies.
- **Karnataka Government Formation Dispute (2018)**: By intervening to compress a floor test timeline, the Supreme Court prevented the potential for **engineered defections**, establishing a precedent that protects the democratic process from both **excessive delay and excessive haste** while ensuring the Governor's invitation to form a government remains facilitative rather than punitive.

### Global Best Practices: Government Formation in Mature Parliamentary Democracies

- **United Kingdom**: Guided by the **Cabinet Manual**, the monarch adopts a purely **facilitative role** by inviting the **leader most likely to command a majority** without demanding **pre-oath proof**, allowing the government's confidence to be tested naturally through the **King's Speech debate** in the **House of Commons**.
- **Germany**: Under the **Basic Law (Grundgesetz)**, the Federal President maintains a minimal role as the legislature retains total control over government survival through the **constructive vote of no-confidence**, a mechanism requiring the election of a successor before a sitting Chancellor can be removed.
- **Canada**: Following established **parliamentary conventions**, the Governor-General invites the leader of the largest party or coalition to form a government, whereas the mandatory testing of confidence occurs subsequently through the **Speech from the Throne**, entirely avoiding the practice of imposing **punitive conditions or immediate majority proof** before the swearing-in ceremony.

### Way Forward: Strengthening the Constitutional Framework to Protect Democratic Mandates

- **Clear Judicial Guidelines Should Be Established on Government Formation**: The Supreme Court should lay down comprehensive and binding principles regarding the invitation to form government, the order of preference in a hung Assembly, and the reasonable timeline for conducting a floor test so that arbitrary interpretations of constitutional discretion can be prevented.

- **Primacy of the Floor Test Should Be Strictly Preserved:** The determination of majority must take place only on the floor of the Legislative Assembly because the **floor test** remains the most transparent, democratic, and constitutionally valid method for testing legislative confidence.
- **Recommendations of Constitutional Commissions Should Be Institutionalised:** The recommendations made by the **Sarkaria Commission, Venkatachaliah Commission, and Punchhi Commission** regarding government formation and gubernatorial conduct should be formally incorporated into constitutional practice through clear procedural guidelines.
- **Office of the Governor Should Function with Political Neutrality:** Governors should discharge their constitutional responsibilities with complete impartiality and constitutional restraint so that the credibility and dignity of the office are protected in a parliamentary democracy.
- **Constitutional Morality Should Guide the Exercise of Discretionary Powers:** The exercise of discretionary powers should be guided by **constitutional morality**, democratic conventions, and respect for the people's mandate rather than by political considerations or subjective assessments.
- **Healthy Democratic Conventions Should Be Strengthened:** Constitutional authorities must uphold democratic conventions relating to government formation because conventions play a vital role in ensuring political stability, institutional trust, and cooperative federalism in India.
- **Role of the Governor Should Be Limited to a Facilitative Constitutional Function:** The Governor should act as a neutral constitutional facilitator during government formation and should avoid actions that may create perceptions of political interference or constitutional overreach.

## Conclusion

Recent controversies have highlighted the urgent need to ensure that the office of the Governor functions with **constitutional neutrality, restraint**, and respect for the **democratic mandate**. Thus, strengthening **constitutional conventions**, ensuring transparent use of **gubernatorial discretion**, and preserving the primacy of the **floor test** are essential for protecting **parliamentary democracy, constitutional morality**, and **cooperative federalism** in India.

*Q. The Governor's role in government formation is constitutional and facilitative, not political and discretionary. Examine in the context of recent debates on gubernatorial discretion in India. (15 Marks)*

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# GENERAL STUDIES 3

## 2.1. ECONOMY

### 2.1. CAPITAL FLIGHT AND RUPEE UNDER PRESSURE

#### Context

- India's external sector is under significant stress in 2026, with the **rupee crossing the 95 mark against the US dollar**, foreign exchange reserves have fallen by **USD 38 billion in just two months** to approximately **USD 691 billion**, and a widening **Current Account Deficit (CAD)** (the difference between the total value of goods and services a country imports versus exports) driven by soaring crude oil and gold imports.
- The government has called upon citizens to reduce non-essential purchases of gold, cut back on overseas travel, and conserve fuel. While this is a signal of the seriousness of the situation, understanding the **root causes, risks, and real solutions** is far more important for any policy discussion.



#### Present Macroeconomic Situation: Understanding the Factors of External Stress

##### 1. Crude Oil Imports Are Draining Foreign Exchange

- India imports nearly **89 per cent of its crude oil needs**. With the **West Asia conflict** causing disruption to global oil supplies, particularly through the **Strait of Hormuz** (a narrow sea passage through which nearly one-fifth of the world's oil travels), **Brent crude has surged above USD 100 per barrel**.
- Every single dollar increase in crude oil prices adds approximately **USD 1.5 to USD 2 billion to India's annual import bill**. State-owned **Oil Marketing Companies (OMCs)** are currently absorbing losses of nearly **Rs 30,000 crore every month** because retail fuel prices have been kept unchanged, placing severe pressure on government finances.
- The cost of **imported agricultural inputs like urea and ammonia has nearly doubled to USD 935 per tonne**. This creates a difficult policy choice: passing the cost to farmers risks **food inflation**, while absorbing the cost risks **breaching the fiscal deficit target**, with no comfortable middle ground available.

##### 2. Record Gold Imports Are Directly Widening the Trade Deficit

- India is the **world's second largest consumer of gold after China**. Despite already holding thousands of tonnes of idle household gold, fresh import demand has remained very strong.
- The gold import bill reached a **record USD 71.98 billion in Financial Year 2025-26**, nearly doubling from USD 35 billion in 2022-23. Gold now accounts for almost **9 per cent of India's total import bill**.
- Unlike gold purchased by the Reserve Bank of India (RBI) as part of its foreign reserve strategy, **household gold imports do not add to the country's productive capacity** or generate export earnings. They simply convert rupees into dollars, widen the Current Account Deficit, and put downward pressure on the rupee.

### 3. High Overseas Spending Is Draining Discretionary Foreign Exchange

- The **Liberalised Remittance Scheme (LRS)** allows Indian residents to send up to **USD 250,000 abroad per financial year** for purposes such as education, travel, and investment. However, spending on **foreign travel and overseas events accounted for over 50 per cent** of all LRS outflows in the first 11 months of FY26.
- This large volume of **discretionary outward spending** adds further pressure on foreign exchange reserves at a time when every dollar saved matters for macroeconomic stability.

#### **Key Concern: Understanding the Taper Tantrum and Why Capital Flight Is Doubly Worrying**

A **key concern for India's external sector** is not just what is happening now, but what **could happen if foreign central banks raise interest rates** in the future.

#### **A. How Capital Flows Work in an Interconnected World**

- **Emerging market economies** like India typically offer **higher returns on investments** compared to **developed economies**, but they also carry higher risks, including **currency depreciation** and **inflation risk**. **Foreign investors** constantly **compare returns** on **Indian assets** with **returns on assets** in developed countries like the **United States** and the **United Kingdom**.
- If **foreign interest rates rise**, the **relative attractiveness** of holding Indian assets decreases. **Foreign investors** then sell Indian assets and repatriate their money, which involves **exchanging rupees for dollars**. This **additional demand for dollars weakens the rupee further**.

#### **B. Taper Tantrum of 2013**

- A **classic example of this risk** occurred in 2013. After the **2008 Great Recession**, the **US Federal Reserve** had pushed **interest rates to near zero** (called the **zero lower bound**) and had been buying large amounts of government bonds to inject money into the economy (called **QE-quantitative easing**).
- When the **Federal Reserve** merely **announced a possible end to this programme** without actually raising rates, the mere **expectation of higher future interest rates** caused a **massive and sudden withdrawal of capital** from **emerging market economies** including **India**. This episode is known as the '**Taper Tantrum**'.

#### **C. Why India's Position in 2026 Is More Alarming Than 2013**

- The **US Federal Reserve and the Bank of England** have held rates at **3.75 per cent since December 2025** with no signal of a hike. Yet capital is **already fleeing India** and the rupee is already falling, meaning investors have **acted on anticipated future hikes** without any formal announcement. If developed economies eventually do raise rates to contain **oil-driven inflation**, India's external vulnerabilities will intensify sharply with **limited fiscal and monetary room** to respond.
- The **only available tools** to defend the rupee at that point would be raising domestic interest rates (which would hurt domestic investment) or imposing **capital controls** (which could deter foreign investors and damage India's reputation as an open economy).

- Additionally, with **imported agricultural inputs such as urea and ammonia** doubling in cost to **USD 935 per tonne**, passing on these costs to **farmers risks food inflation**, while absorbing them threatens to breach **fiscal deficit targets**.

### Why India Is Calling for Economic Austerity: The Government's Response

The government's call for citizens to reduce gold purchases, overseas travel, and fuel use is a **demand-side intervention**, meaning it tries to reduce the country's outflow of foreign exchange by changing people's spending behaviour rather than through formal policy restrictions. Each element has a specific economic purpose:

- **Reducing gold purchases** directly cuts the demand for dollars used to finance imports, easing pressure on both the **Current Account Deficit** and the rupee. The government has also introduced **higher import duties on gold** as a supplementary measure.
- **Promoting work-from-home, carpooling, and virtual meetings** reduces petroleum consumption without imposing politically sensitive fuel price increases. The fiscal savings this creates can be redirected to secure **fertilizers and energy imports** that are essential for agriculture and the approaching Kharif sowing season.
- **Encouraging domestic tourism over foreign travel** keeps money within the Indian economy, supports local businesses, and conserves foreign exchange that would otherwise flow out under the Liberalised Remittance Scheme.

### Impact of Excessive Import Restrictions

- **Disrupting Manufacturing and Exports:** India's manufacturing sector is deeply integrated into **Global Value Chains (GVCs)** and depends heavily on imported capital goods, semiconductors, and specialised raw materials.
  - Restricting these imports to conserve forex would directly hurt **industrial output, export competitiveness, and GDP growth**. Key export sectors such as pharmaceuticals, electronics, and refined petroleum products all rely on imported inputs.
- **Protectionism Trap:** High tariff barriers or aggressive import substitution can protect domestic industries in the short term but breed **inefficiency and loss of global competitiveness** over time. This paradoxically **weakens India's export earnings**, the very source of sustainable forex inflows.
- **Spooking Foreign Investors:** Foreign Institutional Investors (FIIs) and long-term Foreign Direct Investment (FDI) flows require **predictable and open capital account management**. If India is perceived as becoming overly restrictive, investors will attach a higher **country risk premium** to Indian assets, triggering more capital outflows rather than reducing them.

### Way Forward: From Crisis Management to Structural Resilience

- **Revamping the Gold Monetisation Scheme (GMS):** India holds thousands of tonnes of idle household gold. A well-incentivised and transparent GMS can channel this into the formal financial system, **reducing the need for fresh gold imports** without suppressing demand through blunt tariff tools.
- **Scaling Exports as the Sustainable Forex Strategy:** The most durable solution to a widening Current Account Deficit is earning more foreign exchange. Expanding **Production Linked**

**Incentive (PLI) schemes**, easing the business environment, and attracting stable **Foreign Direct Investment (FDI)** over volatile FII flows will build long-term resilience.

- **Accelerating Energy Transition:** Scaling up **Electric Vehicles (EVs)**, the **National Green Hydrogen Mission**, and Thorium-based nuclear energy are structural necessities to reduce India's **dependence on imported fossil fuels** and decouple economic growth from the volatility of the Strait of Hormuz.
- **Calibrated RBI Monetary Policy:** The RBI must continue to manage exchange rate volatility prudently, using reserves strategically. If foreign central banks do eventually raise rates, India may need to consider **measured domestic rate adjustments** to protect the interest rate differential that keeps India attractive to foreign capital.

### Conclusion

- India's external sector stress in 2026, driven by soaring import bills, capital flight, and a depreciating rupee, is not a temporary disruption but a reflection of **deep structural dependencies on imported oil and gold** that have built up over decades and are now being exposed by a global crisis.
- Lasting stability requires India to move beyond crisis-mode demand compression towards **structural reforms in energy, exports, and financial instruments**, so that the economy is genuinely resilient to external shocks rather than perpetually vulnerable to them.

*Q. India's present external sector stress reflects deeper structural vulnerabilities rather than a temporary global shock. Examine. 15 Marks*

### 2.1.2. INDIA'S PATH TO VIKSIT BHARAT BY 2047

#### Context:

- India has recorded a real **Gross Domestic Product (GDP) growth** of **6.5% in FY 2024–25**, making it one of the **fastest-growing major economies in the world**, supported by **strong domestic demand, macroeconomic stability, controlled inflation, and gradual fiscal consolidation**,
- The **Economic Survey 2025–26** highlights that India's future growth must increasingly depend on a **productivity-led transformation** driven by all three engines of growth — **Labour, Capital, and Total Factor Productivity (TFP)** — as excessive dependence on the services sector alone cannot generate large-scale employment or sustain broad-based structural transformation for India's vast working population.
- Achieving the vision of **Viksit Bharat by 2047** will therefore require a decisive transition from merely achieving high growth to ensuring efficient and productive growth, with **manufacturing** emerging as the central pillar.



## Manufacturing: Role of Manufacturing and its Missing Link in India's Development Journey

### A. Role of Manufacturing in National Development

- **Bridge Between Sectors:** In every successful development story — particularly in **East Asian economies** such as South Korea, Taiwan, and China — manufacturing served as the critical bridge between **low-productivity agriculture and high-productivity modern sectors**, enabling a smooth and broad-based structural transformation.
- **Employment at Scale:** Manufacturing is uniquely capable of absorbing large numbers of workers, including those without high educational qualifications, and providing them with stable, formal employment — something the **services sector** alone cannot achieve at the scale India needs.
- **Economic Survey's Position:** The **Economic Survey 2025–26** has explicitly stated that **manufacturing is central to sustaining India's growth and generating employment at scale**, reinforcing the urgency of making manufacturing both bigger and more productive.

### B. India's Manufacturing Gap: Why the Sector Has Fallen Short

- **Services-Led, Not Manufacturing-Led:** India's economic growth has been predominantly **services-driven**. While services have performed well, manufacturing has **not expanded sufficiently** to absorb the large workforce or generate broad-based productivity gains across the economy.
- **Labour Stuck in Agriculture:** As a result of weak manufacturing growth, a **disproportionately large share of India's labour force** remains in **low-productivity agriculture**, unable to move into more productive and better-paying sectors — the very transition that development requires.
- **Missing Middle in Firm Structure:** India's manufacturing is dominated by a **large number of very small, low-productivity firms** and has very few mid-sized firms capable of scaling up. In contrast, East Asian economies built **strong cohorts of medium and large firms** that drove exports and industrial growth — India's 'missing middle' is a key structural weakness.
- **Efficiency Gap Despite Infrastructure:** Despite **significant recent investments in infrastructure**, efficiency gaps in India's manufacturing sector persist, meaning that returns on capital invested remain below potential, a problem rooted not just in hardware but in how firms are organised and managed.

### Key Challenges Preventing Productivity from Rising

#### A. Weak Business Dynamism and the Problem of Creative Destruction

- **Creative Destruction:** Economists describe **creative destruction** as the process by which **new, more efficient firms replace older, less productive ones** — freeing up capital and labour for better uses. This is the primary engine of productivity growth in modern economies.
- **India's Slow Churning:** In India, this process remains sluggish. Inefficient firms continue to survive for long periods, while productive newer firms struggle to access the **credit, land, and labour** they need to grow — a pattern that collectively suppresses overall productivity.

## B. Zombie Firms: A Persistent Drain on the Economy

- **Zombie Firms:** Zombie firms are companies that are **no longer economically viable** — they cannot earn enough to even cover their interest payments — yet continue to operate, kept alive by **bank loans or regulatory forbearance** rather than genuine business performance.
- **Scale of the Problem:** A 2025 research paper titled '**Zombie Firms in Emerging Markets: Survival and Funding Mechanisms**' reveals that while zombie firms form a **small share of total firms**, they account for a **disproportionately large share of total debt and assets** — meaning a significant volume of the economy's resources is locked in unproductive use.
- **Crowding Out Productive Firms:** By occupying credit, labour, and capital, zombie firms **crowd out productive firms** that could grow and generate employment — directly undermining India's productivity and job creation goals.
- **Gradual and Persistent Nature:** The research shows that **zombification is not a sudden crisis but a slow, persistent deterioration** — financial decline begins well before a firm is formally identified as a zombie, and once there, recovery is rare and often temporary.
- **Bank Financing Worsens Outcomes:** Crucially, the **source of financing matters**: firms funded primarily through **bank loans** are far more likely to become zombies and remain so for longer, whereas **equity-financed firms** recover faster and are less prone to zombification — pointing to a structural weakness in India's bank-dominated financial system.

## C. Institutional Failures That Keep Inefficient Firms Alive

- **Reluctance to Recognise Losses:** India's **financial and regulatory structures** have historically supported continued operation of stressed firms rather than facilitating their orderly exit — due to bank reluctance to recognise bad loans and regulatory delays in insolvency resolution.
- **Insolvency Bottlenecks:** The **Insolvency and Bankruptcy Code, 2016**, while a landmark reform, still faces **capacity constraints and delays** in the National Company Law Tribunal, slowing down the reallocation of assets from failed firms to productive ones.
- **Rigid Factor Markets:** Inefficiencies in **land, labour, and capital markets** further restrict productive firms from scaling up and unproductive ones from exiting cleanly — trapping resources across the economy.

## Government Initiatives to Strengthen Manufacturing and Productivity

- **Production Linked Incentive (PLI) Scheme and PLI 2.0:** Launched across **14 key sectors** including electronics, pharmaceuticals, and automobiles to incentivise large-scale manufacturing and integrate India into Global Value Chains (GVCs) and transform India into a major global manufacturing hub through higher value addition and technological advancement.
- **PM GatiShakti — National Master Plan:** A **multi-modal infrastructure connectivity plan** to reduce logistics costs, ease movement of goods, and directly improve manufacturing competitiveness.
- **National Logistics Policy, 2022:** Aims to reduce India's high logistics costs from **14–16% of Gross Domestic Product to 8% by 2030**, bringing them closer to global benchmarks and easing the cost burden on manufacturers.

- **Insolvency and Bankruptcy Code, 2016:** Provides a **time-bound resolution mechanism** for stressed firms, enabling exit of unviable businesses and reallocation of their assets to productive use, though further strengthening is needed.
- **Labour Code Reforms:** Consolidation of **29 central labour laws into 4 Labour Codes** to simplify compliance, improve flexibility, and encourage formal employment in manufacturing.
- **Make in India and MSME (Micro, Small and Medium Enterprises) Reforms:** Focused on **ease of doing business**, collateral-free credit, and formalisation to help small firms grow and access formal financial markets.

### Way Forward for Achieving the Goal of Viksit Bharat through Productivity-Led Growth

- **Deepen Global Value Chain Integration:** India must reduce **tariff and non-tariff barriers**, improve trade facilitation, and position itself as a reliable manufacturing partner in high-growth sectors like electronics, chemicals, and defence to capture a larger share of global production.
- **Boost Research and Development in Manufacturing:** Increasing investment in **research and development, technology adoption, and innovation** through industry-academia linkages and public-private partnerships will drive sustained productivity improvements across manufacturing.
- **Strengthen the Insolvency Framework:** Expanding **National Company Law Tribunal capacity**, reducing resolution timelines, and improving creditor rights will enable faster exit of zombie firms and quicker reallocation of resources to more productive uses.
- **Shift Financing Towards Equity:** Developing **deeper capital markets, venture capital ecosystems, and angel investor networks** will reduce dependence on bank financing, lower the risk of zombie firm formation, and improve the overall resilience of the business sector.
- **Reform Credit Allocation:** Introducing **stricter early-warning systems and proactive non-performing asset recognition** in banks will reduce the flow of credit to unviable firms and redirect it towards productive enterprises.
- **Simplify Regulations and Implement Labour Codes:** Reducing **regulatory compliance burdens** and effectively implementing the four Labour Codes will allow firms to scale, restructure, and respond to market conditions without unnecessary rigidity.

### Conclusion

Achieving the vision of **Viksit Bharat by 2047** will require India to move beyond high GDP growth toward sustained **productivity-led development** through stronger manufacturing, efficient resource allocation, and deep structural reforms that enable productive firms to grow while allowing inefficient firms to exit.

*Q. Why has India's manufacturing sector not emerged as a strong engine of productivity growth and labour absorption despite rapid economic expansion? Discuss with suitable measures. (15 Marks)*

## 2.2. ENVIRONMENT

### 2.2.1. MANAGING HUMAN–WILDLIFE CONFLICT

#### Context:

- **Human-Wildlife Conflict (HWC)** is no longer a fringe conservation concern, it has emerged as a defining **socio-ecological crisis** that sits at the intersection of biodiversity protection, rural livelihoods, and sustainable development.
- As India inches closer to becoming a **global hotspot for HWC by 2070**, the need for a scientifically informed, community-centred, and ecologically sustainable response has never been more urgent.



#### Understanding Human-Animal Conflict: What It Is and Why It Matters

##### A. Defining HWC

- The **International Union for Conservation of Nature (IUCN)** defines **Human-Wildlife Conflict** as any interaction **between humans and wildlife** that results in negative impacts on human social, economic, or cultural life, on wildlife populations, or on the broader environment.
- It is far more than just physical attacks, it is a deep competition over **space, food, and survival** between expanding human settlements and wildlife habitats.

##### B. Scale of the Problem in India

- Between **2019 and 2024**, elephant attacks caused more than **2,700 human deaths** in India, while **tigers killed 349 people** during the same period, illustrating the **immense scale of the crisis**.
- Simultaneously, hundreds of elephants have died from **electrocution, train collisions, and poisoning**, showing that the conflict claims lives on both sides of the human-wildlife divide.
- Projections indicate India will become a **global hotspot for Human-Wildlife Conflict by 2070**, making immediate and sustained action critical.

##### C. A Global Pattern

- Countries like **Brazil, Kenya, Tanzania, and Indonesia** report recurring HWC involving **elephants, big cats, and large mammals** that require vast territorial ranges and seasonal corridors.
- When these natural corridors are disrupted by development, **conflict becomes almost inevitable** as wildlife adapts by moving into agricultural and peri-urban areas in search of food and shelter.
- It is important to understand that **crop raiding and livestock predation are adaptive responses** to ecological constraints and not signs of aggression, reflecting deeper ecological imbalance rather than aberrant animal behaviour.

## Factors Contributing to the Rise in Human-Wildlife Conflicts

### 1. Habitat Loss and Fragmentation — The Primary Driver

- The conversion of natural forests into **farms, roads, and urban settlements** directly destroys wildlife living spaces and forces animals into human-dominated areas in search of food, water, and shelter.
- **Linear infrastructure** such as **highways, railways, and canals** cuts through habitats, fragments landscapes, blocks ancient migratory routes, and increases mortality from vehicle collisions and electrocution.
- **A tragic example:** the **killing of 8 elephants in Assam due to a train collision**, directly resulting from railway lines running through elephant corridors.
- In **Karnataka's Kodagu**, expanding coffee and ginger farms have disrupted elephant migration corridors, causing intense crop-raiding and property damage.

### 2. Adaptation to Human-Dominated Landscapes — The Habituation Problem

- Intelligent and adaptable species such as **monkeys, elephants, and leopards** can become habituated to human presence, learning to associate settlements and farms with reliable food sources, thereby losing their natural fear of humans.
- In **Maharashtra**, **leopards** known as "**Sugar babies**" have adapted to living entirely within **dense sugarcane fields**, preying on livestock, and do not return to forests even after relocation, making conventional mitigation measures ineffective.

### 3. Climate Change and Water Stress — An Emerging Amplifier

- Shifting weather patterns including **prolonged droughts and erratic monsoons** dry up natural forest waterholes, pushing animals toward village ponds and irrigation tanks in search of water.
- Disruption of tree fruiting seasons forces **bears and monkeys** to seek food in human settlements; in **Jammu & Kashmir**, **Himalayan brown bears** are **increasingly descending to lower altitudes** due to altered food availability.
- Climate change is projected to **intensify HWC further** by altering resource availability and forcing **both humans and wildlife** to adapt simultaneously, adding urgency to the need for systemic solutions.

### 4. Population Recovery Outpacing Habitat Capacity

- Effective **conservation laws and protection programmes** have successfully increased populations of **tigers, elephants, and leopards**, leading to **higher animal densities at the boundaries of finite protected areas**.
- As animals spill out of saturated reserves into surrounding landscapes, encounters with human communities become **more frequent and more intense**, creating a paradox where conservation success generates conflict.

## Key Initiatives Taken by the Government to Minimise Human-Animal Conflict

### 1. Constitutional and Judicial Foundation

- **Article 51A(g)** of the Constitution establishes a Fundamental Duty of every citizen to protect and improve the natural environment, including wildlife — forming the ethical and constitutional bedrock for all conservation measures.

- The Supreme Court, in **Animal Welfare Board of India vs. A. Nagaraja & Ors. (2014)** and **State of Gujarat v. Mirzapur Moti Kureshi Kassab Jamat (2005)**, recognised that animals deserve legal rights and welfare protections, granting them formal legal status.

## 2. Legislative Framework — The Backbone of Conservation

- The **Wildlife Protection Act, 1972 (WPA)** is the primary legal instrument establishing national parks and wildlife sanctuaries; its **2006 amendment** formally acknowledged wildlife corridors to aid animal movement and reduce HWC.
- The **Biological Diversity Act, 2002** aims for holistic conservation of ecosystem, species, and genetic diversity, complementing existing wildlife laws.
- The **Wildlife Corridors Bill, 2019** (private member's bill) was introduced in the Lok Sabha specifically to tackle HWC through legal recognition and protection of wildlife corridors.

## 3. Policy and Planning Instruments

- The **National Wildlife Action Plan (NWAP) 2017-31** focuses on conserving endangered species and habitats, promoting research, and fostering community-based coexistence through evidence-based planning.
- **NDMA guidelines** now formally recognise HWC as a **disaster risk**, advising integration of early warning systems and habitat management into all development projects.

## 4. Technological Interventions — Deploying Innovation

- The **Gajraj System**, deployed by **Indian Railways**, uses **fibre-optic sensors and AI surveillance** to detect elephants on tracks in real time and prevent collisions, directly saving elephant lives.
- **TrailGuard AI** is a **compact, real-time camera system** that uses AI to identify humans, poachers, and vehicles in protected areas, enabling rapid response and reducing wildlife crime effectively.

## 5. Species-Specific Conservation Programmes

- **Project Tiger (1973)** establishes **Tiger Reserves** with core and buffer zones to address **habitat loss and manages human-tiger conflict** at boundaries.
- The **Tigers Outside Tiger Reserves (TOTR) Project** uses **AI, GPS, and cameras** to reduce **human-tiger conflict** for the approximately **30% of India's tigers** that roam outside notified reserves.
- **Project Elephant (1992)** protects **elephant habitats and corridors**, securing migratory routes to prevent crop raiding and reduce accidents along transport networks.

## Way Forward to Effectively Mitigate Human–Wildlife Conflict

### 1. Landscape-Level Planning — Thinking Beyond Protected Area Boundaries

- India needs to adopt an **ecosystem-based approach** that manages entire landscapes rather than isolated protected areas, ensuring connectivity through **scientifically mapped wildlife corridors** that allow animals to move freely across regions.

- Wildlife considerations must be integrated into **land-use planning, infrastructure development, and zoning regulations** from the design stage itself to prevent future habitat fragmentation.
- **Inter-state and inter-agency coordination** is essential, as animal movements frequently transcend administrative boundaries, requiring unified and collaborative governance frameworks.

## 2. On-Ground Prevention and Deterrence — Protecting People Where They Live

- Deployment of **context-specific physical barriers** — solar-powered fences, trenches, and stone walls — alongside **watchtowers, early warning systems, and mobile apps** to track animal movements can significantly reduce the frequency of dangerous encounters near human settlements.
- Locally tested solutions such as **predator-proof livestock enclosures** from Bhutan and Nepal, and **community-managed buffer zones** have shown measurable reductions in HWC when backed by consistent funding.

## 3. Economic and Livelihood Support — Making Coexistence Affordable for Communities

- Compensation schemes must be **timely, transparent, and reflective of true market value** of lost crops or livestock, using direct bank transfers to build genuine tolerance for wildlife among affected communities.
- Promoting **conflict-resistant livelihoods** such as beekeeping, non-palatable horticulture, and **ecotourism services** can create positive economic links between communities and the presence of wildlife, reducing resentment.
- Global models from **Botswana and Namibia** show that where local communities **share tourism revenues and gain rights over wildlife use**, conservation goals align with economic incentives, dramatically reducing hostility toward wildlife.

## 4. Legal, Institutional, and Policy Reforms — Strengthening the Governance Architecture

- Permanent **district and state-level HWC task forces** with representatives from forest, revenue, agriculture, police, and local governments are needed for coordinated and rapid response to conflict incidents.
- Mandating **Human–Wildlife Conflict Impact Assessments** for all development projects and allocating dedicated budgets for mitigation measures such as **wildlife crossings and fencing** will mainstream HWC concerns into infrastructure planning from the start.

## 5. Community Engagement and Education — The Human Dimension of Coexistence

- **Participatory management** through village-level committees, combined with targeted awareness campaigns on safe practices, non-confrontational behaviour, and the ecological importance of wildlife, can rebuild **social tolerance** for wildlife among communities living at the forest edge.
- Education and awareness must be treated not as supplementary, but as **central pillars of HWC policy** — changing attitudes and rebuilding the cultural understanding that humans and wildlife have always shared the same landscape.

## Conclusion

- Human–Wildlife Conflict is not an isolated environmental issue but a direct consequence of unsustainable land use, ecological degradation, and unplanned development.
- The future lies in building a model of **coexistence** where conservation, community welfare, scientific planning, and sustainable development work together to protect both people and wildlife.

**Q.** Evaluate the effectiveness of India's legal, institutional, and technological measures in mitigating Human–Wildlife Conflict. What further reforms are required to ensure long-term coexistence? (15 Marks)

## 2.2.2. INDIA'S WASTE MANAGEMENT CRISIS

### Context:

- **India's waste crisis** has emerged as a major **environmental, public health, and governance challenge**, with overflowing landfills, polluted rivers, plastic-clogged drains, and rising air pollution affecting both urban and rural areas.
- While the **Solid Waste Management Rules, 2026** aim to strengthen waste governance, their excessive centralisation raises serious concerns regarding **federalism, local autonomy, administrative capacity, and practical implementation**.



## Understanding Waste Management and the Federal Balance in India

### A. What is Solid Waste Management?

- **Solid Waste Management (SWM)** refers to the scientific process of **segregation, collection, transportation, recycling, treatment, and safe disposal of waste** generated by households, industries, institutions, markets, and commercial establishments.
- Waste management covers different categories of waste such as **biodegradable waste, plastic waste, e-waste, sanitary waste, hazardous domestic waste, and construction waste**, all of which require separate treatment mechanisms.
- Effective waste management also includes **community participation, behavioural change, recycling systems, composting infrastructure, scientific landfills, and environmental monitoring**, rather than focusing only on waste collection.

### B. Growing Waste Crisis in India

- India generates nearly **1.6 lakh tonnes of municipal solid waste daily**, and the quantity is rising rapidly due to **urbanisation, consumerism, changing lifestyles, and increasing use of packaged products**.

- Although around **70-75% of waste is collected**, only a limited proportion is scientifically processed, while large quantities continue to be dumped openly in **landfills and dumping grounds**.
- Major cities such as **Delhi, Mumbai, Bengaluru, Kolkata, and Chennai** are facing serious challenges including **overflowing landfills, methane emissions, landfill fires, toxic leachate, and severe air and water pollution**.
- Rural India is also witnessing increasing waste-related problems because of the spread of **plastic waste, sanitary waste, pesticide containers, tourism waste, and electronic waste** in villages and ecologically sensitive regions.

### C. Solid Waste Management Rules, 2026

- The **Solid Waste Management Rules, 2026** have been framed under the **Environment (Protection) Act, 1986**, which was enacted mainly under **Article 253 of the Constitution** to implement India's international obligations under the **1972 Stockholm Declaration**.
- **Article 253** empowers **Parliament** to legislate even on matters related to **State subjects** when international treaty obligations are involved, thereby strengthening the Union's role in environmental governance.
- However, such constitutional authority should not result in excessive centralisation over matters closely linked with **local administration, sanitation, public health, and municipal governance**.
- Waste management depends heavily upon local factors such as **land availability, settlement patterns, fiscal capacity, infrastructure, and citizen participation**, which differ significantly across States and regions.

### Importance of Effective and Decentralised Waste Management

#### 1. Effective Waste Management is Essential for Public Health and Environmental Protection

- **For Public Health:** Improper waste disposal leads to **water contamination, spread of diseases, mosquito breeding, and respiratory illnesses** caused by open burning and landfill emissions.
- Poor sanitation particularly affects people living near **dumping grounds and low-income settlements**, where environmental health risks are extremely high. Therefore, scientific waste management is necessary for improving **public hygiene, disease prevention, and quality of life**.
- **For Environmental Protection:** Open dumping and unmanaged landfills release large quantities of **methane gas**, which contributes significantly to **climate change and global warming**.
- Untreated waste also contaminates **groundwater, rivers, lakes, agricultural land, and coastal ecosystems**, thereby damaging biodiversity and ecological balance. Effective waste management is therefore essential for **pollution control, climate mitigation, environmental conservation, and sustainable urban development**.

## 2. Waste Management Promotes Circular Economy and Resource Efficiency

- Proper segregation, recycling, composting, and scientific processing help convert waste into useful resources such as **compost, recyclable materials, bio-energy, and industrial raw materials**. This supports a **circular economy** by reducing pressure on natural resources, improving resource efficiency, generating green jobs, and minimising dependence on virgin raw materials.

## 3. Decentralised Waste Governance Strengthens Cooperative Federalism and Accountability

- Effective waste governance requires strong **cooperative federalism**, because waste-management challenges differ significantly across **metropolitan cities, hill towns, coastal regions, tribal areas, and rural settlements**. The principle of **subsidiarity** becomes important because governance functions should be performed at the **lowest effective level closest to local realities and people's needs**.
- Local governments possess better understanding regarding **waste-generation patterns, collection systems, land availability, community participation, and regional ecological conditions**. Therefore, decentralised governance improves **transparency, local accountability, citizen ownership, and administrative responsiveness**, while excessive centralisation often weakens local innovation and reduces States into mere implementing agencies.

## Major Challenges in the Solid Waste Management Rules, 2026

### 1. Excessive Centralisation Weakens Federalism

- The **Solid Waste Management Rules, 2026** reflect a highly **centralised governance structure** where the **Union government** designs **operational frameworks** while **States and local bodies mainly function as implementing agencies**.
- Such an approach weakens **cooperative federalism** because **different States possess varying administrative capacities**, fiscal resources, ecological conditions, and governance challenges.
- A uniform national framework may fail to address region-specific realities and reduce opportunities for **local innovation and flexibility**.

### 2. One-Size-Fits-All Approach Ignores Ground Realities

- Waste-management challenges differ across India because **metropolitan cities, hill towns, coastal regions, tribal areas, and rural settlements** face entirely different geographical and infrastructural constraints.
- However, the Rules impose similar compliance expectations without adequately considering differences in **infrastructure, fiscal capacity, population density, and administrative strength**, which may create unrealistic implementation burdens.

### 3. Weak Capacity of Rural Local Bodies

- Most **Gram Panchayats** lack technical staff, digital infrastructure, financial resources, and waste-processing facilities required for advanced waste-management systems.

- Rural waste management should focus more on **community awareness, household composting, simplified waste collection, and cluster-based processing systems** suited to local realities.

#### 4. Digital Compliance Burden and Weak Financial Support

- Excessive emphasis on **digital reporting, audits, and centralised monitoring through CPCB platforms** may shift focus from actual service delivery towards paperwork and data entry.
- At the same time, municipalities and Panchayats continue to face **financial constraints, weak revenue generation, and dependence on irregular grants**, which limit effective implementation of waste-management obligations.

#### 5. Risk of Judicialisation

- Non-implementation of the Rules may increase **Public Interest Litigations (PILs)** and judicial monitoring, leading to court-driven governance focused more on compliance reports than actual environmental outcomes and citizen participation.

### Global Best Practices In Decentralised Waste Management

#### 1. Germany's Decentralised Recycling Model

- Germany has developed **an efficient decentralised recycling system based on strong municipal autonomy**, citizen participation, producer responsibility, and strict source segregation practices.
- Local governments are provided flexibility to design region-specific waste systems according to local infrastructure and community needs.

#### 2. Japan's Community-Centred Waste Governance

- Japan has established **highly disciplined community-based waste segregation systems** where citizens actively participate in sorting and recycling waste according to strict local guidelines.
- Strong local accountability and social discipline have helped Japan minimise landfill dependence and improve recycling efficiency.

#### 3. Sweden's Circular Economy Approach

- Sweden has successfully converted large quantities of waste into energy and recyclable resources through **advanced processing systems** and **strong circular economy policies**.
- Efficient segregation systems and local innovation have significantly reduced landfill usage across the country.

### Way Forward for Building a Sustainable Waste Governance Framework in India

#### 1. National Standards Must Be Balanced with State Flexibility

- The Union government should establish **minimum environmental standards** while allowing States sufficient flexibility to design waste-management systems according to their own **ecological, administrative, social, and fiscal realities**. Such a balanced approach would strengthen **cooperative federalism** while ensuring national environmental commitments are maintained.

## 2. Local Governments Must Be Financially and Administratively Empowered

- Municipalities and Panchayats require adequate **financial support, technical expertise, institutional autonomy, and administrative capacity-building** to effectively implement waste-management systems at the grassroots level.
- Waste governance cannot succeed unless local bodies are treated as genuine institutions of self-governance rather than merely implementing agencies dependent upon higher authorities.

## 3. Different Regions Require Context-Specific Waste Models

- Waste-management systems should be designed according to regional requirements because challenges differ significantly across India.
- **Megacities** require advanced waste-processing infrastructure, scientific landfill remediation, and metropolitan waste-management authorities due to massive waste-generation volumes.
- In contrast, **rural areas and small towns** require decentralised systems based on **community composting, cluster-level processing facilities, and locally suitable collection mechanisms**.

## 4. Citizen Participation Must Become Central to Waste Governance

- Sustainable waste management depends upon **behavioural change, community ownership, and active citizen participation** in segregation, recycling, and sanitation practices.
- Institutions such as **Ward Committees, Gram Sabhas, Resident Welfare Associations (RWAs), and citizen monitoring systems** should become integral parts of local waste governance to improve accountability and public participation.

## 5. States Should Be Encouraged to Innovate

- States should be encouraged to develop **region-specific innovations** such as decentralised composting systems, integration of informal waste workers, local recycling markets, and community-driven waste-management models.
- Successful State-level experiments can later be replicated nationally, thereby strengthening both **innovation and cooperative federalism**.

## Conclusion

- India's waste crisis cannot be resolved solely through **centralised regulation, digital compliance systems, and top-down administrative control**.
- Sustainable waste governance requires a balanced framework based on **cooperative federalism, empowered local governments, adequate financial support, scientific infrastructure, State-level flexibility, and active citizen participation** to build cleaner, healthier, and environmentally sustainable cities and villages.

*Q. India's waste crisis cannot be solved through excessive centralisation alone." Examine the challenges associated with the Solid Waste Management Rules, 2026 and suggest suitable measures. 15 Marks*

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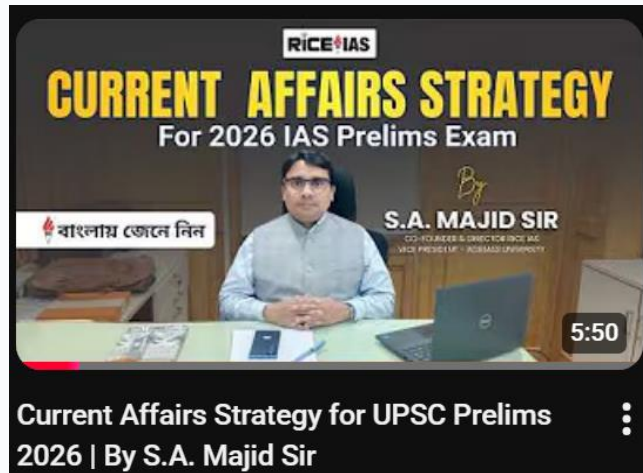
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