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9 PM Current Affairs Weekly Compilation

For UPSC CSE mains examination

4th Week

January. 2026

Features :

Arranged as per syllabus Topics
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Delimitation after 2027, Redrawing Power in India

UPSC Syllabus Topic: GS paper2- Polity- issues and challenges pertaining to the federal structure.

Introduction

Delimitation is the constitutional process of adjusting electoral boundaries according to population change. Although routine in principle, the delimitation due after Census 2027 will be the most decisive redistribution of political power since Independence. It will determine Lok Sabha seat allocation, influence women's reservation, reshape coalition politics, and raise difficult questions on fairness, federalism, and democratic balance among Indian States.

What is Delimitation?

Delimitation refers to the process of redrawing the boundaries of electoral constituencies to ensure fair representation based on population changes.

Delimitation Commission:

- The Delimitation Commission is a statutory body responsible for determining the boundaries of various constituencies in the country for the purpose of elections.
- It is governed by the Delimitation Act, 2002 and is conducted by the Delimitation Commission under Articles 82and 170 of the Indian Constitution.
- The objective is to provide equitable representation to all regions while maintaining the principle of one person, one vote.

Freeze on seat redistribution since 1976:

- Inter-State distribution of Lok Sabha seats has remained unchanged since 1976, based on the 1971 Census. The freeze was introduced to prevent States that adopted population control measures from losing political representation.
- **Extension through the 84th Constitutional Amendment:** In 2001, the freeze was extended until the first Census conducted after 2026.
- **Present representational mismatch:** India's parliamentary representation still reflects a population of 548 million, while the actual population has crossed 1.47 billion.

Why the Upcoming Delimitation Is Unprecedented

1. End of constitutional suspension: With Census 2027, the legal protection against seat redistribution expires, making delimitation unavoidable.

2. First inter-State redistribution since 1976:

- The next Delimitation Commission will reallocate Lok Sabha seats among States after nearly five decades.

• Complete redrawing of constituencies: Unlike the 2002–08 exercise, all parliamentary constituencies will be redrawn, not merely internal boundaries.

• Integration of women's reservation: The Commission must also create reserved constituencies for the 33% women's quota.

3. Delay in execution:

• Even if Census data is released in 2028, delimitation before 2031–32 appears unlikely.

• Impact on women's reservation rollout: Due to these delays, women's reservation may not be implemented before the 2034 general election.

What are the concerns associated with Delimitation Exercise?

1. Population vs. Development- Southern states argue that delimitation based solely on population would penalize them for Try successful family planning and economic development. **E.g.**Tamil Nadu's fertility rate is 1.6, while Bihar's is 3.0.

2. Federalism at Risk- States with low population growth may feel politically marginalized, leading to North-South divide concerns. There are concerns that the Delimitation Exercise can create federal Imbalance as states with better governance may feel punished for controlling population. **E.g.** Sarkaria Commission (1983) warned against excessive centralization of power.

3. Manipulation- There are concerns that political parties may influence constituency boundaries for electoral gains. **E.g.**Allegations of bias in the J&K delimitation process (2022).

4. Delays and Political Resistance- There are instances of increased political resistance as seen in the case of Justice Kuldip Singh-led Commission (2002) facing pushback from political parties unwilling to lose seats.

5. Economic Disparities- Southern states argue that higher revenue generation (GST collections, per capita income) should be factored into representation.

6. Moral Contradiction: The exercise conflicts with decades of national policy that promoted population control, as States following the policy now risk political loss.

7. **Constitutional Uncertainty:** Extending the seat freeze or modifying redistribution may invite legal challenges because unequal representation undermines the principle of equal suffrage under Article 14.

8. **Reservation Concerns:** While the number of SC and ST seats follows population share, the choice of constituency locations depends on Commission discretion.

Possible Approaches and Reform Options

1. Extend the freeze beyond 2026: The current freeze on inter-State seat redistribution may be extended until fertility rates across States converge. This protects the existing political balance but denies fair representation to fast-growing States and may face constitutional challenge under Article 14 due to unequal suffrage.

2. Expand the size of the Lok Sabha: The Lok Sabha may be expanded from 543 to around 750 or 888 seats so that no State loses its existing seats. However, population-based allocation would still give larger States a much bigger share, leaving southern concerns unresolved.

3. Adopt a weighted population–development formula: Seat allocation could follow a composite formula giving 70–80% weight to population and 20–30% weight to development indicators such as literacy, health, and fertility control. This approach rewards governance outcomes instead of population growth alone.

4. Strengthen the Rajya Sabha as a federal chamber: The Rajya Sabha's federal role can be restored by reintroducing domicile requirements and reforming seat distribution. A tier-based system with equal seats within large, medium, and small State groups can reduce population dominance and balance federal power.

5. Bifurcate Uttar Pradesh to reduce concentration of power: Uttar Pradesh may be divided into three or four States to prevent excessive political dominance. If its projected 151 Lok Sabha seats are distributed among smaller States, no single State would command disproportionate influence.

6. Implement phased redistribution of seats: Seat reallocation may be carried out in two stages, with half implemented in 2034 and the remainder in 2039. This gradual approach reduces political shock while still complying with constitutional requirements.

Conclusion

Delimitation after 2027 will redefine India's political balance for decades. The challenge lies in reconciling population-based equality with governance fairness and federal stability. Transparent procedures, expert participation, and political consensus are essential. If guided by justice and dialogue, delimitation can strengthen democracy; if driven by numbers alone, it risks deepening regional distrust.

Question for practice:

Discuss how the delimitation exercise due after Census 2027 is likely to reshape political representation in India, and examine the constitutional, federal, and governance-related concerns associated with it.

Source: The Hindu

Walkouts by Governors test constitutional limits

UPSC Syllabus GS2-**Indian Polity**

Introduction

The walkouts by Governors during inaugural sessions of State Legislatures in Karnataka, Tamil Nadu, and Kerala have raised serious constitutional questions. These actions challenge the limits of discretion allowed to Governors. The issue has brought renewed focus on Articles related to the Governor's address, the role of the elected Cabinet, and the balance between constitutional duty and political neutrality.

Constitutional Role of the Governor (gubernatorial powers)?

Gubernatorial powers are the constitutional, legal, administrative, legislative, executive, judicial, and discretionary powers vested in the **Governor** of a state.

These powers are derived mainly from **Articles 153 to 167 and 200–213** of the Constitution.

These powers enable the **Governor to act as the *constitutional head* of the state,** oversee its governance, and safeguard the Constitution while working with the state government.

Constitutional Provisions:

- **Article 153:** Provides for a Governor for one or more than one states.
- **Article 154:** The executive powers of the state are vested in the Governor and can be exercised directly or through subordinate officers in accordance with the Constitution.
- **Article 155:** Provides for the appointment of the Governor by the President by warrant under his hand and seal.
- **Article 156:** Provides the term of office of Governor- Appointed for a period of five years and holds office during the pleasure of the President. Pleasure of the President means that he can be removed anytime by the President, even before the expiry of five years.
- **Article 157:** Qualifications- He should be a citizen of India and must have completed the age of thirty-five years

3. Aid and advice principle: Under Article 163, the Governor must act on the aid and advice of the Council of Ministers except in areas where discretion is expressly provided.

4**. Discretionary Powers** = Governor has two types of discretion in the execution of his work:

- **Constitutional discretion** which is discretion mentioned directly in the Constitution. This is exercised in matters such as reserving a bill for the consideration of the President, recommendation of the President's rule under Article 356.
- **Situational discretion** which means hidden discretion that is derived from the exigencies of political situations. For instance, the appointment of Chief Minister of a state when no party has a clear cut majority in the state legislative assembly or when the chief minister in office dies suddenly and there is no obvious successor, dissolution of the state legislative assembly if the council of ministers has lost its majority etc.
- **Representative role:** Dr. B.R. Ambedkar stated that the Governor has no independent governing function. He acts as a representative of the people as a whole, not of any political party.

Judicial Interpretation on Governor Conduct

1. Shamsher Singh judgment (1974):

• A **seven-judge Bench ruled** that **Governors cannot publicly oppose Cabinet policy.** Such conduct violates the parliamentary system.

• **Warning against constitutional overreach:**The court said free discretion in every function would weaken democracy and elevate the Governor beyond constitutional limits.

• **Remote control principle:** Even the limited freedom of the Governor is controlled by the Union Council of Ministers, which is accountable to Parliament.

2. Tamil Nadu Governor case (Supreme Court judgment):

• The Supreme Court ruled that **gubernatorial discretion cannot have the effect of negating the powers of an elected and responsible State government.**

• The Governor was **described as a "guide, philosopher, and friend" of the government and the people, not an alternative power centre.**

3. Nabam Rebia vs Deputy Speaker (2016):

• A **five-judge Constitution Bench** held that the **Governor's discretionary powers are strictly limited and clearly stated in the Constitution.**

• **Interpretation on legislative functions:** The Court ruled that **summoning the House under Article 174 cannot be done at the Governor's discretion and must follow Cabinet advice.**

• **Interpretation on Governor's address:** The Court stated that addressing the **House under Article 175(1) or delivering the special address** under **Article 176(1) are** executive functions performed only on the aid and advice of the Council of Ministers.

Governor's Address and Legal Precedents

1. **Mandatory constitutional duty:** Article 176(1) requires the Governor to address the Legislature at the first session each year and after Assembly elections.
2. **Purpose of the address:** The address informs the Legislature of the reasons for its summons and outlines the policies of the elected State government.
3. **Executive nature of the address:** The Supreme Court clarified that Articles 175 and 176 involve executive functions performed on Cabinet advice.
4. **No authority to alter content:** The speech reflects government policy. Any unilateral change by the Governor can make the speech politically indefensible.
5. **Rajasthan High Court ruling (1966):** A partial speech was held sufficient as long as the Governor communicated directly with elected representatives.
6. **Calcutta High Court view:** The address is mandatory, but partial delivery is only an irregularity, not illegality. Legislative proceedings remain valid.

Recent Crisis and Its Impacts

1. **Walkouts from Assembly sessions:** Governors in Karnataka, Tamil Nadu, and Kerala either skipped portions of the address or walked out during delivery.

2. **Departure from constitutional practice:** Such actions go beyond the "limited freewheeling" allowed under the Constitution.

3. **Cabinet authority questioned:** State leaders argue Governors cannot skip paragraphs approved by the Council of Ministers.

4. **Possible judicial intervention:** The Karnataka government may approach the Supreme Court seeking clarity on the constitutionality of such walkouts.

5. **Risk of constitutional crisis:** Selective reading or refusal to read the speech disrupts legislative accountability and undermines federal balance.

6. **Budget session exception:** In 2022, Telangana began its Budget Session without the Governor's address as the session was treated as a continuation, not a new one.

Conclusion

The recent walkouts highlight growing strain between Governors and elected governments. Constitutional provisions, judicial rulings, and Assembly debates clearly limit gubernatorial discretion. Ignoring Cabinet advice weakens parliamentary democracy and federal balance. Clear judicial guidance and strict adherence to constitutional roles are essential to prevent recurring institutional conflict.

Question for practice:

Examine how recent walkouts by Governors during State Legislative Assembly sessions have tested constitutional limits on gubernatorial discretion and affected the balance between elected governments and constitutional authority in India.

Source: **The Hindu** and **Deccan Herald**

One District One Product (ODOP)

Source: The post **"One District One Product (ODOP)"** has been created, based on **"One District One Product (ODOP)"** published in **"PIB" on 24th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: One District One Product (ODOP) initiative was launched in **Uttar Pradesh in 2018**. It identifies one unique product from each district and provides it with **branding, market access, institutional support, and visibility**. It aims to empower local artisans, revive traditional skills, create livelihoods, and promote **district-specific economic growth**. Moradabad's brassware was the first product recognized, which **later reached international markets.**

Objectives of ODOP

1. **Balanced Regional Development:** Reduce regional disparities by leveraging local resources and skills.
2. **Empowerment of Artisans and Producers:** Provide **training, modern toolkits**, and institutional support to artisans, farmers, and weavers.
3. **Promotion of Exports:** Integrate districts with global markets, enhancing **India's export portfolio**.
4. **Preservation of Heritage:** Protect traditional crafts and cultural identity.
5. **Job Creation & Rural Entrepreneurship:** Generate livelihoods under **Aatmanirbhar Bharat** initiative.
6. **Alignment with National Missions:** Supports **Make in India, Vocal for Local, and Districts as Export Hub**.

Key Features

1. It is governed collaboratively by **DPIIT, state governments, and district administrations**.
2. Products are selected based on **existing local ecosystem**.
3. **Over 1,200 products listed** across sectors like textiles, handicrafts, minerals, and food.
4. **Digital Market Access:** Products showcased through **GeM-ODOP Bazaar** and state e-commerce portals.
5. **PM Ekta Malls:** National hubs to promote ODOP and GI-tagged products, with **₹5,000 crore support**, experience zones, and retail spaces for every state/UT.

Impact of ODOP:

In Uttar Pradesh (Pioneer State):

1. Exports rose by **76% (₹88,967 Cr in 2017-18 → ₹1.71 Lakh Cr in 2023-24)**.
2. **₹6,000 crore projects sanctioned** under ODOP Margin Money Scheme.
3. Over **1.25 crore artisans trained** with modern toolkits.
4. **UPITS 2025 & Mahakumbh 2025:** Boosted **national and global visibility** for 466 ODOP stalls, GI-tagged products, and regional crafts.

National Level:

1. Scaled to **770+ districts**, impacting millions of entrepreneurs, artisans, and farmers.
2. **Global Recognition:** ODOP products promoted through **80+ Indian missions**, G-20 gifting, and stores in **Singapore and Kuwait**.

Significance:

1. It converts **traditional skills into sustainable economic engines**.
2. It promotes **inclusive growth, rural employment, and international trade**.
3. It strengthens **India's cultural identity and global brand**.
4. It bridges **local heritage with modern development goals**, supporting Aatmanirbhar Bharat.

Challenges in Implementing ODOP:

1. **Awareness and Outreach Deficit:** Many local communities, including artisans, farmers, and producers, are unaware of their district-specific products or the economic opportunities under ODOP. Limited marketing skills and exposure restrict participation.

2. **Infrastructure Gaps:** Poor transport networks, inadequate storage, lack of processing units, and weak logistics hamper efficient production, distribution, and market access.
3. **Limited Market Access:** ODOP products often struggle to reach regional, national, and international markets due to weak supply chains, absence of dedicated marketing platforms, and lack of e-commerce integration.
4. **Skill and Quality Constraints:** Artisans may lack modern design, production, packaging, and marketing skills, affecting product quality and competitiveness.
5. **Resource and Funding Challenges:** Unequal or insufficient allocation of financial and technical resources can delay implementation and reduce the scheme's effectiveness.
6. **Sustainability Issues:** ODOP initiatives may face difficulties in scaling successful products, maintaining momentum, and ensuring long-term viability.
7. **Competition and Differentiation:** ODOP products face competition from mass-produced or similar items from other regions, making branding and differentiation crucial.

Way Forward:

1. **Awareness and Capacity Building:** Conduct campaigns and workshops at district levels to educate communities about ODOP benefits, cultural significance, and entrepreneurship opportunities.
2. **Infrastructure Development:** Invest in transportation, storage, packaging, and processing facilities to strengthen supply chains and enable efficient distribution.
3. **Market Access and Digital Integration:** Facilitate linkages with domestic and international markets, establish e-commerce platforms, and promote ODOP products through trade fairs, exhibitions, and Government e-Marketplace (GeM).
4. **Skill Development and Quality Enhancement:** Provide training in modern design, craftsmanship, quality control, branding, and sustainable production practices to improve competitiveness.
5. **Transparent Resource Allocation:** Ensure equitable distribution of financial and technical support, coupled with monitoring and evaluation mechanisms.
6. **Branding and Promotion:** Develop a strong national and global brand identity for district-specific products to differentiate them from competitors.
7. **Sustainability and Scaling:** Encourage long-term planning, integration with tourism, exports, and entrepreneurship programs to sustain and scale successful ODOP initiatives.
8. **Stakeholder Collaboration:** Promote coordination among central/state governments, local authorities, trade bodies, and artisans for smooth implementation and monitoring.

Conclusion: ODOP has transformed local streets into **global shelves**, turning artisan aspirations into economic opportunities. From Moradabad's brassware to PM Ekta Malls and international stores, the initiative exemplifies how **district-level products can achieve national pride and global outreach.**

Question: One District One Product (ODOP) initiative has transformed India's local economies and traditional crafts. Discuss its objectives, impact, and global outreach.

Source: PIB

Merits of user tax on infra services

Source: The post **"Merits of user tax on infra services"** has been created, based on **"Merits of user tax on infra services"** published in **"BusinessLine" on 24th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: Raising government revenue is challenging because **direct taxes are politically sensitive**, and GST rates have recently been lowered. A **user-based tax** on infrastructure-related goods and services like vehicles, telecom, railways, airlines, and freight can generate **significant revenue** without being a burden, as these goods are **price inelastic**, meaning demand is unaffected by small cost increases.

Merits of User Tax on Infra Services

1. **Revenue Generation:** Even a **small tax or cess** on high-volume goods and services can raise **substantial revenue**, estimated at ₹20,000 crore. Given the large number of users for telecom, travel, and vehicle purchases, revenue accrues steadily over time.
2. **Minimal Consumer Impact:** For a ₹75,000 two-wheeler, a ₹1,000 tax is only **1.3%**, barely noticeable to the buyer. Similarly, ₹10 per mobile connection or per rail ticket is insignificant relative to the **average revenue per user or ticket price**, ensuring affordability.
3. **Price Inelastic Demand:** Services like railways, airlines, and telecom continue to see **stable demand** despite price hikes, as evidenced by **dynamic pricing in railways**. Freight transport must happen irrespective of minor cost increases, ensuring predictable revenue.
4. **Limited Inflationary Impact:** Components such as rail, air, or vehicles have **low CPI weights** (rail 0.18%, air 0.077%, vehicles 0.48–0.79%), so adding small taxes will **barely affect overall inflation**. This ensures the tax is **non-disruptive to the broader economy**.
5. **Sustainable and Flexible:** Taxes can be **graded** by usage, class, or capacity (e.g., higher for cars, lower for two-wheelers). Periodic revisions are possible to **stabilise revenue** as demand patterns and infrastructure needs evolve.
6. **Encourages Efficient Usage:** Small user charges may encourage **judicious consumption**, e.g., choosing an appropriate travel class or mobile plans. At the same time, essential services remain accessible due to low tax incidence.

Challenges

1. **Equity Concerns:** Even small taxes can impact **low-income users**, especially for frequent users of public transport or mobile services.
2. **Implementation Complexity:** Efficient collection across millions of transactions, especially for rail freight or telecom connections, requires **robust digital systems**.
3. **Resistance from Industry:** Transport, telecom, and vehicle sectors may **oppose additional charges**, fearing reduced demand or administrative burden.
4. **Indirect Inflation Risk:** Freight and transport taxes can **increase goods costs**, which might be passed on to consumers indirectly.

Way Forward

1. **Graded and Fair Taxation:** Scale the tax based on **vehicle type, travel class, or usage**, so low-income users are minimally affected.
2. **Digital Collection Mechanism:** Implement e-payment and **automatic collection** to reduce leakages and ensure transparency.
3. **Periodic Revision:** Adjust charges periodically to **match revenue needs and inflation trends** without disrupting demand.

4. **Awareness and Communication:** Publicise that funds will be used for **infrastructure improvements** to gain citizen support.
5. **Direct Link to Infrastructure Investment:** Allocate revenue to **roads, railways, airports, and telecom upgrades**, ensuring transparency and accountability.

Conclusion: A **user-based tax on infrastructure services** leverages **price-inelastic demand** to generate **sustainable revenue**, minimally impacts consumers, and supports long-term infrastructure development. With **grading, digital collection, and transparency**, it can provide a stable funding source while remaining affordable.

Question: Discuss the merits of imposing a user-based tax on infrastructure-related goods and services. How can such a tax help in revenue generation without affecting consumption? Also, highlight its challenges and suggest ways forward.

Source: BusinessLine

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The recent walkouts highlight growing strain between Governors and elected governments. Constitutional provisions, judicial rulings, and Assembly debates clearly limit gubernatorial discretion. Ignoring Cabinet advice weakens parliamentary democracy and federal balance. Clear judicial guidance and strict adherence to constitutional roles are essential to prevent recurring institutional conflict.

Question for practice:

Examine how recent walkouts by Governors during State Legislative Assembly sessions have tested constitutional limits on gubernatorial discretion and affected the balance between elected governments and constitutional authority in India.

Source: **The Hindu** and **Deccan Herald**

India's biggest climate gap could be language

Source: The post **"India's biggest climate gap could be language"** has been created, based on **"India's biggest climate gap could be language"** published in **"The Hindu" on 27th January 2026.**

UPSC Syllabus: GS Paper-3- Environment

Context: India has developed advanced climate data, including district-level heat projections, flood models, crop yield simulations, and climate attribution studies. However, this scientific progress has not translated into widespread public understanding because climate information is often communicated in complex, technical, and inaccessible language.

Communication Gap in Climate Discourse

1. Climate information is frequently conveyed using scientific and policy-related terminology that is difficult for ordinary citizens to understand.
2. Key policy terms such as "Loss and Damage," "mitigation," and "adaptation" are widely used but are rarely explained in simple and relatable language.
3. Scientific findings often remain confined to official reports, expert meetings, and international forums instead of reaching affected communities.
4. There is a significant disconnect between global climate negotiations and local realities, which reduces the practical relevance of policies.
5. The lack of contextualised communication prevents people from linking climate change with agriculture, health, water availability, and livelihoods.

Challenges in Climate Communication

1. **Excessive Use of Technical Jargon:** Climate science depends on specialised terms such as projections, simulations, scenarios, and attribution studies. These terms are rarely translated into everyday language, making climate information difficult to understand. This limits meaningful participation of citizens in climate-related decision-making.
2. **Language Barriers:** Most climate-related communication takes place in English. Regional, tribal, and local languages are inadequately used. This excludes large sections of rural and marginalised populations from climate discourse.
3. **Low Climate Literacy:** Climate change is not adequately integrated into formal and informal education systems. Many people lack basic understanding of climate processes and long-term risks. This makes them dependent on external sources for information.
4. **Weak Institutional Capacity:** Local governments and administrative bodies often lack trained staff for climate communication. There are limited institutional mechanisms to simplify and disseminate scientific knowledge. Coordination between scientists, policymakers, and field officials remains weak.
5. **Urban-Centric and Elite Discourse:** Climate debates are dominated by urban experts, researchers, and policymakers. Rural communities, farmers, fisherfolk, and indigenous groups are rarely consulted. Their traditional knowledge and lived experiences remain underutilised.
6. **Inadequate Media Communication:** Media coverage tends to focus on disasters such as floods and heatwaves without explaining climate linkages. Long-term trends and structural causes receive limited attention. This results in fragmented and event-based understanding.

Impact on Society and Governance

1. Poor communication reduces public awareness about climate risks related to health, food security, and housing.
2. Vulnerable communities remain unaware of early warning systems, insurance schemes, and adaptation programmes.
3. Policies often fail to address local priorities due to lack of feedback from communities.
4. Non-economic losses such as displacement, cultural erosion, and psychological stress remain poorly recognised.
5. Limited transparency weakens public trust in climate institutions and **governance systems.**

Way Forward

1. Climate information should be communicated in simple, precise, and locally relevant language.
2. Technical concepts should be explained using examples from agriculture, water management, and daily life.
3. Communication materials should be systematically prepared in regional and local languages.
4. Climate education should be strengthened through curricula, community training, and public campaigns.
5. Scientists and policymakers should engage in regular consultations with local communities.
6. Journalists, teachers, and officials should receive specialised training in science communication.
7. Digital platforms, mobile applications, community radio, and visual tools should be used for outreach.
8. Civil society organisations and local institutions should act as bridges between experts and citizens.

Conclusion: India possesses strong scientific capacity and extensive climate data, but weak communication limits their social impact. Bridging the language gap through inclusive, transparent, and participatory communication is essential for empowering citizens, strengthening governance, and ensuring sustainable and equitable climate action.

Question: Despite having advanced climate data and scientific capacity, India faces a major communication gap in its climate discourse. Discuss the challenges associated with climate communication and suggest measures to bridge this gap.

Cybercrime and a global governance crisis

Source: The post **"Cybercrime and a global governance crisis"** has been created, based on **"Cybercrime and a global governance crisis"** published in **"The Hindu" on 27th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: Cybercrime governance has become a central issue of global governance in the digital era, as digital dependence grows and cyber threats escalate. The adoption of the UN Convention against Cybercrime (2024) has exposed deep geopolitical divisions, showing how difficult it is to achieve global consensus. For India, this poses challenges in protecting **digital sovereignty**, upholding **human rights**, and maintaining **institutional autonomy** while participating effectively in global rule-making. The crisis reflects the limitations of traditional multilateral frameworks in responding to emerging technologies and cross-border cyber threats.

Global Governance Crisis in Cyberspace

1. The UN Cybercrime Convention (2024) is the first major multilateral criminal justice treaty in over two decades, marking a significant attempt to set international cyber norms.
2. It was proposed by Russia in 2017 and strongly supported by China, aiming to challenge the status quo of Western-led cyber governance frameworks like the Budapest Convention (2001).
3. Key powers including India, the US, Japan, and Canada did not sign, reflecting mistrust of the Convention's intentions and divergent national priorities.
4. The lack of universal adoption underscores **fragmentation in global governance**, weakening the ability to create enforceable, uniform standards for cyberspace.

Competing Power Blocs and Interests

1. **Russia-China:** Advocate for stronger state control over the internet, legitimising national cyber laws and authoritarian regulatory approaches.
2. **Europe:** Signed to retain influence in shaping global norms and ensure an early voice in the implementation process.
3. **USA:** Skeptical of the broad definitions, concerned that the Convention could be used to suppress free speech and target journalists or activists.
4. **India:** Chose not to sign to protect control over citizen data and ensure regulatory sovereignty, while still actively participating in negotiations.
5. The divisions highlight how cyber governance is a reflection of **geopolitical competition**, making unified global solutions extremely difficult.

Gap Between Principles and Practice

1. While the Convention addresses urgent issues such as child sexual abuse material and online fraud, its **broad definitions** allow states to stretch "cybercrime" to suppress dissent or political opposition.
2. Procedural safeguards like judicial oversight are tied to domestic law, resulting in **inconsistent human rights protections** across countries.
3. Similar patterns are visible in **AI governance**, where countries agree on high-level principles like safety, security, and human-centric design, but implementation becomes highly prescriptive, e.g., India's draft AI watermarking rules covering 10% of content.
4. This shows a **recurrent global challenge**: consensus on principles does not automatically translate to consensus on practical enforcement.

Rise of Polycentric Governance

1. Traditional multilateral institutions are weakening:
    a. UN faces financial and political constraints.
    b. Security Council is ineffective in modern conflicts (e.g., Ukraine, Gaza).
    c. WTO dispute settlement system is paralyzed since 2019.
2. Governance is increasingly handled through **plurilateral, bilateral, or regional forums**, creating overlapping rules and fragmented enforcement.
3. This **polycentric system** places additional pressure on states, requiring them to navigate multiple, sometimes conflicting, regulatory regimes.

Implications for India

1. India's proposals for protecting citizen data and retaining control over cyber regulation were largely ignored, showing **declining influence** in global rule-making.
2. Staying outside major frameworks risks isolation in cyber cooperation, cross-border investigations, and international data-sharing agreements.
3. Over time, this may weaken India's **strategic autonomy**, affect regulatory control, and reduce leverage in shaping global cyber norms.

Capacity Deficit in India

1. India lacks sufficient skilled professionals in **cyber law, digital forensics, and cyber diplomacy**.
2. Regulatory institutions are fragmented across ministries and agencies, leading to poor policy coordination.
3. Limited collaboration with private sector and civil society reduces innovation and enforcement efficiency.
4. Insufficient investment in technical infrastructure and research undermines India's ability to respond to sophisticated cyber threats and participate effectively in global governance forums.

Way Forward

1. Build specialised cadres in **cyber law, digital diplomacy, and technical cybersecurity**.
2. Strengthen institutional coordination between the **MEA, IT Ministry, Home Ministry, and security agencies**.
3. Develop robust **domestic cybersecurity and data protection frameworks**.
4. Promote **public-private partnerships** to enhance threat intelligence sharing and response capabilities.
5. Ensure policies balance **national security, innovation, and human rights**.
6. Invest in **AI, cyber infrastructure, and research**, as well as training human resources.
7. Engage proactively in **plurilateral and multilateral forums** to influence the drafting of international cyber norms.

Conclusion: The UN Cybercrime Convention reflects the broader **breakdown of global consensus** in digital governance. In a polycentric, fragmented world, India must strengthen **technical capacity, institutional coherence, and diplomatic engagement**. Enhancing these capacities is critical to safeguard sovereignty, protect citizen rights, and remain an influential player in global digital governance.

The solution to the falling rupee lies in diplomacy

UPSC GS-3: Indian Economy

Introduction

The recent fall in the value of the rupee has unsettled people and markets. This decline appears unusual because India's economy is performing well, with strong growth, low inflation, and a manageable current account deficit. The situation has raised concerns about the real causes behind the rupee's weakness and whether economic tools alone can address the problem.

India's Macroeconomic Fundamentals

1. Strong economic growth: India's growth rate for the current year is estimated at 7.4%, showing stable economic expansion.

2. Low inflation environment: CPI inflation ended 2025 at 1.33%, remaining below the RBI's lower target band for four consecutive months.

3. Comfortable external balance: The current account deficit in the first half of 2025–26 stood at 0.76% of GDP, lower than 1.35% in the previous year.

4. Contradiction in currency movement: Despite strong indicators, the rupee has fallen by nearly 6% since April 2025, creating confusion in the markets.

Reason for Rupee Depreciation

1. Trade deficit not the main reason: The combined merchandise and services trade deficit rose from $88.43 billion to $96.58 billion, which is not large enough to trigger sharp depreciation.

2. **Capital outflows as the core issue:** The major reason behind the rupee fall is persistent capital outflows rather than trade imbalance. **For example**, net capital inflows of $10,615 million in April–December 2024 turned into a net outflow of $3,900 million during the same period in 2025.

3. **Impact of U.S. tariff actions:**

The U.S. imposed a 25% reciprocal tariff on Indian exports and an additional 25% tariff due to India's crude oil imports from Russia.

4. **Threat of further tariffs:** The U.S. has warned of another 25% tariff on countries trading with Iran, even though such trade forms only 0.15% of India's total trade.

5. **Unresolved trade negotiations:** Despite months of discussions, no agreement has been reached between India and the U.S., increasing market uncertainty.

6. **Strengthening of USA Dollar:** Despite the US Fed Reserve beginning its rate-cut cycle, the US Dollar has maintained persistent strength, reflecting its status as global reserve currency & a safe haven asset during a period of geopolitical uncertainty. Strengthening of US dollar against major currencies puts pressure on INR.

7. **High Crude Oil Demand & Import Bill:** India imports almost 80-85% of its crude oil. The rise in the crude oil prices & that of the important commodities imported by India like gold – lead to widening of India's trade deficit & weakening of INR.

8. Monetary Policy Factors:

- **Unfavourable Interest Rate Differentials:** Even though the US Fed Reserve has begun its rate-cut cycle at a modest rate (e.g. 25 basis point cut in the late 2025), the cumulative interest rate differential remains attractive for the US Dollar relative to Rupee's real yield – driving the capital away from India.

• **RBI's Stance:** The RBI has chosen a **Neutral Policy Stance** & kept the repo rate unchanged for most part of the year 2025 – prioritizing domestic liquidity management & growth oven an aggressive defense of the Rupee.

Impacts of Rupee Depreciation

1. Impact on Consumers:

a. **Inflationary Pressure:** As the INR weakens, the Oil Marketing Cos. have to pay more Rupees for the same barrel of oil. This increased cost is eventually passed on to the consumers through higher prices for petrol, diesel, and natural gas. This high fuel cost then triggers a cascading effect – contributing to broader consumer price inflation.

b. **Cost of Goods:** The price of other key imports, such as electronics, gold, industrial chemicals, and fertilisers, also rise – intensifying the inflationary pressure & eroding the purchasing power & savings of the average household.

c. **Foreign Travel & Education:** Foreign travel & education will become significantly expensive.

2. Impact on Trade (Imports/Exports):

a. The WINNERS:

• **Increased Competitiveness:** A weaker rupee makes the Indian goods & services cheaper for foreign buyers who pay in Dollars. This can boost the competitiveness of Indian exports in global market.

• **High Profitability for Exporters:** Indian exporters, particularly the IT Service Sector, benefit significantly. Weakening of the INR directly boosts their profit margin & revenue growth.

• **Boost to Domestic Investment:** Rise in export revenue can lead to increased domestic investment as exporters look to expand capacity to meet the higher demand.

b. The LOSERS

• **Higher Import Bill:** Weakening of the Rupee against Dollar puts upward pressure on the net import bill.

• **Wider Trade Deficit:** The cost of essential imports outweighs the revenue gain from exports. A significant rise in import bill can lead to a widening of the Trade deficit.

3. Impact on Corporates (External Debt):

a. **Increase in Debt Servicing Cost:** The Indian Corporates who have taken ECBs denominated in USD & have not fully hedged their exposure, face a major risk. A weaker rupee means that a company has to pay more amount of INR for the USD-denominated debt.

b. **Divergent Fortunes:** The corporate sector witnesses a divergence – while the export-oriented cos. see higher profits, the import-dependent cos. & highly indebted cos. face significant financial strain.

4. Macroeconomic Impact:

a. **Forex Reserves Drawdown:** The RBI often intervenes (spot intervention) in the forex market to prevent excessive depreciation of the Rupee. The RBI sells USD to absorb the excessive Rupee liquidity. However, it leads to reduction in the national reserve buffer.

b. **Capital Flight:** Withdrawal of funds by FIIs is one the causes for the weakening of the INR. If the Rupee continues to weaken, it could signal greater macroeconomic instability which may increase the rate of capital flight from India – creating a self-perpetuating cycle of depreciation.

RBI Intervention and Exchange Rate Management

1. Market-based regime: India shifted to a market-determined exchange rate system in 1993, where the value of the rupee is decided by market forces.

2. **Scope for intervention:** The new system does not prevent the Reserve Bank of India from intervening in the foreign exchange market when required.

3. **No rupee pegging:** All RBI Governors have clarified that intervention is not meant to fix or peg the value of the rupee.

4. **Meaning of volatility:** RBI actions show that reducing volatility includes limiting sharp fluctuations and moderating sudden falls in the rupee.

5. **Smoothing the fall:** The objective is not to stop depreciation but to allow the rupee to slide smoothly to its required level.

6. **Cost of shocks:** Sudden rupee movements create economic costs, and intervention aims to minimise these shocks.

7. **Non-economic pressure:** The current rupee fall is influenced by non-economic factors, and an understanding with the U.S. can lead to appreciation.

Why Devaluation Is Not a Solution

1. Rising import content: The import content of India's exports is increasing, which reduces the export stimulus normally expected from rupee depreciation.

2. **Tariff-restricted exports:** High tariffs in the U.S. market limit Indian exporters' access, making currency depreciation less effective in boosting exports.

3. **Essential imports:** Most of India's imports are essential goods, with crude oil alone accounting for about 25% of total merchandise imports.

4. **Inflation risk:** A fall in the value of the rupee increases import prices, which can fuel domestic inflation.

5. **No inflation gap:** India's inflation is not higher than that of developed Western economies, removing the basic justification for devaluation.

6. **REER relevance:** Devaluation is required only when inflation differences are wide, which is measured through the real effective exchange rate (REER).

7. **Manipulation concern:** Keeping the currency undervalued, as attempted by some countries, amounts to currency manipulation and remains controversial.

Conclusion

The fall in the rupee is not due to weak economic fundamentals but due to capital outflows driven by geopolitical and trade tensions. Tariff actions have shifted the issue from economics to diplomacy. While the RBI can only smooth volatility, a lasting solution lies in an early diplomatic understanding between India and the United States.

Question for practice:

Examine the reasons behind the recent fall of the Indian rupee and explain why diplomacy is considered the key solution.

Source: The Hindu

A spark to drive India's e-LCV

UPSC Syllabus Topic: GS Paper3 - Infrastructure – Transportation

Introduction

Light Commercial Vehicles are essential for India's delivery and logistics system. Despite their wide use, they remained outside fuel efficiency rules for many years. While passenger cars followed corporate average fuel efficiency norms, LCVs operated in a regulatory gap. In July 2025, the Bureau of Energy Efficiency proposed fuel consumption standards for LCVs for 2027–2032, marking a key step toward cleaner transport.

What is Light Commercial Vehicles (LCVs)?

Light Commercial Vehicles (LCVs) are commercial-grade vehicles designed to transport goods or passengers with a maximum gross vehicle weight (GVW) typically not exceeding **3.5 tonnes**.

They are commonly used for **last-mile delivery, small-scale freight, and urban logistics.**

Importance of LCVs in India's Transport Ecosystem

1. Backbone of last-mile logistics: Most online deliveries depend on small trucks below 3.5 tonnes, making LCVs central to last-mile transport.

2. Large share in goods transport: LCVs accounted for **48% of India's commercial goods vehicles in 2024**, showing their dominance.

3. High daily utilisation: These vehicles operate continuously in urban and semi-urban areas, leading to high fuel use.

4. Major contributor to transport emissions: Because of frequent usage and fleet size, LCVs contribute significantly to road transport emissions.

5. Critical for clean transport goals: Including LCVs under regulation is necessary to meet India's decarbonisation objectives.

Major Constraints to LCVs in India's Transport Ecosystem

1. Regulatory gap: LCVs remained outside fuel efficiency norms for years, while passenger cars were regulated under **Corporate Average Fuel Efficiency (CAFE) standards.**

2. Low electrification: Electric LCVs formed only 2% of the total fleet in 2024, showing very limited adoption.

3. High emissions: The average LCV emitted 147.5 g CO_2/km, which would rise to 150 g CO_2/km without electric vehicles.

4. Limited vehicle options: Manufacturers offer only a few e-LCV models with sub-35 kWh batteries and ranges near 150 km.

5. High upfront cost: Conventional LCVs cost below ₹1 million, while electric versions are priced significantly higher.

6. Price-sensitive demand: Buyers focus on purchase price, which discourages fleet operators from shifting to electric vehicles.

7. Policy inconsistency: The PM E-DRIVE scheme excludes LCVs, and only a few States provide purchase incentives.

8. Weak regulatory push: Relaxed fuel efficiency standards make ICE upgrades cheaper than investing in electrification.

9. Technology dilution: Credits for hybrids and ICE technologies allow compliance without adopting full battery electric LCVs.

Initiative taken for strengthening of LCVs in India's Transport Ecosystem

1. Fuel consumption standards proposed: In July 2025, the Bureau of Energy Efficiency introduced draft fuel efficiency standards for LCVs. The proposed standards will apply from 2027 to 2032, providing policy certainty.

2. Government rejection of exemption: Automakers sought full exclusion citing price sensitivity and costly ICE technology upgrades. The request was set aside, reflecting commitment to decarbonisation.

3. Evidence-based benchmark: Research by the International Council on Clean Transportation (ICCT) identifies 116.5 g CO_2/km as the cost threshold beyond which vehicle manufacturers find electrification

cheaper than upgrading internal combustion engines (ICEs). This provides a scientific basis for designing emission standards that can economically incentivize the adoption of electric light commercial vehicles (e-LCVs).

4. Use of super credit mechanism: Electric LCVs are given super credit multipliers and assigned zero CO_2 value for compliance.

5. **Technology-neutral compliance approach:** The framework also allows credits for hybrid and select ICE technologies to ease early-stage compliance.

Conclusion

India has taken a major step by bringing LCVs under fuel efficiency regulation. However, real progress depends on strong standards and focused incentives. Making electric LCVs the cheapest compliance option, limiting prolonged hybrid support, and ensuring timely rollout are essential. Without this, India may repeat the passenger car experience, where relaxed norms kept electrification limited to 3%.

Question for practice:

Evaluate how the introduction of fuel efficiency standards for Light Commercial Vehicles can influence India's transition toward clean and low-carbon transport.

Source: The Hindu

India–EU Partnership: India's Growing Engagement with European Union

Source: The post **"India–EU Partnership: India's Growing Engagement with European Union"** has been created, based on **"India–EU Partnership: India's Growing Engagement with European Union"** published in **"PIB" on 28th January 2026.**

UPSC Syllabus: GS Paper-2- International Relations

Context: India–EU relations have gained renewed strategic momentum due to increased political engagement and expanding economic cooperation. The European Union is India's largest trading partner in goods, with bilateral trade reaching about $136 billion in 2024–25. Both sides are working towards concluding a Free Trade Agreement to enhance market access and ensure regulatory certainty. The partnership is based on shared values such as democracy, rule of law, and commitment to multilateralism.

Key Dimensions of India–EU Partnership

1. Trade and Economic Cooperation

a. The European Union is India's largest partner in merchandise trade and one of its major partners in services.
b. Bilateral trade in services grew steadily between 2019 and 2024, reflecting growing economic interdependence.
c. The proposed Free Trade Agreement aims to integrate supply chains and promote investment flows.
d. The Trade and Technology Council facilitates cooperation in digital, green, and industrial technologies.

e. The EU remains an important source of foreign direct investment in India.

2. Strategic and Security Cooperation

a. India and the EU are exploring the establishment of a formal Security and Defence Partnership.
b. Joint naval exercises have strengthened maritime security cooperation in the Indian Ocean and other strategic regions.
c. Regular political and security dialogues have improved coordination on regional and global security challenges.
d. Defence industry engagements have encouraged collaboration in **manufacturing and research.**

3. Climate, Clean Energy and Sustainability

a. The Clean Energy and Climate Partnership forms the backbone of India–EU climate cooperation.
b. Both sides cooperate in renewable energy, energy efficiency, hydrogen technology, and climate finance.
c. The European Union supports India through the International Solar Alliance and climate-resilient infrastructure initiatives.
d. Joint research programmes promote innovation in green technologies.

4. Connectivity and Infrastructure Cooperation

a. The India–EU Connectivity Partnership focuses on sustainable transport, digital infrastructure, and energy networks.
b. Trilateral development cooperation enables joint projects in third countries.
c. Participation in the India–Middle East–Europe Economic Corridor strengthens regional integration. These initiatives promote resilient and inclusive economic growth.

5. Science, Technology and Space Cooperation

a. The Science and Technology Agreement promotes joint research in emerging and strategic technologies.
b. India and the EU collaborate under Horizon programmes in areas such as climate change and health.
c. ISRO and the European Space Agency cooperate in satellite launches, navigation, and space missions.
d. The Space Dialogue provides an institutional platform for future-oriented cooperation.

6. Migration, Education and People-to-People Relations

a. The Common Agenda on Migration and Mobility facilitates skilled migration and legal pathways.
b. A large Indian diaspora strengthens social and economic ties.
c. Indian students benefit significantly from Erasmus Mundus scholarships.
d. Professional exchanges promote knowledge transfer and innovation.

Challenges in India–EU Partnership and FTA

1. Expanding Regulatory Barriers: The European Union increasingly uses environmental, social, and technical regulations as non-tariff barriers to trade. These regulations significantly raise compliance costs for Indian exporters. Complex standards reduce ease of market access.

2. Impact of Carbon Border Adjustment Mechanism (CBAM): The Carbon Border Adjustment Mechanism imposes carbon-related taxes on energy-intensive exports. It reduces the competitiveness of Indian steel, aluminium, and cement products. It forces exporters to cut prices or absorb additional costs and has already led to declining exports in some sectors.

3. Challenges Posed by EU Deforestation Regulation (EUDR): The EU Deforestation Regulation requires strict traceability of agricultural products. It creates serious difficulties for small and marginal farmers. It increases documentation and monitoring costs and threatens India's agricultural exports.

4. Corporate Sustainability Due Diligence Directive (CSDD): The CSDD mandates detailed monitoring of entire supply chains and requires sharing of sensitive business information. It raises data security and confidentiality concerns and increases administrative and operational costs.

5. Industrial Accelerator Act and Local Content Norms: The Industrial Accelerator Act promotes local content requirements in the EU. It discourages imports from non-EU countries and creates an uneven playing field for Indian firms. It reflects rising protectionism.

6. Limited Tariff Benefits under the FTA: Most Indian exports already face very low tariffs in the EU. The FTA is unlikely to generate major new tariff advantages. India may have to offer greater tariff concessions. This reduces net commercial gains.

7. High Compliance Burden on MSMEs: MSMEs lack financial and technical capacity to meet EU standards. Certification and auditing costs reduce competitiveness. Many small firms risk exclusion from European supply chains.

8. Asymmetry in Trade and Negotiating Power: The European Union possesses stronger regulatory and technological capabilities. Indian firms face higher adjustment costs and trade benefits are distributed unevenly. India's bargaining position remains constrained.

9. Weak Domestic Compliance Infrastructure: India lacks uniform systems for sustainability reporting and traceability. Testing and certification facilities are insufficient. Institutional capacity remains limited which delays effective compliance.

Way Forward

1. Strengthening Regulatory Cooperation

a. India should negotiate mutual recognition agreements with the EU. Both sides should harmonise technical and environmental standards.
b. Permanent regulatory dialogue mechanisms should be established. Joint **working groups should resolve compliance issues.**

2. Addressing Climate-Related Trade Barriers

a. India should seek transitional relief under CBAM and EU should recognise India's climate mitigation efforts.
b. India should develop a credible domestic carbon market.
c. Green certification systems should be expanded.

3. Building Domestic Compliance Capacity

a. National digital traceability platforms should be developed.
b. Testing and certification infrastructure should be modernised.
c. More accredited laboratories should be established.
d. Exporters should receive systematic training.

4. Supporting MSMEs and Exporters

a. Financial assistance should be provided for compliance costs.
b. Technical support centres should be expanded.
c. Capacity-building programmes should be strengthened.
d. Export facilitation desks should be created.

5. Ensuring Balanced and Fair FTA Provisions

a. Strong safeguard and review mechanisms should be included.
b. Dispute resolution systems should be made time-bound.
c. Phased implementation of regulations should be negotiated.
d. Flexibility for developing-country exporters should be ensured.

6. Promoting Technology and Green Industrial Cooperation

a. Joint ventures in renewable energy and green manufacturing should be encouraged.
b. The Trade and Technology Council should be leveraged for technology transfer.
c. Cooperation in hydrogen, EVs, and clean steel should be expanded.
d. EU investments in sustainable manufacturing should be promoted.

7. Strengthening Institutional and Policy Frameworks

a. India should introduce EU-compatible sustainability reporting standards.
b. Domestic labour and environmental regulations should be strengthened.
c. Inter-ministerial coordination should be improved. Policy stability should be ensured.

8. Leveraging Diplomacy and Strategic Engagement

a. High-level political dialogue should be used to resolve trade disputes
b. Multilateral platforms should address unilateral regulatory measures.
c. Strategic cooperation in Indo-Pacific and global forums should be deepened.
d. Economic diplomacy at EU institutions should be strengthened.

Conclusion: India–EU relations have evolved into a comprehensive and forward-looking strategic partnership. Expanding trade, technological cooperation, and people-to-people ties demonstrate mutual commitment. However, regulatory barriers and compliance burdens remain the biggest challenges. Addressing these challenges through cooperation, domestic reforms, and strategic negotiations will ensure a balanced, equitable, and sustainable partnership in the future.

Question: "India–European Union relations have acquired new strategic and economic significance in recent years." Discuss the opportunities, challenges, and suggest a way forward.

Source: PIB

The looming threat of antimicrobial resistance

Source: The post **"The looming threat of antimicrobial resistance"** has been created, based on **"The looming threat of antimicrobial resistance"** published in **"BusinessLine" on 28th January 2026.**

UPSC Syllabus: GS Paper-3-Science and technology

Context: Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi, and parasites develop resistance to medicines that were earlier effective. It has become a serious public health challenge, causing nearly 1.27 million deaths globally every year according to the WHO. In India, high disease burden, easy availability of antibiotics, and weak regulation worsen the problem. The Prime Minister's recent appeal for responsible antibiotic use highlights the urgency of addressing this growing threat.

Challenges Related to AMR

1. Misuse and Overuse of Antibiotics: Antibiotics are frequently used without proper medical advice for viral infections such as colds and flu, where they are ineffective. Patients often discontinue treatment midway, which allows partially resistant bacteria to survive and multiply. In hospitals, excessive use of broad-spectrum antibiotics accelerates resistance.

2. Lack of Public Awareness: A large section of the population is unaware of the long-term consequences of antibiotic misuse. Many people practice self-medication or rely on informal healthcare providers. This leads to irrational consumption and weakens the effectiveness of existing drugs.

3. Weak Diagnostic Infrastructure: In many rural and semi-urban areas, proper diagnostic facilities are unavailable. Doctors often prescribe antibiotics without laboratory confirmation to save time. This empirical treatment increases unnecessary use and promotes resistance.

4. Inadequate Surveillance and Monitoring: India lacks a comprehensive and real-time national surveillance system for AMR. Data on resistant strains is fragmented and limited to select institutions. This makes it difficult to design targeted interventions and predict future risks.

5. Limited Research and Innovation: Pharmaceutical companies show limited interest in developing new antibiotics due to low profitability and high research costs. Public investment in antimicrobial research is also insufficient. As a result, the pipeline for new drugs remains weak.

6. Poor Implementation of Guidelines: The Indian Council of Medical Research has issued guidelines for rational antibiotic use. However, compliance remains uneven across public and private healthcare facilities. Lack of monitoring and accountability weakens their effectiveness.

7. Unregulated Sale of Drugs: Antibiotics are easily available over the counter despite legal restrictions. Many pharmacies sell medicines without valid prescriptions. This encourages indiscriminate use and self-medication.

Way Forward

1. Strengthening Public Awareness: The government should launch nationwide campaigns similar to those for polio and tuberculosis. These campaigns must educate people about completing prescribed doses and avoiding self-medication. Community health workers can play an important role in spreading awareness.
2. Improving Healthcare Infrastructure: District and sub-district hospitals must be equipped with modern laboratories and diagnostic tools. Timely and accurate testing will enable doctors to prescribe targeted antibiotics. This will reduce unnecessary drug use.

3. Capacity Building of Doctors: Regular training programmes should be conducted on rational prescription practices. Medical curricula must include AMR management and stewardship principles. Continuous professional development will improve clinical decision-making.

4. Strengthening Regulation: Strict enforcement of laws against over-the-counter sale of antibiotics is essential. Digital prescription systems can help monitor drug distribution. Regulatory agencies must be strengthened with adequate manpower and technology.

5. Promoting Research and Innovation: The government should increase funding for antimicrobial research and vaccine development. Public-private partnerships can encourage innovation. Incentives should be provided to pharmaceutical companies for developing new drugs.

6. Enhancing Surveillance Systems: India should expand the National AMR Surveillance Network to cover all States and districts. Real-time data sharing between hospitals and laboratories must be ensured. This will help in early detection and policy formulation.

7. Multi-sectoral Coordination: AMR is linked to human health, animal husbandry, agriculture, and the environment. A "One Health" approach should be adopted to coordinate actions across sectors. A dedicated national platform can ensure the effective implementation of policies.

Conclusion: Antimicrobial resistance poses a serious threat to India's healthcare system and economic stability. It can reverse decades of medical progress if left unaddressed. The Prime Minister's appeal provides momentum for sustained action. Through awareness, regulation, infrastructure development, research, and inter-sectoral coordination, India can effectively combat AMR and ensure long-term public health security.

Question: "Antimicrobial Resistance is emerging as one of the biggest threats to global public health and economic development." Discuss the major challenges posed by AMR in India and suggest suitable measures to address them.

Source: BusinessLine

How will the BRICS energy pact pan out?

UPSC Syllabus Topic: GS Paper 2 -International Relation

Introduction

The global energy system is under stress due to trade disruptions, sanctions, and energy transition pressures. In this background, BRICS energy cooperation is gaining importance. Questions are rising on whether it will

create a multipolar energy order or a new cartel, who will lead the bloc, and how India fits into this changing energy landscape.

Changing Global Energy Order and the Rise of BRICS

1. Debate on future energy leadership: The role of BRICS in shaping the global energy system is being widely discussed due to rising geopolitical competition and weakening global energy institutions.

2. **Shift away from Western dominance:** Members aim to reduce dependence on Western-led financial systems and institutions that influence energy trade and governance.

3. **Move towards a multipolar structure:** A broad assessment suggests that the energy order is becoming multipolar, with both China and Russia playing strong roles instead of a single dominant power.

4. **Energy as a strategic pillar:** Energy cooperation has gradually become one of the most important pillars of BRICS cooperation.

5. **Large global footprint:** The bloc accounts for nearly **50 percent of global energy production and consumption**, giving it structural influence in global markets.

Scope and Architecture of BRICS Energy Cooperation

1. Multi-sectoral energy framework: BRICS energy cooperation covers hydrocarbons, renewable energy, critical minerals, and energy infrastructure, reflecting an integrated approach across the energy value chain.

2. Energy security with transition balance: The bloc seeks to ensure stable energy supplies while pursuing a just and inclusive transition towards a low-carbon future.

3. Long-term cooperation roadmap: The *Roadmap for Energy Cooperation (2025–2030)* provides strategic direction for supply security, technology exchange, and infrastructure development.

4. Expansion into nuclear energy: The Nuclear Energy Platform, created in late 2024 and expanded in 2025, promotes corporate-level cooperation in nuclear power as a clean energy option.

5. Institutional financial backing: The New Development Bank supports nuclear and clean-energy projects, strengthening the financial architecture of BRICS energy cooperation.

6. Push for local-currency trade: Members are actively promoting the use of local currencies in energy trade to reduce dollar dependence.

7. **India's presidency priorities:**

- India assumed the BRICS presidency on January 1 and is leading the 11-member bloc with the theme of resilience, innovation, cooperation, and sustainability.

- India has invited BRICS nations to participate in an energy gathering scheduled later this year.

Multipolar Energy Order vs Cartelisation Debate

1. Absence of cartel-like structure: BRICS energy cooperation does not resemble a unified cartel like OPEC, as it lacks binding production controls and enforcement mechanisms.

2. Platform for coordination, not control: The grouping operates mainly as a coordination forum that enables dialogue and cooperation rather than collective market intervention.

3. Convergence of strategic interests: Members are driven by shared goals such as energy security, supply diversification, and reduced exposure to external economic and geopolitical shocks.

4. Expansion strengthens resources, not unity: The inclusion of energy-rich countries like Iran and the UAE has expanded the resource base but has not created policy uniformity.

5. Internal diversity as a structural constraint: Wide differences in energy profiles, national priorities, and political alignments limit the emergence of a single BRICS energy policy.

6. Impact on global energy governance: Greater use of non-dollar trade and alternative payment systems weakens the leverage of economic sanctions and challenges Western-led financial and energy institutions. This shift also intensifies competition with G7 countries, particularly in energy-rich regions such as the Middle East, Africa, and Central Asia.

Power Dynamics within BRICS: China–Russia Factor

1. China's structural strength:

- China is the world's largest energy consumer and holds strong financial capacity.
- China dominates clean-energy manufacturing and deployment, strengthening its influence in the energy transition space.

2. Russia's supply dominance:

- Despite sanctions, Russia remains a major supplier of oil, gas, and nuclear technology.
- Russia uses energy exports strategically to maintain geopolitical relevance.

3. Asymmetry among members:

- Other BRICS countries contribute in specialised areas rather than across the full energy value chain.
- Brazil contributes through biofuels, Gulf states through capital and reserves, and Iran through hydrocarbons under sanctions.

4. De facto Sino-Russian leadership: The imbalance in capabilities points to informal China–Russia dominance instead of equal influence.

India's Strategic Position and Policy Challenges

1. **Rising energy demand:** India's fast-growing economy has made energy security a central national concern.

2. **Supply diversification gains:** BRICS cooperation provides access to diversified sources and discounted hydrocarbons.

3. **Finance and technology access:** The grouping opens alternative financing channels and supports technology cooperation.

4. **Improved bargaining power:** Participation strengthens India's negotiating position in global energy markets.

5. **Lower external vulnerability:** Engagement helps reduce exposure to price volatility and geopolitical pressures.

6. **China factor:** India must manage China's dominant influence within the bloc carefully.

7. **Strategic balance:** While bilateral deals offer flexibility, India must avoid over-dependence on any single partner to preserve strategic autonomy.

Conclusion

BRICS energy cooperation points towards a multipolar energy order rather than a unified cartel. China and Russia will shape the agenda, but internal diversity limits full integration. For India, the framework offers energy security and strategic autonomy. However, success depends on managing power asymmetry and strengthening domestic clean-energy capacity.

Question for practice:

Discuss how BRICS energy cooperation is shaping the emerging multipolar energy order and examine its implications for China, Russia, and India.

Source: Businessline

The new logic of the Chinese economy

UPSC Syllabus Topic: GS Paper 2 -International Relation

Introduction

China's economy shows strong stability at a time when the global trade and economic system faces serious stress. In 2025, China's GDP crossed 140 trillion yuan, nearly $20 trillion, with 5% annual growth. Its contribution to global growth is close to 30%. Behind this performance lies a structural shift in growth logic—towards domestic consumption, innovation-led exports, and new industrial drivers—along with evolving trade dynamics, especially with India.

Key Drivers of China's Economic Growth

1. Growth performance:

• Overall growth: China's GDP exceeded 140 trillion yuan in 2025, around $20 trillion. The economy recorded a year-on-year growth of 5%.

• **Contribution to global growth:** China's share in global economic growth is expected to reach nearly 30%, showing its continued global importance.

2. Shift in growth structure:

• China's economy is moving forward through consumption, exports, and investment together. The internal growth structure is undergoing a deep and positive change.

• **Transition from old growth model:** The economy is gradually shifting away from heavy reliance on investment and exports toward a more balanced structure.

3. Domestic consumption as main engine:

• Final consumption expenditure contributed 52% to China's economic growth in 2025, making domestic demand the primary driver.

• **High level of physical consumption:** China ranks among the world's top countries in total basic consumption based on international physical consumption standards.

• **Digital consumption strength:** Average mobile phone ownership reached 1.28 units per person, placing China among global leaders.

• **Food and nutrition indicators:** Average daily protein intake stood at 124.6 grams, higher than the United States and Japan.

• **Agricultural consumption scale:** Average annual vegetable consumption reached 109.8 kilograms per person, the highest in the world.

4. Role of exports and innovation:

• Exports of goods and services contributed 32.7% to economic growth in 2025, emerging as a key growth booster.

• **High-tech export growth:** High-tech product exports increased by 13.2% during the year, reflecting rising technological capability.

• **Industrial chain advantage:** A complete industrial system supports export competitiveness and production efficiency.

• **Innovation-driven competitiveness:** Continuous improvement in innovation capability strengthens China's export performance.

• **Market diversification:** Stable export growth to ASEAN and the European Union helped offset slowdowns in other regions.

5. Investment transition and emerging growth engines:

- **Reduced role of capital formation:** Gross capital formation contributed only 15.3% to economic growth in 2025, showing a clear decline in investment-led expansion.

- **Expansion of high-end manufacturing:** Output of advanced products such as servers and industrial robots recorded rapid growth, reflecting industrial upgrading.

- **Growth of green and clean energy sectors:** Renewable electricity and clean energy industries expanded strongly, emerging as key pillars of future economic growth.

- **Breakthroughs in frontier technologies:** Advances have been achieved in artificial intelligence, quantum technology, and brain–computer interface research.

Debate on China's Export Production Capacity

1. Claim of overcapacity questioned:

- China argues it is exporting high-quality production capacity, not excess supply. China's above-designated-size industrial capacity utilisation rate stood at 74.4% in 2025, similar to levels in the United States and the European Union.

- Economist Jeffrey Sachs stated that labeling Chinese manufacturing as "**overcapacity**" reflects jealousy rather than economic reality.

2. Export strength driven by competitiveness: The global competitiveness of Chinese products comes from long-term R&D investment, strong domestic competition, and a complete industrial system.

3. Absence of dumping or subsidy dependence: China's export performance is not based on dumping practices or excessive government subsidies but on efficiency and scale advantages.

4. Strong demand from global markets:

- The expansion of China's production capacity is supported by real international demand rather than artificial supply creation.

- **Support to developing economies**:Many developing countries rely on Chinese equipment and technology to build infrastructure, promote energy transition, and advance industrialisation.

India–China Trade Relations and Trade Deficit Concerns

India–China Trade Relations

1. Record level bilateral trade: India–China trade reached an all-time high of **$155.6 billion in 2025**, showing strong economic linkages between the two economies.

2. Complementary trade structure: A large share of India's imports from China consists of **raw materials, intermediate goods, and components**, which support domestic manufacturing.

3. Role in India's industrial supply chains: Imports such as electronic parts, mobile components, machinery, auto parts, and active pharmaceutical ingredients are used for producing finished goods, many of which are exported.

4. Growth in India's exports to China: India's exports to China increased to **$19.7 billion in 2025**, recording a **9.7% year-on-year growth**.

5. Recent export momentum: Export growth strengthened sharply in the last two months of 2025, rising by **90% and 67%**, indicating improving market access.

6. China's market opening measures: China maintains a relatively low average tariff level of **7.3%**, continues to shorten its foreign investment negative list, and expands visa-free entry policies.

7. Future market opportunity: With a population of over **1.4 billion**, including **more than 400 million middle-income consumers**, China offers large potential for high-quality Indian products.

India's Trade Deficit and Structural Concerns

1. Rapid expansion of trade deficit: India's trade deficit with China widened from **$1.1 billion in 2003–04** to **$99.2 billion in 2024–25**.

2. Dominant share in India's total deficit: China accounts for nearly **35% of India's overall trade imbalance** of **$283 billion**.

3. Structural nature of the imbalance: The deficit is structural because China dominates India's import basket across almost all major industrial categories.

4. High product-level dependence: China supplies **97.7% of erythromycin**, **96.8% of silicon wafers**, **86% of flat panel displays**, **82.7% of solar cells**, and **75.2% of lithium-ion batteries**.

5. Strategic vulnerability risks: Such concentration gives China potential leverage, turning supply chains into pressure points during political or economic tensions.

6. Declining export share: India's share in bilateral trade has fallen to **11.2%**, compared to **42.3% two decades ago**, deepening the imbalance.

7. Economic impact of rising deficit: A large trade gap increases pressure on foreign exchange reserves, weakens domestic manufacturing, and can fuel inflation through import dependence.

Conclusion

China's economic performance reflects a new growth logic driven mainly by domestic consumption, supported by innovation and resilient exports. High-end manufacturing and green industries are shaping future growth. While China's export capacity is backed by real global demand and competitiveness, India–China trade presents both opportunity and structural risk. Balanced cooperation, wider market access, and stronger domestic manufacturing remain crucial to ensure stable and sustainable economic engagement.

Question for practice:

Examine how the new logic of the Chinese economy is shaped by domestic consumption, export competitiveness, and evolving India–China trade relations.

Source: The Hindu

Thorium-Based Nuclear Energy for India's Energy Security

UPSC Syllabus Topic: GS Paper 3 -Infrastructure (**Energy**).

Introduction

India's energy security is under increasing pressure due to rising electricity demand, climate commitments, and heavy dependence on imported fossil fuels. Limited domestic uranium and vast thorium reserves shaped India's long-term nuclear strategy. With the expansion of pressurised heavy water reactors and access to imported nuclear fuel, India now has a practical opportunity to accelerate the transition toward thorium-based nuclear power for sustained energy independence.

Current Status of India's Thorium-Based Nuclear Energy

1. **Three-stage nuclear programme framework:** India follows a sequential nuclear strategy that begins with uranium-based pressurised heavy water reactors, moves to fast breeder reactors, and finally transitions to thorium-based power using uranium-233.

2. **Stage one – PHWR deployment:** Pressurised Heavy Water Reactors use natural uranium to generate electricity and produce plutonium. This stage is fully operational and remains in the industrial domain with stable reactor performance.

3. **Stage two – fast breeder reactor progress:** The Prototype Fast Breeder Reactor at Kalpakkam is currently under commissioning and is intended to breed fissile material and support thorium conversion.

4. **Stage three – thorium utilisation goal:** Large-scale thorium use will begin after sufficient uranium-233 inventory is created through irradiation in suitable reactors.

5. **Expanded PHWR capacity:** India is increasing PHWR capacity using imported uranium, supported by the Nuclear Energy Mission which targets **100 GWe nuclear power capacity by 2047**.

Why Thorium-Based Nuclear Energy is Key for India's Energy Security

1. **Abundant domestic resource base:** India possesses one of the world's largest thorium reserves, mainly concentrated in the monazite sands of **Kerala, Tamil Nadu, and Odisha**, while uranium availability remains limited.

2. **Long-term electricity potential:** Economically extractable thorium reserves can support nearly **500 GW of electricity generation for about 400 years**, offering unmatched long-term energy security.

3. **Superior material properties:** Thorium dioxide has a higher melting point and better thermal conductivity than uranium dioxide, enabling safer and more stable reactor operations.

4. **Efficient neutron economy:** Thorium-232 has a higher neutron absorption cross-section than uranium-238 and converts efficiently into uranium-233 with excellent neutron economy.

5. **Reduced waste generation:** Thorium fuel cycles produce lower volumes of long-lived radioactive waste compared to conventional uranium fuel cycles.

6. **Enhanced safety characteristics:** The presence of uranium-232 generates intense gamma radiation, providing strong resistance to proliferation and improving safety.

7. **Reliable clean base-load power:** Nuclear energy delivers continuous electricity with lifecycle emissions comparable to wind and hydropower, strengthening India's clean energy transition.

Challenges in Deploying Thorium-Based Nuclear Energy

1. **Thorium is not directly fissile:** Thorium cannot sustain nuclear fission on its own and must first be converted into uranium-233 through neutron irradiation.

2. **Delay in fast breeder deployment:** Large-scale thorium conversion was planned through fast breeder reactors, but development of oxide-fuel reactors, metallic-fuel reactors, and recycling technologies has faced delays.

3. **Limited uranium-233 inventory:** Insufficient irradiation platforms restrict the availability of fissile uranium-233 required for thorium-based power generation.

4. **Complex fuel handling:** Uranium-232 produces strong gamma radiation, requiring advanced shielding, remote handling systems, and specialised infrastructure.

5. **Industrial and institutional constraints:** Nuclear expansion demands high capital investment, specialised manpower, advanced fuel-cycle facilities, and strong industrial coordination.

Initiatives Taken by India to Strengthen Thorium-Based Nuclear Energy

Technical Initiatives

• India is **expanding pressurised heavy water reactor capacity** using imported uranium to create large irradiation platforms for thorium conversion into uranium-233.
• **Thorium–HALEU (High Assay Low Enriched Uranium) drop-in fuel** is being pursued in PHWRs to enable efficient uranium-233 production with economic and safety benefits.
• **The Advanced Heavy Water Reactor has been developed** as a technology demonstrator for large-scale thorium utilisation with passive safety features.
• **Research on thorium molten salt reactors is underway** to achieve self-sustaining power generation where uranium-233 production matches consumption.

Policy Initiatives

• **The Nuclear Energy Mission** for Viksit Bharat targets 100 GWe nuclear capacity by 2047, with PHWRs forming the backbone of expansion.

• **The SHANTI Act, 2025** enables deployment of imported light water reactors as additional capacity while domestic thorium technologies mature.

Economic, Strategic Impact and Thorium Diplomacy

1. **Economic viability:** Thorium-based fuels achieve higher burn-up levels and generate less waste, reducing overall front-end and back-end fuel cycle costs.
2. **Reduced import dependence:** Large-scale thorium utilisation can significantly lower India's reliance on imported uranium and reduce exposure to global fuel market volatility.
3. **Support for industrial growth:** Reliable base-load nuclear power is essential for manufacturing expansion, urbanisation, and infrastructure development under the Viksit Bharat vision.
4. **Strategic autonomy:** Indigenous thorium utilisation strengthens national control over the nuclear fuel cycle and reduces geopolitical vulnerabilities.
5. **Climate commitment support:** Thorium-based nuclear energy supports India's **net-zero emissions target by 2070** by replacing carbon-intensive coal power.
6. **Thorium diplomacy:** Thorium's non-proliferative nature makes it suitable for international civil nuclear cooperation in research, training, and capacity building.
7. **Technology exporter potential:** Progress in AHWRs, breeder reactors, advanced fuels, and small modular systems positions India to evolve from a capacity builder to a technology exporter, particularly for developing regions.

Way Forward

1. **PHWR irradiation:** Expanding PHWR capacity should be fully utilised as irradiation platforms for thorium and uranium-233 production.
2. **HALEU integration:** Thorium–HALEU fuel use in PHWRs can accelerate fissile material generation with improved fuel efficiency.
3. **Fast reactor continuity:** Fast breeder reactor development must continue to meet long-term fuel breeding requirements.
4. **Closed fuel cycle:** Completion of aqueous and pyro-processing technologies is essential for sustaining thorium utilisation.
5. **Molten salt transition:** Thorium molten salt reactors should be advanced to achieve self-sustaining nuclear power based on uranium-233.

Conclusion:

Thorium-based nuclear energy provides India a credible pathway to long-term energy security. Expanded PHWR capacity, thorium–HALEU fuels, and continued breeder reactor development enable faster transition.

With vast thorium reserves, advanced reactor systems, and growing diplomatic engagement, India can secure clean base-load power while emerging as a global leader in sustainable nuclear energy.

Question for practice:

Discuss how thorium-based nuclear energy can contribute to India's long-term energy security.

Source: Indian Express

Is India Prepared for the End of Globalisation?

UPSC Syllabus Topic: GS Paper 1 -Globalisation

Introduction

Global trade is no longer guided by cooperation and shared rules. Power politics is replacing multilateralism. Trade is now used as a tool of pressure and control. This shift marks the collapse of the liberal global order. A new mercantilist system is emerging. The key concern is whether India has the economic strength, institutions, and social capacity to survive and remain relevant in this changed world.

Globalisation as a Political and Institutional Order

1. Globalisation beyond free trade: Globalisation was not only about goods and services. It was a political system that shaped markets, states, and global behaviour.

2. **Link with liberal values:** It became associated with liberalism, democracy, and international cooperation through global institutions.

3. **Historical roots of global economy:**

- The world economy was global long before it was liberal. Early globalisation relied on force and unequal trade.
- **Colonial wealth accumulation:** Industrialised countries grew through domestic exploitation and overseas resource extraction. Trade was unequal, not free.
- **Post-war institutional framework:** After the mid-20th century, new global institutions emerged to manage international affairs through shared norms.

4. **Legitimacy through restraint:** Powerful countries justified actions in the name of democracy, stability, or humanitarian values. This restraint gave legitimacy.

5. **Core political assumptions:** The system rested on **open markets**, **free movement of capital but not people**, **cross-border contracts**, and **negotiated resource management**.

6. **Temporary success:** For some time, this framework supported economic growth and reduced poverty across many regions.

Structural Fault Lines within Liberal Globalisation

1. **Rising inequality:** Returns to capital increased much faster than wages, leading to widening income inequality.
2. **Uneven industrial outcomes:** Manufacturing declined in some regions while expanding sharply in others, creating global production imbalance.
3. **Pressure on labour and employment:** Deep global supply chains increased competition and weakened job security.
4. **Rising migration pressures:** Uneven development pushed migration from poorer to richer countries.
5. **Emergence of populist politics:** Economic stress and social insecurity created public resentment, strengthening inward-looking populist movements.

Geopolitical Disruption from the Rise of China

1. **Entry without institutional compliance:** China integrated into the global economy without accepting multilateral rules or liberal political values.
2. **Strong domestic state control:** The state retained tight control over capital, labour, and information.
3. **Unequal benefits from globalisation:** China gained access to markets, technology, and supply chains while avoiding institutional obligations.
4. **Excess-capacity-driven growth model:** Its economy relied on overproduction and sustained external demand.
5. **Large and persistent trade surplus:** This model generated massive trade surpluses, reflecting mercantilist behaviour.
6. **Impact on developing economies:** China's dominance constrained industrial growth in poorer countries, including India.
7. **Emergence of an alternative model:** China combined rapid economic growth with political centralisation, challenging the liberal global order.

Collapse of Multilateralism and Return of Mercantilism

1. Changing global perception:

Major economies began viewing cooperation as a cost rather than a benefit.

Inward-looking politics: Populism pushed societies toward national interest over shared responsibility.

End of liberal restraint: States now exercise power openly without moral or institutional justification.

Return of mercantilism: Trade is treated as an instrument of state power. **Surpluses signal strength; deficits signal weakness.**

2. **Policy tools of the new order:**

- Tariffs, sanctions, and bilateral pressure are replacing multilateral negotiations.
- **Industrial self-sufficiency:** Countries promote industrial policy to reduce dependence on others.
- **Politicisation of migration:** Migration is used as a political issue rather than a development concern.

3. **Weakening of global institutions:** Multilateral bodies are losing authority and effectiveness.

4. **Conditional international aid:** Aid is increasingly tied to donor countries' national interests.

5. **Shrinking space for developing nations:** Joint negotiation on **climate change**, **illicit financial flows**, and **global commons** is weakening rapidly.

6. **Rising domestic pressure:** Youth populations demand jobs, growth, and accountability from governments.

India's Position and Constraints in the New World Order

1. **Strategic contradiction:** India remains too large to be ignored in global affairs, yet too poor to significantly influence global rules and institutions.
2. **Lost demographic window:** Over the past 15 years, India failed to convert its demographic advantage into productive economic capacity.
3. **Weak productive base:** Job creation and manufacturing expansion have remained limited, reducing India's economic bargaining power.
4. **Deepening social divide:** The social pyramid has become sharply unequal, with a large poor base supporting a narrow and powerful apex.
5. **Growth without inclusion:** Economic growth has not expanded opportunities widely across society or strengthened human capital.
6. **Low public investment:** Sustained spending on health and education has remained inadequate to support long-term productivity.

7. **Limited state capacity:** Weak administrative and institutional capacity restricts India's ability to compete in a mercantilist world.

8. **Conditional global relevance:** Without stronger institutions and social cohesion, India risks long-term marginalisation despite its size.

9. **Areas of potential strength:** India has scope in **digital public infrastructure**, **renewable energy**, **services**, and **democratic decentralisation**.

Conclusion

The liberal era of globalisation has ended. The emerging mercantilist order rewards state capacity, social cohesion, and productive strength. India cannot rely on rhetoric or demographic size alone. Without stronger institutions, wider investment in health and education, and fair growth sharing, global relevance will remain out of reach.

Question for practice:

Examine how the end of liberal globalisation and the return of mercantilism are reshaping the global order, and assess India's preparedness to adapt to this transition.

Source: The Hindu

How Solid Waste Management Rules 2026 seeks to tackle India's burgeoning waste problem

Source: The post **"How Solid Waste Management Rules 2026 seeks to tackle India's burgeoning waste problem"** has been created, based on **"How Solid Waste Management Rules 2026 seeks to tackle India's burgeoning waste problem"** published in **"Indian Express" on 30th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: India generates around **620 lakh tonnes of solid waste annually**, which has led to overflowing landfills and environmental degradation. To address this crisis, the government notified the **Solid Waste Management Rules, 2026**, with the objective of promoting a **circular economy** and sustainable waste management.

Key Features of SWM Rules, 2026

1. Four-Way Segregation and Waste Hierarchy

a. The rules introduce a waste hierarchy that prioritises prevention, reduction, reuse, recycling, and recovery before disposal.
b. The rules mandate four-way segregation of waste into wet, dry, sanitary, and special-care categories.
c. The government has prescribed colour-coded bins to encourage segregation at the source.
d. This system reduces contamination and improves recycling efficiency.

2. Responsibility of Bulk Waste Generators

a. The rules define bulk generators based on area, water consumption, and waste generation.
b. Large residential societies, institutions, hotels, and commercial establishments are brought under stricter regulation.
c. Bulk generators are required to segregate waste and process wet waste on-site.
d. They must hand over recyclable waste only to authorised agencies.
e. A certification-based compliance mechanism has been introduced.

3. Implementation of Polluter Pays Principle

a. The rules impose environmental compensation on entities that violate waste management norms.
b. Penalties are levied for non-registration, false reporting, and improper disposal.
c. Higher landfill charges discourage the dumping of mixed waste.
d. This principle promotes accountability and behavioural change.

4. Introduction of Centralised Tracking System

a. The government has established a centralised online portal to monitor waste management activities.
b. All stakeholders are required to register on the portal.
c. The portal enables real-time tracking of waste generation, transportation, and processing.
d. This improves transparency and regulatory oversight.

5. Extended Responsibility of Bulk Generators

a. The rules extend responsibility to bulk generators in line with the concept of Extended Producer Responsibility.
b. Bulk generators must submit annual waste accounting returns.
c. They are required to procure compliance certificates if on-site processing is not feasible. Non-compliance attracts financial penalties.

6. Reduction of Landfill Dependency

a. The rules restrict landfills to non-recyclable and non-recoverable waste.
b. Urban local bodies are required to map legacy dumpsites by October 2026.
c. Time-bound plans for bioremediation and biomining are mandated.
d. These measures aim to reduce landfill mountains and environmental pollution.

7. Promotion of Waste-to-Energy and Resource Recovery

1. The rules mandate the use of high-calorific waste for energy generation.
2. Refuse-Derived Fuel is promoted for use in cement and thermal power plants.
3. Industries are given phased targets to replace conventional fuels with RDF.
4. This supports resource efficiency and energy security.

Impact on Housing Societies and Institutions

1. Housing societies and institutions must register on the central portal.
2. They are required to follow four-way segregation at the source.
3. On-site composting or authorised tie-ups have become mandatory.
4. Annual reporting has been made compulsory.

5. These measures reduce dependence on municipal waste systems.

Way Forward

1. The government should strengthen the capacity of urban local bodies through training and financial support.
2. Public awareness campaigns should be intensified to promote behavioural change among citizens.
3. Digital infrastructure must be upgraded to ensure effective functioning of the tracking portal.
4. Private sector participation in recycling and waste processing should be encouraged.
5. Informal waste pickers should be integrated into the formal system with social security benefits.
6. Regular monitoring and third-party audits should be conducted to ensure compliance.
7. Research and innovation in waste-to-energy and biodegradable materials should be promoted.

Conclusion: The Solid Waste Management Rules, 2026 provide a comprehensive framework for sustainable waste management by focusing on segregation, accountability, monitoring, and resource recovery. With effective implementation and public participation, these rules can transform India's waste sector and support environmental sustainability.

Source: Indian Express

Question: "The Solid Waste Management Rules, 2026 aim to promote a circular economy in India." Discuss the key provisions of these rules and examine the challenges in their effective implementation.

Age Limit on Social Media: Economic Survey's Plan to Tackle Digital Addiction

Source: The post **"Age Limit on Social Media: Economic Survey's Plan to Tackle Digital Addiction"** has been created, based on **"Age Limit on Social Media: Economic Survey's Plan to Tackle Digital Addiction"** published in **"Indian Express" on 30th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: The Economic Survey 2025–26 has recommended age-based restrictions on social media usage for children. The main objective of this recommendation is to address the growing problem of digital addiction and harmful online exposure. The proposal reflects India's concern for the mental, emotional, and social well-being of young users.

Need for Imposing an Age Limit

1. There has been a significant increase in digital addiction among children due to excessive screen time.
2. Children often develop dependency on online validation through likes, comments, and shares.
3. Prolonged use of social media negatively affects mental health and increases anxiety and depression.
4. Exposure to violent, sexual, and gambling-related content harms the moral and psychological development of children.
5. Many children face cyberbullying and online harassment, which leads to emotional stress.
6. Children are highly vulnerable to manipulative and targeted digital advertisements.

Key Recommendations of the Economic Survey

1. The Survey recommends the introduction of age-based access limits on social media platforms.
2. It suggests mandatory age verification mechanisms for users.
3. It emphasizes the requirement of parental consent for users below 18 years of age.
4. It proposes a ban on behavioural tracking and targeted advertising for children.
5. It recommends the adoption of age-appropriate default privacy and safety settings.
6. It calls for regulation of addictive features such as auto-play and infinite scrolling.
7. It encourages the promotion of basic phones and education-only digital devices for children.
8. It supports the implementation of content filters and usage time limits.

Indian Policy Context

1. India's data protection framework mandates parental consent for children using digital services.
2. The framework restricts targeted advertising towards minors.
3. Although notified, the framework is yet to be fully implemented.
4. Some states such as Andhra Pradesh and Goa are exploring restrictions on children's social media use.

International Example: Australia

1. Australia has enacted the Online Safety Amendment (Social Media Minimum Age) Act.
2. The law sets a minimum age of 16 years for social media usage.
3. It requires platforms to block existing underage accounts.
4. It prevents minors from creating new accounts through strict verification.
5. It prohibits the use of bypass mechanisms.
6. It provides grievance redressal for wrongly blocked users.
7. The law aims to reduce screen addiction and improve children's well-being.

Role of Age Limits in Reducing Digital Addiction

1. Age restrictions delay children's early exposure to addictive digital platforms.
2. They reduce the influence of algorithm-driven content manipulation.
3. They help in controlling dopamine-based reward cycles.
4. They encourage children to participate in physical and social activities.
5. They improve concentration, academic performance, and emotional stability.
6. They help children develop self-control and responsible digital habits.

Challenges in Implementation

1. Reliable age verification remains difficult due to fake accounts and identity misuse.
2. The collection of personal data raises serious privacy concerns.
3. Regulatory authorities face difficulties in monitoring large digital platforms.
4. The digital divide may exclude disadvantaged children from online learning.
5. Technology companies may resist regulations that affect their revenue.
6. Children may use VPNs and alternative platforms to bypass restrictions.

Way Forward

1. The government should develop secure and privacy-friendly age verification systems.
2. Digital literacy should be included in school curricula.

3. Parents should be trained to monitor and guide children's online activities.
4. Independent regulatory institutions should be strengthened.
5. Social media platforms should be encouraged to follow ethical design practices.
6. Nationwide awareness campaigns should promote healthy digital habits.

Conclusion

The Economic Survey's recommendation is a timely step to protect children in the digital age. Age limits alone cannot solve digital addiction but can reduce early risks. A balanced approach involving government, parents, schools, and platforms is essential. Such coordinated efforts can ensure safe, responsible, and healthy digital development.

Source: Indian express

Question: Discuss how age-based regulation of social media can contribute to protecting the mental and emotional well-being of children in India. Illustrate with suitable examples.

Green steel can shape India's climate goals trajectory

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction try

India plans to submit a more ambitious climate pledge under its revised Nationally Determined Contribution. This requires economy-wide decarbonisation. Hard-to-abate sectors will decide the outcome. Steel is the most critical among them. The sector supports growth but also contributes heavily to emissions. The choices made today will shape India's climate path, industrial competitiveness, and long-term economic sustainability.

Importance of the Steel Sector in India's Growth Path

1. Backbone of infrastructure and industry: Steel drives construction, transport, housing, and manufacturing. It is central to India's economic expansion and industrial strength.

2. **Massive scale of future demand:** Steel production must rise from **about 125 million tonnes per year to over 400 million tonnes by mid-century** to meet development needs.

3. **Major contributor to emissions:** The steel sector already accounts for **around 12% of India's total carbon emissions**, mainly due to coal-based production routes.

4. **Twin national challenge:** India must support rapid growth while also meeting long-term climate targets. Steel sits at the centre of this balance.

Risks of Continuing High-Carbon Steel Production

1. Coal dependency locks emissions: Most steel is produced using coal-intensive blast furnaces. New investments in this route can lock emissions for decades.

2. **Long-term infrastructure risk:** Steel plants have long lifespans. Decisions taken now will define emissions till mid-century.

3. **Economic cost of inaction:** Lack of ambition can lock in **billions of dollars in carbon-inefficient technologies**, raising future transition costs.

4. **Loss of global competitiveness:** High-carbon steel will become unattractive as global markets shift toward cleaner production standards.

Global Pressure and Market Signals

1. International transition underway: Countries are already moving to cleaner steel. China is expanding scrap-based steel and investing in green hydrogen.

2. European Union's carbon barrier: The EU's **Carbon Border Adjustment Mechanism (CBAM)** penalises carbon-intensive imports.

3. **Export market risks:** Producers unable to prove low-carbon steel face **border taxes, loss of premium markets, and reputational damage**.

4. **First-mover advantage:** Early adopters of green steel gain a lasting competitive edge in global supply chains.

Initiative Taken

1. Corporate-level action: Major producers have initiated pilots and technology trials. **Tata Steel** tested hydrogen injection and carbon capture. **JSW Steel** and **JSPL** are exploring green hydrogen integration. **SAIL** is modernising furnaces and low-carbon pathways.

2. Greening Steel Roadmap: Released in September, it provides a structured decarbonisation pathway for the sector.

3. **Green Steel Taxonomy:** Issued in December 2024, it made **India the first country to formally define green steel**.

4. **National Green Hydrogen Mission:** Supports hydrogen-based industrial transition through capacity expansion.

5. **Carbon Credit Trading Scheme:** 253 steel units are covered under emission-intensity reduction targets.

Structural Barriers to Green Steel Transition

1. Pilot-scale limitation: Most efforts remain confined to pilot projects. The sector has not yet shifted to demonstration plants or commercial-scale near-zero emission technologies.

2. **Green hydrogen cost:** Green hydrogen supply is limited and remains expensive, making large-scale steel production financially difficult.

3. **Energy constraints:** Dedicated renewable power for industrial use is insufficient, slowing the shift away from coal-based processes.

4. **Scrap market gaps:** Scrap availability is low and the market remains largely informal, restricting expansion of secondary steel production.

5. **Transition fuel access:** Affordable and reliable natural gas supply is uncertain, despite its importance as a bridge fuel before hydrogen adoption.

6. **Finance and skills gap:** Projects lack long-maturity, low-cost debt and risk-sharing mechanisms. Workforce upskilling and technology support are also inadequate.

Way Forward

1. Clear emission timelines: Government must set **short-, medium-, and long-term emission targets** to guide capital investment.

2. **Early carbon pricing:** A carbon price can distribute transition costs across the value chain. In Europe, green steel became viable when carbon prices reached **$90–$100 per tonne of CO_2.**

3. **Domestic demand creation:** Public procurement policies can create assured markets for green steel.

4. **Certification and labelling systems:** Clear standards can promote consumer trust and encourage low-carbon products.

5. **Natural gas as transition fuel:** Reliable gas supply must be prioritised until hydrogen-based steel becomes scalable.

6. **Shared infrastructure hubs:** Government-led clusters can reduce costs for green power, hydrogen supply, pipelines, and CO_2 transport.

7. **Targeted fiscal support:** Low-carbon steel has **30–50% higher capital cost**, requiring temporary financial assistance.

8. **Support for smaller producers:** Additional help is essential to ensure an equitable transition across the sector.

Conclusion

Green steel is no longer optional for India. It is essential for meeting climate goals, protecting export competitiveness, and sustaining long-term growth. With strong policy signals, shared infrastructure, and targeted financial support, India can replicate its renewable energy success. Decarbonising steel can secure economic resilience and global leadership in sustainable industrialisation.

Question for practice:

Discuss how green steel can support India's climate goals and what key barriers must be addressed for its large-scale transition.

Source: The Hindu

Balanced Use of Fertilizers: A Key Enabler of Sustainable Farming

UPSC Syllabus: Gs Paper3- Indian economy (Agriculture)

Introduction

The Green Revolution transformed Indian agriculture by introducing high-yielding crop varieties supported by irrigation and chemical fertilizers. This ensured food security and improved rural livelihoods. However, continuous cultivation and excessive use of nitrogen fertilizers created nutrient imbalance and soil degradation. Declining soil fertility now affects crop productivity, environmental safety, and livestock health. Balanced fertilization has emerged as a critical strategy to restore soil health and ensure sustainable agricultural growth.

Balanced Use of Fertilizers and Its Scientific Basis

It means applying all essential plant nutrients in proper proportion, quantity, timing, and method. It includes macronutrients and micronutrients based on crop needs and soil conditions.

The concept is based on **Justus von Liebig's Law of the Minimum**, which states that crop growth depends on the most limiting nutrient. Excess supply of one nutrient cannot compensate for the deficiency of others.

Essential Nutrients Supplied-

a. Primary nutrients which include nitrogen (N), phosphorus (P), and potassium (K)

b. Secondary nutrients which include Sulfur (S), calcium, andmagnesium.

c. Micronutrients which include iron, zinc, copper, manganese, boron, and molybdenum.

Importance of Balanced Use of Fertilizers for Sustainable Agriculture

1. Higher Crop Productivity: Balanced nutrient supply allows crops to achieve their full yield potential. Adequate nutrition improves growth and grain formation.

2. **Better Performance of High-Yielding Varieties:** Improved crop varieties require balanced nutrients to deliver expected productivity gains. Imbalanced fertilization limits their genetic potential.

3. **Improved Nutrient Use Efficiency:** Availability of micronutrients improves the efficiency of macronutrients. This reduces nutrient losses and fertilizer wastage.

4. **Improved Crop Quality and Stress Resistance:** Well-nourished crops show higher resistance to pests, diseases, and climatic stress. This improves grain quality for food and fodder use.

5. **Improved Soil Health and Sustainability:** Balanced fertilization enhances soil organic matter, microbial activity, soil structure, and water-holding capacity.

6. **Reduced Environmental Risks:** Matching nutrient supply with crop demand reduces runoff, leaching, and water pollution. It also lowers greenhouse gas emissions.

7. **Cost-Effective Input Use:** Efficient fertilizer application reduces unnecessary expenditure. Higher yields and better quality improve farm profitability.

Approaches and Practices for Achieving Balanced Fertilization

1. Integrated Nutrient Management (INM): INM combines chemical fertilizers, organic matter, and biological sources. It ensures efficient nutrient use and maintains long-term soil fertility.

2. **Role of Chemical Fertilizers:** Chemical fertilizers supply essential macronutrients such as nitrogen, phosphorus, and potassium needed for crop growth.

3. **Role of Organic Matter:** Farmyard manure, compost, cow dung, and green manures improve soil structure, moisture retention, and microbial activity.

4. **Crop Rotation and Residue Management:** These practices enhance nutrient recycling, improve soil diversity, and reduce pest and disease pressure.

5. **Customised Fertilizers through Technology:** Customised fertilizers contain crop- and soil-specific nutrient combinations. Micronutrients like zinc, boron, and sulphur are blended with urea or DAP based on local deficiencies.

6. **Soil Test-Based Fertilizer Recommendations:** Soil testing classifies nutrient status as low, medium, or high. Fertilizer doses are adjusted accordingly to avoid excess application.

7. **Soil Test Crop Response (STCR) Approach:** STCR links fertilizer use with yield targets. It considers soil fertility, crop type, and climate to calculate exact nutrient needs.

8. **Diagnosis and Recommendation Integrated System (DRIS):** DRIS analyses nutrient ratios in plant tissues instead of absolute values. It helps identify nutrient imbalance during crop growth.

9. **Site-Specific Nutrient Management (SSNM):** SSNM applies fertilizers based on soil variability within a field. Nutrients are supplied only to fill actual nutrient gaps.

10. **Regenerative Agriculture as Support System:** Regenerative practices improve soil organic carbon and nutrient retention. Techniques include reduced tillage, crop rotation, cover crops, mulching, micro-irrigation, and climate-resilient farming.

Challenges in Achieving Balanced Fertilization

1. Nitrogen Dominance: Excessive dependence on nitrogenous fertilizers and limited use of other nutrients has created serious nutrient imbalance in soils.

2. Price Distortions: Price controls on single-nutrient fertilizers like DAP have reduced their prices compared to nutrient-balanced complex fertilizers such as **10:26:26:0** and **12:32:16:0**, discouraging balanced use.

3. Vague Price Fixing: Fertilizer prices are fixed without proper consideration of market demand and supply, leading to inefficient pricing outcomes.

4. Potassium Underuse: The price of **Muriate of Potassium (MOP)** is neither affordable for farmers nor viable for fertilizer firms, resulting in low field application and widespread potassium deficiency.

5. Declining Organic Inputs: Reduced use of organic manures has weakened soil structure, microbial activity, and long-term nutrient availability.

6. Soil Nutrient decline: Continuous cultivation without nutrient replenishment has depleted secondary and micronutrients, accelerating soil fertility decline.

7. Regional Soil and Climate Variability: Diverse agro-ecological conditions make uniform fertilizer recommendations ineffective.

Government Initiatives Promoting Balanced Fertilizer Use

1. Soil Health Card Scheme: Launched in 2015, the scheme provides plot-wise soil test reports. It covers 12 parameters including macronutrients, micronutrients, pH, EC, and organic carbon. Over 25.55 crore soil health cards have been distributed by November 2025.

2. **Farmer Awareness and Capacity Building:** More than 93,000 training programmes and 6.8 lakh field demonstrations have supported balanced nutrient awareness.

3. **Nutrient-Based Subsidy (NBS) Scheme:** The scheme promotes balanced use of nitrogen, phosphorus, potassium, and sulphur. Subsidies are linked to nutrient content. Between 2022–23 and 2024–25, over ₹2.04 lakh crore was allocated.

4. **Neem-Coated Urea:** 100% neem coating mandated since 2015. Neem acts as a nitrification inhibitor and improves nitrogen-use efficiency while reducing urea overuse.

5. **Paramparagat Krishi Vikas Yojana (PKVY):** The scheme supports organic farming with financial assistance of ₹31,500 per hectare over three years. 16.90 lakh hectares have been covered till October 2025.

6. **PM-PRANAM Scheme:** The scheme encourages reduction in chemical fertilizer use. During FY 2023–24, 14 States reduced fertilizer use by 15.14 lakh metric tonnes.

7. **Promotion of Nano Fertilizers:** Includes nano urea and nano DAP. Supported through nationwide campaigns, PMKSK availability, field demonstrations, and drone-based spraying.

8. Customised and Fortified Fertilizers: Fertilizers fortified with micronutrients like zinc and boron receive additional subsidy under the NBS framework.

9. **Enforcement Measures:** During 2025–26, 14,692 show-cause notices, 6,373 license cancellations, and 766 FIRs were recorded to prevent fertilizer diversion.

Conclusion

Balanced fertilization is central to sustaining agricultural productivity and soil health. Excessive reliance on a few nutrients has weakened soils and reduced efficiency. Science-based nutrient management, soil testing, integrated approaches, and regenerative practices offer long-term solutions. Government initiatives such as soil health cards, nutrient-based subsidies, nano fertilizers, and strong enforcement mechanisms support this transition. Together, these measures strengthen soil resilience, optimize fertilizer use, and ensure sustainable farming systems for the future.

Question for practice

Examine the role of balanced fertilization in improving soil health, crop productivity, and long-term sustainability of Indian agriculture.

Source: PIB

Gram Swaraj and the Challenge of Real Decentralisation in India

Source: The post **"Gram Swaraj and the Challenge of Real Decentralisation in India"** has been created, based on **"Explained: Gandhi's ideal of Gram Swaraj, and why true devolution of power to villages has yet to happen"** published in **"Indian Express" on 31st January 2026.**

UPSC Syllabus: GS Paper-2-Governance

Context: Mahatma Gandhi envisioned *Gram Swaraj* as a system in which villages would become self-governed, self-reliant, and economically independent units. He believed that true democracy and national development could be achieved only by empowering rural communities.

Gandhi's Concept of Gram Swaraj

1. Gandhi believed that villages should function as complete republics, managing their own social, economic, and political affairs.
2. He emphasized self-reliance in food production, clothing, and basic necessities.
3. He supported decentralised governance through democratically elected Panchayats.
4. He stressed the importance of equality, non-violence, and social harmony in village life.
5. He promoted a balance between independence and interdependence among villages.
6. He focused on holistic development, including moral, social, and economic progress.

Why True Devolution Has Not Happened

1. **Urban-Centric Development Model:** Post-Independence development policies focused mainly on cities and industries, which led to the neglect of rural areas.
2. **Weak Implementation of Decentralisation:** Although the 73rd Constitutional Amendment strengthened Panchayati Raj institutions, real powers remain concentrated with state governments and bureaucracies.
3. **Lack of Basic Infrastructure:** Many villages still lack quality education, healthcare, digital connectivity, and skill development facilities, which limits their growth.
4. **Limited Rural Entrepreneurship:** Rural enterprises have not received adequate financial and policy support, resulting in limited employment opportunities.

5. **Social and Structural Issues:** Caste-based discrimination, gender inequality, and social divisions continue to restrict inclusive development.
6. **Political Reluctance:** Higher levels of government often hesitate to transfer financial, administrative, and political authority to local bodies.
7. **Dependence on Welfare Schemes:** Schemes like MGNREGA provide short-term relief but do not always promote long-term self-sufficiency.

Way Forward

1. The government should ensure genuine financial, administrative, and political devolution to Panchayati Raj institutions.
2. Capacity building and training of local representatives should be strengthened for effective governance.
3. Investment in quality education, healthcare, digital infrastructure, and skill development must be prioritised.
4. Rural entrepreneurship and MSMEs should be promoted through credit support, market access, and innovation hubs.
5. Social inclusion must be ensured through awareness programs and community participation.
6. Monitoring and accountability mechanisms should be strengthened to improve local governance.
7. Successful models of village development should be replicated across regions.

Conclusion: Gandhi's vision of Gram Swaraj aimed at creating self-sufficient, empowered, and democratic villages. However, structural weaknesses, inadequate decentralisation, and social challenges have hindered its realization. With strong political will, institutional reforms, and community participation, India can move closer to achieving true Gram Swaraj and balanced national development.

Question: Explain Mahatma Gandhi's concept of Gram Swaraj. Why has true devolution of power to villages not been achieved in India even after Independence? Suggest a way forward.

Source: Indian express

Funding treatment of rare diseases

Source: The post **"Funding treatment of rare diseases"** has been created, based on **"Funding treatment of rare diseases"** published in **"BusinessLine" on 31st January 2026.**

UPSC Syllabus: GS Paper-3-Science and technology

Context: Spinal Muscular Atrophy (SMA) is a rare genetic disorder that causes progressive muscle weakness and can be life-threatening, especially in children. In India, despite being classified as a rare disease, a significant number of patients suffer due to limited access to affordable treatment.

Issues Related to Treatment of SMA

1. **High Cost of Treatment:** The cost of gene therapy is around ₹17 crore, while branded medicines like Evrysdi cost nearly ₹72 lakh annually, making treatment unaffordable for most families.
2. **Limited Coverage Under NRDP:** The National Rare Diseases Policy, 2021 provides only ₹50 lakh as one-time assistance, which is insufficient for long-term treatment.

3. **Inadequate Implementation:** Only a few patients receive financial support, and many remain on waiting lists despite registration.
4. **Underutilisation of Legal Provisions:** Section 100 of the Patent Act, which allows government use of patented medicines for public interest, has not been invoked.
5. **Weak Institutional Response:** Centres of Excellence are slow in prescribing affordable generic medicines.
6. **Financial Constraints:** The government's crowdfunding fund remains extremely low compared to patient needs.
7. **Judicial Uncertainty:** Several cases are pending before courts, leading to delays in treatment.

Constitutional and Legal Dimensions

1. Article 21 guarantees the right to life, which includes the right to health.
2. Failure to ensure affordable treatment amounts to deprivation of life.
3. The government has constitutional and legal responsibility to protect citizens' health.

Way Forward

1. The government should procure generic versions of medicines and provide them free of cost to patients.
2. Section 100 of the Patent Act should be invoked in public interest when required.
3. Financial assistance under NRDP should be enhanced and made flexible.
4. Budgetary allocation for rare diseases must be increased.
5. Indigenous research and manufacturing of rare disease medicines should be promoted.
6. Centres of Excellence must be strengthened and monitored for effective delivery.
7. Courts should issue clear guidelines to protect patients' right to treatment.

Conclusion: The plight of SMA patients reflects serious gaps in India's healthcare system for rare diseases. Ensuring affordable treatment is not merely a social obligation but a constitutional duty. Through policy reforms, legal intervention, and public investment, India can uphold the right to life and dignity of SMA patients.

Question: Spinal Muscular Atrophy (SMA) highlights the challenges of access to affordable healthcare in India. Discuss the issues related to treatment of SMA patients and suggest measures to ensure their right to life and health.

Source: BusinessLine