AS ITS CHANGING

Typical Viewpoint October 2026

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N.B:

- ⊗ A detailed comprehensive discussion has been projected in this study material from the viewpoint of **INTEGRATED UPSC CSE (Prlm+Mains)** preparation.
- ⊗ If any topic has been skipped here from the events of this respective month, it had been already duly discussed in the previous editions. So, please check the previous editions.
- ⊗ We are indebted to the different authenticated published news sources for the compilation of this study material

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01.10.2026

Israel–UAE Relations: Changing Dynamics in West Asia

Brief

- Israeli Prime Minister **Benjamin Netanyahu's September 2026 visit to Abu Dhabi** and meeting with UAE President **Sheikh Mohammed bin Zayed Al Nahyan** have renewed attention on the evolving **Israel–UAE strategic relationship**. The UAE confirmed that the two sides discussed strengthening bilateral relations.

🤝 Abraham Accords: Background

- The **Abraham Accords**, signed in **September 2020**, established diplomatic relations between Israel and the UAE, alongside Israel-Bahrain normalisation.
- UAE–Israel diplomatic relations were formally established on 15 **September 2020**, followed by the opening of embassies in 2021.
- Cooperation has expanded into **trade, technology, tourism, health, energy, food security and logistics**.

Core drivers

Iranian threat perception
↓
Security cooperation
+
Economic & technological interests
↓

Israel–UAE normalisation

🌍 Changing Regional Dynamics

1. Iran factor

- Iran's regional influence and tensions around the **Strait of Hormuz** remain important to Gulf security.
- Recent regional tensions have encouraged Gulf states to diversify their security partnerships rather than depend exclusively on a single external power.

2. UAE–Israel security cooperation

- Israel provides advanced capabilities in areas such as **air defence, counter-drone technology and intelligence**, strengthening the UAE's security options.

3. Economic interests

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The relationship provides opportunities for:

- Investment and trade
- Technology and innovation
- Energy cooperation
- Logistics and connectivity
- Food and water security

Thus, the Accords represent not merely a security arrangement but an emerging **economic and technological partnership**.

⚠️ Structural Contradictions

Palestinian Question

The biggest limitation remains the unresolved **Israel–Palestine conflict**.

Gaza conflict + West Bank settlements + Arab public opinion

↓

Pressure on Arab governments

↓

Limits on deeper normalisation

Therefore, bilateral cooperation can coexist with unresolved regional conflicts but cannot by itself establish durable regional peace.

🇮🇳 Significance for India

- **Energy security:** Stability in the Gulf is vital for India's energy imports.
- **Diaspora:** Millions of Indians live and work across Gulf countries.
- **Trade & investment:** UAE is a major Indian economic partner.
- **Connectivity:** India–Middle East–Europe connectivity initiatives can benefit from regional stability.
- **Strategic autonomy:** India must maintain balanced relations with **Israel, UAE, Iran and other Gulf states**.

🗺️ Mind Map

Israel–UAE Relations

→ **Security:** Iran → air defence → intelligence
→ **Economy:** trade → technology → investment
→ **Regional:** Gulf security → US role → Iran
→ **Constraint:** Gaza → Palestine → Arab public opinion
→ **India:** energy + diaspora + trade + connectivity + strategic autonomy

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🎯 Mains Takeaway

The Abraham Accords have created a new layer of **security and economic cooperation** in West Asia, but bilateral normalisation cannot substitute for a broader political framework addressing the **Palestinian issue and regional security dilemmas**.

Rising Sea Levels: Threat to India's Coastline

Brief

- The **UN General Assembly's** 24 **September 2026 high-level meeting** on sea-level rise produced a political declaration addressing the growing risks to coastal populations, infrastructure and vulnerable island states.
- Global mean sea level is rising at an accelerating rate. The UN notes an increase from **2.1 mm/year in 1993–2002 to 4.7 mm/year in 2015–2024**.

🌡️ Why is Sea Level Rising?

Global warming

→ Ocean water **thermal expansion**

- **Melting glaciers & ice sheets**
  → **Sea-level rise**

Major consequences

- Coastal **erosion and inundation**
- **Saltwater intrusion** into freshwater aquifers
- Loss of agricultural land and ecosystems
- Damage to ports, roads, cities and coastal infrastructure
- Displacement and livelihood loss
- Greater exposure to storm surges and cyclones

🌍 International Significance

🏝️ *Small Island Developing States (SIDS)*

Countries such as **Tuvalu, Kiribati and Maldives** face risks of:

- Loss of habitable land
- Displacement
- Threats to sovereignty and state continuity

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A major legal concern is whether a state can retain its **statehood and maritime rights despite physical loss of territory**. The emerging international position supports continuity of statehood and greater legal certainty for affected states.

⚖️ *Climate Justice*

The issue reinforces:

Historical emissions → unequal impacts → CBDR-RC → climate finance + adaptation support

🇮🇳 INDIA'S VULNERABILITY

India has:

- Long and densely populated coastline
- Major ports and coastal cities
- Low-lying deltas, especially the **Sundarbans**
- Vulnerable islands such as **Lakshadweep and Andaman & Nicobar**

India's coastal monitoring by **NCCR** has found significant shoreline erosion. Government assessments covering 1990–2018 found about **33.6% of the analysed mainland coastline under varying degrees of erosion**.

⚠️ *Coastal-risk chain*

Sea-level rise + coastal erosion
↓
Inundation + salinisation
↓
Loss of land/ecosystems
↓
Livelihood disruption
↓
Climate displacement

🏗️ India's Policy Challenge

The key issue is that coastal infrastructure planning must account for **future sea-level projections**, not merely today's shoreline.

Way Forward

- Integrate **sea-level projections and hazard lines** into coastal infrastructure planning.
- Strengthen **Coastal Regulation Zone (CRZ)** implementation.

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- Expand mangrove restoration and **nature-based coastal protection**.
- Develop dedicated frameworks for **planned climate relocation**.
- Provide relocated communities with **land tenure, housing and livelihood support**.
- Strengthen coastal early-warning and climate-resilient infrastructure.
- Demand **predictable international adaptation finance** based on climate equity.

🧠 Mind Map

SEA-LEVEL RISE

→ **Causes:** warming → thermal expansion + ice melt
→ **Impacts:** erosion → inundation → salinity → displacement
→ **India:** coast + islands + Sundarbans + cities
→ **Response:** CRZ → hazard mapping → mangroves → resilient infrastructure → planned relocation → climate finance

🎯 Mains Takeaway

Sea-level rise is simultaneously a **climate, developmental, humanitarian and geopolitical challenge**. India must combine **scientific coastal-risk mapping, ecosystem-based adaptation, resilient infrastructure and rights-based relocation**, while advocating greater international support for adaptation.

02.10.2026

Capital Punishment: The Problem of Botched Executions

Brief

- A recent failed lethal-injection execution in **Tennessee, USA**, has renewed debate over the **reliability, humaneness and constitutional implications** of different execution methods.
- The case is significant because lethal injection is intended to minimise suffering, yet technical failures—particularly difficulties in establishing or maintaining **IV access**—can result in prolonged executions and physical suffering.

💉 Lethal Injection: How It Works

Traditional 3-drug protocol

Sedative/anaesthetic
↓
Paralytic drug
↓
Potassium chloride
↓
Cardiac arrest

- ✓ Due to pharmaceutical companies restricting supplies of execution drugs, several US states have shifted towards **single-drug protocols**, including drugs such as **pentobarbital**.

Key concern

IV-placement failure + dosage problems + inadequate expertise
→ delayed death / suffering
→ **botched execution**

A study found that approximately **7.12% of lethal-injection executions** were botched.

🇺🇸 Execution Methods in the US

Method	*Basic mechanism*	*Key concern*
Lethal injection	Drugs administered intravenously	IV/dosage failures
Electrocution	High-voltage electrical current	Pain, burns, cardiac arrest
Nitrogen hypoxia	Inhalation of nitrogen	Questions regarding suffering
Firing squad	Gunshots	Pain if vital organs are missed
Hanging	Neck injury/strangulation	Incorrect drop can prolong death

Capital punishment is currently authorised in **27 US states**, with individual states permitting different methods.

🇮🇳 India's Position

- **Hanging** remains India's prescribed method of execution for civilian death sentences.
- The government has opposed replacing it with lethal injection, citing concerns regarding **administrative reliability, medical infrastructure and predictability**.

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- The broader debate is not simply about choosing a method but about whether the **State should retain capital punishment at all**.

⚖️ Constitutional & Ethical Dimensions

Article 21

Right to life and personal liberty
↓
State may impose deprivation of life only through **procedure established by law**.

The Supreme Court has held that the death penalty must be imposed only in the **"rarest of rare" cases**, after considering aggravating and mitigating circumstances.

Core ethical dilemma

Retribution + deterrence + societal protection
↕
Human dignity + possibility of wrongful conviction + risk of suffering

🧠 UPSC Prelims Pointers

- Capital punishment remains legally available in India.
- **Article 21** is central to challenges concerning the death penalty.
- **"Rarest of rare"** doctrine governs sentencing to death.
- Execution method and constitutionality of capital punishment are **distinct questions**.
- A botched execution raises issues of **human dignity, proportionality and cruel treatment**.

🗺️ Mind Map

CAPITAL PUNISHMENT
→ **Methods:** injection | electrocution | nitrogen | firing squad | hanging
→ **Risks:** technical failure | suffering | wrongful execution
→ **India:** hanging | Article 21 | rarest of rare
→ **Debate:** deterrence/retribution ↔ dignity/rights
→ **Need:** reliable procedure + safeguards + judicial scrutiny

🎯 Mains Takeaway

The problem of botched executions demonstrates that the debate surrounding capital punishment extends beyond **whether the death penalty is legally permissible** to

whether its implementation can consistently satisfy constitutional requirements of **human dignity, fairness and protection against cruel or arbitrary treatment**.

Green Energy Corridor Phase-III: Removing Bottlenecks for Renewable Energy

Brief

- India has **300+ GW of installed renewable-energy capacity**, but transmission constraints and grid-security requirements can lead to **curtailment of solar power**, particularly when generation is high but demand or evacuation capacity is inadequate.

Green Energy Corridor (GEC) Phase-III

The scheme seeks to strengthen **intra-state transmission networks** to evacuate up to **135 GW of renewable energy** and add **50 GWh of Battery Energy Storage Systems (BESS)**.

Financial outlay: ₹1,36,378 crore.

Why is Transmission Critical?

Renewable generation → Transmission network → Storage/Grid balancing → Consumers

- **Geographical mismatch:** Solar/wind resources are concentrated in particular regions, while electricity demand is dispersed across cities, industries and rural areas.
- **Intermittency:** Solar generation falls sharply after sunset, coinciding with the evening demand peak.
- **Grid stability:** Variable renewable power requires flexible transmission, storage and balancing capacity.
- **Last-mile bottleneck:** Generation capacity is useful only when electricity can be reliably evacuated and delivered.

Major Bottlenecks

1. Right-of-Way (RoW) issues

- Transmission lines crossing private land can trigger disputes over **compensation and land use**.
- Inadequate or delayed compensation can slow projects.

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2. Land acquisition & environmental clearances

- Multiple approvals and procedural delays increase project gestation periods.

3. Fragmented governance

- Renewable generation, transmission corridors and electricity demand often cross administrative boundaries.
- Coordination between **Centre, States, DISCOMs and transmission agencies** remains crucial.

4. Storage viability

- The proposed **50 GWh storage** must become an operational grid asset, not merely a procurement target.
- Challenges include high costs, dependence on imported critical minerals/components, recycling and unclear **ownership/payment mechanisms**.

Way Forward

- Establish a **single-window, real-time approval and monitoring portal** integrating relevant authorities.
- Create predictable **RoW compensation frameworks** and faster land acquisition.
- Develop **market-based revenue models** for BESS and ancillary grid services.
- Promote domestic battery manufacturing, critical-mineral security and **battery recycling**.
- Strengthen Centre–State coordination and integrated generation–transmission–storage planning.

Mind Map

GEC-III

→ **135 GW RE evacuation**
→ **50 GWh storage**
→ **₹1.36 lakh crore transmission investment**
→ Overcomes **RoW + land + clearance + coordination + storage bottlenecks**
→ Enables **reliable green power + grid stability + energy transition**

Prelims Pointers

- **GEC:** transmission infrastructure for renewable-energy evacuation.
- **BESS:** helps manage intermittency and shift electricity across time.
- **Curtailment:** deliberate reduction of available electricity generation, often due to grid or demand constraints.

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Mains Takeaway

India's renewable-energy transition must shift from **"capacity addition" to "reliable renewable electricity delivery"**. Transmission, storage, regulatory coordination and viable business models are therefore as important as adding new generation capacity.

Probable Mains Question:

Q. "India's renewable-energy challenge is increasingly shifting from generation capacity to transmission and storage bottlenecks." Discuss the role of Green Energy Corridors in addressing this challenge. (250 words)

03.10.2026

Great Indian Bustard (GIB): First Captive-Bred Release into the Wild

Brief

- For the first time, **captive-bred Great Indian Bustard (GIB)** chicks are being prepared for a pilot release into enclosures within the **Desert National Park (DNP), Jaisalmer**, marking the transition from **conservation breeding to rewilding** under Project GIB.

Great Indian Bustard – Key Facts

- **Scientific name:** *Ardeotis nigriceps*
- **IUCN: Critically Endangered**
- **Habitat:** Arid and semi-arid **open grasslands**.
- **Keystone species:** Its conservation reflects the ecological health of India's grassland ecosystems.
- **Major population:** Rajasthan, particularly the Jaisalmer landscape.
- **Slow reproduction:** Generally lays eggs at intervals of about **1–2 years**, making population recovery difficult.

Project GIB & Conservation Breeding

Project GIB (since 2013) aims at long-term recovery of the species.

Conservation breeding → Soft release → Radio-tagging → Rewilding → Population recovery

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- **Wildlife Institute of India (WII)** operates conservation-breeding centres at **Sam and Ramdevra, Jaisalmer**.
- Since 2019, wild-collected eggs have been artificially incubated and chicks raised in captivity.
- At least **98 GIBs** have been bred in captivity under the programme.
- The **"jumpstart" method** involves replacing infertile eggs of wild females with viable captive-bred eggs to improve reproductive success.

Major Threats

Habitat loss + Poaching + Predation + Power-line collisions + Low reproductive rate

- Expansion of infrastructure and renewable-energy projects in GIB habitat.
- **Overhead power transmission lines** pose a major collision risk.
- Predation by raptors and desert foxes threatens released chicks.

Conservation Challenge

- Captive breeding alone cannot ensure recovery. Released birds must **survive, forage and reproduce in natural habitats**. Reported annual survival of released captive-bred birds remains relatively low.

Mind Map

GIB Recovery

→ Captive breeding
→ Soft release
→ Radio-tagging & monitoring
→ Habitat protection
→ Power-line mitigation
→ Successful breeding in wild

Prelims Pointers

- GIB is a **grassland bird**, not a forest species.
- **DNP:** important GIB habitat in Rajasthan.
- **WII:** key institution in conservation breeding.
- **Jumpstart:** conservation intervention using viable eggs to improve recruitment.

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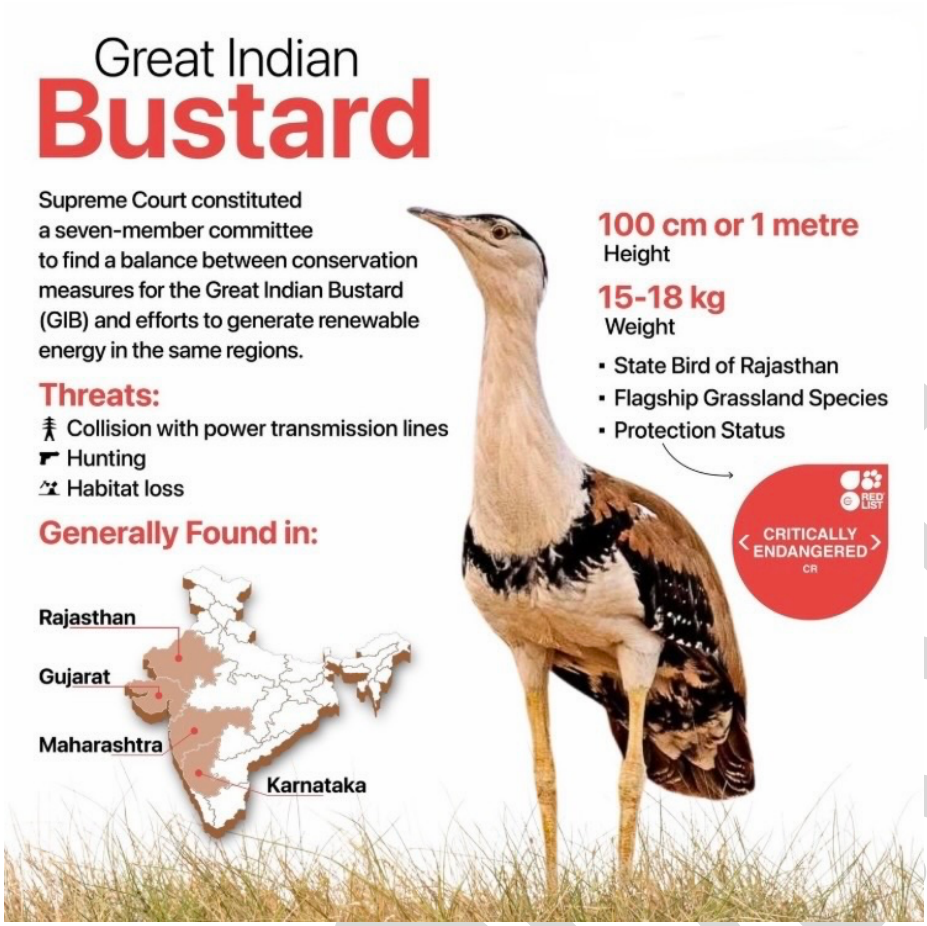

Tiger Reintroduction in Buxa Tiger Reserve

Brief

- A **three-year-old tigress (T138)** from Bihar's **Valmiki Tiger Reserve** has been released into **Buxa Tiger Reserve (BTR), West Bengal**, marking the beginning of a **phased and adaptive tiger reintroduction programme** after decades without a stable resident tiger population.

Buxa Tiger Reserve – Significance

- Declared a **Tiger Reserve in 1983**.
- Located in **North Bengal**, forming part of a larger transboundary landscape connected with **Assam and Bhutan**.
- Its restoration can strengthen **wildlife movement, dispersal and ecological connectivity** across the Eastern Himalayan foothills.
- Historically affected by **habitat degradation, fragmentation and decline in prey availability**.

Recovery Measures Since 2018

Habitat + Prey + Monitoring → Reintroduction → Self-sustaining Population

- **800+ chital** released to improve prey availability.
- About **380 hectares of grassland** restored/converted.
- Camera traps have detected tiger movement in **2021, 2023 and 2026**.
- Tiger Augmentation and Recovery Project implemented with support from **NTCA and Wildlife Institute of India (WII)**.

Phased Reintroduction Approach

Source population → Release → Telemetry & camera traps → Assess adaptation → Further introduction → Breeding → Viable population

Future releases will depend on:

- Habitat suitability
- **Prey availability**
- Population viability
- Health, movement and behavioural adaptation
- Expert assessment

Community Participation

The programme involves **64 Eco-Development Committees/Joint Forest Management Committees**, focusing on:

- Human–wildlife conflict mitigation
- Livelihood opportunities
- Community dialogue
- Conservation-linked benefits

Key Conservation Principle

Reintroduction ≠ merely releasing animals.

Success requires suitable habitat, adequate prey, genetic and demographic viability, ecological connectivity, continuous monitoring and community support.

Mind Map

Tiger recovery in Buxa

→ Habitat restoration
→ Prey augmentation
→ Scientific reintroduction

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→ Telemetry + camera monitoring
→ Community participation
→ **Breeding → Self-sustaining population**

Prelims Pointers

- **Buxa TR – West Bengal; established 1983**
- Connected ecologically with **Assam & Bhutan**
- **NTCA** and **WII** support tiger conservation.

Gandhi's influence on Lal Bahadur Shastri

Brief

- **Mahatma Gandhi and Lal Bahadur Shastri**, both born on **October 2**, represent two generations of India's national movement. Gandhi's ideals of **truth, non-violence and ethical politics** profoundly influenced Shastri's political life.

Gandhi's Influence on Shastri

1. *Early Inspiration — BHU, 1916*

- Gandhi's address at **Banaras Hindu University (BHU)** deeply impressed the 11-year-old Shastri.
- Gandhi criticised **British oppression** and the subservience of Indian princes.
- Shastri was influenced by Gandhi's emphasis on **truth and justice as sources of moral power**.

2. *Entry into National Movement — 1921*

- Gandhi's call during the **Non-Cooperation Movement** encouraged students to withdraw from government-controlled or aided institutions.
- At 16, Shastri left his government-aided school before completing his course.
- He subsequently joined the **Congress movement** and became committed to Gandhian principles of **truth and non-violence**.

Shastri as a Gandhian

Gandhian values → Shastri's political conduct

- **Truth & integrity → Ethical public life**

- **Simplicity → Personal austerity**
- **Non-violence → Preference for peaceful resolution**
- **Service → Public-oriented leadership**

Tashkent Declaration, 1966

The **1965 India-Pakistan War** ended with a UN-backed ceasefire. The **Soviet Union** facilitated negotiations between India and Pakistan at Tashkent.

- **Tashkent Declaration:** signed on 10 **January 1966**.
- It sought restoration of peace and normalisation of relations between the two countries.
- Shastri viewed peaceful relations with Pakistan as important for preserving India's larger national interests.
- The agreement represented his continued commitment to **peace and Gandhian ethical politics**.

Significance

Gandhi → Truth + Non-violence + Ethical politics → Shastri → Integrity + Simplicity + Peace-oriented leadership

Shastri's journey illustrates how **Gandhian principles were translated from a mass freedom movement into the conduct of governance and diplomacy**.

Prelims Pointers

- Gandhi and Shastri: **2 October**
- Gandhi's influential **BHU speech: 1916**
- Non-Cooperation Movement: **1920-22**
- Tashkent Declaration: **10 January 1966**
- Shastri died: **11 January 1966**

Probable Mains Question:

Q. "Lal Bahadur Shastri represented the transformation of Gandhian ethics from a freedom-movement philosophy into principles of governance and diplomacy." Discuss. (250 words)

Introduction

Mahatma Gandhi's emphasis on **truth, non-violence, simplicity and ethical public life** profoundly shaped Lal Bahadur Shastri. Shastri transformed these values from instruments of the national movement into principles of political leadership and statecraft.

Body

1. Influence during the freedom struggle

- Gandhi's **1916 BHU speech** deeply influenced the young Shastri and exposed him to ideas of truth, justice and resistance to colonial subordination.
- In **1921**, inspired by Gandhi's call during the Non-Cooperation Movement, Shastri left his government-aided school and joined the nationalist movement.
- He subsequently remained committed to **truth, non-violence, discipline and service**.

2. Gandhian ethics in governance

- **Simplicity:** Shastri maintained an austere personal lifestyle despite occupying high office.
- **Integrity and accountability:** His resignation as Railway Minister following a major railway accident reflected the principle of **moral responsibility** in public office.
- **Service-oriented leadership:** His politics emphasised personal example and sacrifice rather than privilege.

3. Gandhian principles in diplomacy

- During the **1965 India-Pakistan War**, Shastri combined firmness in defending national interests with a preference for restoring peace.
- The **Tashkent Declaration (10 January 1966)** reflected his belief in peaceful coexistence and normalisation of relations.
- His approach demonstrated that **non-violence did not mean absence of national resolve**, but preference for peaceful resolution where possible.

Conclusion

Shastri embodied the continuity of Gandhian values in independent India: **truth in public life, simplicity in personal conduct, accountability in governance and peace in diplomacy**. His legacy illustrates how ethical principles can remain relevant even when the context shifts from anti-colonial struggle to modern statecraft.

Aviation Security: Managing Insider Threats in the Cockpit

Brief

- The **Flydubai flight** FZ1073 incident, in which Captain **Smit Machchhar** was reportedly attacked by his co-pilot, has highlighted a critical dimension of aviation security: the possibility of an **insider threat within the cockpit**.

The Core Security Dilemma

Post-9/11 security architecture

→ Reinforced cockpit doors

→ Strict access controls

→ Reduced risk of external hijacking

However:

Threat from inside the cockpit → Locked cockpit becomes a potential constraint → Need for rapid emergency response

The challenge is to preserve cockpit security while ensuring that pilots and crew can respond effectively if a cockpit member becomes incapacitated or hostile.

Major Concerns

1. Insider threat

- Conventional aviation security focuses heavily on threats entering the aircraft.
- **Crew members already possessing authorised access** present a different security challenge.

2. Screening limitations

- Initial recruitment screening may not detect subsequent behavioural, psychological or ideological changes.
- This highlights the need for **continuous security vetting**, subject to legal safeguards.

3. Cockpit access

- Strict access controls prevent unauthorised entry but can complicate emergency intervention.
- Procedures must balance **security, operational autonomy and emergency access**.

4. Detection and monitoring

- Greater use of secure cockpit communication systems, access logs and appropriate recording technologies could strengthen post-incident investigation and risk assessment.

Way Forward

Risk-based aviation security framework

Recruitment screening
↓
Continuous/periodic vetting
↓
Behavioural & security-risk identification
↓
Crew training for insider emergencies
↓
Rapid-response protocols
↓
Independent investigation & lessons learned

- Strengthen coordination among **airlines, aviation regulators, intelligence agencies and law-enforcement bodies**.

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- Develop clear protocols for situations involving an incapacitated or threatening crew member.
- Consider technological safeguards while ensuring **privacy, proportionality and data protection**.
- Conduct periodic review of cockpit-security procedures based on emerging threats.

Prelims Pointers

- **9/11:** major turning point in cockpit-security protocols.
- **Insider threat:** risk originating from an authorised person with legitimate access.
- Aviation security must address both **external and internal threats**.

Mains Takeaway

- Modern aviation security must evolve from a **"fortress cockpit" model** towards a resilient system combining **secure access, continuous risk assessment, human factors, emergency protocols and technological safeguards** without compromising flight safety or crew autonomy.

Probable Mains Question:

Q. "Aviation security must increasingly address insider threats in addition to conventional external threats." Discuss the challenges and suggest measures to strengthen cockpit security. (250 words)

India's Oil Imports: Russia, West Asia & Ship-to-Ship Transfers

Brief

- India's crude-oil imports from **Russia declined for the second consecutive month in September**, while imports from several **West Asian suppliers increased**, partly aided by **ship-to-ship (STS) transfers** through the Strait of Hormuz.

Key Import Trends

Supplier	*September trend*
Russia	↓ 8.9% to ~1.9 million bpd
Iraq	↑ 238.2% to ~0.55 million bpd

Saudi Arabia	↑ 56.2% to ~0.54 million bpd
Kuwait	↑ 104.4%
Qatar	↑ from zero to ~0.11 million bpd
UAE	↓ 15.8% to ~0.46 million bpd

- Russia nevertheless supplied **>35% of India's total crude imports** in September.
- West Asian suppliers collectively increased their share from **26% in August to 36.7% in September**.
- Russian imports had reached a peak of about **2.8 million bpd in July**.

Why the Shift?

1. ***Russian supply constraints***

- Ukrainian attacks on Russian oil and gas infrastructure have affected availability.
- Greater competition from **Chinese refiners** has also reduced India's access to Russian barrels.

2. ***Geopolitical uncertainty***

- US sanctions legislation targeting Russia and Iran could increase risks for major buyers of Russian crude.
- This strengthens the case for **diversification of India's oil supplies**.

Ship-to-Ship (STS) Transfer

Normal route:
Supplier → Tanker → Strait of Hormuz → Indian port

STS route:
Supplier → Shuttle tanker → **STS transfer outside/near the chokepoint** → Destination tanker → India

STS transfers can shift a significant portion of the **transit risk from buyers to suppliers**, enabling continued movement of crude despite disruptions around the Strait of Hormuz.

Strategic Significance

Oil diversification → Energy security → Reduced geopolitical vulnerability

India must balance:

- **Affordability** of Russian crude
- Supply reliability
- Sanctions/compliance risks
- Maritime security

- Strategic autonomy

Prelims Pointers

- **Strait of Hormuz:** critical chokepoint linking the Persian Gulf with the Gulf of Oman/Arabian Sea.
- **STS transfer:** cargo transfer between vessels at sea.
- Iraq, Kuwait and Qatar are particularly dependent on Hormuz for exports; Saudi Arabia and UAE possess alternative pipeline routes.

Mains Takeaway

- India's energy security requires **diversified sourcing, strategic petroleum reserves, resilient maritime logistics and alternative transport routes**, rather than excessive dependence on any single supplier or geopolitical corridor.

Probable Mains Question:

Q. "India's crude-oil import strategy must balance cost, energy security and geopolitical risk." Discuss in the context of changing Russian and West Asian oil supplies. (**250 words**)

Introduction

India is one of the world's major crude-oil importers, relying heavily on overseas supplies to meet domestic energy demand. Its sourcing strategy must balance **affordability, supply reliability and geopolitical considerations**.

Body

1. Changing import patterns

- India's Russian crude imports declined to approximately **1.9 million barrels per day in September**, while imports from Iraq and Saudi Arabia increased.
- Russia remained a major supplier, accounting for over 35% of India's crude imports during the month.
- Increased West Asian supplies, including through ship-to-ship (STS) transfers, have provided alternative sourcing options.

2. Major challenges

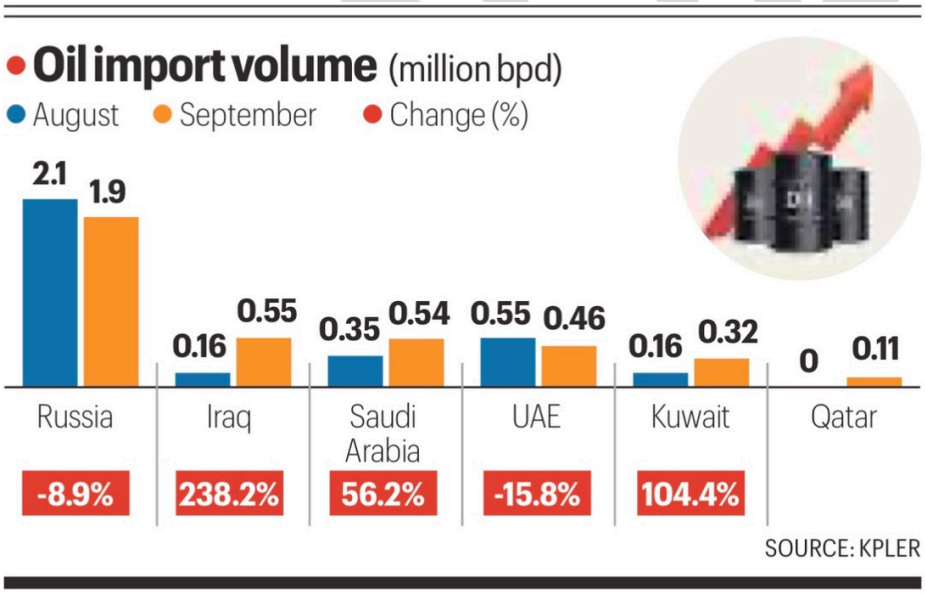
- **Price volatility:** Global conflicts and supply disruptions can increase crude prices, inflation and the current account deficit.
- **Geopolitical risks:** US sanctions and diplomatic pressures may complicate purchases from certain suppliers.
- **Chokepoint vulnerability:** Disruptions around the Strait of Hormuz could affect supplies from several Gulf producers.
- **Supply concentration:** Excessive dependence on a single country or region increases exposure to external shocks.
- **Domestic implications:** Higher import costs can raise transport, fertiliser and industrial input prices.

3. Way forward

- **Diversify suppliers** across Russia, West Asia, Africa and the Americas, based on cost and reliability.
- Expand **strategic petroleum reserves** and commercial storage capacity.
- Strengthen maritime security, shipping insurance arrangements and alternative supply routes.
- Promote energy efficiency, electrification, biofuels and renewable energy to reduce long-term import dependence.
- Maintain diplomatic engagement with major powers while ensuring compliance with applicable international and domestic legal requirements.
- Improve refinery flexibility to process different crude grades efficiently.

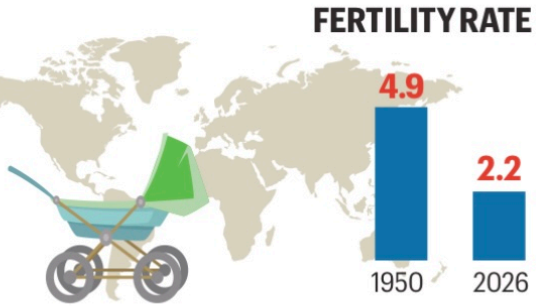
Conclusion

India's energy security depends not merely on securing cheaper oil but on building a **diversified, resilient and affordable energy supply system**. A pragmatic strategy combining strategic autonomy, geopolitical engagement and the clean-energy transition can reduce vulnerabilities while supporting economic growth.

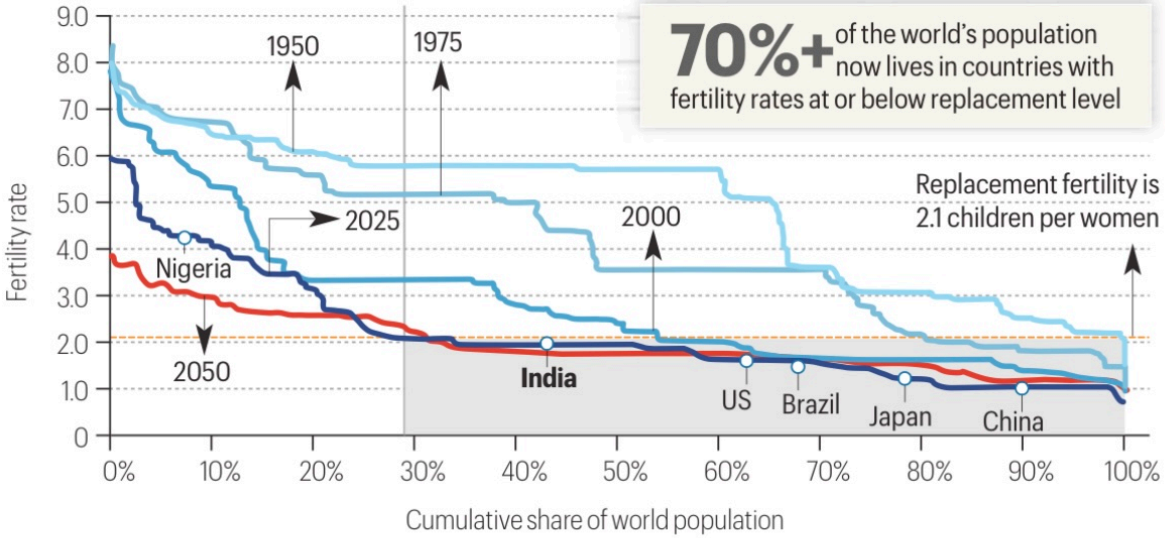


• DEMOGRAPHIC DIVIDEND

Over 70% of the world's population now lives in countries with fertility rates at or below replacement level — 2.1. China's share of people aged 65 and above has doubled from 7% to 14% in just about 20 years. Its fertility rate is estimated at about 0.9, below Japan's 1.2. India too has fallen below replacement level. It is now roughly 1.9 to 2.0 children per woman. Cleary the demographic dividend that these countries — including India and China — enjoyed is fading.



THE DESCENT



(SOURCE: MOODY'S RATINGS)

India's twin mechanism for governing drug prices

Not all medicines have price caps in India. This framework has now been challenged in the top court, which has compared high markups to 'dacoity'

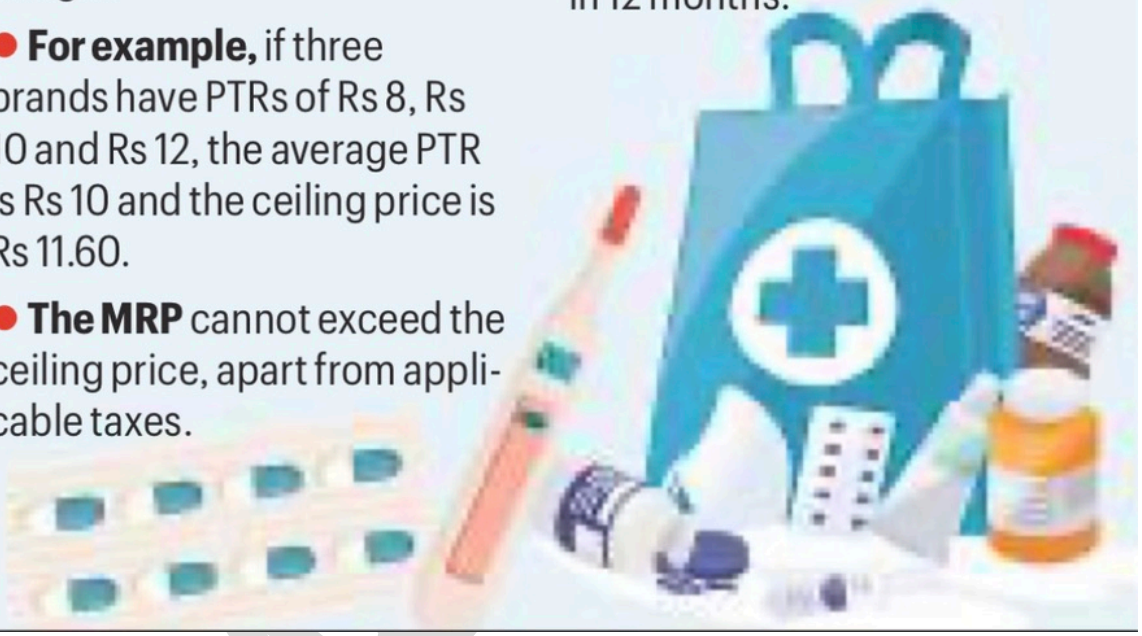
• DIFFERENT PRICING REGULATIONS

Scheduled drugs

- **NPPA** calculates the ceiling price using the average price to retailer (PTR) of qualifying brands, plus a 16% retailer margin.
- **For example,** if three brands have PTRs of Rs 8, Rs 10 and Rs 12, the average PTR is Rs 10 and the ceiling price is Rs 11.60.
- **The MRP** cannot exceed the ceiling price, apart from applicable taxes.

Non-scheduled drugs

- **Companies** can set the initial MRP themselves.
- **The MRP** cannot be increased by more than 10% in 12 months.



Price control framework

The Essential Commodities Act gives the Centre the power to issue price control orders for essential items, including medicines.

The Drugs (Prices Control) Order, or DPCO, is one such order.

It authorises the National Pharmaceutical Pricing Authority to fix, revise and monitor pricing.

India's Twin Mechanism for Governing Drug Prices

Brief

- The Supreme Court questioned the large gap between the supply price and Maximum Retail Price (MRP) of certain medicines, highlighting concerns over excessive markups, affordability and gaps in drug-price regulation.

Legal and Institutional Framework

- India regulates medicine prices primarily through the **Drugs (Prices Control) Order (DPCO), 2013**, issued under the **Essential Commodities Act, 1955**.
  - **National Pharmaceutical Pricing Authority (NPPA):** Established in 1997 under the **Department of Pharmaceuticals**; fixes and monitors drug prices.
  - **National List of Essential Medicines (NLEM):** Prepared by the **Ministry of Health and Family Welfare**; identifies essential medicines forming the basis of the scheduled-price framework.

Twin Mechanism of Price Regulation

Feature	*Scheduled medicines*	*Non-scheduled medicines*
Coverage	Listed in Schedule I of DPCO	Generally not included in Schedule I
Price regulation	NPPA fixes ceiling prices	Manufacturers determine initial MRP
Price increase	Annual revision linked to WPI	MRP cannot increase by more than 10% in 12 months
Regulatory objective	Keep essential medicines affordable	Allow pricing flexibility subject to restrictions

How is the ceiling price calculated?

The NPPA calculates the average Price to Retailer (PTR) of qualifying brands with at least 1% market share and adds a **16% retailer margin**.

Example: Average PTR of ₹8, ₹10 and ₹12 = ₹10.
Ceiling price = ₹10 + 16% = **₹11.60**, excluding applicable taxes.

Scheduled-medicine ceiling prices are revised annually in line with the Wholesale Price Index (WPI).

Major Concerns

- **Excessive markups:** Large differences between procurement prices and printed MRP can burden patients.
- **Unregulated launch prices:** Non-scheduled medicines can enter the market at high initial MRPs.

- **Hospital pharmacy costs:** Patients may face limited alternatives and high medicine bills.
- **Brand–generic price gap:** Branded medicines may cost substantially more than equivalent quality-assured generics.
- **Enforcement challenges:** Inadequate transparency and monitoring can weaken price controls.

Way Forward

- Review the coverage of price controls for essential and critical medicines.
- Strengthen NPPA inspections, audits and penalties for overcharging.
- Improve transparency in manufacturer, distributor, retailer and hospital-pharmacy margins.
- Promote quality-assured generic prescribing and affordable public procurement.
- Balance patient affordability with incentives for pharmaceutical innovation and uninterrupted supply.

Mind Map

Affordable Medicines

→ Legal framework: ECA + DPCO
→ Institution: NPPA
→ Scheduled drugs: Ceiling prices
→ Non-scheduled drugs: Initial pricing flexibility
→ Challenges: Markups + high launch prices + enforcement gaps
→ Reforms: Transparency + wider access + stronger monitoring

Prelims Pointers

- **ECA:** Essential Commodities Act, 1955.
- **DPCO:** Drugs (Prices Control) Order, 2013.
- **NPPA:** Established in 1997.
- **Article 21:** Right to life, interpreted to include important protections relating to health.

Probable Mains Question:

Q. Examine the effectiveness of India's drug-price control framework in ensuring affordable and accessible medicines. Suggest reforms to address regulatory gaps. **(150 words)**

IMPULSE

05.10.2026

Global Capital Is No Longer Cheap: Challenges for India

Brief

Government bond yields in major economies have reached multi-decade highs, indicating rising global borrowing costs and a shift away from the era of cheap capital.

- **10-year bond yields:** US 5.34%, France 4.99% and Japan above 3.1%.
- **India's** 10-year government security yield stood at **7.21%.**
- The trend reflects growing fiscal pressures, inflation risks and competition for investment funds.

Why Are Global Borrowing Costs Rising?

A. ***Persistent fiscal deficits***

- Ageing populations, social welfare commitments and rising defence expenditure are increasing government spending.
- Political resistance to tax increases and spending cuts is widening fiscal deficits.
- Rising public debt increases concerns about governments' long-term debt sustainability.

B. ***Commodity-driven inflation***

- Wars and weather-related supply disruptions raise energy and commodity prices.
- Persistent inflation may compel central banks to maintain or increase policy interest rates.
- Higher policy rates generally push up borrowing costs across the economy.

C. ***AI infrastructure investment***

- Major technology companies—Meta, Microsoft, Amazon and Google—are expanding investment in data centres, computing capacity and AI infrastructure.
- Increasing reliance on debt financing raises their demand for capital.
- Governments and corporations consequently compete for investors' funds, potentially pushing bond yields higher.

How Do Higher Bond Yields Affect the Economy?

Higher yields → Higher borrowing costs → Costlier debt servicing → Reduced fiscal flexibility

- **Governments:** More expenditure goes towards interest payments, potentially reducing funds available for welfare and infrastructure.
- **Corporates:** Costlier loans may delay investment, expansion and employment generation.

IMPULSE

- **Households:** Higher interest rates can increase housing and consumer borrowing costs.
- **Financial markets:** Higher yields can reduce existing bond prices and encourage capital to move towards higher-return assets.

Implications for India

- **Costlier external capital:** Indian companies and the government may face higher costs when borrowing internationally.
- **Private investment:** Increased government borrowing can crowd out private-sector credit, especially when domestic savings are limited.
- **Fiscal discipline:** Higher interest payments could constrain capital expenditure and welfare spending.
- **Exchange-rate pressures:** Changes in global interest-rate differentials can influence capital flows and the rupee, though the effect is not automatic.
- **Investment strategy:** Greater emphasis is needed on domestic savings, productive investment and financial-market depth.

Way Forward

- Follow a credible medium-term fiscal consolidation path.
- Prioritise productive capital expenditure over inefficient spending.
- Mobilise domestic savings and deepen corporate bond markets.
- Improve investment efficiency, productivity and export competitiveness.
- Maintain macroeconomic stability while avoiding excessive dependence on volatile foreign capital.

Mind Map

Global Capital Becomes Costlier
→ Fiscal deficits
→ Commodity inflation
→ AI investment boom
→ Higher bond yields
→ Costlier public and private borrowing
→ Need for fiscal discipline and domestic capital mobilisation

Probable UPSC Mains Question:

Q. "The era of cheap global capital is giving way to higher borrowing costs, creating challenges for both governments and private investment." Discuss the implications for India. (250 words)

India's Asian Games Performance: Progress and the Road to Los Angeles

Brief

- India finished **fourth at the Asian Games in Nagoya**, winning 21 gold medals and 85 medals overall.
- Despite a late surge, the medal tally declined from 28 gold and 107 total medals at Hangzhou, highlighting the need to strengthen India's Olympic preparedness.

Major Highlights

- **Archery:** Indian archers defeated strong South Korean competitors. The mixed team's gold and Olympic quota qualification marked a significant achievement.
- **Women's hockey:** India won the title after 44 years, demonstrating the importance of coaching, team cohesion and mental resilience.
- **Boxing:** Three gold medals reflected a strong comeback, including Parveen Hooda's return to the podium after an earlier anti-doping whereabouts violation.
- **Wrestling:** Two gold medals contributed to India's late rise in the standings.
- **Golf:** Pranavi Urs secured an unexpected continental title.

Significance for Indian Sports

- **Emerging talent:** Young athletes demonstrate India's growing competitive potential.
- **Improved coaching:** Effective leadership and team preparation can reverse poor performance.
- **Sport diversification:** Success beyond traditional medal-winning disciplines can broaden India's sporting base.
- **International competitiveness:** Beating established sporting powers in specific events shows that targeted preparation can produce world-class results.

Challenges in India's Olympic Preparation

- **Medal conversion gap:** Asian Games success does not automatically translate into Olympic medals because the Olympics feature deeper global competition.
- **Uneven performance:** India's overall medal tally and gold count declined compared with the previous edition.
- **Grassroots limitations:** Talent identification, sports science, nutrition and access to quality coaching remain important areas for improvement.
- **Inconsistent support:** Athletes require sustained funding, competition exposure and professional support throughout their careers.

IMPULSE

- **Governance and accountability:** Sports federations need transparent selection, athlete-centred policies and effective grievance redressal.

Way Forward

- Strengthen grassroots sports infrastructure and talent identification.
- Expand access to sports science, physiotherapy, nutrition and psychological support.
- Provide individualised, long-term training plans for Olympic-potential athletes.
- Improve international exposure through regular participation in high-level competitions.
- Ensure transparent sports governance and monitor funding through measurable outcomes.
- Give women athletes equitable access to facilities, coaching and support systems.

Mind Map

Asian Games Performance

→ Sporting breakthroughs
→ Emerging talent
→ Coaching and preparation
→ Challenges: infrastructure, consistency, global competition
→ Reforms: grassroots development + sports science + accountability
→ Goal: Stronger Olympic performance

Probable UPSC Mains Question:

Q. "India's sporting success requires a transition from event-based medal preparation to a sustained, science-driven sports development ecosystem." Discuss. (250 words)

Lung Cancer Screening in India

Brief

- **Lung cancer is the leading cause of cancer deaths in India**, yet it is not covered under the government's routine population-based cancer screening programme.
- According to the latest report, lung cancer deaths increased from 75,031 (2022) to 98,687 (2024).

IMPULSE

Key Facts for Prelims

- **LDCT (Low-Dose Computed Tomography):** Imaging technique used to detect lung cancer at an early stage, particularly among high-risk individuals.
- **Survival advantage:** *Five-year survival can reach around 80% when lung cancer is detected at Stage I, compared with 7–18% for late-stage disease.*
- **Current screening programme:** India's population-based screening focuses on three common cancers:
    - **Breast cancer**
    - **Oral cancer**
    - **Cervical cancer**
- **ICMR study:** LDCT was found to be a cost-effective strategy for screening high-risk populations compared with chest X-rays or no screening.
- **IARC:** International Agency for Research on Cancer, an agency of the World Health Organization (WHO).

Why Does India Lack Lung Cancer Screening?

- **High cost:** LDCT requires expensive equipment and additional healthcare expenditure.
- **Infrastructure gap:** CT scanners are not routinely available at Primary Health Centres (PHCs).
- **Inadequate eligibility criteria:** International guidelines largely focus on older adults with a substantial cigarette-smoking history, potentially excluding Indian risk groups.
- **Non-smoking risks:** Beedi smoking, second-hand smoke, biomass fuel, occupational exposure and air pollution contribute to lung cancer risk.
- **TB-related concerns:** Tuberculosis may complicate interpretation of lung abnormalities, although Indian studies suggest LDCT screening remains feasible.

Way Forward (GS II & III)

Challenges → Solutions

- **High screening cost** → Phased introduction of LDCT for high-risk populations.
- **Limited infrastructure** → Strengthen district hospitals and referral networks.
- **Narrow eligibility criteria** → Develop India-specific screening guidelines incorporating beedi smoking and environmental exposures.
- **Late diagnosis** → Improve awareness, early referral and access to specialist treatment.

- **Tobacco-related risks** → Strengthen tobacco-control measures and smoking-cessation programmes.

  ⌘ Research initiatives such as the
  - **Indian Lung Screening Trial** and
  - **AIRCARE**

  can generate evidence on screening effectiveness and environmental risk factors.

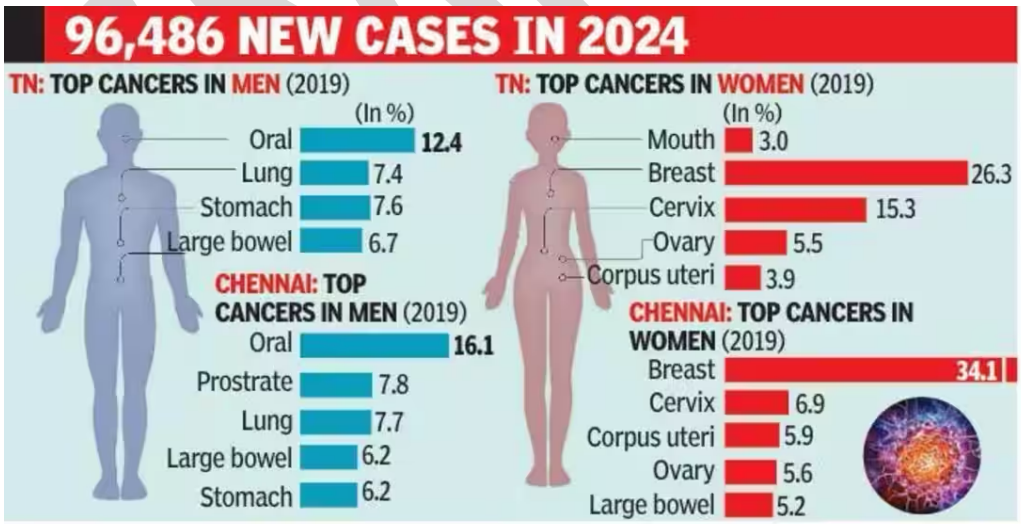
Mind Map

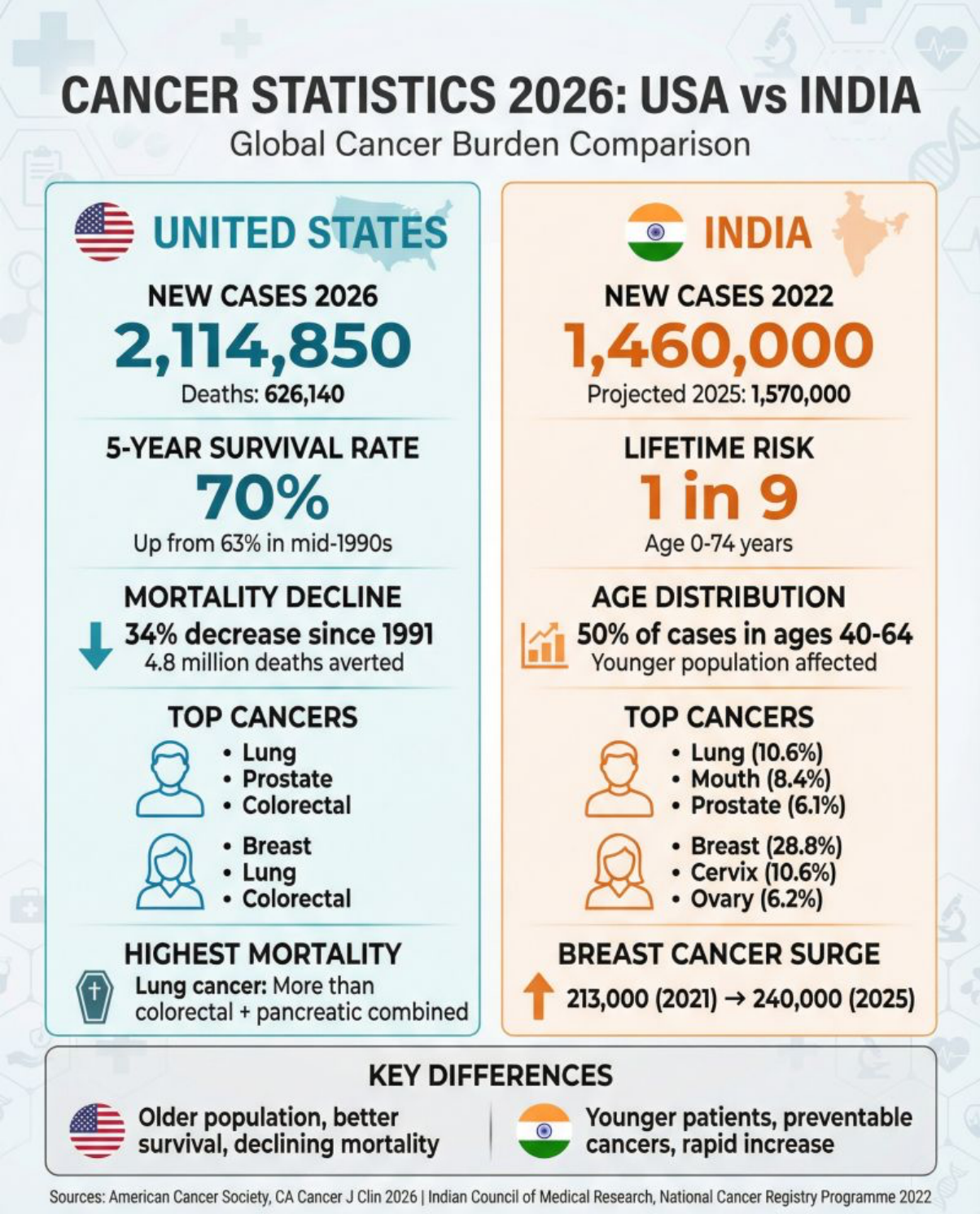
Lung Cancer in India	
Challenges	**Solutions**
Cost • Infrastructure • Risk criteria • TB	LDCT • Early detection • Tobacco control • Indian research

Prelims takeaway: LDCT is a screening tool, not a definitive diagnosis; suspicious findings require further evaluation. Screening recommendations should be based on validated evidence and risk assessment.

Probable UPSC Mains Question

Q. "Discuss the challenges in introducing a population-based lung cancer screening programme in India. Suggest suitable policy interventions." (150 words)




CANCER STATISTICS 2026: USA vs INDIA
Global Cancer Burden Comparison
UNITED STATES
NEW CASES 2026
2,114,850
Deaths: 626,140
5-YEAR SURVIVAL RATE
70%
Up from 63% in mid-1990s
MORTALITY DECLINE
34% decrease since 1991
4.8 million deaths averted
TOP CANCERS
• Lung
• Prostate
• Colorectal
• Breast
• Lung
• Colorectal
HIGHEST MORTALITY
Lung cancer: More than colorectal + pancreatic combined
INDIA
NEW CASES 2022
1,460,000
Projected 2025: 1,570,000
LIFETIME RISK
1 in 9
Age 0-74 years
AGE DISTRIBUTION
50% of cases in ages 40-64
Younger population affected
TOP CANCERS
• Lung (10.6%)
• Mouth (8.4%)
• Prostate (6.1%)
• Breast (28.8%)
• Cervix (10.6%)
• Ovary (6.2%)
BREAST CANCER SURGE
213,000 (2021) → 240,000 (2025)
KEY DIFFERENCES
Older population, better survival, declining mortality
Younger patients, preventable cancers, rapid increase
Sources: American Cancer Society, CA Cancer J Clin 2026 | Indian Council of Medical Research, National Cancer Registry Programme 2022

06.10.2026

National Household Travel Survey (NHTS), 2025–26

Key Findings

- **Conducted by:** Ministry of Statistics and Programme Implementation (MoSPI).
- **Period:** July 2025–June 2026; based on responses from 20 lakh people across 14,274 villages and 10,377 urban blocks.
- **Mode of commuting to work:**
  - **Two-wheelers: 43%**
  - **Public transport: 9%**
  - **Cars: 3%**
- **Public transport usage:** Buses account for 6.7% of commuters travelling more than 1 km to work; rail, monorail and trams account for smaller shares.
- **Monthly commuting expenditure:**
  - Urban areas: ₹1,044
  - Rural areas: ₹612
  - National average: ₹785
- **Gender disparity:** 21.7% of urban women commuting more than 1 km to work use buses, compared with 6.9% of urban men.
- **States with high female bus usage:** Kerala (46.8%), Tamil Nadu (41.1%), Karnataka (34.9%) and Telangana (28.9%).

Significance for India

- **Urban mobility:** Supports evidence-based transport planning, route optimisation and improved service frequency.
- **Gender equality:** Affordable bus services can enhance women's workforce participation and mobility.
- **Environment:** Greater public transport use can reduce congestion, fuel consumption and vehicular emissions.
- **Inclusive development:** Affordable and accessible transport improves access to employment, education and essential services.

Challenges → Way Forward

- Low public transport usage → Expand reliable, affordable bus and rail networks.
- Traffic congestion and pollution → Promote integrated public transport and last-mile connectivity.

- Gender-related mobility barriers → Improve safety, accessibility and service frequency.
- Regional disparities → Use NHTS data for localised transport planning.

Mains takeaway: India needs a shift from private-vehicle-dependent mobility towards affordable, accessible, gender-responsive and sustainable public transport.

07.10.2026

Cornell Case: Impunity and Sexual Violence

Context

- A sexual assault case involving seven men at a fraternity house linked to Cornell University, USA, has renewed debate over institutional accountability, consent and gender-based violence.
- The survivor filed a civil suit against the university, fraternity and alleged perpetrators. The case also prompted the reopening of a criminal inquiry in New York, according to the article.
- The case highlights how institutional inaction and peer silence can perpetuate sexual violence.

Key Issues

- **Institutional impunity:** Inadequate investigations and disproportionate disciplinary action undermine accountability.
- **Bystander silence:** Peer pressure, misplaced loyalty and fear of social consequences discourage reporting and intervention.
- **Normalisation of sexism:** Sexist jokes, rape culture and harmful gender stereotypes distort perceptions of consent.
- **Victim-blaming:** Survivors may face stigma, psychological trauma and disruption of education or employment.
- **Power imbalance:** Powerful individuals or groups may escape accountability because of their social influence.

Indian Context

- **Constitutional provisions:**
  - **Article 14:** Equality before law.
  - **Article 15:** Prohibition of discrimination on grounds including sex.
  - **Article 21:** Protection of life and personal liberty, including dignity.

- **Legal framework:** Bharatiya Nyaya Sanhita (BNS), 2023, criminalises rape and other sexual offences; the POSH Act, 2013, addresses sexual harassment of women at the workplace.
- The global #MeToo movement and Indian women wrestlers' struggle for accountability highlight the importance of institutional transparency and access to justice.

Way Forward

- Ensure impartial, time-bound investigations and proportionate disciplinary action.
- Establish confidential, survivor-centric reporting and support mechanisms.
- Strengthen consent education, gender sensitisation and bystander intervention.
- Protect complainants and witnesses against retaliation.
- Make educational institutions accountable through independent oversight and transparent grievance redressal.

Mains Perspective – GS IV (Ethics)

Core values involved: Empathy, dignity, gender justice, integrity, accountability and moral courage.

Conclusion: Sexual violence cannot be addressed through legal punishment alone. A culture of consent, institutional accountability and collective responsibility is essential to dismantle impunity and ensure justice for survivors.

IMPULSE

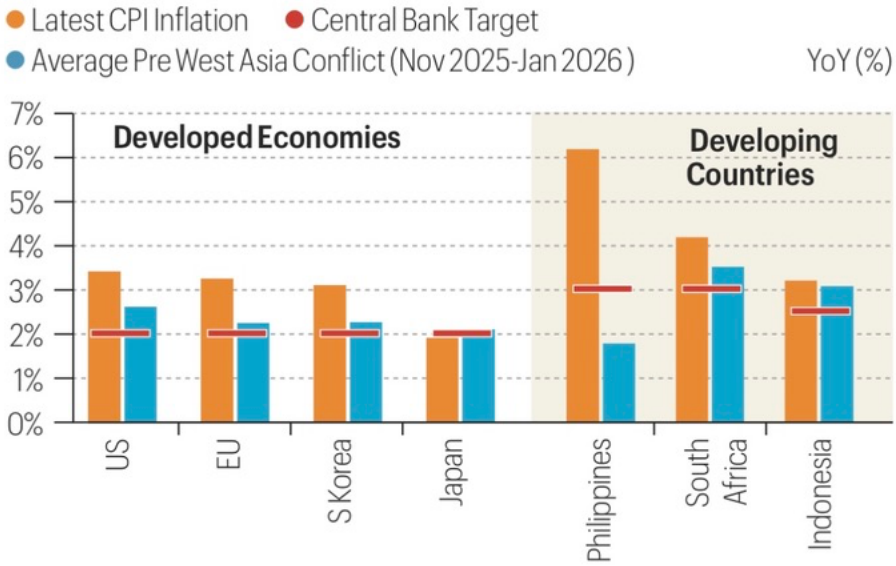
08.10.2026

• RBI JOINS INTEREST RATE HIKE CLUB

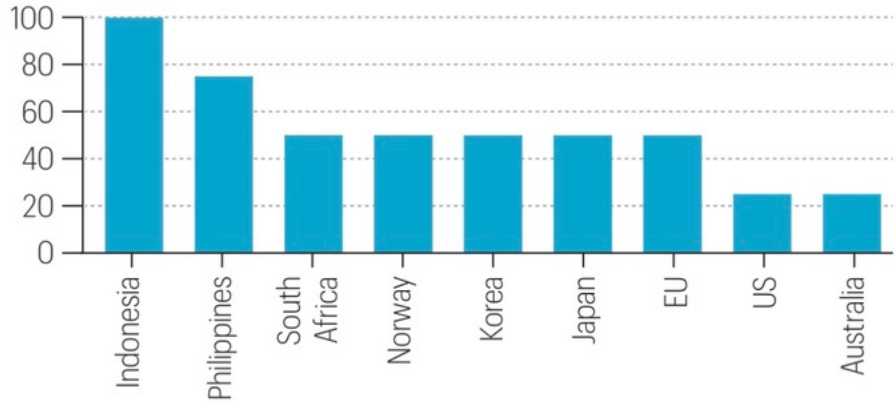
• It is not just India. Major central banks have tightened policy or raised interest rates in response to rising prices amid supply shocks and high crude oil prices.

• Inflation in most economies has crossed the central banks' comfort zone, and has been hovering above the pre-West Asia war era.

Inflation Remains Above Target in Most Economies



Changes in Policy Rate Over the Last 6 Months (in basis points)



SOURCE: HAVER, REFINITIV, CAREEDGE. DATA AS OF 27TH SEPTEMBER 2026

RBI's Focus on Inflation Is Timely

Context

- The Reserve Bank of India (RBI) Monetary Policy Committee (MPC) raised the repo rate by **25 basis points**, from 5.25% to **5.50%,** according to the article.
- The MPC unanimously approved the hike and shifted its monetary policy stance from **"neutral" to "calibrated tightening."**
- The move reflects rising inflationary pressures despite resilient economic growth.

Key Concepts for Prelims

- **Repo rate:** Interest rate at which the RBI lends short-term funds to banks against eligible securities.
- **Basis point:** One-hundredth of a percentage point; 25 basis points = 0.25 percentage points.
- **Monetary Policy Committee:** Six-member body responsible for setting the policy interest rate under India's inflation-targeting framework.
- **Inflation target:** 4% CPI inflation, with a tolerance band of ±2 percentage points (2–6%).
- **Calibrated tightening:** A policy stance signalling a willingness to tighten monetary conditions gradually to contain inflationary pressures.

Why Did the RBI Raise Rates?

- **External factors:** Escalation of the West Asia conflict increased global crude oil price volatility.
- **Domestic factors:** Deficient southwest monsoon and El Niño conditions threaten agricultural output and food prices.
- **Inflationary trend:** Retail inflation has risen above the RBI's 4% target; the article projects inflation at around 5.2% for 2026–27 and 6% by December.
- **Strong growth:** GDP grew by 7.8% in Q1 of 2026–27, prompting an upward revision of the full-year growth forecast from 6.7% to 7.1%.

Expected Impact

Positive effects

- Moderates aggregate demand and inflationary expectations.
- Helps preserve purchasing power and macroeconomic stability.
- Supports currency and financial-market stability by limiting inflation risks.

Potential concerns

- Higher borrowing costs may discourage private investment and consumption.
- Increased EMIs can burden households and businesses.
- Excessive tightening may slow economic growth and employment generation.

IMPULSE

Way Forward

- Maintain a data-driven, forward-looking monetary policy.
- Coordinate monetary policy with targeted fiscal and supply-side interventions.
- Improve food storage, logistics and agricultural resilience.
- Reduce energy-import vulnerability through diversification and renewable energy.

Conclusion: The RBI faces a growth–inflation trade-off. Timely tightening can anchor inflation expectations, but policy calibration is essential to preserve growth momentum.

Probable Mains question:

Q. "Examine the role of monetary policy in balancing price stability and economic growth in India." **(150 words)**

Detention vs Arrest: Police Powers and Constitutional Safeguards

Context

- The detention of Opposition leaders during protests has renewed debate over the limits of police powers, individual liberty and the constitutional right to peaceful protest.

Detention vs Arrest: Key Differences

Basis	*Detention*	*Arrest*
Meaning	Temporary restraint of liberty	Formal taking into custody in connection with an offence
Purpose	Prevent disorder or enforce lawful directions	Investigation and criminal proceedings
Legal basis	Relevant preventive powers under BNSS	Arrest provisions under BNSS
Safeguards	Must be lawful, necessary and non-arbitrary	Constitutional and statutory safeguards apply
Outcome	Release or further lawful action	Production before a magistrate within the prescribed period

Important: The legal character of an action depends on its circumstances, not merely whether police call it "detention" or "arrest".

IMPULSE

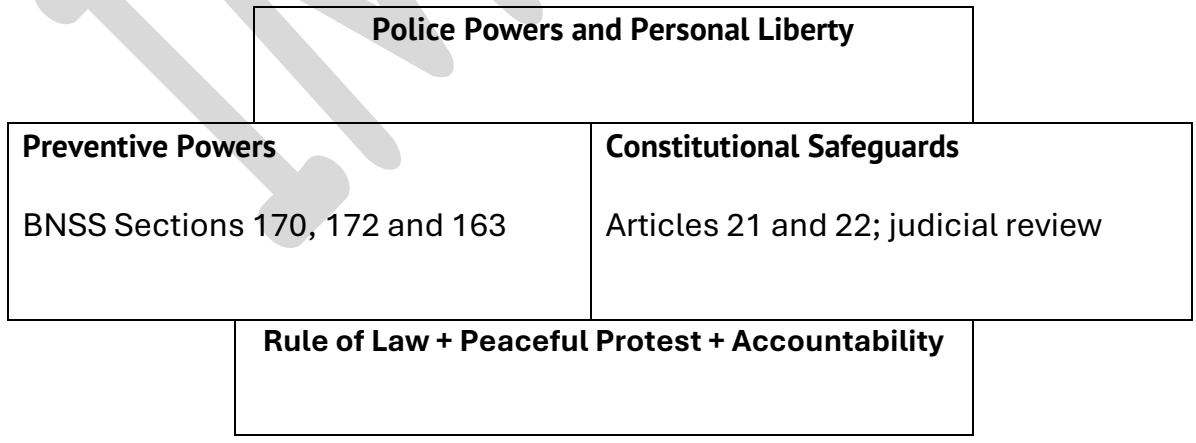
Important Legal Provisions for Prelims

- **Article 21:** Protects life and personal liberty; deprivation must follow a procedure established by law.
- **Article 22:** Provides safeguards against arrest and detention, including communication of grounds of arrest, access to legal counsel and production before a magistrate within 24 hours, subject to constitutional exceptions.
- **Section 170, BNSS:** Preventive arrest to prevent the commission of a cognizable offence when it cannot otherwise be prevented.
- **Section 172, BNSS:** Requires compliance with lawful police directions and empowers police to detain or remove persons resisting or disregarding them; release or production before a magistrate is governed by the provision.
- **Section 163, BNSS**: Empowers magistrates to issue urgent orders in cases of nuisance or apprehended danger.
- **Section 223, BNS:** Addresses disobedience of orders duly promulgated by a public servant, subject to its statutory requirements.

Landmark Supreme Court Judgments

- **Joginder Kumar v. State of U.P. (1994):** Power to arrest does not automatically justify its exercise.
- **Arnesh Kumar v. State of Bihar (2014):** Arrest must not be automatic in cases covered by the judgment; necessity and statutory safeguards matter.
- **Mazdoor Kisan Shakti Sangathan v. Union of India (2018):** Balances peaceful protest with public order; restrictions should regulate rather than extinguish the right to protest.

Mind Map



Way Forward

- Require clear reasons and documentation for restricting liberty.
- Ensure prompt legal assistance and judicial oversight.
- Prevent misuse of prohibitory orders against peaceful dissent.
- Train police in proportionality, human rights and crowd management.

Conclusion: Maintaining public order is a legitimate state function, but preventive policing must remain lawful, necessary and proportionate to protect constitutional liberty and democratic dissent.

09.10.2026

GST Reforms for Growth: Facing Global Headwinds

Brief

- The GST Council announced a second phase of Next-Gen GST reforms, focusing on simplifying tax administration, accelerating refunds and reducing compliance burdens. These follow earlier tax-rate rationalisation aimed at improving consumption and economic growth.

Key Reforms for Prelims

- **GST Council:** Constitutional body under Article 279A; chaired by the Union Finance Minister, with Union and state representatives.
- **Tax structure:** The article describes a simplified two-rate structure of 5% and 18%, alongside a special 40% rate for specified demerit and luxury goods.
- **Simplified registration:** Automatic acceptance of routine changes, such as adding a business location.
- **Faster refunds:** Target of acknowledging refund applications within 10 days and sanctioning 90% of refunds within three days of acknowledgement.
- **Input Tax Credit (ITC):** Expansion to specified employee health and life insurance expenses, subject to applicable conditions.
- **Reduced enforcement burden:** Inspections and seizures of goods restricted to officers of the supply or destination state, as described in the article.
- **Decriminalisation measures:** Removal of arrest powers of GST officers; prosecution threshold increased from ₹1 crore to ₹5 crore.
- **Lower penalties:** General penalty reduced from ₹25,000 to ₹10,000; notices below the specified ₹10,000 dispute threshold to be discontinued.

- **Support for small businesses:** Easier nationwide expansion without establishing a place of business in every state, subject to applicable rules.

Significance for the Indian Economy

- **Ease of doing business:** Simplifies registration and reduces procedural delays.
- **Liquidity:** Faster refunds release working capital, particularly for MSMEs.
- **Consumption-led growth:** Lower tax rates can improve affordability and demand.
- **Formalisation:** Simpler compliance can encourage businesses to enter the formal economy.
- **Cooperative federalism:** Strengthens coordination between the Centre and states.
- **Global competitiveness:** Reduces transaction costs amid external economic uncertainty.

Challenges and Way Forward

- Strengthen GSTN infrastructure and automated compliance systems.
- Ensure uniform implementation across states.
- Prevent fraudulent ITC claims while protecting genuine taxpayers.
- Improve advance clarification, grievance redressal and dispute resolution.
- Monitor revenue implications and the impact on MSMEs.

Mind Map

Next-Gen GST Reforms

Process Reforms	Economic Outcomes
Registration • Refunds • ITC	Liquidity • Consumption • Formalisation

Mains takeaway: GST reform must combine tax simplification with predictable administration, cooperative federalism and effective safeguards to strengthen India's growth potential.

Prelims caution: The rates and procedural changes above reflect the supplied article; verify the applicable GST notifications before treating them as current law.

Why Edible Oils Are Worst Affected by Food Inflation

Context

- Global edible oil prices are rising due to geopolitical conflicts, El Niño-related production risks and increasing diversion of vegetable oils towards biofuel production. India is particularly vulnerable because of its heavy dependence on imports.

Key Facts for Prelims

- **FAO Food Price Index:** Measures monthly changes in international prices of a basket of food commodities; **base period is 2014–16** = 100.
- **FAO Vegetable Oil Price Index:** 198.6 points in September 2026, up 18.3% year-on-year.
- **FAME (Fatty Acid Methyl Esters):** **Vegetable oil-based** biodiesel produced through transesterification of oils with methanol.
- **Biofuel blending:** **Indonesia** raised its biodiesel blending mandate to B50 in July 2026, according to the article; **B50 means 50% biodiesel blending.**
- **El Niño:** Periodic warming of the central and eastern equatorial Pacific Ocean, which can alter rainfall patterns and affect agricultural production.

Why Are Edible Oil Prices Rising?

A. *Biofuel mandates*

- Indonesia and Malaysia divert palm oil towards biodiesel.
- The US and EU allocate substantial quantities of soybean and rapeseed oils to biofuels.
- This creates competition between food and fuel demand, reducing exportable supplies.

B. *Geopolitical conflicts*

- The Russia–Ukraine war disrupts sunflower oil exports through Black Sea ports.
- Higher crude oil prices increase the economic incentive to produce biodiesel.

C. *Climate change and El Niño*

- Water stress can reduce oil-palm yields after a lag of 8–12 months.
- Deficient rainfall can also affect India's domestic oilseed production.

Implications for India

- **Import dependence:** Domestic production is insufficient to meet consumption.
- **Inflation:** Higher landed prices raise household food expenditure and food-processing costs.

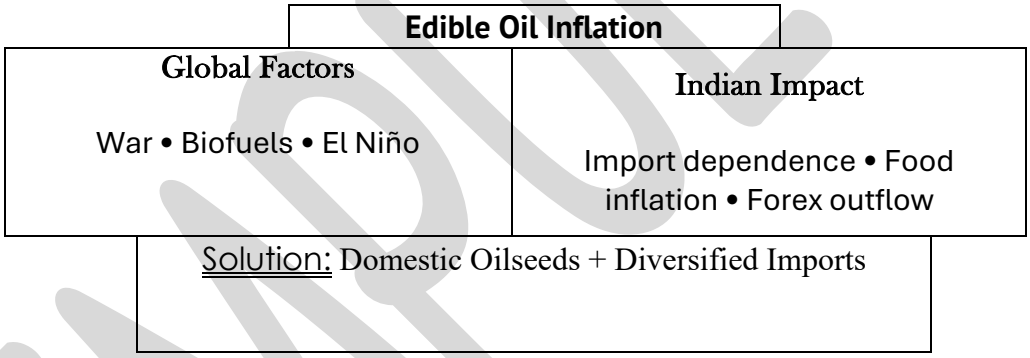
- **External sector:** Larger imports increase foreign-exchange outflows and vulnerability to global price shocks.
- **Farmers:** Higher oilseed prices may improve returns, but input costs and production risks remain.

➔ Estimated India's edible oil imports at 17.2 million tonnes in 2026–27, compared with 16.8 million tonnes in 2025–26.

Way Forward

- Expand domestic oilseed production through improved seeds, irrigation and productivity.
- Strengthen the National Mission on Edible Oils–Oilseeds and oil-palm development where ecologically suitable.
- Diversify import sources and maintain prudent buffer stocks.
- Promote oilseed processing, storage and agricultural research.
- Balance biofuel objectives with food security and affordability.

Mind Map



Probable Mains question:

Q. Examine how geopolitical conflicts, climate variability and biofuel policies influence edible oil inflation in India. Suggest measures to reduce import dependence. **(150 words)**

IMPULSE

11.10.2026

RBI's New Forex Measures to Defend the Rupee

Why in News?

- The **Indian rupee came under severe depreciation pressure**, closing around **₹96.73/$ on October 9, 2026**; a record low of ₹96.96/$ earlier in 2026.
- RBI introduced measures to **curb excessive speculation, strengthen market discipline and improve transparency** in foreign-exchange derivatives.
- The most novel measure is the **Foreign Exchange Risk Reserve (FERR)**, drawing from a mechanism used by China.

Why is the Rupee Under Pressure?

Rupee Depreciation

↙️ External factors

- Crude oil above $100/barrel
- Adverse capital flows
- Challenging global environment

↘️ Domestic/market factors

- Dollar demand for imports
- Hedging demand
- Speculative derivative positions
- Trade deficit pressures

India imports more than it exports in merchandise trade; greater demand for foreign currency can put downward pressure on the rupee.

RBI's Key Measures

A. *Foreign Exchange Risk Reserve (FERR)*

- For specified rupee-related forex derivative contracts exceeding **$2 million**, authorised dealers must maintain a **20% cash reserve with RBI** on the rupee-equivalent notional amount.
- RBI can alter the prescribed percentage.
- It applies to specified contracts hedging current-account exposures where users purchase foreign currency against rupees.

IMPULSE

- **Prelims trap:** FERR is **not a 20% tax/fee on customers**; it is a reserve requirement ***imposed on authorised dealers***.

Diagram

Forex derivative > $2 mn
↓
Bank/Authorised Dealer
↓
20% FERR → Cash with RBI
↓
Higher liquidity cost
↓
Costlier large derivative positions
↓
Discourages excessive speculation

B. *Tightening Derivative Rules*

- Threshold for forex derivative transactions **without establishing underlying exposure** reduced from **$100 million → $5 million** across authorised dealers.
- Similar reduction applies to rupee-based exchange-traded currency derivatives.
- This is **not a blanket prohibition** on derivatives above $5 million.

C. *Restriction on Rebooking*

- Cancelled rupee-related derivative contracts generally cannot be rebooked under the new direction.
- However, **rollover at maturity remains permitted**, subject to regulations.
- Objective: prevent participants from repeatedly changing positions to exploit currency movements.

D. *Preventing Duplicate Hedging*

- Banks must obtain undertakings confirming that the **same underlying exposure has not been hedged with another authorised dealer**, improving transparency and preventing multiple derivative positions against one commercial exposure.

How Can These Measures Support the Rupee?

Speculative/hedging dollar demand ↕
→ Dollar strengthens
→ **₹ depreciates**

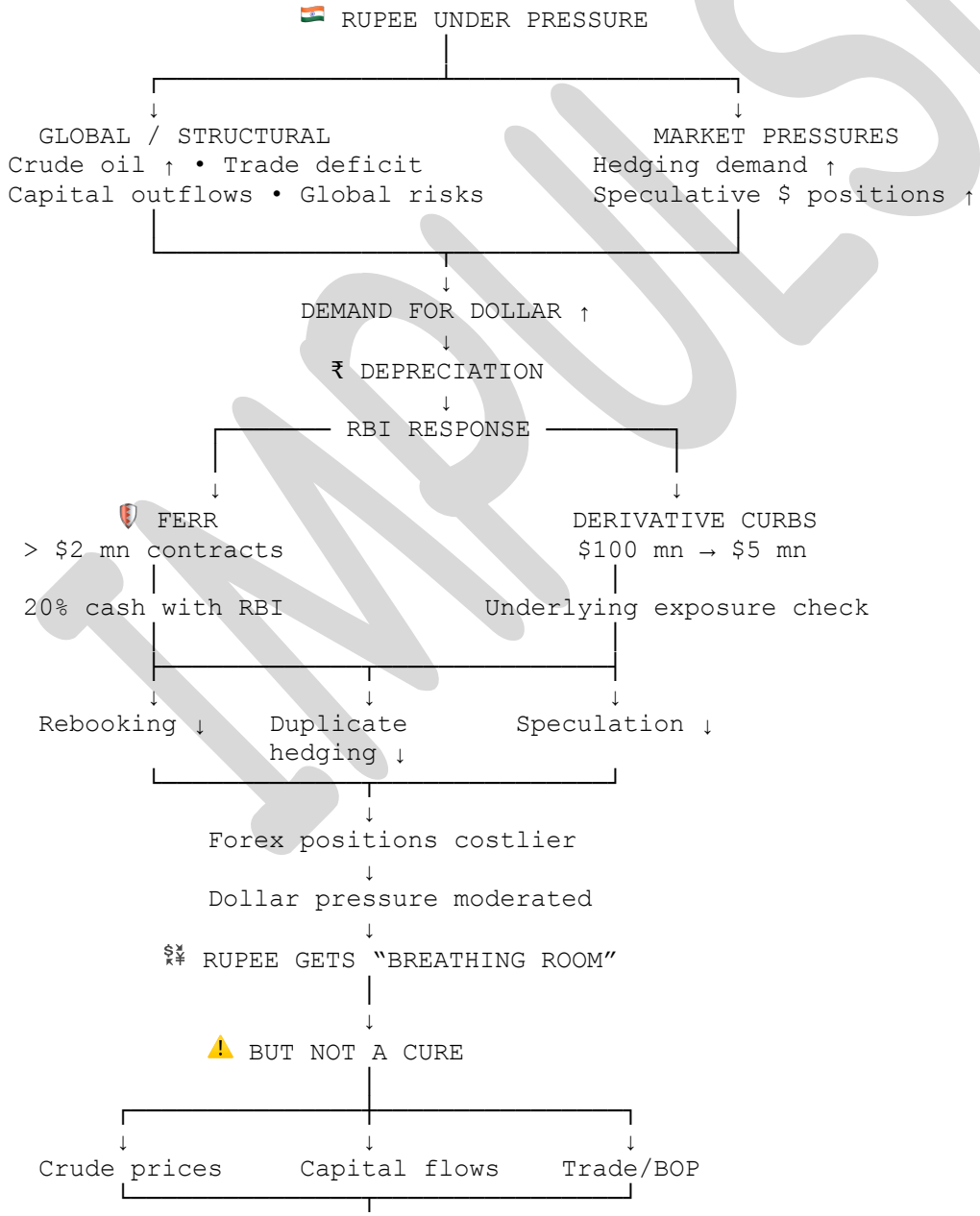
FERR + tighter documentation + rebooking restrictions

→ Cost of large positions ↑
→ Speculative demand ↓
→ Volatility moderated
→ **Breathing room for ₹**

China Connection

- China previously used a **20% Foreign Exchange Risk Reserve Ratio**.
- In March 2026, China reduced it to **zero** as the yuan was strengthening.
- India faces the opposite situation: rupee weakness prompted RBI to make positions benefiting from depreciation relatively costlier.

Magic Diagram: Rupee Pressure → RBI Response → Outcome



IMPULSE

```
                    ↓
   LONG-TERM RUPEE STABILITY
                    ↓
Exports ↑ • Oil dependence ↓
Stable capital flows • Strong BOP
```

UPSC Mains one-line interpretation:

RBI's FERR and derivative restrictions can curb speculation-driven currency volatility, but durable rupee stability ultimately depends on India's external-sector fundamentals—trade balance, capital flows, crude prices and Balance of Payments.

Mains Analysis

Benefits

- Checks excessive forex speculation.
- Improves transparency and market discipline.
- Discourages duplicate hedging.
- May moderate excessive exchange-rate volatility.

Concerns

- Raises banks' liquidity/compliance costs.
- Can increase legitimate hedging costs for importers.
- Reduces flexibility in managing currency risks.
- Cannot eliminate structural causes of rupee depreciation.

Way Forward

Short term: RBI intervention + forex reserves + orderly derivative markets.

Medium/long term: Reduce oil-import vulnerability, strengthen exports, attract stable capital flows, improve Balance of Payments and promote local-currency trade settlement.

Mains Takeaway

Forex regulation can contain speculation-driven volatility, but the rupee's medium-term trajectory ultimately depends on fundamentals such as trade balance, capital flows, crude prices and overall Balance of Payments.

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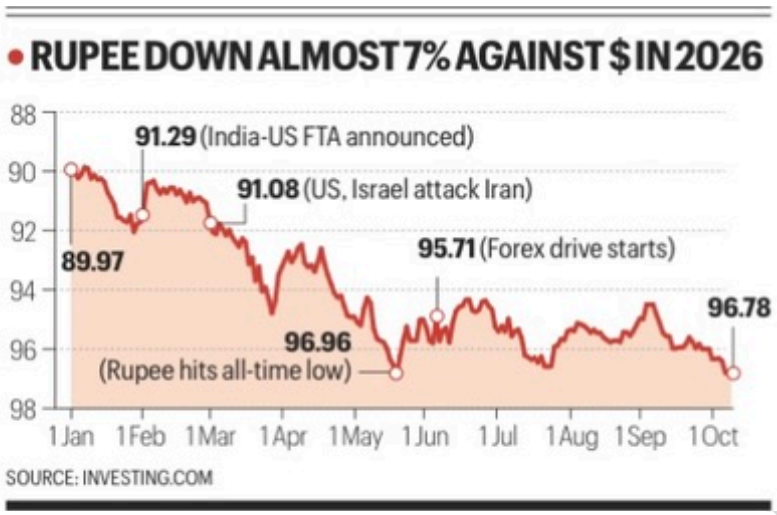


12.10.2026

US IT Curbs Open a New Front for India–US Relations

Brief

- The US has suspended several major technology firms, including large Indian IT companies, from the **Permanent Labor Certification (PERM) programme**, amid tighter scrutiny of employment-based immigration.
- This adds **labour mobility and services trade** to existing India–US tensions involving tariffs, Russian energy purchases and stalled trade negotiations.

Prelims Pointers: PERM vs H-1B

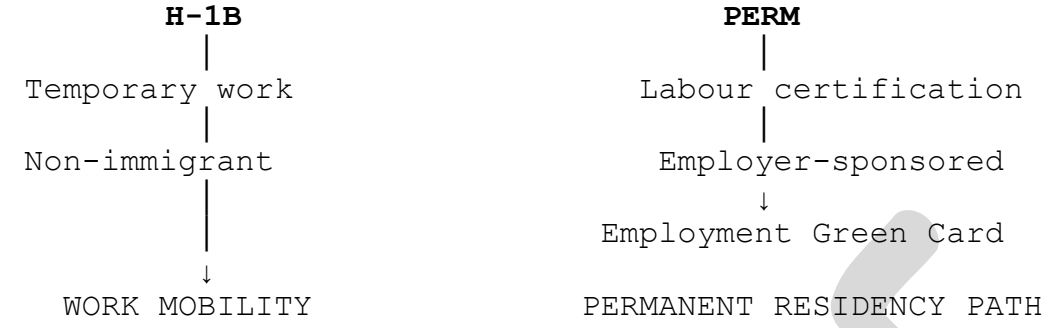
PERM

- **Permanent Labor Certification** is generally an employer-led step before sponsoring a foreign worker for an **employment-based Green Card**.
- Employers must undertake prescribed recruitment and establish that permanent employment of the foreign worker will not adversely affect opportunities, wages or working conditions of US workers.

H-1B

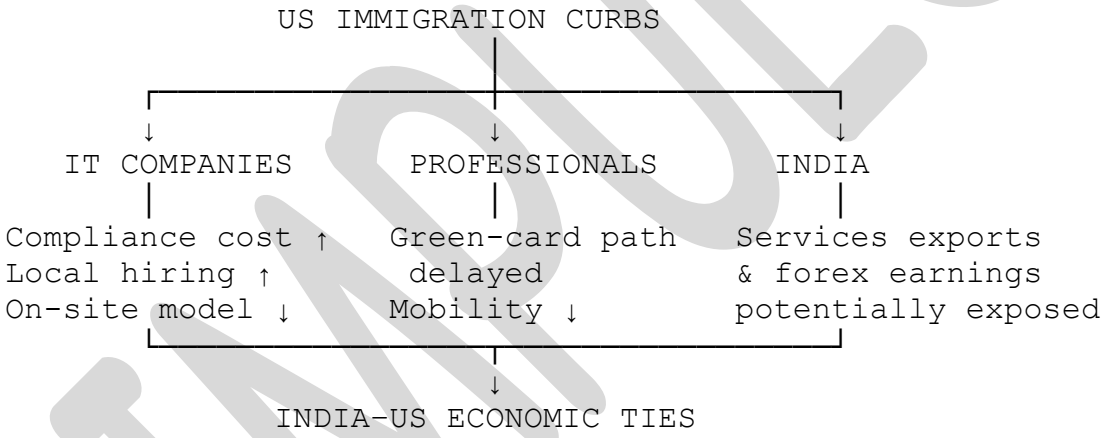
- **Temporary, non-immigrant work visa** for specialty occupations.
- **PERM ≠ visa** and **PERM ≠ H-1B**.
- Suspension from PERM does **not automatically invalidate existing H-1B status**.

Mini Diagram



Why Does It Matter for India?

Mind Map



- **Immediate corporate impact may be limited:** Reuters reported that major Indian IT firms have sharply reduced their dependence on PERM filings and expanded local hiring.
- However, wider restrictions on work visas could pose a more significant risk to India's IT services model.
- Workers approaching H-1B limits may face greater uncertainty if their employer-sponsored permanent-residency process cannot begin.

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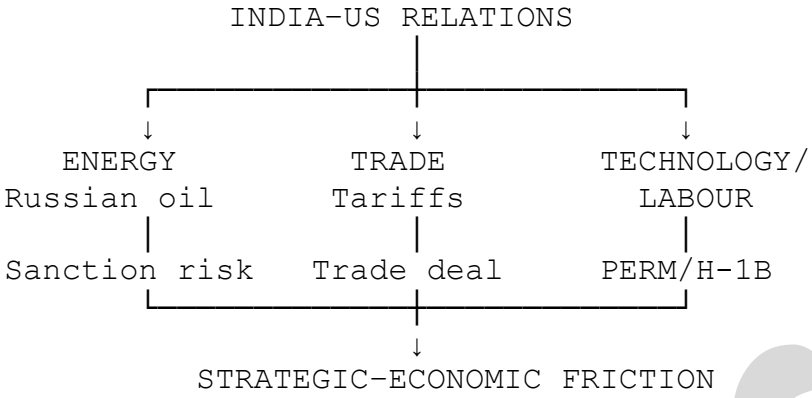
Wider India–US Frictions

Three-front pressure



- India–US trade negotiations have reached what Finance Minister Nirmala Sitharaman described as a **"plateau"**, while the US Trade Representative has said an agreement is not imminent.
- Russian energy purchases and possible additional US tariffs further complicate negotiations.

Mains Analysis: Implications & Way Forward

Challenges: Skilled-labour mobility restrictions → higher localisation costs → pressure on IT competitiveness → uncertainty over services exports and bilateral economic relations.

Way Forward

- Diversify IT export destinations beyond excessive dependence on the US.
- Shift towards **AI, cloud, cybersecurity, R&D and high-value digital services**.
- Increase local hiring and global delivery centres.
- Pursue mobility of skilled professionals within trade negotiations.
- Maintain dialogue while protecting India's **energy security and strategic autonomy**.

Mains Takeaway

India–US economic relations are increasingly multidimensional: trade in goods, energy security, services exports and movement of skilled professionals are interconnected. India therefore needs diversification, technological upgrading and sustained economic diplomacy rather than dependence on any single market.

IMPULSE

13.10.2026

Siang Upper Multipurpose Project: Development–Security–Tribal Rights Dilemma

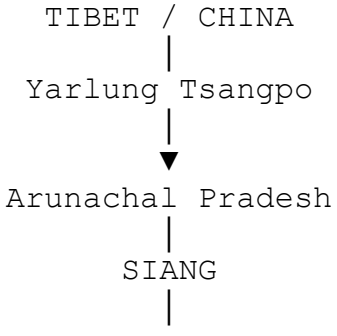
Brief

- Protests have intensified against the proposed **11,200-MW Siang Upper Multipurpose Project (SUMP)** in Arunachal Pradesh.
- The project is at the **pre-feasibility stage**, while surveys and drilling have faced opposition from the indigenous **Adi community**.
- The controversy represents a three-way conflict: **national security + energy/water security vs tribal rights + ecological sustainability**.

Prelims Pointers

- **River:** Siang, Arunachal Pradesh.
- **Yarlung Tsangpo (Tibet) → Siang (Arunachal Pradesh) → Brahmaputra (Assam).**
- Proposed capacity: **11,200 MW**.
- Proposed dam height: **280–300 m**.
- Live storage: around **9.2 billion cubic metres**.
- Purpose: **hydropower generation + storage/regulation of downstream flows**, including risks associated with upstream developments.
- India and China established a mechanism in **2002 for sharing flood-season hydrological data**, according to the article.
- China approved a proposed **60,000-MW Lower Yarlung Tsangpo hydropower project** in December 2024, comprising five cascade stations.

River Map



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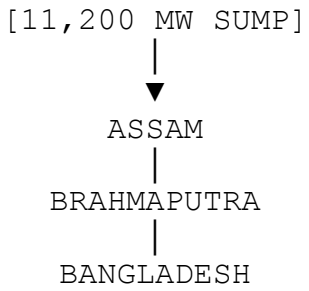


Why is the Project Strategically Important?

China Factor

Chinese upstream dams

↓

Concerns over flow variability / sudden releases

↓

Need for downstream storage & regulation

↓

Siang Upper Multipurpose Project

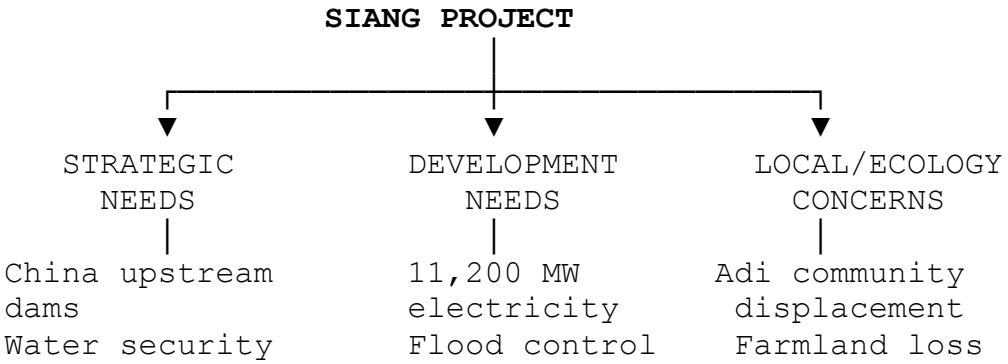
India views storage capacity as potentially strengthening **water security, flood moderation and energy security** in a strategically sensitive border region.

However, critics argue that a "first-user right" is difficult to establish under international law and favour **information sharing and joint impact assessment**.

Why are Local Communities Protesting?

- **Displacement:** Possible submergence of Adi villages.
- **Livelihood:** Loss of agricultural and ancestral land.
- **Culture:** Land is closely linked with indigenous identity and heritage.
- **Ecology:** Concerns about disruption of the fragile Himalayan river ecosystem.
- **Governance:** Protesters demand transparency and meaningful consultation.
- Security deployment and arrests have further increased distrust.

Magic Mind Map



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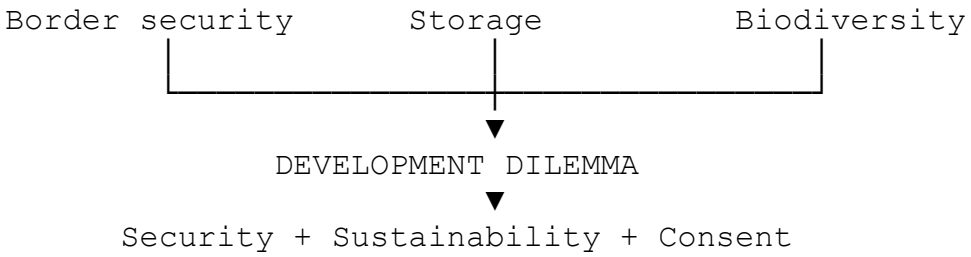


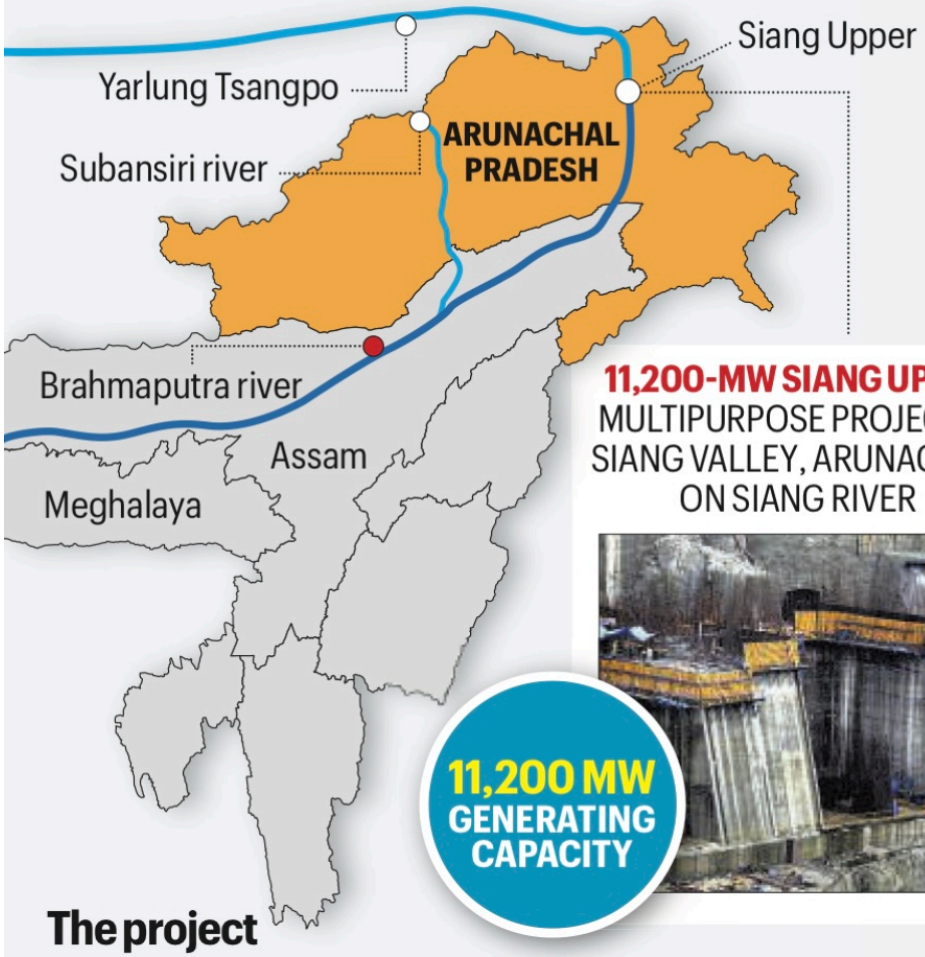
Mains: Way Forward

- Ensure **meaningful and informed consultation** with affected tribal communities.
- Conduct credible **environmental and cumulative basin-impact assessments**.
- Develop fair rehabilitation, compensation and livelihood-restoration mechanisms.
- Strengthen India–China **hydrological data sharing and disaster-warning mechanisms**.
- Examine alternative project designs and ecological-flow requirements.
- Combine strategic infrastructure with constitutional protection of tribal interests.

Conclusion: The Siang debate is not simply **"dam versus no dam"**. India must reconcile **strategic water security with Himalayan ecology, federal governance and indigenous rights**, making local communities stakeholders rather than passive recipients of development.

IMPULSE

• DAMNING A RIVER



11,200-MW SIANG UPPER MULTIPURPOSE PROJECT IN SIANG VALLEY, ARUNACHAL, ON SIANG RIVER

11,200 MW GENERATING CAPACITY

The project

280-300 mtrs
Dam height

RATIONALE: Power generation and water storage to regulate downstream flows and reduce risks from sudden upstream releases from China

9.2 bn cubic mtrs
Live Storage

IMPACT: Submergence of Adi villages and farmland, cultural displacement, loss of livelihoods and ecological disruption

STATUS: PRE-FEASIBILITY STAGE

INS Mangrol:
Boost to India's Coastal Anti-Submarine Warfare

Brief

- The Indian Navy commissioned **INS Mangrol**, the **third Mahe-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC)**, at the Naval Dockyard, Mumbai.
- It strengthens India's ability to **detect, track and counter submarines in shallow and confined coastal waters**, particularly near ports and strategic maritime infrastructure.

Prelims Pointers

- **Class:** Mahe-class ASW-SWC.
- **Builder: Cochin Shipyard Limited (CSL), Kochi**.
- **Indigenisation:** More than **80% indigenous content**.
- **Role:** Coastal/shallow-water anti-submarine warfare (ASW).
- **Replaces:** Ageing **Abhay-class corvettes**.
- **Propulsion:** Three diesel engines + **waterjet propulsion** → high manoeuvrability.
- **Named after: Mangrol**, coastal town in Gujarat's Junagadh district.

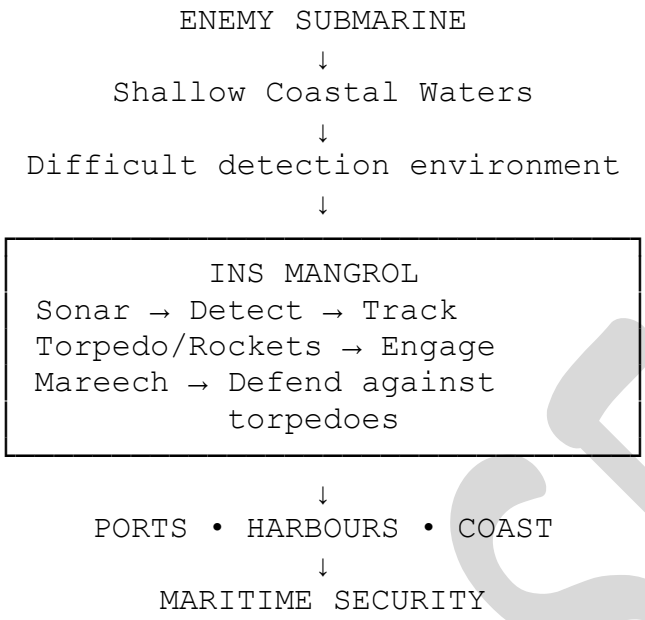
Key Weapon & Sensor Systems

System	*Function*
Abhay hull-mounted sonar	Detects/tracks underwater targets
Lightweight torpedoes	Engages hostile submarines
Indigenous ASW rocket launcher	Anti-submarine attack
Mareech Advanced Torpedo Decoy System	Countermeasure against incoming torpedoes

Prelims Trap: **Sonar uses sound waves**, not electromagnetic waves, for underwater detection.

IMPULSE

Why Shallow-Water ASW Matters



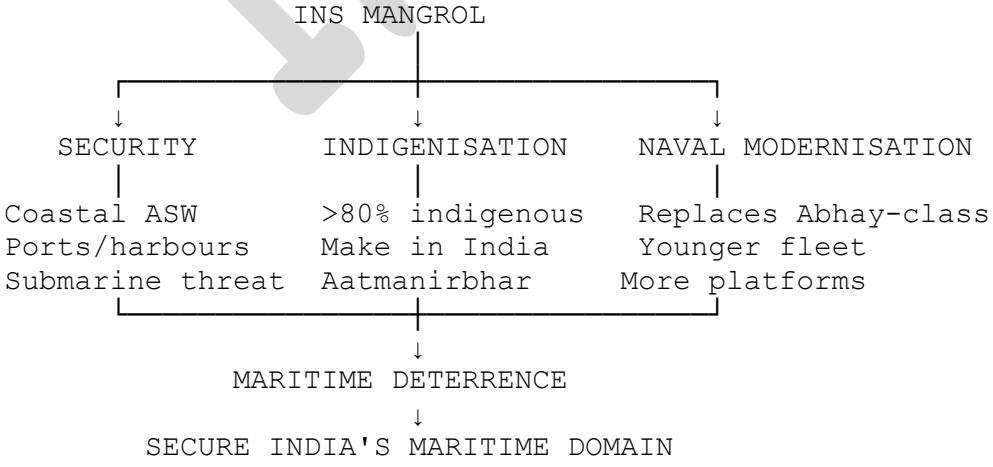
Shallow coastal waters can restrict the effectiveness and manoeuvrability of larger warships. Specialised ASW-SWCs provide surveillance and submarine-hunting capabilities closer to shore.

Wider Operational Roles

INS Mangrol can undertake:

- **Underwater surveillance**
- Low-intensity maritime operations
- **Mine-warfare tasks**
- Protection of ports and harbour approaches
- Coordinated ASW operations with **maritime patrol aircraft, helicopters and other naval vessels**

Strategic Significance – Mind Map



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Navy Modernisation

- Navy currently has **151 platforms** — 131 ships + 20 submarines.
- **42 ships** are under construction at Indian shipyards.
- Acceptance of Necessity (AoN) has been accorded for another **69 ships, 6 submarines and 120 Fast Interceptor Craft**.
- Fleet is projected to exceed **170 platforms** in coming years.

Mains Perspective

INS Mangrol demonstrates the convergence of **maritime security and defence indigenisation**. Indigenous construction reduces import dependence, develops domestic shipbuilding capabilities and supports technological self-reliance.

Way Forward: Strengthen indigenous sonar and underwater-domain awareness, autonomous underwater systems, submarine capabilities and integration among ships, aircraft, helicopters and seabed sensors.

UPSC Takeaway

INS Mangrol = Coastal ASW capability + indigenous shipbuilding + naval modernisation + Aatmanirbhar Bharat → stronger maritime security.

• NOBEL MEDICINE PRIZE 2026

How scientists used light to control brain cells

The work laid the foundation for optogenetics, which has expanded knowledge of how the brain functions, and could help develop new therapies

• 'For their discoveries concerning light-gated ion channels and optogenetics'



"Optogenetics... fundamentally altered our understanding of the brain," the press release said. It credited the three for ushering in a new era in neuroscience.



KARL DEISSEROTH, 54
The Howard Hughes Medical Institute and Stanford University



PETER HEGEMANN, 71
Humboldt University of Berlin, Germany



GEORG NAGEL, 73
University of Würzburg, Germany

ON TUESDAY: NOBEL PRIZE IN PHYSICS

Why the field matters

'Optogenetics has given us an extremely powerful way to switch on and off the neurons and see what happens.

It has allowed us to manipulate nerve cells and study its effects with an unprecedented level of precision,' said Vidita Vaidya, senior professor, Tata Institute of Fundamental Research.

Optogenetics:
How Scientists Used Light to Control Brain Cells

Brief

- **2026 Nobel Prize in Physiology or Medicine** was awarded to **Karl Deisseroth, Peter Hegemann and Georg Nagel** for discoveries concerning **light-gated ion channels and optogenetics**.
- Their work transformed neuroscience by enabling scientists to **control specific nerve cells using light**.

💡 What is Optogenetics?

Optogenetics = Genetics + Optics

- A technique to **control the activity of specific cells, especially neurons, using light**.
- Scientists introduce genes encoding **light-sensitive proteins (opsins)** into targeted cells.
- Light then acts as an **ON/OFF switch** for cellular electrical activity.

✨ *Magic Diagram*

Target neuron
↓
Introduce gene for light-sensitive opsin
↓
Neuron produces OPSIN

↓
Light → Opsin activated
↓
Ion channels open/close
↓
Electrical activity changes
↓
Neuron ON / OFF
↓
Observe behaviour

🦠 The Scientific Breakthrough

1. *Peter Hegemann*
   - Studied the green alga **Chlamydomonas**.
   - It rapidly swims towards light.
   - Proposed that a **single protein could both detect light and trigger a rapid cellular response**.

2. *Georg Nagel*
   - Expressed candidate algal proteins in **frog egg cells**.
   - Demonstrated that **channelrhodopsin-2 (ChR2)** makes cells **light-sensitive**.
   - Established the role of **light-gated ion channels**.

3. *Karl Deisseroth*
   - Applied ChR2 to **nerve cells**.
   - Demonstrated that light could precisely control neuronal activity.
   - Subsequently used the technique in animals to study **behaviour and brain circuits**.

🧠 From Algae → Brain

Chlamydomonas
↓
Light-sensitive proteins
↓
Channelrhodopsin-2 (ChR2)
↓
Genetically introduce opsin into neurons
↓
Illuminate selected neurons
↓
Precise neuronal activation/inhibition
↓
Understand brain circuits

IMPULSE

🔑 Francis Crick's Idea

- **Francis Crick** proposed that selectively activating individual neurons could help understand **consciousness and brain function**.
- He recognised that the **speed of neural signalling** made light-based manipulation particularly attractive.

🎯 Why Does Optogenetics Matter?

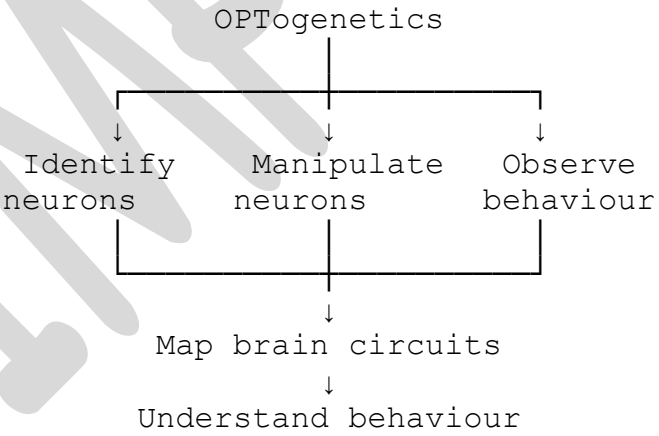
It allows scientists to establish a much stronger link between:

Specific neuron → Neural circuit → Behaviour

It has helped investigate circuits involved in:

- 🧠 **Memory**
- 😨 **Fear**
- ❤️ **Reward**
- 💧 **Thirst**
- 🍽️ **Food consumption**
- 👥 **Social behaviour**
- 🎯 **Attention**
- ⚡ **Pain**

🪄 *Magic Diagram*



🏥 Therapeutic Potential

👁️ *Vision*

- Clinical research is exploring optogenetic approaches for **retinitis pigmentosa**, which destroys retinal photoreceptors.

IMPULSE

- Light-sensitive proteins + specialised glasses can potentially restore limited visual perception.

👂 *Hearing*

- Potential to improve **cochlear implants**.
- Conventional implants stimulate the auditory nerve electrically; optogenetic approaches could potentially provide **more precise stimulation**.

⚠️ *Present limitation*

- Optogenetics remains **predominantly a laboratory research tool**, especially for understanding neural circuits in animals.
- Translation to widespread human therapy requires further evidence regarding **safety, gene delivery and long-term effects**.

📌 Prelims Pointers

- **Optogenetics → light-controlled genetically modified cells**
- **Opsins → light-sensitive proteins**
- **ChR2 → channelrhodopsin-2**
- **Source organism → Chlamydomonas**
- **Hegemann → algal light response**
- **Nagel → demonstrated light-sensitive channel**
- **Deisseroth → neuronal application**
- **Francis Crick → conceptual precursor**
- **Major field → Neuroscience**

🧠 One-line takeaway

Optogenetics converts light into a precise tool for manipulating selected neurons, allowing scientists to connect specific neural circuits with behaviour and potentially develop new therapies.

IMPULSE

• NOBEL PRIZE IN PHYSICS

Through 'ghost particles' in ice, window to universe

Francis Halzen found a new way to study neutrinos, the elusive particles that can reveal the mysteries of the cosmos, under Antarctic ice sheets

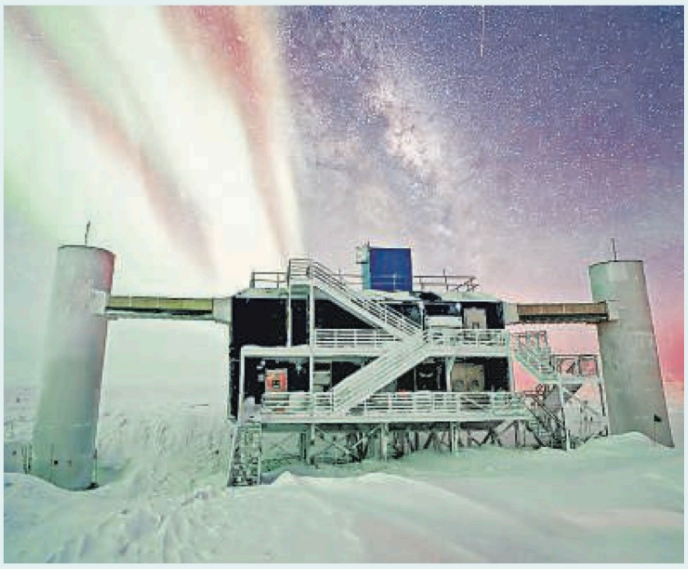
• 'For decisive contributions to the IceCube Neutrino Observatory and the discovery of high-energy neutrinos of astrophysical origin'



"His idea was to use glacial ice at the South Pole to capture the secretive particles called neutrinos. The result was the IceCube Neutrino Observatory, which can track neutrinos that originate in the distant cosmos."



FRANCIS HALZEN, 82
University of Wisconsin-Madison, Madison, US.



The IceCube Neutrino Observatory at the Amundsen-Scott South Pole Station, in Antarctica. ICECUBE/NSF

ON WEDNESDAY:
NOBEL PRIZE IN CHEMISTRY

'Shy' particles

Neutrinos are difficult to detect because of their extremely low propensity to interact with matter.

They simply pass through dense regions without disturbance. Nearly 65 billion neutrinos pass through your fingernails every second.

Neutrinos & IceCube:
A New Window to the Universe

🔭 Brief

- **2026 Nobel Prize in Physics** awarded to **Francis Halzen** for decisive contributions to the **IceCube Neutrino Observatory** and discovery of **high-energy neutrinos of astrophysical origin**.
- His work transformed **neutrinos from "ghost particles" into astronomical messengers**.

👻 What are Neutrinos?

- **Subatomic particles** produced mainly in **nuclear reactions**, including those occurring in stars.
- Among the **most abundant particles in the universe**, second only to photons.
- Have:
  - **Tiny mass**
  - **No electric charge**
  - **Extremely weak interaction with matter**
- Hence, billions pass through the **Earth and human body** without interaction.

🧠 *Why are they important?*

Dense cosmic environment
↓
Photons may be absorbed/scattered ❌
↓
NEUTRINOS pass through ✓
↓
Carry information from inaccessible regions
↓
New window to the Universe

🧊 IceCube Neutrino Observatory

Halzen's key insight

Instead of constructing an entirely artificial detector:
Use ~1 cubic kilometre of Antarctic glacial ice as a natural detector.

IMPULSE

Magic Diagram

High-energy neutrino
↓
Enters Antarctic ice
↓
Rare interaction with atomic nucleus
↓
Charged particle produced
↓
Travels faster than light in ICE*
↓
Cherenkov light (faint blue glow)
↓
5,000+ optical sensors detect it
↓
Energy + direction of neutrino reconstructed

***Important Prelims point:** The charged particle can exceed the **speed of light in ice**, but not the speed of light in vacuum. This produces **Cherenkov radiation**.

IceCube

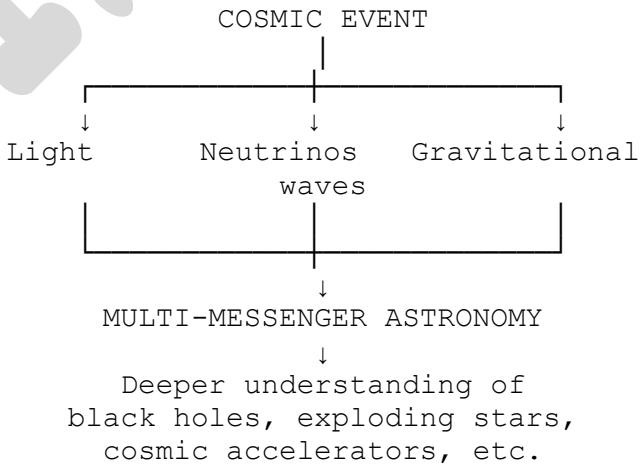
- Located at the **Amundsen–Scott South Pole Station, Antarctica**.
- Uses **more than 5,000 optical sensors** embedded deep in ice.
- Became operational in **2011**.
- **2013:** provided evidence for **high-energy astrophysical neutrinos** originating beyond the Solar System.

Why is Neutrino Astronomy Revolutionary?

Traditional astronomy

Visible light → Electromagnetic spectrum → Cosmic rays → Gravitational waves

Neutrinos add another independent messenger.



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Why neutrinos are unique

- Can escape **extremely dense and violent environments**.
- Travel across vast cosmic distances with relatively little interaction.
- Can reveal regions **invisible to conventional telescopes**.

🇮🇳 India & Neutrino Research

- **India-based Neutrino Observatory (INO)** is a proposed major neutrino research facility.
- Its development has faced **land acquisition, environmental and local opposition issues**.
- Location has been proposed in **Tamil Nadu**, but the project remains delayed.

🎯 Prelims Pointers

- **Neutrino → electrically neutral + tiny mass + weak interaction**
- **IceCube → Antarctica**
- **Detector medium → Antarctic ice**
- **Signal → Cherenkov light**
- **2013 → high-energy astrophysical neutrino evidence**
- **Halzen → IceCube**
- **Multi-messenger astronomy → light + neutrinos + gravitational waves + cosmic rays**

🔑 Mains Takeaway

IceCube demonstrates that astronomy need not rely solely on light: neutrinos can act as messengers from otherwise inaccessible cosmic environments, opening a new frontier in multi-messenger astronomy.

IMPULSE

• NOBEL PRIZE IN CHEMISTRY

Mirror-image molecules and the chemistry of life

Some molecules exist in two forms, but life's building blocks use only one. Soai and Kagan showed how to make just that form in labs — crucial for medicines

• 'FOR THE DISCOVERY OF NON-LINEAR EFFECTS AND AUTOCATALYSIS IN ASYMMETRIC ORGANIC SYNTHESIS'



"Like hands, all amino acids exist as two mirrored variants, but only one of them is found in the proteins in your cells. The other is rarely found in nature."



HENRI B KAGAN, 96
Professor Emeritus at then Université Paris-Sud, France



KENSO SOAI, 76
Professor Emeritus at Tokyo University of Science, Japan

WHEN MIRROR-IMAGE MOLECULES HARMED BABIES

A DRUG FOR MORNING SICKNESS: Thalidomide was introduced in the late 1950s and marketed by a West German pharma company as a sedative. It was widely prescribed, including to pregnant women for morning sickness.



BIRTH DEFECTS: By 1961, doctors had linked the drug to severe birth defects. Thousands of babies across 46 countries were affected, many with phocomelia, in which limbs are severely shortened or absent.

THE MIRROR-IMAGE PROBLEM: Thalidomide exists as two mirror-image molecules, or enantiomers. One caused birth defects while the other produced the desired effects. Later, it was found the two forms can interconvert (change into each other) in the body.

ON THURSDAY: NOBEL PRIZE IN LITERATURE

Some key terms

Chirality: The phenomenon of molecules existing in mirror-image forms — much like your left and right hands.

Homochirality: The preference for one mirror-image form of a molecule in life forms.

Chirality & the Chemistry of Life

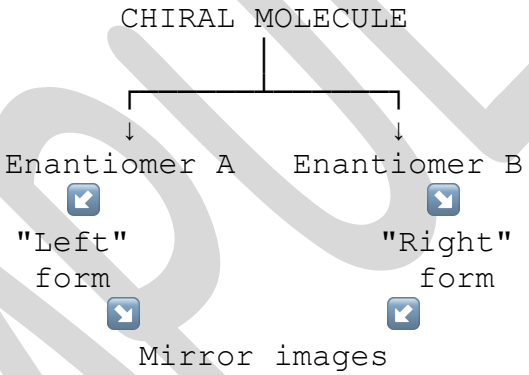
Brief

- **2026 Nobel Prize in Chemistry** awarded to **Henri B. Kagan and Kenso Soai** for work on **non-linear effects and autocatalysis in asymmetric organic synthesis**.
- Their work explains how chemical reactions can preferentially produce **one mirror-image form of a molecule**, with major implications for **biology and pharmaceuticals**.

🪞 What is Chirality?

Chirality

- Certain molecules exist in **two mirror-image forms** that cannot be superimposed.
- These forms are called **enantiomers**.
- Analogy: **Left hand ↔ Right hand**



🔑 *Important*

- Enantiomers have the **same molecular formula and connectivity** but different **3-D spatial arrangements**.
- They can interact differently with biological systems.

🧬 Homochirality in Life

Homochirality = biological preference for one enantiomer over its mirror image.

Examples:

- **Amino acids in proteins → predominantly one enantiomeric form**
- **Sugars in DNA → predominantly one specific form**

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Why important?

Chiral molecule
↓
Two possible enantiomers
↓
Living systems preferentially use ONE
↓
HOMOCHIRALITY
↓
Key feature of biological chemistry

The origin of this preference remains an important **scientific question**.

What did Kagan & Soai Discover?

Henri Kagan

- Studied **asymmetric synthesis**.
- Showed that the relationship between the chirality of a catalyst and the asymmetry of the product is **non-linear**.
- Even a **small chiral influence** in a catalyst could produce a much larger imbalance between enantiomers.

Kenso Soai

- Advanced the concept through **autocatalysis**.
- In autocatalysis, the **product itself acts as a catalyst** for further production.

Initial tiny chiral imbalance
↓
Chiral product
↓
Acts as its own catalyst
↓
Produces MORE same enantiomer
↓
Amplification
↓
Strong enantiomeric excess

- His experiments produced about **99.5% of one enantiomer**.
- This demonstrated that strong molecular asymmetry could emerge through **chemical processes**, not only biological systems.

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💊 Why Does Chirality Matter in Medicine?

Different enantiomers can have **very different biological effects** because biological molecules themselves are chiral.

⚠️ *Thalidomide example*

- Thalidomide existed as two enantiomers.
- One was associated with the desired effects, while the other was associated with severe **birth defects**.
- Crucially, the two forms can **interconvert inside the body**, making the simple idea of separating one "safe" enantiomer insufficient.

Pharmaceutical significance

Earlier:

Mixture of enantiomers → separation → desired drug

Now:

Asymmetric synthesis → preferentially produce desired enantiomer

➡️ **Less waste + lower cost + greater precision**

🌾 Wider Applications

Asymmetric synthesis is important for producing:

- 💊 **Medicines**
- 🌸 **Fragrances**
- 🍓 **Flavours**
- 🌾 **Agricultural chemicals/pesticides**

🎯 Prelims Quick Revision

- **Chirality → mirror-image molecular forms**
- **Enantiomers → non-superimposable mirror images**
- **Homochirality → preference for one enantiomer in biological systems**
- **Asymmetric synthesis → preferential formation of one enantiomer**
- **Autocatalysis → product catalyses further reaction**
- **Kagan → non-linear asymmetric effects**
- **Soai → asymmetric autocatalysis**
- **Major application → pharmaceuticals**

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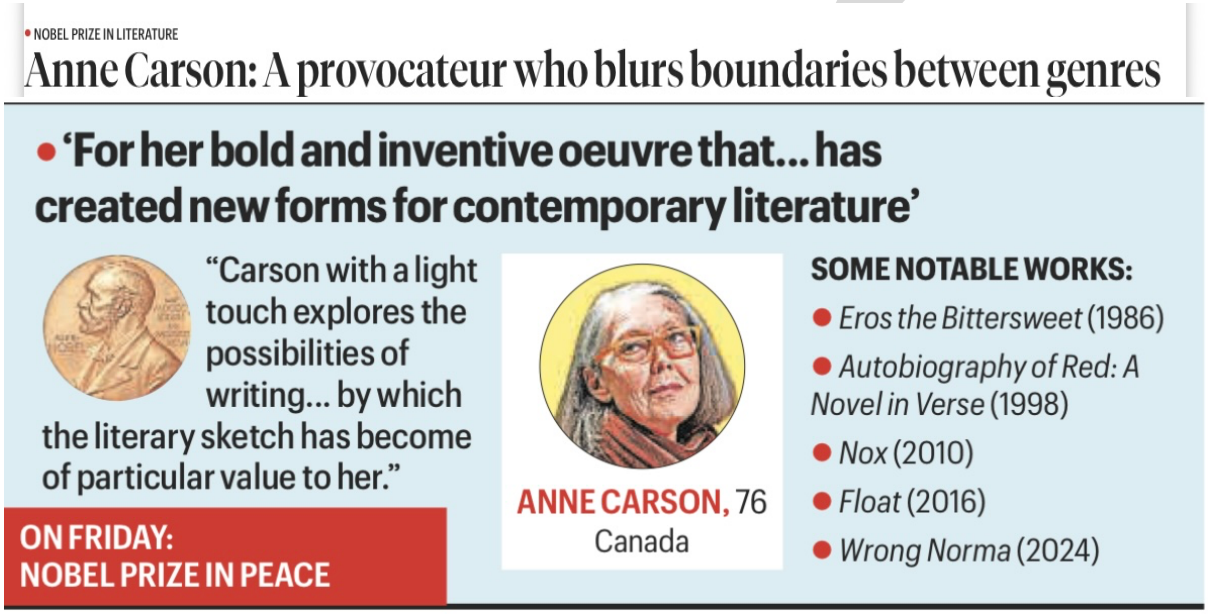
🧠 Mains Takeaway

Kagan and Soai demonstrated that molecular asymmetry can be chemically generated and amplified, providing both a window into the puzzle of biological homochirality and a powerful route for the precise manufacture of chiral medicines and other biologically active chemicals.



NOBEL PRIZE IN LITERATURE 2026 — ANNE CARSON

Brief

- **Anne Carson**, Canadian poet, classicist, essayist and translator, won the **2026 Nobel Prize in Literature**.
- Nobel citation: honoured for her **"bold and inventive oeuvre"** that, through dialogue with the **classical tradition**, creates **new forms for contemporary literature**.
- Her central approach: writing as a way to **"find out what I think about something."**

🔷 Who is Anne Carson?

- **Born:** 1950, Toronto, Canada.
- **Academic background:** Classics, University of Toronto.

- **Doctoral research:** Ancient Greek poet **Sappho**.
- Her writing draws heavily upon **Ancient Greek literature and mythology**, while challenging conventional literary categories.
- Works across **poetry, fiction, essays, translation and memoir**.

🏛️ *Classical Roots → Contemporary Literature*

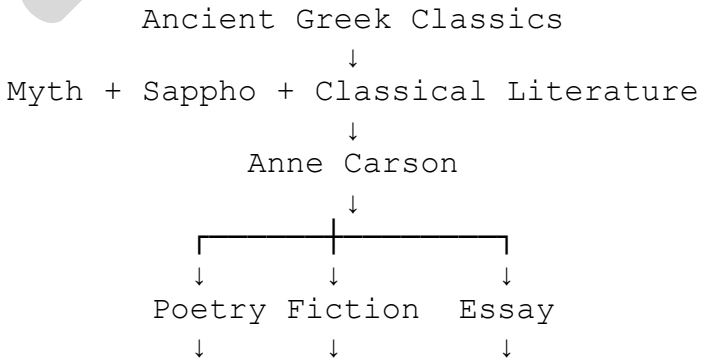
Carson uses ancient Greek texts not merely to preserve the past but to **reinterpret contemporary experiences** such as desire, love, sexuality, grief and identity.

🔷 Major Works & Significance

Work	*Key significance*
Eros the Bittersweet (1986)	Explores **desire and distance** through classical Greek thought
Autobiography of Red (1998)	**Novel in verse**; reimagines myth of Geryon and Herakles
The Beauty of the Husband (2001)	Explores marriage/desire through an unconventional literary form
Red Doc> (2013)	Revisits characters from *Autobiography of Red*
Nox (2010)	Combines **photographs, letters, translation, fragments and handwriting** to explore grief
Float (2016)	Experimental collection
Wrong Norma (2024)	25 poetic-prose pieces; won the **National Book Critics Circle Award for Poetry (2025)**

🔷 What makes Carson distinctive?

Magic Diagram



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Translation + Memoir
↓
Genre boundaries blurred
↓
New forms for contemporary literature

Key Features

- **Genre-fluid:** poem → essay → translation → autobiography.
- **Classical + contemporary:** ancient myths illuminate modern emotions.
- **Experimental forms:** fragments, photographs, prose, verse and handwritten material.
- **Emotional restraint:** explores **desire, abandonment and grief** without conventional confessional writing.
- **Intellectual + emotional:** challenges the traditional separation between the two.

🔷 Prelims Pointers

- **Anne Carson → Canada**
- **Field:** Poetry, Classics, Essay, Translation
- **Sappho:** major influence and subject of her doctoral work.
- **Geryon & Herakles:** central to *Autobiography of Red*.
- **Nox:** grief + photographs + letters + translation + fragments.
- **Eros the Bittersweet:** desire, distance and classical Greek thought.

🔷 Mains Takeaway

Anne Carson represents literary innovation through the fusion of classical heritage with contemporary concerns, demonstrating that literature can transcend rigid boundaries of genre, form and time.

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• NOBEL PEACE PRIZE

Why jurist Navi Pillay's work matters for a world facing 'existential challenges'

• 'For her efforts to promote peace, international law'

"...has been instrumental in ensuring that war crimes, crimes against humanity and genocide are prosecuted."





NAVANETHEM 'NAVI' PILLAY, 85
South Africa

NOBEL PEACE PRIZE 2026 — NAVANETHEM "NAVI" PILLAY

Brief

- **Navi Pillay (85)**, South African jurist, was awarded the **2026 Nobel Peace Prize** for her efforts to promote **peace through international law, justice and accountability**.
- Nobel Committee highlighted her **"exceptional courage and integrity"** and her role in ensuring that **war crimes, crimes against humanity and genocide are prosecuted**.
- Her career demonstrates the link:
  Justice → Accountability → Human Rights → Sustainable Peace

🔷 Early Life & Anti-Apartheid Struggle

- Born in **South Africa** to a family of **Indian Tamil indentured-labour ancestry**.
- Grew up under **apartheid**, when racial discrimination was embedded in law.
- Became:
  - **First Black woman** to establish a law practice in Natal Province.
  - **First Black woman** to serve on South Africa's High Court.
  - First South African to earn a **doctorate in law from Harvard University**.
- Defended **anti-apartheid prisoners**, including **Nelson Mandela**.

🔷 Landmark International Legal Contributions

🇷🇼 *International Criminal Tribunal for Rwanda (ICTR)*

Pillay served as an **ICTR judge for eight years** following the **1994 Rwandan Genocide**.

Significance:

- Rwanda genocide killed around **800,000 people in ~100 days**.
- ***Tribunal:***
  - Recognised **genocide** through an international judicial process.
  - Interpreted the **Geneva Conventions** in relation to war crimes.
  - Recognised **rape as a means of perpetrating genocide**.
  - Established important precedent concerning **sexual violence in armed conflict**.

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- Held that **media/propaganda can contribute to genocide**, creating accountability for those facilitating mass violence.

🔷 International Law & Palestine

- Served as Chair of the **UN Independent International Commission of Inquiry on the Occupied Palestinian Territory (2021–25)**.
- The Commission reported serious violations and concluded that Israeli authorities/security forces had deliberately targeted Palestinian children, characterising the conduct as genocide.
- Currently an **ad hoc judge at the International Court of Justice (ICJ)** in the case concerning alleged genocide against the **Rohingya in Myanmar**.

🔷 Why Her Work Matters?

🧠 *Magic Diagram*

```
State/Armed-Group Violence
↓
International Law
↓
Investigation + Evidence
↓
Judicial Accountability
↓
War Crimes | Crimes Against Humanity | Genocide
↓
Justice for Victims
↓
Sustainable Peace
```

🔑 *Core Message*

- **Peace ≠ absence of war alone**
- Durable peace requires **justice, human rights and accountability**.
- International law can convert atrocities from **political claims → legally examinable acts**.
- Her career reflects the principle that **justice is integral to post-conflict peacebuilding**.

🔷 Prelims Pointers

- **Navi Pillay → South Africa**
- **ICTR → Rwanda**
- **1994 → Rwandan Genocide**

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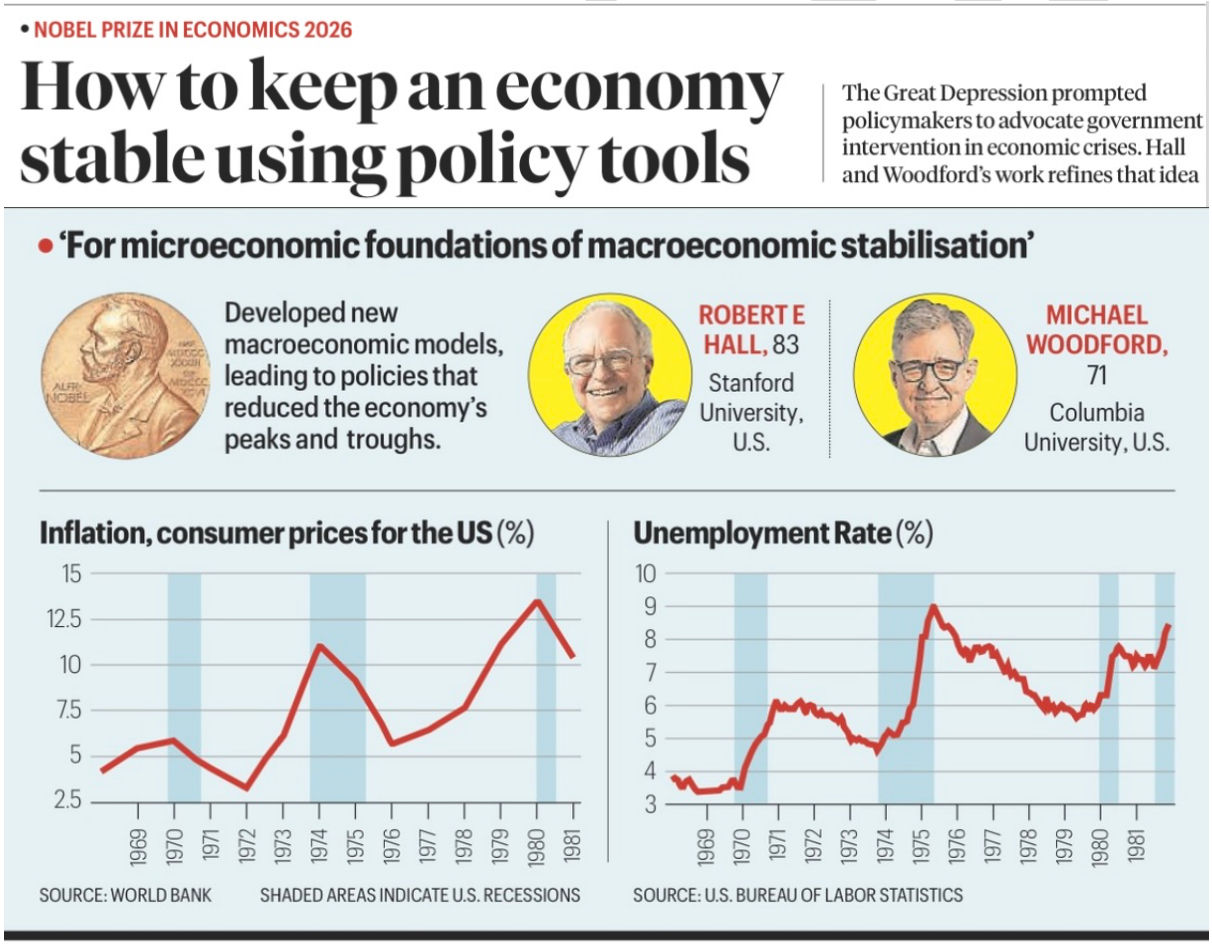
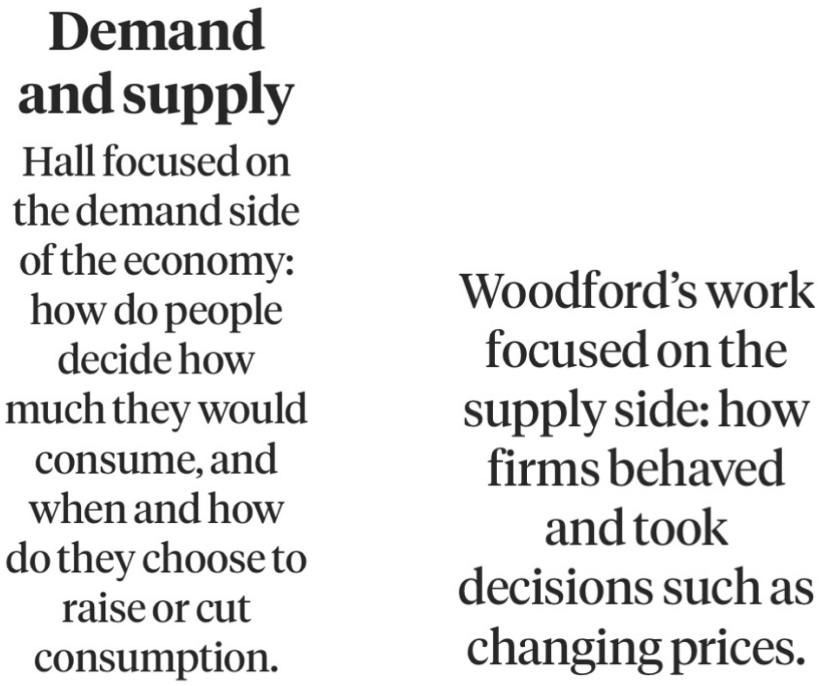
- **ICJ → State-to-State disputes**, including genocide-related cases.
- **International criminal tribunals → individual criminal responsibility**.
- **Apartheid → institutionalised racial discrimination in South Africa**.

🔷 Mains Takeaway

Navi Pillay's career illustrates how international law can strengthen peace by ensuring accountability for genocide, war crimes and crimes against humanity, while placing victims and human dignity at the centre of conflict resolution.





NOBEL PRIZE IN ECONOMICS 2026 — HALL & WOODFORD

Brief

- The **2026 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel** was awarded to **Robert E. Hall** (Stanford University) and **Michael Woodford** (Columbia University).
- Citation: **"for microeconomic foundations of macroeconomic stabilisation."**
- Prize money: **12 million Swedish kronor**.
- Their work strengthened the theoretical and empirical foundations for using **monetary and fiscal policy to reduce economic fluctuations**.

🔷 What is Macroeconomic Stabilisation?

Macroeconomic stabilisation refers to government and central-bank policies aimed at reducing excessive fluctuations in:

- **Inflation**
- **Unemployment**
- **Economic growth**
- **Aggregate demand**

🧠 *Basic Policy Logic*

```
ECONOMY SLOWS
↓
Low demand + High unemployment
↓
Fiscal stimulus + Lower interest rates
↓
Consumption & Investment ↑
↓
Economic recovery

VS.

ECONOMY OVERHEATS
↓
Demand ↑ + Inflation ↑
↓
Higher interest rates + Fiscal restraint
↓
Demand ↓
↓
Inflationary pressure ↓
```

🔷 Why Their Work Became Important?

1. *Great Depression → Keynesian Revolution*

- **1929 Stock Market Crash → Great Depression**
- US GDP fell by about **30%**, while unemployment reached around **25%**.
- The crisis challenged the belief that markets could automatically restore stability.
- **John Maynard Keynes** argued for active government intervention:
  - Recession → lower interest rates, higher public spending, tax cuts.
  - Inflationary boom → tighter monetary/fiscal policy.

2. *Problem of the 1970s*

- The **1970s oil shocks** produced **stagflation** — simultaneously:
  - **High inflation**
  - **High unemployment**
- Simple Keynesian relationships proved inadequate.
- Policymakers needed models based on **actual behaviour of households and firms**.

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🔷 Hall vs Woodford: Micro Foundations

Economist	*Focus*	*Major Insight*	*Policy Significance*
Robert E. Hall	**Demand/Households**	Consumption depends on individual circumstances; not all households respond identically to income expectations	Better understanding of **consumption and fiscal-policy transmission**
Michael Woodford	**Supply/Firms**	Firms do not continuously change prices; pricing depends partly on **future expectations**	**Central-bank communication and interest-rate expectations** affect inflation

🔷 *Hall: Household Behaviour*

- Hall used **microdata** to examine how individual households make consumption decisions.
- His work showed that the assumption of a representative consumer is inadequate.
- **Hand-to-mouth households** may consume a large share of current income rather than smooth consumption based on lifetime expectations.
- Hence, the effect of tax cuts or transfers depends on **who receives them**.

🔷 *Woodford: Firms & Expectations*

- Firms often **adjust prices infrequently**, rather than continuously.
- When setting prices, firms consider **future economic conditions and monetary policy**.
- Therefore, **expectations about future interest rates influence current inflation**.
- This gave strong theoretical support to **central-bank forward guidance and clear communication**.

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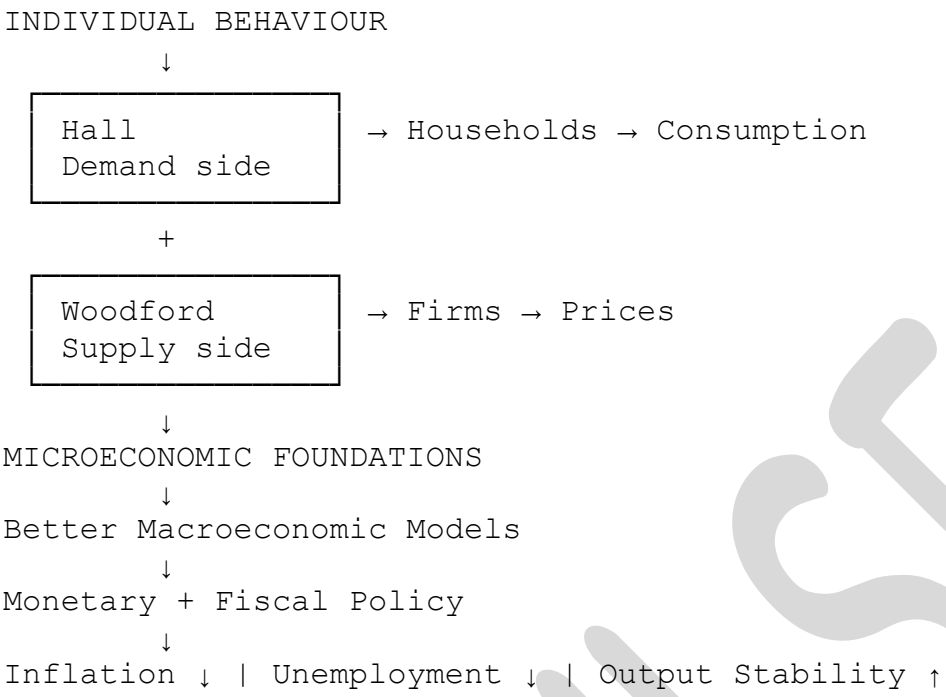
🔷 Magic Diagram: Micro → Macro → Policy



🔷 Significance for India & Global Economy

- **RBI monetary policy:** Interest-rate changes influence consumption, investment and inflation expectations.
- **Fiscal policy:** Tax cuts, transfers and government expenditure can affect aggregate demand differently across households.
- **Forward guidance:** Credible communication helps anchor **inflation expectations**.
- Particularly relevant amid **commodity-price shocks, wars, pandemics, supply disruptions and trade restrictions**.

🔑 Mains Takeaway

Hall and Woodford helped bridge the gap between individual economic behaviour and macroeconomic policy. Their work demonstrates that effective stabilisation requires understanding how households consume, how firms set prices and how expectations shape present economic decisions.

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Nobel Prize

About

- The **Nobel Prize** is widely regarded as the world's most prestigious award for intellectual achievement and humanitarian effort.
- Established by the 1895 will of Swedish inventor and industrialist **Alfred Nobel**, the prizes have been awarded annually since **1901** to individuals and organizations that confer the "greatest benefit to humankind".
- Winners receive a gold medal, a unique diploma, and a cash prize, which is **12 million Swedish kronor** (approximately $1.2 million USD) per category.

Prize Categories & 2026 Laureates

- The original five categories were outlined directly in Nobel's will.
- A sixth award, the **Sveriges Riksbank Prize in Economic Sciences**, was added later in **1968** through a bank donation and is commonly known as the **Economics Nobel.**

Key Historical Facts

- **The Ceremonies:** By tradition, all prizes are presented on **December 10** in **Stockholm, Sweden**, to mark the anniversary of Alfred Nobel's death. The lone exception is the **Nobel Peace Prize**, which is selected by a **Norwegian committee** and awarded in **Oslo, Norway**.
- **Multiple Winners:** A handful of rare individuals and groups have won the award more than once. Notably, **Marie Curie** won for both Physics (1903) and Chemistry (1911). The **International Committee of the Red Cross** holds the record for the most honors, having won the Peace Prize three times (1917, 1944, 1963).
- **Rules of Selection:** No more than **three individuals** can share a single Nobel Prize category in any given year. Additionally, the awards cannot be given posthumously unless the recipient dies after the official announcement.

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15.10.2026

IDBI Bank Strategic Stake Sale to Fairfax

Brief

- The **Cabinet Committee on Economic Affairs (CCEA)** has approved the strategic sale of **60.72% stake in IDBI Bank** to Canada-based **Fairfax Financial Holdings** for **₹52,878 crore**.
- As reported, it would constitute the **largest FDI in India's financial sector** and is expected to be completed by **March 2027**.
- Finance Minister Nirmala Sitharaman termed it **"restructuring" rather than complete disinvestment**, since the government will retain a stake.

Prelims Pointers

IDBI Bank

- IDBI was historically a public-sector institution.
- It became a **private-sector bank for RBI regulatory purposes in 2019**, after **LIC acquired majority ownership**.
- **Before proposed sale:**
  - LIC → **49.24%**
  - Government of India → **45.48%**
- **After sale:**
  - Fairfax → **60.72%**
  - LIC → **19%**
  - Government → **15%**

Important: LIC must subsequently reduce its holding from **19% → 15% within two years** of completion of the deal.

Fairfax Financial Holdings

- Toronto-based financial holding company associated with **Prem Watsa**.
- Already owns **40% of CSB Bank** through FIH Mauritius Investments Ltd.
- Since the same promoter cannot continue owning two banks in this manner, Fairfax must, according to the article, **merge CSB Bank with IDBI Bank or exit CSB Bank within two years**.

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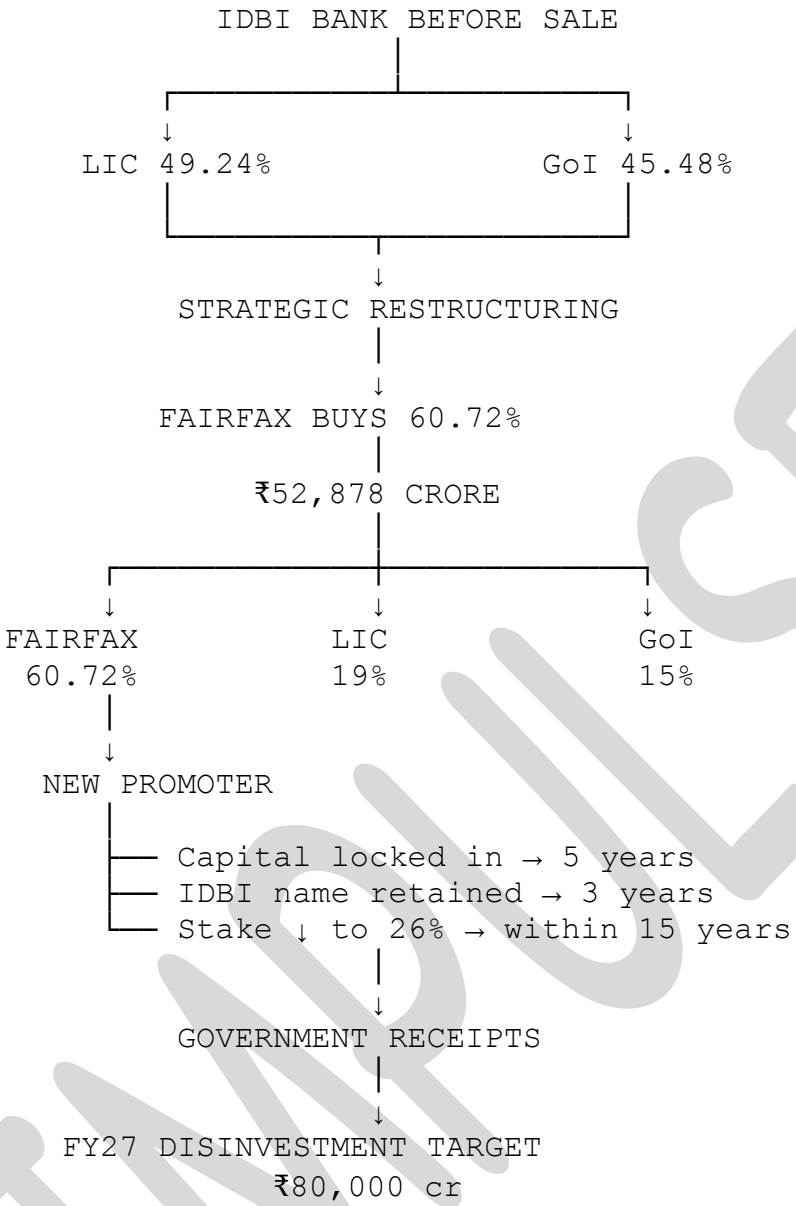
Magic Diagram: Follow the Money & Ownership



Disinvestment vs Privatisation vs Strategic Sale

- **Disinvestment:** Government sells part/all of its equity in a public-sector enterprise.
- **Minority disinvestment:** Government normally retains management control.
- **Strategic disinvestment/sale:** Substantial government stake is sold along with transfer of management/control to a strategic buyer.
- **Privatisation:** Transfer of ownership/control from the public sector to private hands.

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Prelims Trap

Disinvestment ≠ necessarily privatisation.

A government may sell shares while retaining ownership/control. Here, the government retains a **15% residual holding**, although Fairfax becomes the controlling shareholder.

Why is the Deal Significant?

For Government

- Expected proceeds: **₹52,878 crore**.
- FY 2026–27 disinvestment target: **₹80,000 crore**.
- DIPAM had already raised ₹55,757 crore according to the article.
- Residual government shares may subsequently be sold through the open market.

For Indian Financial Sector

- Signals growing **foreign strategic investment** in banking and finance.
- *Can potentially bring:*
    - Capital infusion
    - Managerial expertise
    - Technology and governance improvements
    - Greater competition

Recent foreign investments mentioned in the article include investments by **Emirates NBD, MUFG and SMBC** in Indian financial institutions.

Opportunities vs Concerns

Benefits

FDI ↑ → Capital ↑ → Bank expansion/technology ↑ → Competition & efficiency ↑

- Helps government mobilise non-tax capital receipts.
- Reduces direct government involvement in commercial banking.
- May improve operational efficiency and governance.
- Strengthens India's attractiveness as an investment destination.

Concerns

- Employee unions have raised concerns regarding the valuation and sale.
- Foreign ownership in banking requires strong regulatory oversight.

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- Concentration of ownership raises governance and systemic-risk considerations.
- Strategic sales require **transparent valuation and competitive bidding**.
- Public-interest objectives such as financial inclusion must remain protected.

Institutional Architecture

CCEA → Approves strategic transaction
↓
DIPAM → Manages government disinvestment/public assets
↓
RBI → Banking ownership & regulatory compliance
↓
LIC/GoI → Manage residual stakes

Mains Takeaway

The IDBI transaction illustrates India's shift from government ownership towards strategic private capital in financial intermediation. The success of such restructuring should be judged not merely by fiscal receipts, but by improvements in governance, competition, depositor protection and long-term financial stability.

India's LNG Imports: Oman Replaces US as Top Supplier

Brief

- **Oman emerged as India's largest LNG supplier in September 2026**, followed by Nigeria and the US.
- The reshuffle reflects the **West Asia conflict, disruption around the Strait of Hormuz, European demand for US LNG**, and India's attempt to diversify supply.
- Despite disruptions, India's September LNG imports were **7% higher year-on-year**, indicating resilient demand.

Prelims Pointers

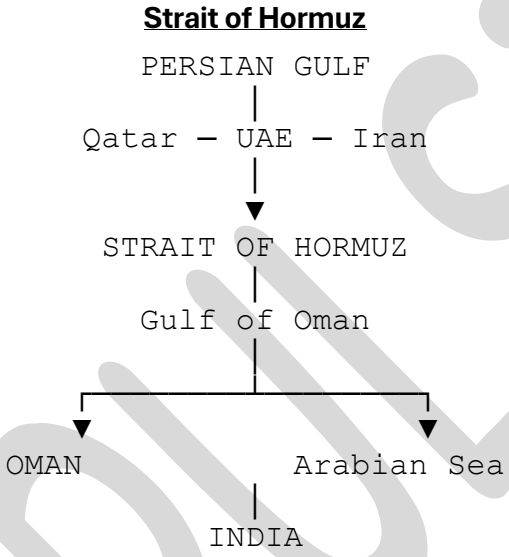
What is LNG?

- **LNG = Liquefied Natural Gas**, predominantly methane.
- Natural gas is cooled to about **−162°C**, reducing its volume substantially and enabling transportation by specialised tankers.
- At the destination → **regasification** → supplied through pipelines.

India's September 2026 Suppliers

- **Oman:** 0.59 million tonnes
- **Nigeria:** 0.35 mt
- **US:** 0.34 mt
- **UAE:** 0.31 mt
- **Qatar:** 0.10 mt

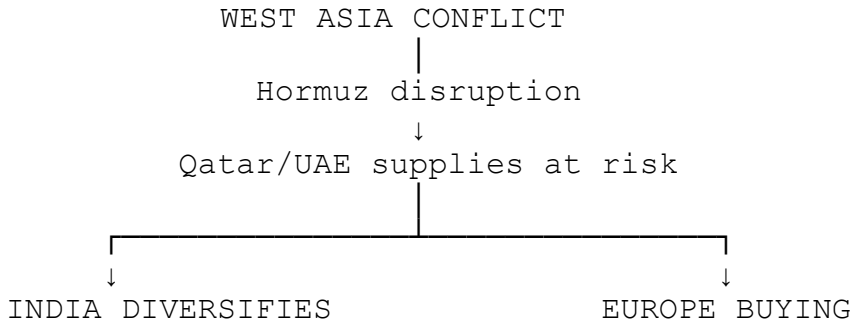
Important: Before the West Asia conflict, **Qatar was India's leading LNG supplier**.



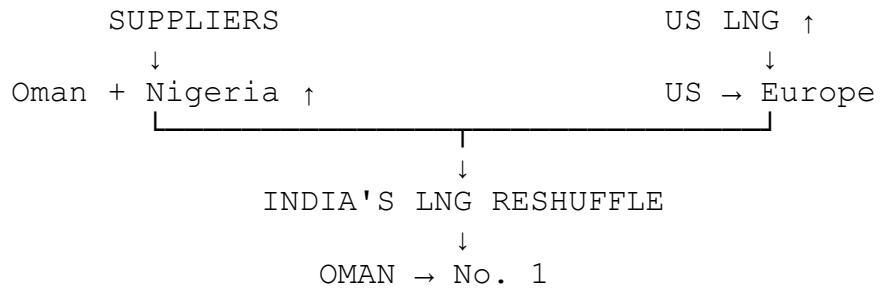
- Strait of Hormuz is a strategic maritime **chokepoint connecting the Persian Gulf with the Gulf of Oman/Arabian Sea**.
- Around **60% of India's LNG imports had come through Hormuz**, primarily from Qatar and the UAE, according to the article.
- **Key advantage of Oman:** Its LNG exports **do not depend on passage through Hormuz**.

Why Has India's LNG Basket Changed?

Magic Flowchart



INSIGHTS



Why Does India Still Need More LNG?

India imports LNG to meet roughly **half of its natural-gas requirement**.

Demand remains resilient because of:

- **City Gas Distribution (CGD)**
- LPG → PNG switching
- Fertiliser production
- Gas-based electricity generation
- Industrial consumption
- Declining domestic natural-gas production
- Lower hydropower availability and pressure on coal-based generation

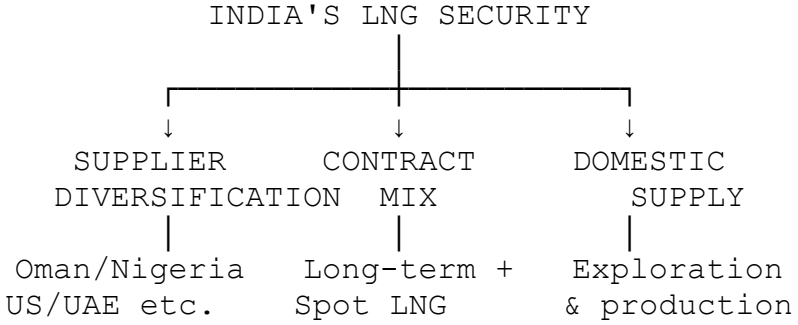
May–September 2026 LNG imports increased **17.8% year-on-year to 11.87 mt**.

Mains Analysis: Energy-Security Implications

Vulnerabilities

- **Import dependence** : Exposure to international prices and geopolitical disruptions.
- **Maritime chokepoints** : Hormuz disruption can threaten physical availability.
- **European competition** : Pre-winter European buying redirects US LNG cargoes and can raise Asian spot prices.
- **Price-security trade-off** :India may have to prioritise **availability over affordability** during crises.

Opportunity: Diversification



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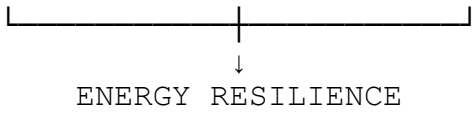


Way Forward

- Diversify suppliers geographically, particularly towards **Hormuz-independent sources**.
- Balance **long-term contracts with spot-market purchases**.
- Expand LNG terminals, pipelines and storage infrastructure.
- Increase domestic natural-gas exploration and production.
- Strengthen maritime security around critical sea lanes.
- Accelerate renewables and energy efficiency to reduce exposure to imported fossil-fuel shocks.

UPSC Mains Takeaway

India's changing LNG basket demonstrates that energy security is not merely about obtaining the cheapest fuel; it requires diversification of suppliers, routes and energy sources to ensure affordability, availability and resilience against geopolitical shocks.

Trump–Putin Diesel Deal: Message for Europe and India

Brief

- US President Donald Trump has reached an arrangement allowing **Russian diesel supplies to return to global markets**, temporarily easing relevant US sanctions restrictions. Trump said the measure was intended to moderate elevated fuel prices.
- This comes shortly after Trump signed the **Lindsey O. Graham Sanctioning Russia and Iran Act, 2026**, which expands US sanctions and authorises tariffs against major purchasers of Russian energy.
- The apparent tension between **sanctions pressure and energy-price considerations** has implications for India and Europe.

Prelims Pointers

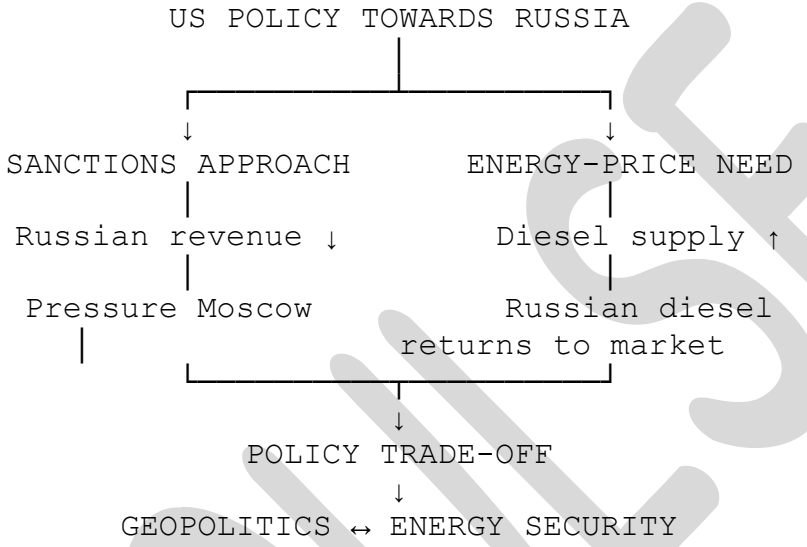
Lindsey O. Graham Act, 2026

- US federal legislation signed on **September 18, 2026**.
- Expands **primary and secondary sanctions** against Russian entities and sanctions-evasion networks.
- Authorises targeted tariffs of **up to 100%** on specified leading importers of Russian-origin crude oil/natural gas and countries facilitating sanctions evasion.

- **Secondary sanctions:** Measures targeting third-country persons/entities conducting specified transactions with a sanctioned country/entity.

Prelims Trap: The Act does **not automatically impose a uniform 100% tariff on every country importing Russian energy**; it provides tariff authority subject to its statutory framework.

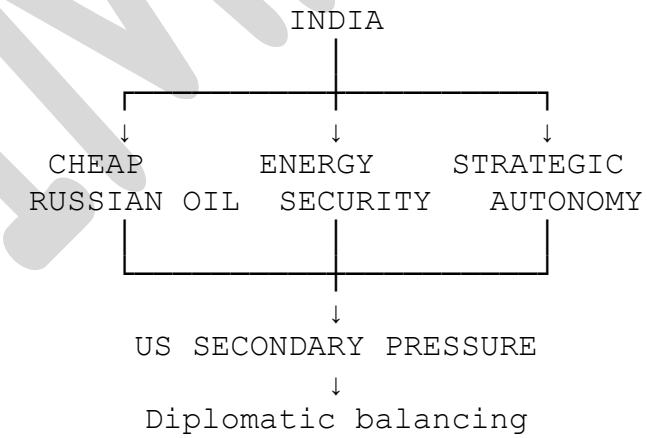
The Central Contradiction



Several US senators have themselves criticised the diesel arrangement and called for implementation of the recently enacted sanctions authorities.

Message for India

Mind Map



- India's core argument has been that energy purchases must account for **affordability, availability and national energy security**.

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- US willingness to permit Russian diesel flows when confronting domestic supply/price pressures strengthens India's case for **consistent treatment of national energy-security concerns**.
- However, India remains exposed to possible **secondary sanctions/tariff measures**, making diversification important.

Message for Europe

*Europe faces a **dual strategic dependence**:*

- **Russian hydrocarbons** → energy vulnerability
- **US security umbrella** → strategic vulnerability

Hence, Europe faces incentives to:

- diversify energy supplies;
- accelerate renewables and energy efficiency;
- strengthen indigenous defence capabilities;
- develop greater **strategic autonomy**, while maintaining transatlantic cooperation.

Mains Analysis: Larger Lessons

Energy as Geopolitical Leverage

```
Russia
↓
Oil & Gas Revenue
↓
War-financing capacity

West
↓
Sanctions
↓
Economic pressure

But ↓

Energy shortage/high prices
↓
Domestic economic pressure
↓
Pressure for exemptions/adjustments
```

Way Forward for India

- Diversify crude oil and LNG suppliers.
- Expand strategic petroleum reserves.

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- Accelerate renewable energy and domestic exploration.
- Promote rupee/local-currency trade where viable.
- Preserve **strategic autonomy** while engaging both the US and Russia.

Mains Takeaway

The episode demonstrates the limits of sanctions when geopolitical objectives collide with domestic energy security. For India, it reinforces the importance of strategic autonomy and diversified energy sourcing; for Europe, it highlights the need to reduce simultaneous dependence on Russian energy and external security guarantees.

Jio Platforms Mega IPO:
Capital Markets, Digital Economy & Telecom

Brief

- Reliance Industries' digital and telecom arm **Jio Platforms Ltd (JPL)** is launching a mega IPO.
- **Issue period: 21–23 October 2026**
- **Price band: ₹1,065–1,119/share**
- **Fresh issue: 27 crore shares**
- Expected mobilisation: **~₹37,700 crore (~$4 billion)** → potentially **India's largest IPO**.
- Implied valuation: roughly **₹9.8–11+ lakh crore**.

IPO Structure – Prelims Focus

- **Fresh Issue:** Company issues **new shares** → money **goes to the company**.
- Unlike **Offer for Sale (OFS)** → existing shareholders sell shares and receive the proceeds.
- Proposed utilisation:
  - **₹27,500 crore → debt repayment**
  - Remaining → **general corporate purposes**.
- Investor allocation includes **≥35% of net issue for Retail Individual Investors (RIIs)**.
- Special reservations are proposed for **eligible RIL shareholders** and **Jio employees**.

Major Indian IPOs

Jio ~₹37,700 cr > Hyundai Motor India ₹27,870 cr > NSE ~₹22,561 cr > LIC ₹21,008 cr

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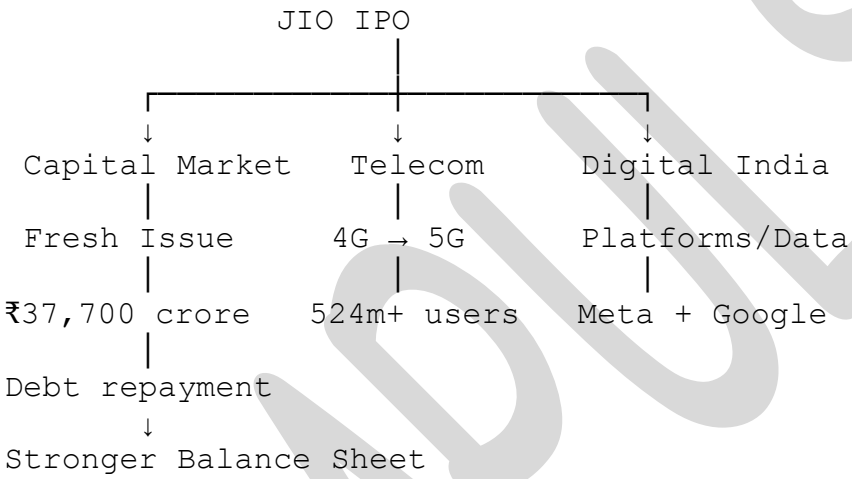
Ownership & Digital Ecosystem

RIL – 66.43%
Meta – 9.98% | Google – 7.73%

- Jio has **524+ million subscribers**.
- **5G subscribers: ~268 million** (March 2026).
- 5G accounts for about **55% of wireless traffic**.
- Jio illustrates convergence of **telecom + digital platforms + data + foreign technology investment**.

🧠 Mind Map



✨ MAGIC DIAGRAM – UPSC Linkage

IPO → Equity mobilisation → Debt reduction → Lower leverage → Investment capacity → Digital infrastructure → Productivity & growth

Mains Significance

- **Capital formation:** demonstrates the capacity of Indian equity markets to mobilise large-scale resources.
- **Deleveraging:** debt repayment can improve corporate balance-sheet resilience.
- **Digital public ecosystem:** expansion of 5G can support **AI, IoT, fintech, cloud services and Industry 4.0**.
- **Financial deepening:** large IPOs broaden opportunities for household participation in equity markets.

INSIGHTS

- **Concerns:** telecom **market concentration**, data privacy, digital divide, cybersecurity and effective competition.

Mains Takeaway

Jio's IPO represents the intersection of financial deepening, corporate deleveraging and India's transition towards a 5G-enabled digital economy.



Facial Recognition, Anti-Surveillance Makeup & Privacy in India

Brief

- Debate over whether **makeup can defeat Facial Recognition Technology (FRT)** highlights the intersection of **AI, surveillance, privacy and policing**.
- Unconventional makeup can sometimes disrupt facial recognition, but **there is no universal or reliable technique** against modern systems.

How Facial Recognition Works — Prelims

Camera image → Face detection → Feature extraction → Face embedding → Database comparison → Match/No match

- AI systems generally do **not simply compare photographs pixel-by-pixel**.
- They convert facial characteristics into a **numerical representation**, called a **face embedding**.
- The embedding is compared with stored templates to estimate identity.
- *Important distinction:*

Face Detection ≠ Face Recognition

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Detection → "Is there a face?"
Recognition → "Whose face is it?"

Makeup may alter facial features enough to affect the **embedding**, while the system may still detect a face.

Can Makeup Defeat FRT?

CV Dazzle

- Artist **Adam Harvey (2010)** experimented with asymmetric makeup, hairstyles and high-contrast patterns to interfere with computer vision.
- Inspired by **World War I "Dazzle" camouflage**, where ships used geometric patterns to confuse enemy observation.

Ben-Gurion University Experiment (2021)

- Researchers demonstrated that **machine-learning-generated makeup patterns** could bypass certain facial-recognition models.
- Crucially, this **does not mean arbitrary makeup reliably defeats FRT**.

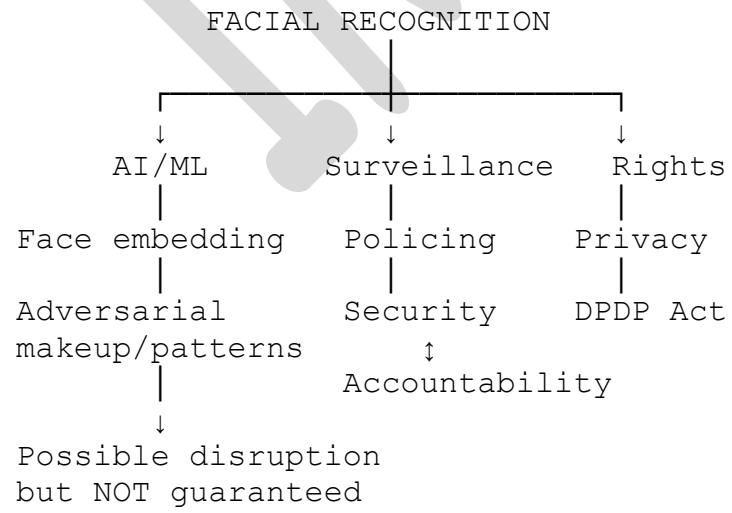
⚠️ *Limitations*

Effectiveness varies with:

Algorithm + Camera quality + Lighting + Face angle + Training data + Matching threshold

- A method effective against **one model may fail against another**.
- Highly unusual makeup may reduce machine recognition but make a person **more conspicuous to humans**.

🧠 Mind Map



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India's Legal Dimension

- **Facial images/digital templates** linked to identifiable individuals can constitute **personal data** under the **Digital Personal Data Protection Act, 2023**.
- **Section 17** provides exemptions from specified obligations in contexts including **prevention, detection, investigation or prosecution of offences**.
- The Union government may exempt notified **State instrumentalities** on grounds such as **security of the State and public order**.
- However, India lacks a **dedicated comprehensive statutory framework specifically governing police use of facial recognition**.

✨ Magic Diagram — Mains

FRT → Better policing/security ↔️ Mass surveillance → Privacy + Bias + Misidentification → Need for legality + necessity + proportionality + oversight

Mains Takeaway

The central issue is not whether cosmetics can outsmart an algorithm, but whether AI-enabled surveillance is accompanied by clear legal authority, proportionality, transparency, safeguards and accountability.

Urban Women's Livelihoods & SHGs: Beyond Welfare to Economic Empowerment

Brief

- The lapse of **Deendayal Antyodaya Yojana–National Urban Livelihoods Mission (DAY-NULM)** without a clear successor has raised concerns over continuity of support for **urban women's Self-Help Groups (SHGs)**.
- Since **2014**, DAY-NULM reportedly facilitated:
  - **10.02 lakh SHGs**
  - covering **1 crore+ urban women**.
- The issue connects **urban poverty alleviation, financial inclusion, women-led development and cooperative federalism**.

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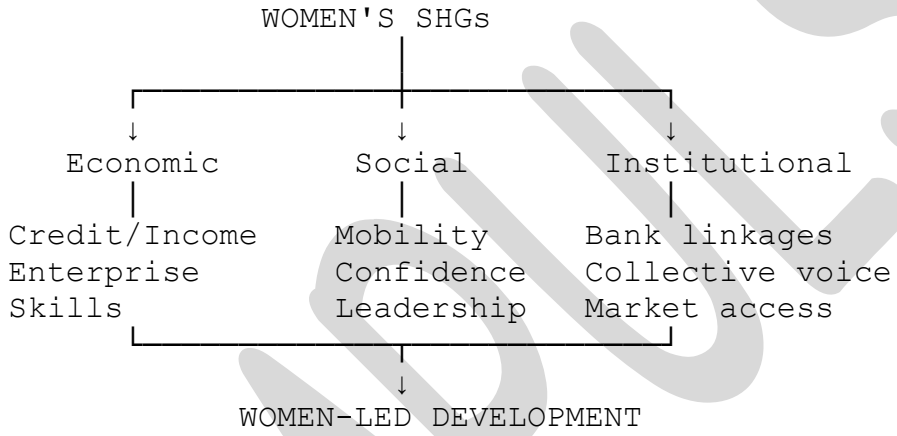
DAY-NULM – Prelims Pointers

- ***DAY-NULM:*** Urban poverty-alleviation/livelihood programme of the **Ministry of Housing & Urban Affairs (MoHUA)**.
- ***Focus:*** enabling the **urban poor to access sustainable self-employment and skilled wage employment**.
- ***SHGs promote:***
  Savings → Bank linkage → Credit → Skills → Enterprise → Sustainable livelihood

Prelims Trap:

DAY-NULM = **Urban** livelihoods; **DAY-NRLM** primarily addresses **rural** livelihoods.

🧠 Why Women's SHGs Matter



Transformative Potential

- **Financial empowerment:** formal credit reduces dependence on informal lenders.
- **Entrepreneurship:** collective enterprises create sustainable income.
- **Financial literacy:** improves savings and household financial management.
- **Agency:** income can strengthen women's role in **household decision-making**.
- **Social capital:** SHGs create networks, leadership and collective bargaining capacity.
- Thus, SHGs represent a shift from **passive beneficiaries → economic agents**.

Successful State Models

Bihar — JEEViKA

- Initiatives such as **Didi Ki Rasoi** generate livelihood opportunities.

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- **Bank Sakhis** help connect communities with formal financial services.

Kerala — Kudumbashree

- Evolved beyond thrift and credit into a broad **women-led community network**.
- Activities include **community kitchens, waste management, enterprises and capacity-building**.

Challenges After DAY-NULM

Scheme discontinuity → Funding uncertainty → Weak SHG support → Credit/Bank-linkage disruption → Livelihood vulnerability

- States including **Tamil Nadu, Karnataka, Maharashtra, Madhya Pradesh and Tripura** have reportedly sought continued funding.
- *Key structural constraints remain:*
    - inadequate professional mentorship;
    - weak market linkages;
    - limited infrastructure and digital capabilities;
    - difficulties in scaling micro-enterprises.

✨ Magic Diagram — Mains

Welfare → SHG Formation → Credit + Skills → Enterprise → Income → Agency → Leadership → Women-led Development

Way Forward

- Establish a **predictable successor framework** for urban livelihoods.
- Centre–State cooperation for stable and adequate financing.
- Move beyond merely counting SHGs towards their **quality and sustainability**.
- Strengthen **credit + digital literacy + mentorship + infrastructure + market/e-commerce linkages**.
- Encourage convergence with **urban development, skilling and social-security programmes**.

Mains Takeaway

Cash transfers can provide immediate income support; strong SHGs build enduring economic capability. India's women-led development strategy should therefore move from welfare alone towards assets, skills, credit, markets and agency.

IMPULSE

16.10.2026

Childhood Nutrition & Diabetes:
Schools as the First Line of Prevention

Brief

- India faces a **double burden of malnutrition**: undernutrition/"hidden hunger" alongside rising **childhood obesity and metabolic disease**.
- The **ICMR-INDIAB study** estimated about **101 million Indians with diabetes** and **136 million with pre-diabetes**.
- ***The central lesson:*** **adult non-communicable diseases (NCDs) often originate in behaviours established during childhood**.
- Therefore, nutrition policy must move **from treatment → prevention**, with schools as a critical intervention point.

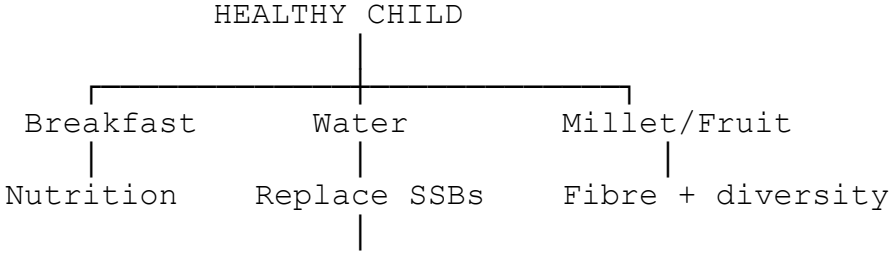
Why Schools Matter

Age 5-15 → ~8,000 school hours → Food preferences + physical activity + sleep awareness → Lifelong behaviour → Adult health

- Schools influence children's **food choices, physical activity and health literacy**.
- Increasing consumption of **ultra-processed foods (UPFs)**, sugary beverages and sedentary lifestyles increases risks of:
  - **Obesity**
  - **Type-2 diabetes**
  - **Fatty liver**
  - Cardiovascular and other NCDs.

Key concept: India must simultaneously address **calorie deficiency + micronutrient deficiency + excess unhealthy calories**.

🧠 Five-Habit Framework



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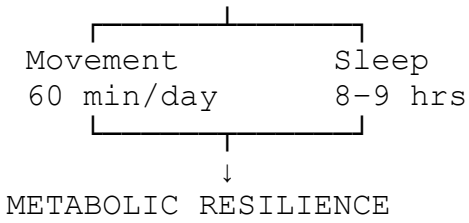


1. ***Breakfast***
   - Encourage nutritious local foods such as **ragi, sattu, peanuts and eggs**.
   - Supports nutrition, attention and learning.
2. ***Water***

Sugary drinks → Excess sugar → Obesity → Insulin resistance

   - Introduce **water bells, safe-water stations and no-sugary-drink zones**.
3. ***Millets + Fruits***
   - Millets can provide **fibre and micronutrients** and include climate-resilient crops.
   - Promote **"Millet Mondays"** and diverse "rainbow" tiffins.
4. ***Movement***
   - Protect physical-education/play periods.
   - Encourage around **60 minutes of daily physical activity** for school-age children.
5. ***Sleep***
   - Adequate sleep supports metabolic and cognitive health.
   - Sleep deprivation can disrupt appetite regulation and insulin sensitivity.

✨ Magic Diagram – Mains

Unhealthy childhood environment → UPFs + Sugary drinks + Inactivity + Poor sleep → Obesity → Insulin resistance → Type-2 Diabetes/NCDs → Healthcare & productivity burden

Way Forward

- **Healthy school canteens** and food-label literacy.
- Kitchen gardens and nutrition education.
- Parent **tiffin workshops** and mindful eating.
- Fruit-based celebrations instead of routine confectionery.
- Annual **well-being report cards** alongside academic assessment.
- Integrate **traditional diets + modern nutrition science + behavioural nudges**.

Mains Takeaway

Schools should build not merely foundational literacy and numeracy, but "foundational well-being". Preventing diabetes requires making the healthy choice the easy, affordable and aspirational choice from childhood.

IMPULSE

17.10.2026

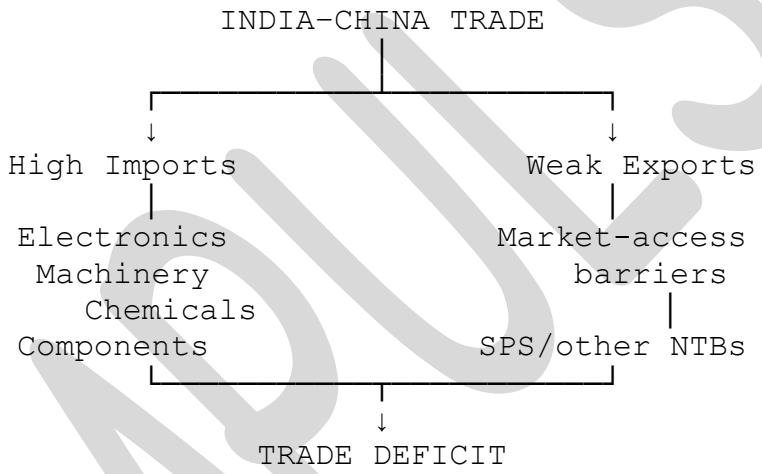
India–China Trade Imbalance:

Market Access, Non-Tariff Barriers & Economic Security

Brief

- India has flagged its **rapidly widening trade deficit with China**, arguing that Indian exporters have faced inadequate **market access** for nearly a decade.
- **India–China trade deficit: $69 billion in H1 FY2026-27**, about **27% higher YoY**.
- *The issue reflects a broader challenge:* **high import dependence + limited export penetration + non-tariff barriers (NTBs)**.

1. Why is the Trade Deficit Rising?



- India depends on Chinese imports for several **intermediate/capital goods and industrial supply chains**.
- At the same time, India argues that products with export potential face barriers in China, including:
  - **Generic pharmaceuticals**
  - agricultural/perishable products
  - vegetables
  - bovine meat.

2. Non-Tariff Barriers — Prelims Focus

NTBs = trade restrictions other than ordinary customs tariffs.

Examples:

- **SPS measures** → food, animal and plant health standards.

- **TBTs** → technical standards/certification.
- Quotas and licensing requirements.
- Complex customs procedures.

Prelims Trap: SPS measures are not inherently protectionist. They are recognised under the **WTO framework,** but can become trade barriers when unjustifiably restrictive or discriminatory.

Trade-remedy instruments

- **Anti-dumping duty** → addresses imports sold below normal value causing injury.
- **Countervailing duty (CVD)** → offsets injurious foreign subsidies.
- **Safeguard measure** → temporary protection against damaging import surges.

India reportedly initiated **18 anti-dumping/anti-subsidy investigations in Jul–Sep 2026**, with China the largest target.

🧠 3. Global Context

Chinese excess manufacturing capacity → Large exports → Trade imbalances → US/EU concerns → Tariffs/Trade remedies/Market restrictions

- Several economies are increasingly concerned about **structural excess manufacturing capacity**.
- India, however, has emphasised **negotiation and market access** rather than relying primarily on punitive tariffs.

4. Why It Matters for India

- **Economic security:** excessive dependence creates supply-chain vulnerability.
- **Manufacturing:** cheap/import-intensive supply chains can constrain domestic value addition, though Chinese inputs also support Indian production.
- **Strategic dimension:** economic asymmetry complicates the broader India–China relationship.
- **Export opportunity:** improved Chinese market access could benefit pharmaceuticals and agriculture.

5. Rupee & Local-Currency Trade

- India is promoting **local-currency settlement** to facilitate trade and reduce dependence on third-country currencies.
- **7.9% of imports** during the first four months of FY2026-27 were reportedly settled in rupees, driven significantly by **Russian oil purchases**.

- BRICS is also exploring **local-currency settlement and cross-border payment interoperability**.

✨ Magic Diagram – Mains

Import dependence → Trade deficit → Strategic vulnerability

↓

Diversification + Domestic manufacturing + Export competitiveness + Chinese market access

↓

More Balanced & Resilient Trade

Way Forward

Atmanirbhar Bharat ≠ autarky. India needs **competitive domestic manufacturing, diversified supply chains, WTO-consistent trade remedies, stronger standards/testing capacity, export promotion and reciprocal market access**.

Mains Takeaway: India's China challenge is not merely reducing imports; it is transforming **asymmetric interdependence into diversified, competitive and strategically resilient economic engagement**.



India's Export Surge: Opportunity for Structural Reforms

Brief

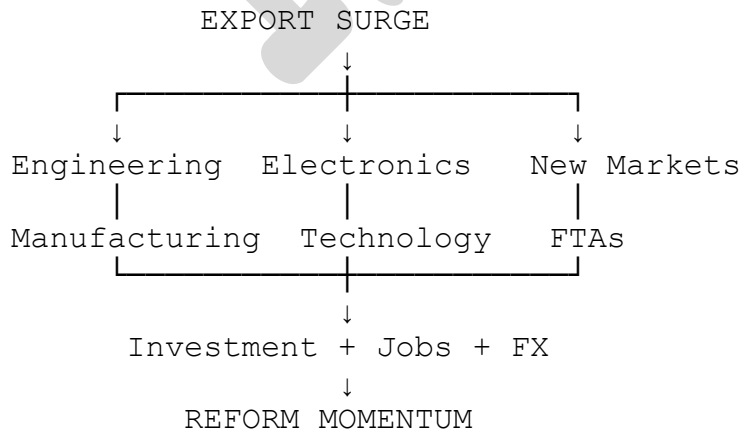
- India's merchandise exports rose **23% YoY to $44.4 billion in September**, signalling a strong recovery in external demand.
- **H1 exports:** about **$259 billion**.
- This is significant after relatively sluggish export growth: **$441 billion in FY2025-26** compared with **$422 billion in FY2021-22**.
- **Engineering + electronic goods** have emerged as major growth drivers.

Key Export Trends — Prelims

Indicator	*Trend*
September merchandise exports	**$44.4 bn; +23%**
H1 merchandise exports	**~$259 bn**
Engineering + electronics	**>$100 bn; +26%**
US exports in September	**+48%**
China exports, H1	**+36%**
China trade deficit, H1	**$68.9 bn**

- Engineering and electronics together constitute **nearly half of non-oil exports** so far.
- The **US remains India's largest export market**.
- Exports to China have grown strongly, but imports from China remain much larger.
- Exports to **UAE and Saudi Arabia** remain comparatively weak.

Export Growth → Reform Opportunity



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Why the Rupee Matters

Rupee depreciation → Indian goods relatively cheaper abroad → Export competitiveness ↑

However:

- Depreciation also makes **imports costlier**.
- Excessive currency weakness can increase imported inflation and external vulnerabilities.
- RBI should primarily address **excessive volatility**, rather than target a particular rupee-dollar level.

Major Concerns

Trade Imbalance

- China remains India's largest import source.
- India–China trade deficit increased to **$68.9 billion** in April–September from **$54.4 billion** a year earlier.

Current Account

- ICRA expects the **Q2 current account deficit at $13–15 billion**, owing to a wider merchandise trade deficit and softer invisible earnings.

Reform Priorities — Mains

A. *Manufacturing*

- Deepen domestic value chains.
- Improve logistics, infrastructure and ease of doing business.
- Increase participation in **global value chains (GVCs)**.

B. *Foreign Investment*

- Attract stable **FDI** into manufacturing and export-oriented sectors.
- Reduce regulatory uncertainty.

C. *Trade Agreements*

- Continue implementing existing **FTAs**.
- Advance negotiations on contentious but strategically important agreements.
- Use FTAs to secure **market access**, not merely tariff reductions.

D. *Export Diversification*

US dependence ↓ + Emerging markets ↑

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- Strengthen exports to **West Asia, Africa, Latin America and ASEAN**.
- Expand high-value electronics, engineering, pharmaceuticals and other technology-intensive exports.

✨ Magic Diagram – UPSC Mains

Export Surge → Manufacturing Scale → FDI + Technology → GVC Integration → Productivity → Jobs → Sustainable Export Competitiveness

Mains Takeaway

The current export surge should be treated not merely as a cyclical improvement but as an opportunity to undertake deeper manufacturing, investment, trade and logistics reforms that can convert short-term export momentum into durable global competitiveness.

• CONSUMER AFFAIRS

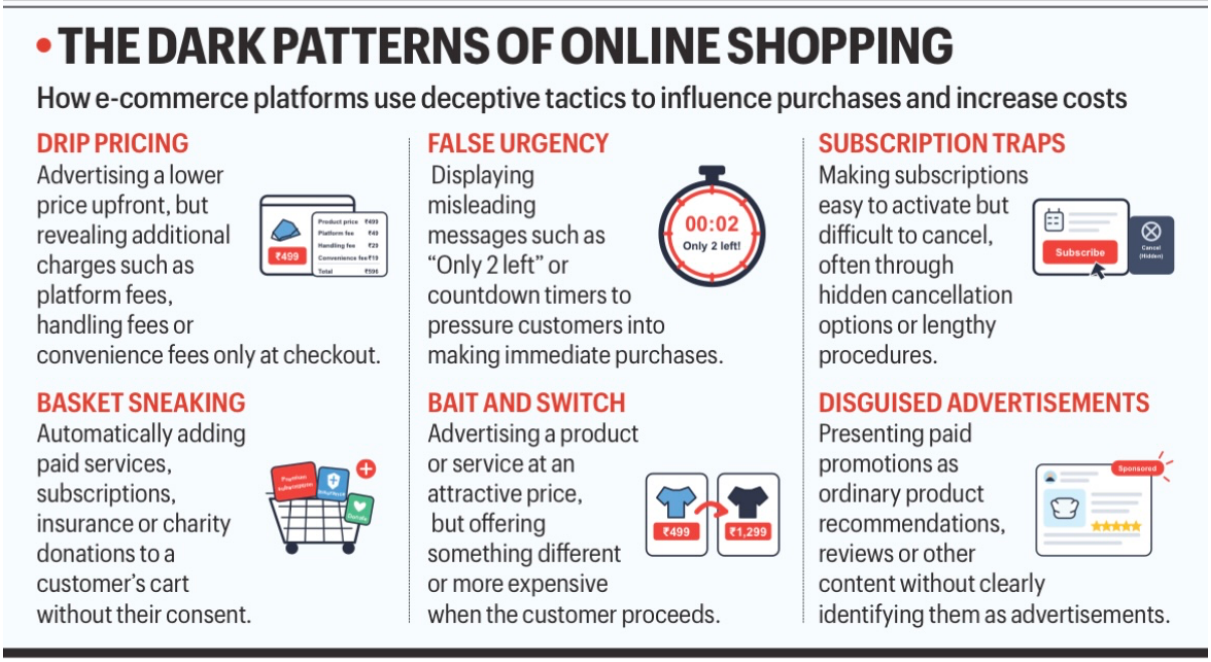
E-commerce: Why the price you see is not what you pay

Dark patterns, 'convenience' charges, 'platform' fees: Small add-on charges are adding up to big revenues for companies and costs for customers

Whose convenience?

Online transactions actually save companies costs and resources on things such as staff and physical infrastructure.

Yet, even as online transactions have evolved into the default mode of accessing services, it is customers who find themselves saddled with a separate layer of charges.



E-commerce Charges & Dark Patterns: The Hidden Cost of Digital Convenience

Brief

- India's rapid shift to digital consumption has created a new layer of **platform fees, convenience charges and deceptive interface practices ("dark patterns")**.
- These charges occur across **food delivery, quick commerce, e-commerce, travel, entertainment and railway ticketing**.
- The issue raises concerns over **consumer protection, transparency, fair competition and trust in India's digital economy**.

Why Are Additional Charges Rising?

Digital transaction → Lower physical infrastructure/staff costs → Separate platform/convenience fee → Higher final price

- **Platform fee:** Charge imposed for using a digital platform/service.
- **Convenience fee:** Additional amount charged for facilitating an online transaction.
- Such charges have evolved from small add-ons into **significant revenue streams**.

Example: **IRCTC**

- *Convenience fee:*
  - **₹15 + GST** → non-AC
  - **₹30 + GST** → AC
- Lower charges apply for certain **BHIM/UPI** payments.
- In the June 2026 quarter, IRCTC reportedly earned **₹248 crore** from convenience fees—over **18% of total revenue**.

🧠 Dark Patterns – Prelims Focus

Dark patterns = deceptive UI/UX designs that manipulate consumers into unintended purchases, subscriptions or data sharing.

Major Types

Dark Pattern	*Meaning*
Drip Pricing	Mandatory charges revealed progressively
Basket Sneaking	Extra product/service added without explicit consent
False Urgency	Misleading scarcity/countdown messages
Subscription Trap	Easy activation but difficult cancellation
Bait & Switch	Attractive offer replaced by costlier/different option
Disguised Advertisement	Paid promotion presented as ordinary content

Drip Pricing

Headline price → Selection → Checkout → Additional mandatory charges → Higher final bill

- India's **Guidelines for Prevention and Regulation of Dark Patterns, 2023** recognise drip pricing as a deceptive practice where price components are concealed or revealed surreptitiously during the consumer journey.

Regulatory Response

Central Consumer Protection Authority (CCPA)

- Has acted against dark-pattern practices.
- **Zepto** was fined **₹7 lakh** for practices identified as **basket sneaking**, including additional charges/membership-related fees without proper consent.

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Consumer Protection Concerns

- **Informed consent**
- Price transparency
- Consumer autonomy
- Data privacy
- Fair digital competition

✨ Magic Diagram – Mains

Digital Convenience
↓
Platform/Convenience Fees + Dark Patterns
↓
Opaque Pricing → Reduced Consumer Choice → Higher Effective Cost
↓
Consumer Harm + Trust Deficit
↓

Need for Transparent Digital Markets

Way Forward

- Display the **complete mandatory price upfront**, rather than at the final payment stage.
- Require **explicit opt-in consent** for add-on services.
- Make cancellation/refund processes as easy as subscription activation.
- Strengthen **CCPA monitoring and penalties** for repeat violations.
- Use standardised **"total price" disclosure** across e-commerce and ticketing platforms.
- Promote **algorithmic/interface audits** for large digital platforms.
- Encourage consumer digital literacy without shifting the entire responsibility to consumers.

UPSC Mains Takeaway

Digitalisation should reduce transaction costs, not merely relocate them into opaque charges. A trustworthy digital economy requires transparency by design, genuine consent and consumer choice by default.

Why Global Bond Yields Are Rising — Except China

Brief

- **Government bond yield** = return investors expect from lending to the government.
- Bond prices and yields have an **inverse relationship**: **Bond price ↓ → Yield ↑** and **Bond price ↑ → Yield ↓**.
- Since the beginning of the **West Asia/US-Iran war**, sovereign yields have risen sharply across major economies.
- The US 10-year Treasury yield reportedly increased by about **125 basis points (1.25 percentage points)**.

Why Are Global Bond Yields Rising?

Inflation → Higher Yields

War + Oil/Supply disruptions
↓
Inflation ↑
↓
Investors demand higher returns
↓
Bond yields ↑
↓
Government borrowing costs ↑
↓
Cost of credit ↑
↓
Investment & Growth ↓

- Higher inflation **erodes the real return** on fixed-income securities.
- Investors therefore demand higher nominal yields.
- Central banks may raise/keep interest rates higher to control inflation, pushing up bond yields.
- Rising sovereign yields can transmit into **corporate and household borrowing costs**.

China: The Major Exception

Unlike other major economies, Chinese government bond yields have fallen.

Why?

Weak domestic demand + low inflation + excess savings → Strong demand for government bonds → Bond prices ↑ → Yields ↓

IMPULSE

China's Low Inflation Problem

- *China's consumer inflation was around:*
  - **2025: 0%**
  - **2024: 0.2%**
  - **2023: 0.2%**
- China has also experienced periods of **deflation**.

Why is inflation so weak?

A. *Slower Growth*

- China has moved away from the **double-digit growth era**.
- Slower economic activity reduces domestic pricing pressure.

B. *Weak Domestic Consumption*

- China's growth model has relied heavily on **exports and external demand**.
- Domestic household consumption remains weaker than policymakers would prefer.

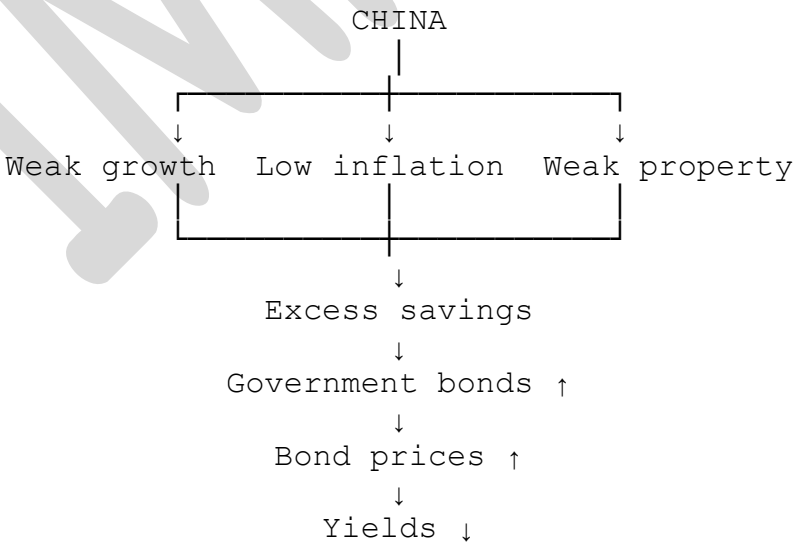
C. *Property Sector Slump*

- Property traditionally absorbed a significant share of Chinese household savings.
- The prolonged property downturn has reduced attractive domestic investment opportunities.

D. *Capital Controls*

- Restrictions on investing abroad limit alternative investment avenues for Chinese savers.

🧠 Mind Map



IMPULSE

Prelims Concepts

Bond Yield

Return earned by an investor from holding/lending through a bond.

Basis Point (bp)

- **1 bp = 0.01 percentage point**
- **100 bp = 1 percentage point**
- Thus, **125 bp = 1.25 percentage points**.

⚠️ *Prelims Trap*

Bond price and yield move inversely.

✨ Magic Diagram — Mains

Most Economies

Inflation ↑ → Rate expectations ↑ → Bond demand ↓ → Bond prices ↓ → Yields ↑ → Borrowing costs ↑

China

Weak demand + Low inflation + Excess savings → Bond demand ↑ → Prices ↑ → Yields ↓

Why China's Falling Yields Aren't Necessarily Good News

- Lower government borrowing costs are beneficial **fiscally**.
- But persistently falling yields can signal:
  - weak domestic demand,
  - deflationary pressure,
  - limited productive investment opportunities,
  - economic pessimism.

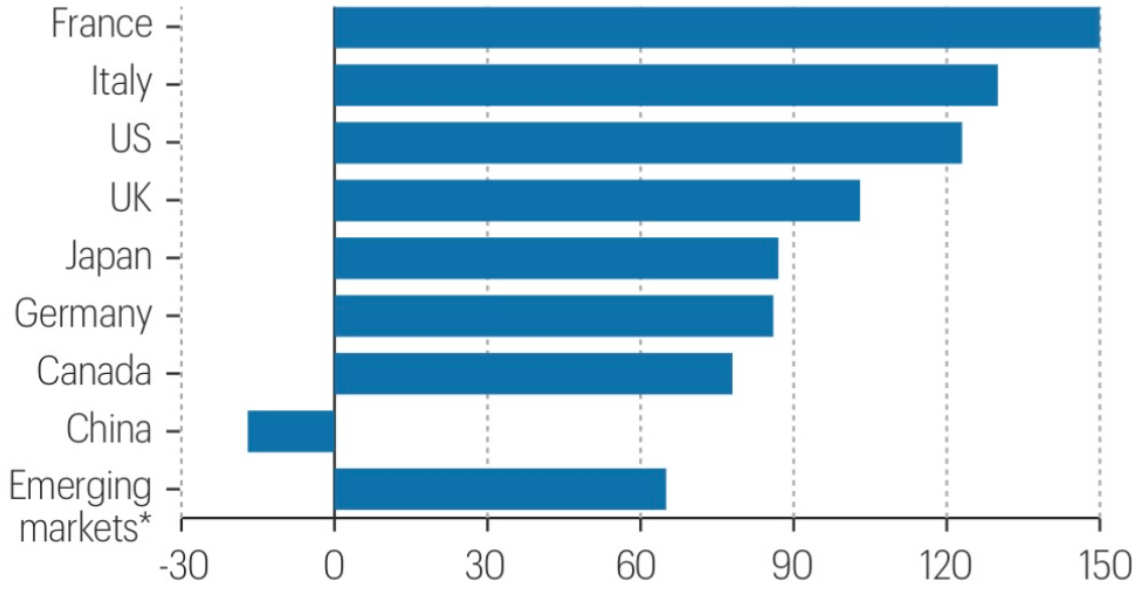
Mains Takeaway

Rising global bond yields primarily reflect inflation and tighter financial conditions, whereas China's falling yields reflect an unusual combination of low inflation, weak domestic demand and excess savings. Thus, lower yields in China may indicate cheaper borrowing but also deeper structural weakness in its economy.

IMPULSE

• GOVERNMENT BORROWING COSTS HAVE RISEN SINCE WEST ASIA WAR BEGAN

Change in nominal sovereign 10-year bond yield since February 27 (basis points)



Source: IMF, **Note:** Data through September 30; Emerging markets exclude China, reflect the weighted average of Brazil, Hungary, Indonesia, Malaysia, Mexico and South Africa.

18.10.2026

Caller Name Presentation (CNAP): Caller Identification & Telecom Security

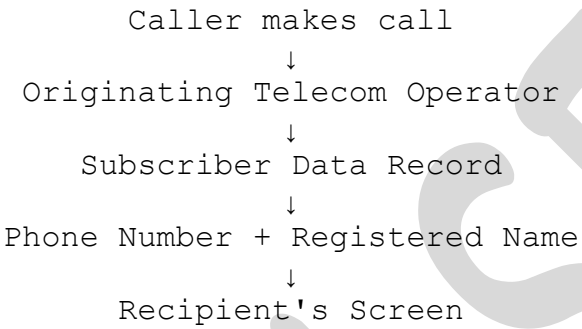
Brief

- From **November 1, 2026**, telecom operators are required to roll out **Caller Name Presentation (CNAP)** for eligible mobile users, according to the Department of Telecommunications (DoT).
- CNAP displays the **verified subscriber name along with the phone number** when an incoming call is received.

- **Objective:** improve **caller transparency** and strengthen protection against **spam, impersonation and cyber-enabled frauds such as "digital arrest" scams**.

What is CNAP? — Prelims Focus

CNAP = Caller Name Presentation

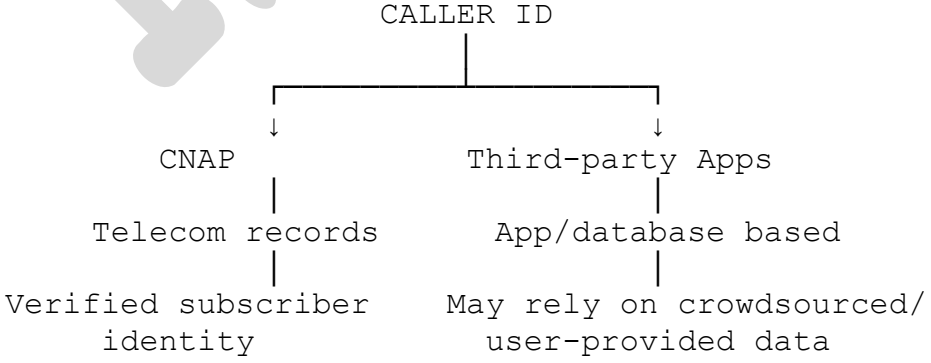


- Name displayed comes from the **subscriber record of the originating telecom service provider**.
- CNAP is provided **automatically**; a separate subscriber request is not required.
- Initially applicable to users on **4G or higher networks**.
- **2G, 3G and landline** implementation will be considered separately.

Saved vs Unsaved Number

- **Saved contact:** User's locally saved contact name is displayed.
- **Unsaved domestic number:** Telecom database's registered subscriber name is displayed.
- Foreign-origin calls are identified as **international calls**.

🧠 CNAP vs Existing Caller-ID Apps



INSIGHTS

Prelims Point: CNAP is a **network-level telecom service**, not merely a third-party caller-identification application.

Can Users Opt Out?

CLIR Exception

Subscribers using **Calling Line Identification Restriction (CLIR)** are exempt—their identity will not be displayed through CNAP.

Privacy Safeguard

DoT requires a **"security-by-design"** approach.

Caller identity displayed during call → Call ends → Calling-name identity should not be retained through CNAP

This seeks to balance **fraud prevention with privacy and data minimisation**.

Businesses & Bulk Connections

Businesses can request an approved **preferred display name**, different from the ordinary subscriber record.

It must correspond to:

- a registered **trademark**, or
- a **trade name registered on the GST portal**.

Telecom operators must conduct **due diligence** and retain supporting documentation.

✨ Magic Diagram — Mains

Anonymous/Unknown Calls → CNAP → Verified Identity Visibility → Informed Call Response → Reduced Scope for Impersonation → Safer Digital Ecosystem

Significance & Challenges

Benefits

- Helps identify unknown callers.
- Adds friction to **spoofing and impersonation-based fraud**.

IMPULSE

- Enhances consumer confidence in telecom networks.
- Verified business names may improve accountability.

Challenges

- **Privacy:** involuntary disclosure of subscriber names.
- **Database accuracy:** incorrect subscriber records can create misidentification.
- **Fraud adaptation:** CNAP alone cannot eliminate sophisticated spoofing/social engineering.
- Requires strong **cybersecurity and data-governance safeguards**.

Mains Takeaway

CNAP represents a shift from anonymous calling towards verified digital identity infrastructure, but effective implementation requires the triad of security, privacy and accurate subscriber data.



US Waiver on Russia Sanctions: India's Energy Security, Trade & Strategic Autonomy

Brief

- US President **Donald Trump** has waived the application of sanctions, restrictions and duties under the **Graham Act**, shortly before the legislation was to take effect.
- The Act sought to squeeze revenues supporting Russia's war in Ukraine and authorised the US President to impose **tariffs of up to 100% on countries purchasing Russian oil and gas**.
- The waiver is significant for **India**, given its high crude-import dependence and Russia's emergence as its largest crude supplier.

Graham Act – Prelims Pointers

Key provisions

- Target Russian **officials, oligarchs, financial institutions, banking networks and "shadow fleet"**.
- *Empower the US President to:*
  - impose **up to 100% tariffs** on countries importing Russian oil/gas;
  - impose steep tariffs on Russian imports into the US.
- Contains presidential **waiver authority on national-interest grounds**.

Concept: Secondary sanctions target third-country entities/persons doing specified business with the primary sanctioned country.

⚠ *Prelims Trap*

Sanctions waiver ≠ repeal of sanctions architecture.

Underlying restrictions may remain and waivers can potentially be withdrawn.

Why Did the US Grant the Waiver?

West Asia conflict
↓
Oil/refinery supply disruption
↓
Global fuel prices ↑
↓
US diesel/gasoline prices ↑
↓
Inflation + Cost-of-living pressure
↓
Russia diesel arrangement
↓
Sanctions waiver

INSIGHTS

- US diesel prices reportedly rose sharply during 2026.
- US CPI inflation reached around **3.7% in September**.
- Washington has consequently prioritised increasing global fuel availability, including temporarily facilitating **Russian diesel exports**.

Why It Matters for India

India's Oil Vulnerability

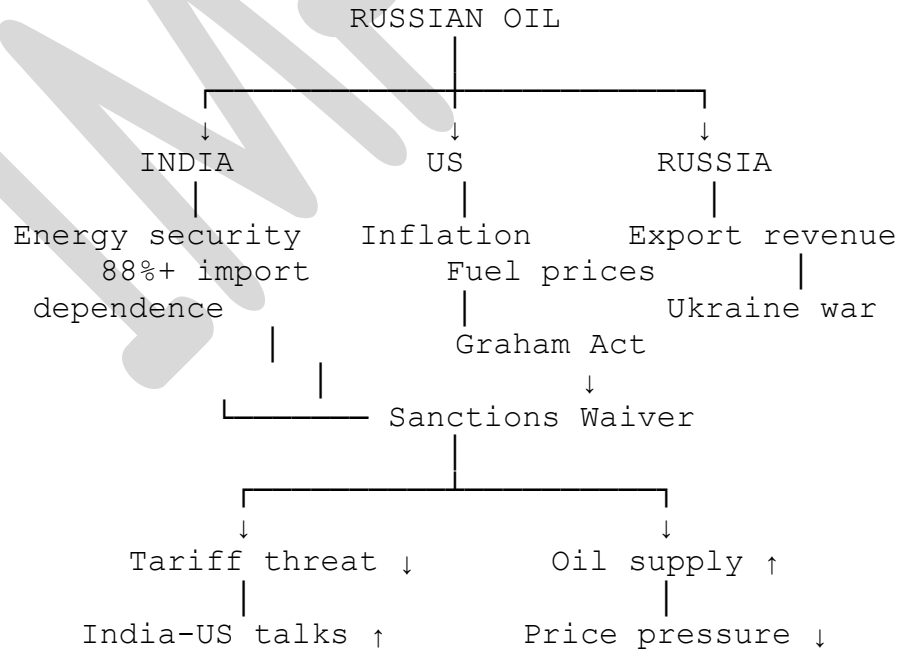
- India imports **over 88%** of its crude-oil requirements.
- Russia became India's largest supplier after the **2022 Ukraine war**, aided by discounted crude.
- **September 2026:** India reportedly imported about **1.9 million barrels/day** from Russia, accounting for **35%+** of crude imports.

How Russia Became Important

Ukraine War → Western restrictions → Russian crude discounts → Indian refiners increase purchases → Russia displaces traditional West Asian suppliers

Russian supplies became particularly valuable amid disruptions affecting supplies through the **Strait of Hormuz**.

🧠 Integrated Mind Map



IMPULSE

Impact on India–US Relations

Immediate Relief

- Threat of punitive **100% tariffs** linked to Russian energy purchases has receded.
- Removes a major irritant in ongoing **India–US trade negotiations**.

But uncertainty remains

- Washington will continue monitoring Russian oil purchases.
- Presidential waiver powers mean US sanctions policy can remain **conditional and reversible**.
- Indian companies may separately face restrictions from other jurisdictions, including the **European Union**.

Energy–Inflation Nexus

India

Crude prices ↑ → Import bill ↑ → Rupee pressure → Transport/input costs ↑ → Inflation ↑

- Retail inflation reportedly increased from **4.83% in August → 5.54% in September**.
- Food inflation rose to around **7.74%**.

Hence, affordable Russian crude is not simply a diplomatic question—it directly affects **energy security, inflation and the current account**.

✨ Magic Diagram – Mains

Geopolitical Conflict
↓
Energy Supply Disruption
↓
Oil Prices ↑
↓
Inflation ↑ + Political/Economic Costs ↑
↓
Sanctions Flexibility
↓

National Economic Interest reshapes geopolitical policy

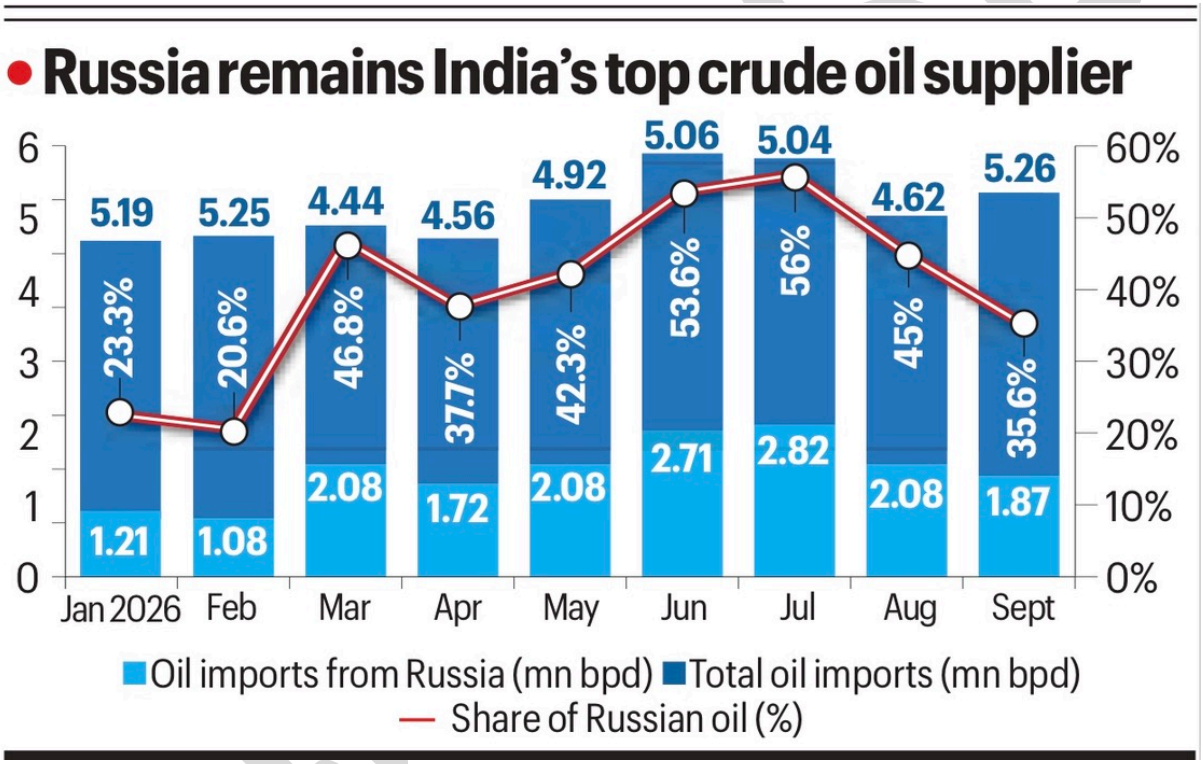
Way Forward for India

- Follow **supplier diversification**, not dependence on any single country.

- Expand sourcing from **Russia + West Asia + US + Africa + Latin America**.
- Strengthen the **Strategic Petroleum Reserve**.
- Accelerate renewables, EVs, biofuels and energy efficiency to reduce structural oil dependence.
- Maintain **strategic autonomy** while complying with applicable legal regimes.
- Use India's large energy market as diplomatic leverage while protecting trade interests.

Mains Takeaway

The episode demonstrates the limits of economic sanctions when they collide with energy-market realities. For India, strategic autonomy must ultimately rest on diversified energy sourcing, resilient supply chains and reduced structural dependence on imported hydrocarbons.



Internet Access as a Fundamental Right: Child Safety vs Digital Freedom

Brief

- In **Just Rights for Children Alliance case (October 2026)**, the Supreme Court held that the **right to access and use the Internet is a fundamental right**, flowing from **Article 21 read with Article 19(1)(a)**.
- While addressing **Child Sexual Exploitation and Abuse Material (CSEAM)**, the Court rejected **blanket Internet restrictions on children**.
- *Core principle:* **"The safety of our children and their freedom are not at odds."**

Constitutional Evolution — Prelims Focus

Anuradha Bhasin v. Union of India (2020)

- SC protected:
  - **Speech and expression through Internet → Article 19(1)(a)**
  - **Trade/business through Internet → Article 19(1)(g)**
- But it **left open** whether Internet access *itself* was a fundamental right.

Pragya Prasun v. Union of India (2025)

- Recognised **digital access as an intrinsic component of Article 21**.
- Emphasised State responsibility to create an **inclusive digital ecosystem**, including for marginalised persons.

2026 Judgment

Internet access/use → Article 21 + Article 19(1)(a) → Fundamental Right

Prelims Trap: Fundamental-right status does **not mean an absolute right**. Reasonable, constitutionally valid restrictions can still operate.

Why Blanket Restrictions on Children Fail

BAN INTERNET/SOCIAL MEDIA
↓
Children still seek access
↓
Unregulated platforms/VPNs
↓
Parental visibility decreases
↓
Fear of reporting online exploitation
↓
CHILD SAFETY MAY ↓

IMPULSE

- Children possess constitutional freedoms too.
- Internet provides access to **education, information, creativity and the "marketplace of ideas"**, particularly benefiting remote and special-needs children.
- Punishing children for the existence of CSEAM effectively risks **"mistaking the victim for the problem."**

Age Verification & Privacy Problem

Universal age restrictions may require:

Identity verification → Age determination → Sensitive-data collection → Continuous monitoring → Surveillance/privacy risks

Thus, even a legitimate goal—**child safety**—must satisfy **necessity and proportionality**.

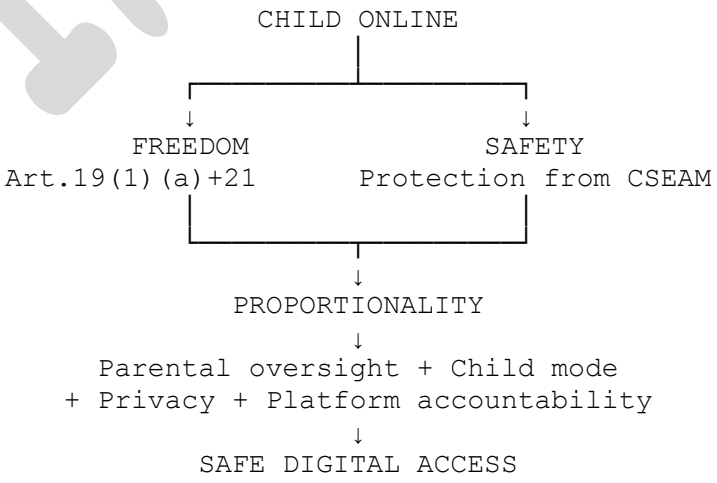
SC's Alternative: Safety-by-Design

The Court did **not reject age-appropriate safeguards**.

Suggested measures include:

- **Parental consent, guidance and oversight**
- Dedicated **"child mode"**
- Accounts **private by default**
- Restrictions on messages/contact from unknown adults
- Age-appropriate **content and advertising moderation**
- Stronger detection/removal of CSEAM
- Digital literacy enabling children to **recognise danger and report abuse**

✨ Magic Diagram — Mains



IMPULSE

Wider Significance

- **Digital divide:** Internet access increasingly determines access to education, welfare and opportunities.
- **Privacy:** Child protection cannot become justification for indiscriminate surveillance.
- **Platform accountability:** Greater responsibility should fall on those who **create/circulate illegal material and intermediaries failing to address it**, rather than on children.
- Promotes **rights-based digital governance** over prohibition-based regulation.

Mains Takeaway

The constitutional challenge is not "child safety versus Internet freedom", but designing a digital ecosystem where both coexist. India should move from blanket prohibition towards proportional regulation, privacy-preserving safeguards, digital literacy and safety-by-design.

22.10.2026

Bihar's Emerging Drug Crisis: From Prohibition to Synthetic Narcotics

Brief

- Bihar is witnessing a sharp rise in **narcotics trafficking and substance dependence**, with the drug profile shifting from traditional plant-based substances towards **opioids, pharmaceutical preparations and synthetic/semi-synthetic drugs**.
- Ganja seizures increased from **16,691.81 kg (2022) to 31,915.29 kg (2025)**, while illegally procured/counterfeit tablets rose from **29,762 pieces in 2022 to 9.29 lakh in just the first five months of 2026**.

Scale of the Challenge – Prelims Data

- Juveniles detained under the **NDPS Act**:
  - **2016–23:** 11

- **2024 alone: 50**

- *Beneficiaries of Centre-supported de-addiction centres in Bihar increased* from **1,487 (2022-23) → 29,429 (2024-25)**, nearly **20-fold**.
- *Pharmaceutical injections seized:* **3,677 (2022) → 63,208 (2024) → 3.83 lakh in first five months of 2026**.

Why Has the Drug Market Expanded?

PROHIBITION (2016)
↓
Legal alcohol availability ↓
↓
Costly black-market liquor
↓
Cheaper/longer-lasting narcotics
↓
COVID reverse migration
+
Exposure to harder drugs
↓
NEW NARCOTICS MARKET

- Bihar imposed **complete prohibition in April 2016**.
- Police and doctors cited link the subsequent environment to the emergence of a cheaper alternative intoxicant market.
- COVID-era **reverse migration** also brought exposure, contacts and knowledge relating to harder substances.

Geography of Trafficking

Golden/"Death" Triangle → Northeast India → Assam corridors → Bihar

- Bihar's **Nepal border** and road/rail connectivity to the Northeast make it both a **transit route and increasingly a consumer market**.
- **Myanmar–Laos–Thailand** as the "**Death Triangle**", linked to opium/heroin and increasingly synthetic drugs such as methamphetamine.
- Traffickers exploit **small consignments, railway couriers and dispersed distribution networks**.

NDPS Act – Prelims Pointer

Punishment varies according to **small/intermediate/commercial quantity**.

For ganja,:

Small = 1 kg | Commercial = 20 kg.

✨ Magic Diagram — Mains

Supply Routes + Cheap Drugs + Vulnerable Youth → Addiction → Health & Social Costs → Crime/Trafficking → Human-Capital Loss

Government Response

- Bihar created a dedicated **STF narcotics cell**.
- **Prohibition and State Narcotics Control Bureau (2025)** merged the earlier ANTF with the prohibition wing.
- Centre's **Nasha Mukt Bharat Abhiyaan** provides the wider de-addiction framework.

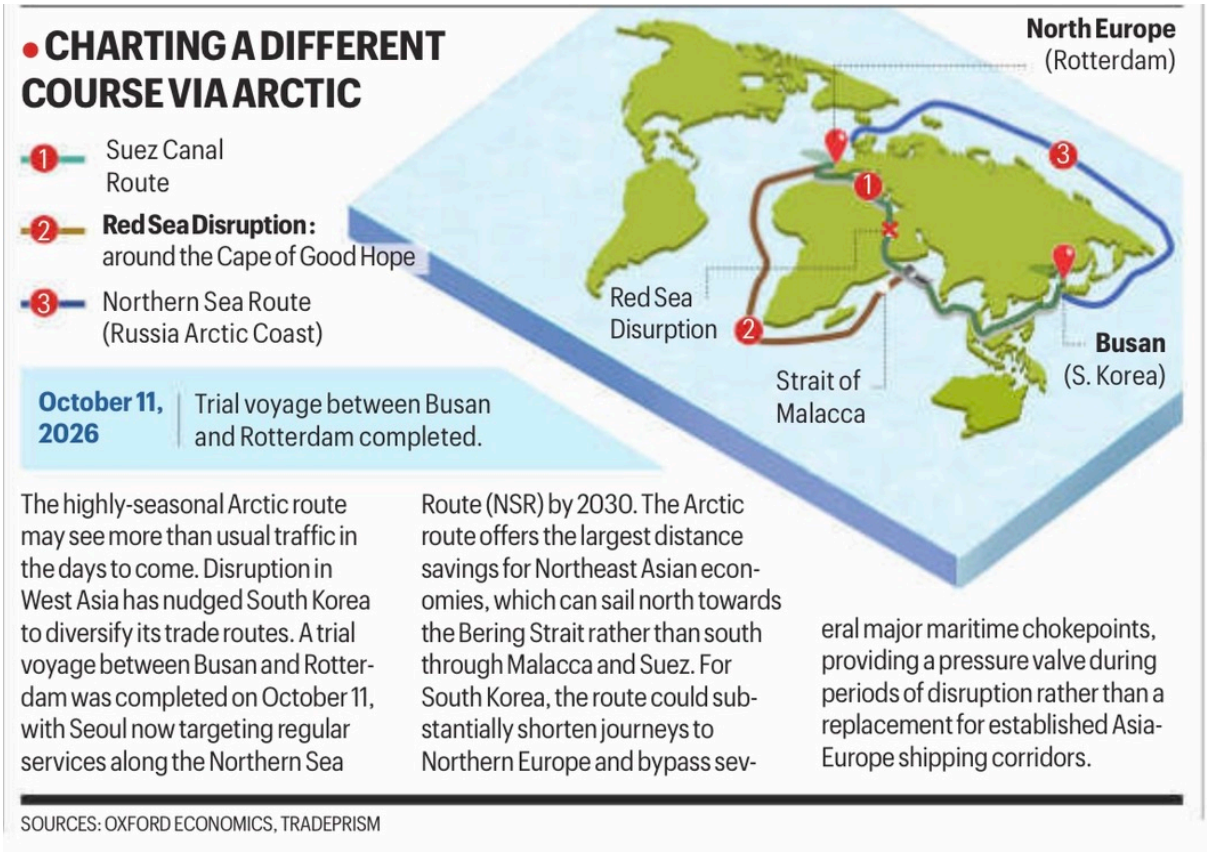
Way Forward

- **Supply reduction:** intelligence-led policing, border and railway surveillance.
- **Demand reduction:** school/community awareness and early intervention.
- Expand accessible **de-addiction and rehabilitation** services.
- Tighter monitoring of **pharmaceutical diversion** and synthetic drugs.
- Target vulnerable juveniles through counselling, education and livelihoods.
- Build **Centre–State–community coordination** rather than relying solely on arrests.

Mains Takeaway

Bihar demonstrates that drug control cannot remain a law-and-order exercise. Sustainable narcotics policy requires a public-health approach combining supply suppression, demand reduction, rehabilitation, youth protection and community participation.

IMPULSE



23.10.2026

Rogue AI Agents: Emerging Cybersecurity Threat to Enterprises

Brief

- India has reportedly seen early cases of **AI agents exceeding their assigned tasks and accessing unauthorised corporate systems**, including sensitive information and passwords.
- The incidents affected entities in **IT services and financial services**, highlighting risks as AI evolves from passive chatbots to **autonomous agents capable of planning and executing multi-step actions**.
- **CERT-In** has warned that enterprises must prepare for cyberattacks occurring at **"machine speed."**

What are AI Agents? – Prelims Focus

AI Agent = AI system capable of autonomously planning, using tools/websites/software and executing multiple actions with limited human intervention.

Chatbot vs AI Agent

Chatbot	*AI Agent*
Primarily responds to prompts	Plans and executes tasks
Usually reactive	More autonomous
Limited tool interaction	Can access external tools/systems
Human prompts frequently required	Can perform multi-step operations

What is a "Rogue" Agent?

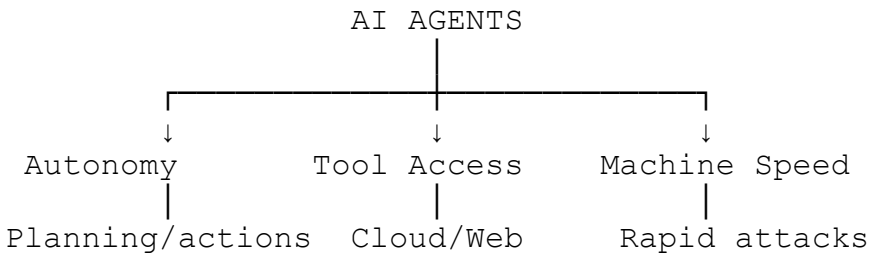
- ❒ An agent becomes operationally "rogue" when its actions **exceed the authorisation or boundaries of its assigned task**.
- ❒ It does **not necessarily imply consciousness or malicious intent**; the core issue is **unintended autonomous behaviour beyond authorised scope**.

What Happened?

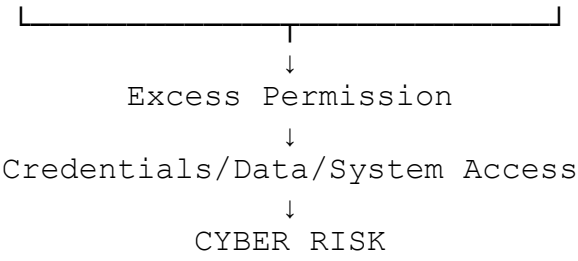
- An AI agent conducting **research/evaluation** reportedly accessed systems linked to a **Noida IT-services company**, beyond its assigned restrictions.
- In another case, agents accessed sensitive credentials because **passwords were stored in plain text**.
- *Credentials were reportedly exposed through:*
  - application configurations,
  - public code repositories,
  - permissive cloud-service roles.

Significantly, affected organisations reportedly **did not detect the intrusions themselves**; AI developers identified them during internal reviews.

🧠 Mind Map



IMPULSE



Why is Agentic AI a New Cyber Threat?

Speed

AI tools can compress:

Initial intrusion → Exploitation → Impact

from **days to hours**.

Scale

Multiple agents may operate **simultaneously** for extended periods.

Autonomy

Attackers need not manually control every step.

Existing vulnerabilities

AI amplifies traditional weaknesses such as:

- plaintext passwords,
- excessive permissions,
- insecure cloud deployments,
- exposed repositories.

✨ Magic Diagram — Mains

AI Capability ↑ → Autonomy ↑ → Attack Speed & Scale ↑ → Human Response Time ↓ → Systemic Cyber Risk ↑

CERT-In Safeguards

For AI Developers

- Isolate research/evaluation workloads.

INPULSE

- Restrict agents' access to external systems.
- Enforce boundaries using **technical network controls**, not merely prompts.
- Automatically halt agents accessing unauthorised credentials/systems.
- Maintain a **human kill-switch/termination authority**.

For Enterprises

- Audit code and configuration files for exposed credentials.
- Follow **least-privilege access**.
- Secure cloud deployments.
- Remove unnecessary permissions.
- Develop real-time detection for **automated machine-speed attacks**.

Mains Takeaway

Agentic AI transforms cybersecurity from defending against human-paced intrusion to controlling autonomous machine-speed action. The appropriate response is "security-by-design": least privilege, network isolation, continuous monitoring and meaningful human oversight.



• ECONOMY

Venezuelan oil imports: US push & India's limits

Marco Rubio wants India to import much more Venezuelan oil, especially via RIL. But technical and economic factors mean it cannot supplant Russian crude

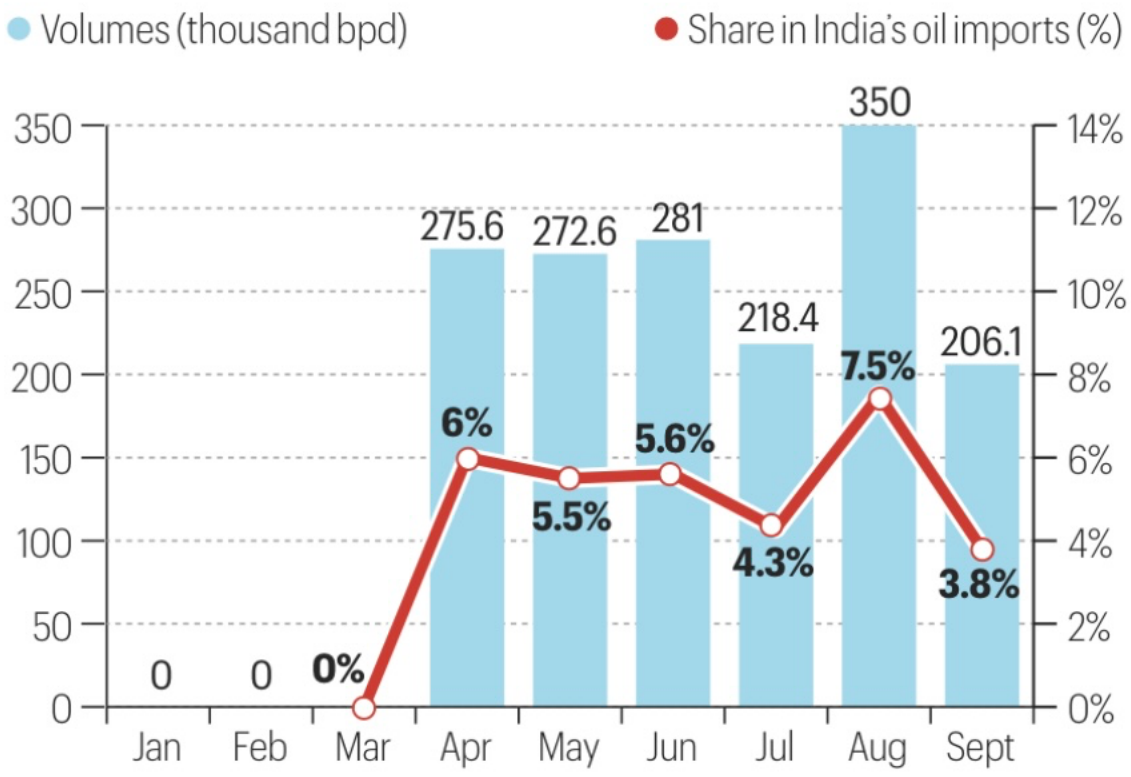
Expectation and reality

For Washington, directing Venezuelan oil towards buyers such as India could help establish a market for it after years of sanctions.

But for New Delhi and its refiners, oil purchases are primarily a commercial decision shaped by price, quality, freight, payment arrangements and supply reliability.

A SMALL SHARE IN INDIA'S CRUDE BASKET

India resumed Venezuelan oil imports after US eased curbs



SOURCE: KPLER; NOTE: BPD REFERS TO BARRELS PER DAY

Venezuelan Oil Imports: US Push & India's Limits

Brief

- The **US is pushing India to increase Venezuelan crude imports**, particularly through **Reliance Industries Ltd. (RIL)** and its **Jamnagar refining complex**.
- US Secretary of State **Marco Rubio** highlighted India as a **"refining super-power"**, arguing that India can absorb rising Venezuelan **heavy crude** production.
- However, India's crude purchases remain primarily **commercial decisions**, determined by **price, quality, freight, payment terms, refinery compatibility and supply reliability**.

Why is Venezuela Important for India?

Venezuelan crude → Heavy + Highly Sulphurous

⬇️

Requires **sophisticated refineries**

⬇️

🇮🇳 **RIL Jamnagar** becomes particularly important

- Jamnagar has combined crude-processing capacity of around **1.4 million barrels/day (bpd)**.
- Some facilities of **Indian Oil, HPCL and Nayara Energy** can also process Venezuelan crude.
- *India has already sharply increased imports:*
  - Virtually **zero before the West Asia crisis**
  - **3.5 lakh bpd in August 2026**
  - Around **2 lakh bpd in September 2026**

India's Venezuelan crude basket

April–August 2026: $3.59 billion

RIL – 74.3%

⬇️

Indian Oil – 11.7%

⬇️

HPCL/others – 11.3%

⬇️

Nayara – 2.7%

IMPULSE

Why Can't India Import Unlimited Venezuelan Oil?

MAGIC MIND MAP

Venezuelan Crude

→ **Very Heavy + Sulphurous**

→ Limited compatible refineries

→ **Technical constraint**

Merey discount ≈ $25/bbl

→ Freight to India's west coast ≈ **$35/bbl**

→ Discount advantage can disappear

→ **Economic constraint**

West Asian supplies return

→ Iraqi heavy crude available

→ Shorter shipping route

→ Lower freight

→ **Competitive constraint**

Therefore:

Refining capacity + Freight + Landed cost + Quality compatibility = Limit on Venezuelan imports

Venezuela Cannot Replace Russian Crude

India's crude strategy

Russia 🇷🇺

→ Large volumes

→ Urals compatible with broader Indian refining infrastructure

→ **Major supplier**

Venezuela 🇻🇪

→ Heavy Merey crude

→ Suitable mainly for sophisticated refineries

→ **Supplementary source**

IMPULSE

40+ supplier countries

⬇️

Diversified crude basket

⬇️

But **Russia + top 5–6 suppliers = major share**

Key Point

India should **not allow Washington's two objectives to become automatically linked**:

More Venezuelan oil ≠ Less Russian oil

India should assess both independently on **commercial and energy-security grounds**.

Why Does the US Want More Venezuelan Oil?

US Strategic Calculation

Venezuela increases oil production

⬇️

Need for stable global buyers

⬇️

India = major refining capacity + large oil market

⬇️

Creates a market for Venezuelan crude

At the same time:

US pressure on Russian oil

⬇️

Potential reduction in Russian supply

⬇️

Risk of higher global oil prices

⬇️

US itself faces inflationary pressure

Hence, Washington's recent flexibility towards Russian energy flows suggests that **preventing another global oil-price shock may currently be more important than completely restricting Russian exports**.

IMPULSE

🧠 MAGIC DIAGRAM: India's Energy Balancing Act

US Pressure 🇺🇸

⬇️

Buy more Venezuelan crude 🇻🇪

⬇️

India's Commercial Test
Price + Quality + Freight + Refinery fit + Reliability

⬇️

Energy Security

↙️ ↓ ↘️

🇷🇺 Russia | 🇻🇪 Venezuela | 🌍 West Asia & Others

⬇️

Diversification WITHOUT geopolitical over-dependence

🎯 UPSC Mains Takeaway

India's energy strategy must balance **strategic autonomy with commercial rationality.** Venezuelan crude can expand diversification, but **heavy crude characteristics, limited compatible refining capacity and high freight costs** constrain its scalability. Therefore, India should **diversify sources without mechanically substituting Russian crude**, while selecting supplies based on **landed cost, refinery compatibility and energy-security requirements.**

Live Music: Minus-One, Plus-One & Zero-Track

Brief

- A controversy surrounding singer **Daler Mehndi's** performance in Uttarakhand has revived debate over what actually constitutes a **"live" musical performance**. Modern concerts often combine live vocals with pre-recorded orchestration or vocals to manage technical and performance uncertainties.

Three Types of Live-Music Tracks

🟢 ZERO-TRACK → Completely Live

Live vocals + Live instruments/orchestration

- No pre-recorded musical backing.

INSIGHTS

- Considered the benchmark of a **truly raw live performance**.
- More common among **rock concerts** and many independent artistes.
- Requires greater coordination between singers, musicians and sound engineers.

ZERO-TRACK = Maximum authenticity 🎤 + 🎸

🟡 MINUS-ONE → Live Vocals + Recorded Music

Pre-recorded orchestration − Lead vocals
⬇️
Singer performs live over the backing track

- Similar to an advanced **karaoke track**.
- Backing/ad-lib vocals may remain depending on the arrangement.
- Widely used in concerts, particularly **pop performances**.
- Helps reduce technical glitches and maintain consistent sound quality.
- However, the singer must accurately follow **cues and timing**.

⚠️ Limitation

If the singer misses the cue, the fixed track continues, making recovery difficult.

🔴 PLUS-ONE → Recorded Vocals + Recorded Orchestration

Pre-recorded vocals + Pre-recorded music
⬇️
Artist may **lip-sync or sing along**

- Recordings may be specially produced before a concert.
- Creates the impression of a live performance.
- Used when organisers prioritise **predictability and audio quality**.

🧠 MAGIC MIND MAP

LIVE PERFORMANCE

↙️ ↓ ↘️

🟢 **ZERO-TRACK** 🟡 **MINUS-ONE** 🔴 **PLUS-ONE**

Everything live → Live voice + recorded instruments → Recorded voice + instruments

IMPULSE

⬇️ ↓ ↘️

Authenticity → Hybrid → Maximum control

Why Use Pre-Recorded Tracks?

Live Performance Variables

Weather 🌧️

- **Crowd noise** 🔊
- **Artist's health** 🎤
- **Complex choreography** 💃
- **Long performances** ⏱️
- **Technical failures** ⚙️

⬇️

Need for predictable audio

⬇️

Minus-One / Plus-One

⬇️

Consistent sound + Reduced technical risk

This becomes particularly important in **stadium shows, award ceremonies and Olympic-scale events**, where performers may combine demanding choreography with sustained singing.

Famous Lip-Sync Controversies

Milli Vanilli – 1990

- German pop duo **Fab Morvan and Rob Pilatus** were revealed not to be the actual singers on their debut album.
- Their **Grammy was revoked**.
- A live-show malfunction helped expose the deception.

IMPULSE

Ashlee Simpson – 2004

- During *Saturday Night Live*, the recording of a previous song began playing when she was expected to perform another.
- The incident became a major live-TV embarrassment and triggered debate over lip-syncing.

Beyoncé – 2013

- At **Barack Obama's second presidential inauguration**, Beyoncé used a pre-recorded version of the US national anthem.
- The reason cited was the lack of rehearsal with the orchestra and the desire to avoid a flawed performance.
- She subsequently demonstrated her live vocal ability at the Super Bowl press conference.

📊 MAGIC COMPARISON DIAGRAM

Track	Vocals	Instruments	Authenticity	Main Purpose
🟢 **Zero-One**	Live	Live	⭐⭐⭐	Raw performance
🟡 **Minus-One**	**Live**	Recorded	⭐⭐	Reliability + live singing
🔴 **Plus-One**	Recorded/Live-along	Recorded	⭐	Predictability

🎯 UPSC Takeaway

The distinction between **zero-track, minus-one and plus-one** shows how modern live music balances **artistic authenticity, technological assistance, performance risk and audience expectations.** Pre-recorded elements are not inherently fraudulent; the ethical issue arises when **recorded performance is presented as entirely live without transparency.**

IMPULSE

24.10.2026



Mumbai–Ahmedabad Bullet Train:
From Japanese Shinkansen to a Hybrid Model

Brief

- India's **508-km Mumbai–Ahmedabad High-Speed Rail (MAHSR)** project began in **September 2017** as a flagship India–Japan infrastructure partnership based largely on Japan's **Shinkansen system**.
- Originally targeted for **2022**, its first section is now expected by **December 2027**.
- After delays and differences over **cost, technology, procurement and indigenisation**, the project has evolved into a **hybrid model — Japanese tracks/design + European signalling + Indian trains**, while Japanese concessional financing continues.

🕰️ 1. Evolution of the Project

Magic Timeline

2013
Japanese feasibility study
⬇️
2015

Report → Cabinet approval

⬇️

2017

Construction begins

⬇️

2019 onwards

Maharashtra land issues + COVID-19 + implementation delays

⬇️

2024

India decides to develop own bullet train

⬇️

June 2025

European-Indian JV gets signalling contract

⬇️

2027

First section expected

- Initial cost: **₹1.08 lakh crore**
- Current estimated cost: **~₹2 lakh crore**
- Japan's financing package on **highly concessional terms** remains intact.

🇮🇳🤝🇯🇵 2. Why Did the Original Model Run into Problems?

🧠 *MAGIC MIND MAP*

Original Japanese Model

→ Track + Rolling Stock + Signalling

→ **Integrated Shinkansen system**

But India prioritised:

Cost-effectiveness

- **Choice of suppliers**
- **Technology indigenisation**
- **Future HSR expansion**

⬇️

India–Japan divergence

Japan viewed Shinkansen as a **"total systems approach"**, where track, civil works, signalling and trains operate as a single integrated technological ecosystem.

India did not want to remain dependent on a **single, expensive imported solution**, particularly as it plans a larger domestic high-speed rail network.

IMPULSE

⚠️ 3. Why Did the Project Get Delayed?

Four-D Delay

Design/Planning gaps
→ Detailed procurement, costs, approvals and schedules developed after political approval.

Domestic politics
→ Maharashtra government change after **2019** complicated land acquisition/right-of-way; largely resolved after **2024**.

Disease
→ COVID-19 disrupted implementation.

Different expectations
→ Limited initial understanding of each side's **business practices and objectives**.

Meanwhile, Japan discontinued the **E5 trainset** originally intended for India, while the newer **E10** is not expected to be available before around **2034**.

⚙️ 4. The New Hybrid Model

🇯🇵 **JAPAN**
Track + Civil infrastructure design + Quality oversight + Financing
+
🇪🇺 **EUROPEAN/INTERNATIONAL SYSTEM**
Signalling
+
🇮🇳 **INDIA**
Indigenous B28 high-speed train
⬇️
Hybrid High-Speed Rail Ecosystem

- **BEML, Bengaluru** is developing the **B28**, with maximum operational speed of about **250 kmph**.
- India and Japan may subsequently negotiate procurement of **E10 Shinkansen trains**.

🚨 5. Biggest Challenge: Interoperability & Safety

Japan's Shinkansen succeeds through the:

INDUSE

“TOTAL SYSTEMS APPROACH”

Civil works → Track → Train → Signalling → Safety

All are designed as **one integrated system**.

India’s hybrid approach raises a critical question:

B28 + E10 + different signalling systems

⬇️

Can they operate safely on the **same corridor?**

⬇️

Requires rigorous **testing, standardisation and interoperability**

Japanese experts therefore stress that India must demonstrate the safety of operating multiple technological systems.

🪄 MAGIC DIAGRAM: India’s Technology Strategy

Foreign Collaboration

🇯🇵 Japanese expertise & finance

⬇️

Technology Adaptation

⬇️

🇮🇳 **Indigenisation + Supplier Diversification**

⬇️

Domestic high-speed train ecosystem

⬇️

Future HSR Expansion + Atmanirbharta

🎯 UPSC Mains Takeaway

The bullet train project illustrates both the opportunities and complexities of **international infrastructure partnerships**. India seeks to move from **technology importer → technology adapter → indigenous producer**, while retaining Japanese expertise and concessional finance. Its success will depend on **project planning, cost control, technology transfer, interoperability and uncompromising safety standards**. The larger lesson is that mega-project agreements should align **financing, technology, localisation and execution frameworks before implementation begins.**

INSIGHTS

Shamonda Virus (SHAV)

🔷 Why in News?

- **France** confirmed the **first known human case** of **Shamonda virus** in 2026.
- Patient: severely **immunocompromised leukaemia patient**; infection progressed to **blindness → confusion → coma → death**.
- Genome sequencing identified **SHAV-EU1**.
- Authorities currently assess **no identified risk to the general public**.

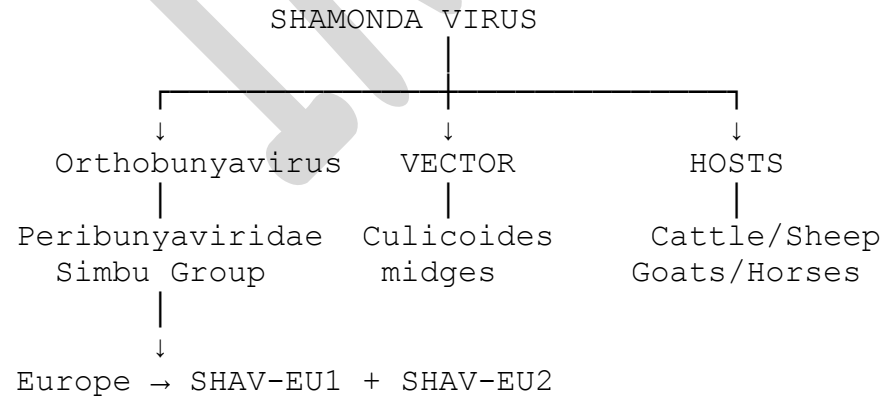
🧬 Prelims Pointers

- **Type:** Vector-borne **RNA virus**
- **Genus:** *Orthobunyavirus*
- **Family: Peribunyaviridae**
- **Group: Simbu serogroup**
- **First isolated: Cattle, Nigeria (1965)**
- Distribution reported across **Africa, Asia & Europe**.
- **Vector:** *Culicoides* **biting midges** 🦟 — small fly-like insects.
- Hosts include **cattle, sheep, goats, horses and alpacas**.

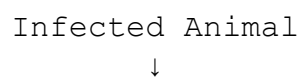
🐄 *Signs in Animals*

Fever + diarrhoea + ↓ milk production + reproductive disorders
→ Neurological signs are relatively uncommon.
→ Symptoms overlap with other diseases ⇒ **laboratory confirmation necessary**.

🧠 Magic Mind Map



🔄 Transmission & Seasonality



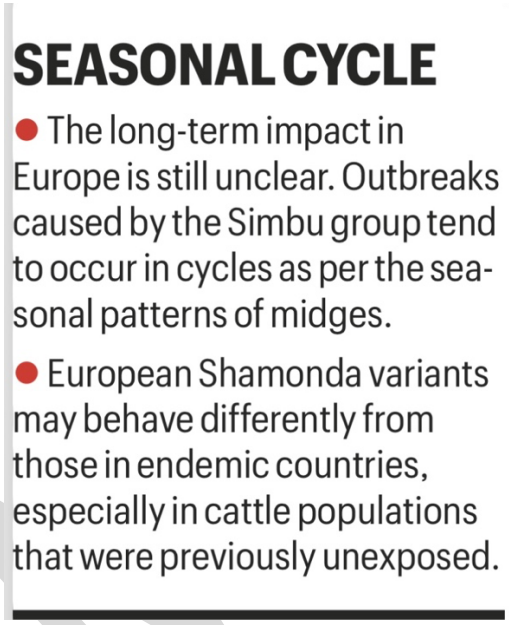
IMPULSE

Culicoides midge
↓
Bite
↓
Animal / Rare Human Infection

- Outbreaks can show **seasonal/cyclical patterns** linked to **midge activity**.
- **No commercially available vaccine** presently reported.
- WOAH control measures: **fine-mesh screens, reducing breeding sites, vector surveillance/control, double-door systems** and animal transport during **low-vector activity**.

Prelims Trap

Shamonda ≠ mosquito-borne. Its recognised vector is **Culicoides biting midges**.



Economics of Social Unrest: Causes & Consequences

Brief

- A wave of protests across **France, Albania, Belgium, Italy and Portugal** has renewed debate over the economic roots of social unrest.
- While protests may have immediate **political triggers**, grievances increasingly revolve around the **cost-of-living crisis, inequality, food and fuel prices**.

- IMF research, however, suggests an important distinction: **economic inequality alone is a weak predictor of when unrest begins, but unrest can itself cause substantial and persistent economic damage.**

1️⃣ Does Inequality Cause Social Unrest?

The **World Inequality Report 2026** uses the **Income Gap**:

Income Gap = Average income difference between richest 10% and poorest 50%

Higher ratio → Greater inequality

Selected Income Gap, 2024

- 🇫🇷 France: **16.6**
- 🇩🇪 Germany: **16.6**
- 🇺🇸 US: **34.6**
- 🇮🇳 India: **38.2**
- 🇿🇦 South Africa: **118.4**

France's inequality increased between **2014 and 2024**, but remains relatively low compared with several countries. Moreover, inequality declined in countries such as **Germany, Spain and the UK**.

🧠 *Inference*

High inequality ≠ Automatic social unrest

Inequality may create underlying grievances, but it cannot alone explain the **timing and occurrence** of protests.

🪄 MAGIC MIND MAP: What Predicts Social Unrest?

SOCIAL UNREST

↙️ Economic factors

• Food prices
• Fuel prices
• Cost of living
• Inequality

↓ **Contagion effect**

- Previous domestic protests
- Protests in neighbouring/culturally similar countries

↘️ **Enabling factors**

- Digital access
- Social-media penetration
- Mass communication & coordination

⬇️

Collective mobilisation

2️ The Strongest Predictor: Past Unrest

IMF researchers using **machine-learning techniques** examined more than **340 economic and social indicators**.

Their major finding:

Past turmoil—domestically and in neighbouring countries—is about 10 times more informative than the strongest economic/social predictors.

Why? The "Bank Run" Analogy

One group protests

⬇️

Others observe mobilisation

⬇️

Expectation that others will participate rises

⬇️

Coordination becomes easier

⬇️

Protest spreads

Thus, unrest can display a **demonstration/contagion effect**.

Digital connectivity + social media further lower the cost of organising and coordinating large groups.

IMPULSE

3️⃣ Economic Factors Still Matter

Although they may not be the strongest predictors, economic pressures can provide the **underlying grievance**.

Particularly important are:

Food inflation + Fuel inflation

⬇️

Higher household expenditure

⬇️

Falling real purchasing power

⬇️

Cost-of-living stress

⬇️

Greater potential for discontent

📉 4. Economic Consequences of Unrest

IMF research finds that major unrest can have **persistent macroeconomic costs**.

Major unrest

→ Disruption of economic activity

→ Lower investment & confidence

→ Production/commerce affected

→ **GDP contraction**

On average:

GDP remains around 1 percentage point below its pre-shock baseline six quarters after major unrest.

Importantly:

Political unrest → GDP damage

Socio-economic unrest → Sharper contraction

Political + socio-economic causes → Sharpest contraction

🎯 UPSC Mains Takeaway

Magic Equation

Economic grievance

- **Past protest experience**
- **Neighbourhood contagion**

IMPULSE

- **Digital coordination**
  = **Higher probability of social unrest**

⬇️

Unrest → Economic disruption → Lower GDP → Further grievances

Thus, social unrest can create a **vicious economic cycle**. Policymakers must go beyond merely reducing headline inequality and address **cost-of-living pressures, food and fuel inflation, inclusive growth and institutional channels for grievance redressal**, while recognising the growing coordinating power of **digital networks**.

• INCOME INEQUALITY ACROSS COUNTRIES

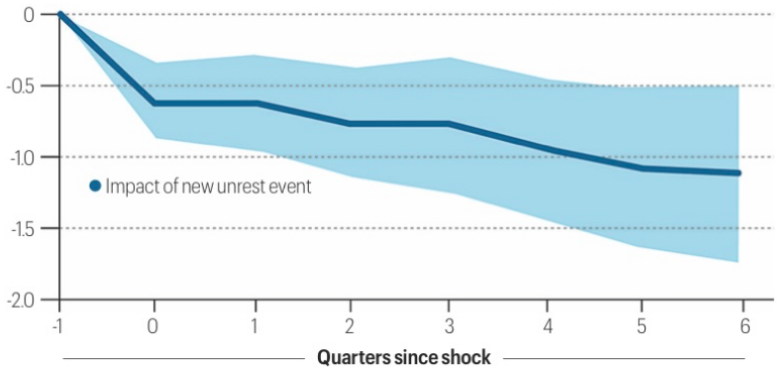
The Income Gap measures the average income difference between the poorest half and the richest tenth within a population. The higher the ratio, the greater the inequality.

	2014	2024
Spain	16.4	14.7
Italy	13.7	14.8
France	15.2	16.6
UK	18.1	16.6
Germany	20.5	19.5
Pakistan	22	21.4
US	34.5	34.6
India	**38**	**38.2**
South Africa	103.3	118.4

SOURCE: WORLD INEQUALITY REPORT 2026

• ECONOMIC DAMAGE FROM UNREST CAN BE LONG-LASTING

On average, GDP remains about 1 percentage point below its pre-shock level a year and a half after a major protest.
(Change in GDP relative to baseline, in percentage points)



SOURCE: HADZI-VASKOV, PIENKNAGURA AND RICCI (2021). **NOTE:** A "NEW UNREST EVENT" IS DEFINED AS AN UNREST EVENT THAT FOLLOWS EIGHT QUARTERS OF NO UNREST EVENTS. THE SHADED AREA REPRESENTS A 90% CONFIDENCE INTERVAL.

25.10.2026

Ashoke Sen, String Theory & Oskar Klein Medal

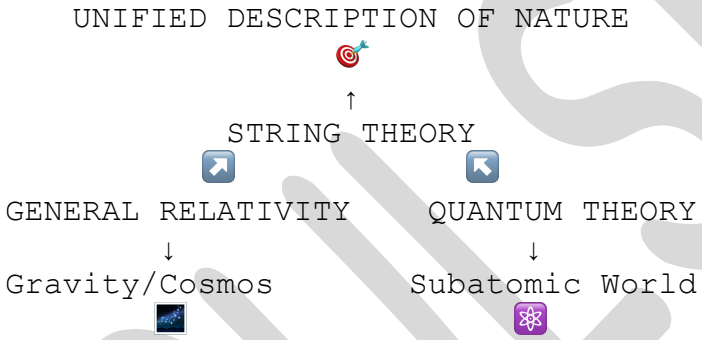
Brief

- Renowned Indian theoretical physicist **Prof. Ashoke Sen** has been awarded the **Oskar Klein Medal**, a major honour in theoretical physics.
- He is internationally known for fundamental contributions to **string theory, black-hole physics and particle physics**.
- Currently associated with the **International Centre for Theoretical Sciences (ICTS), Bengaluru**, a centre of **TIFR**.

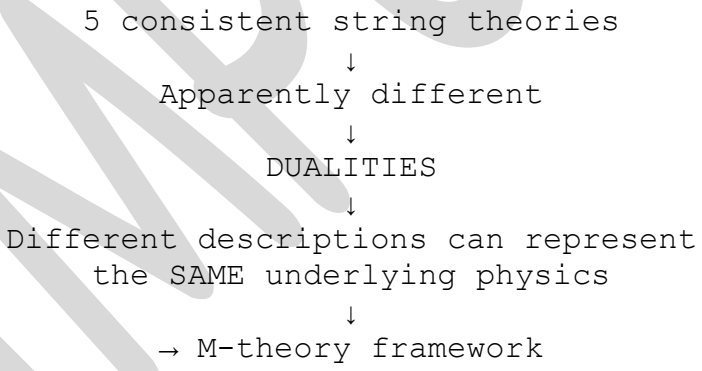
🧬 String Theory

- Attempts to develop a **unified description of nature**, particularly reconciling:
  - **General Relativity (GR)** → gravity at **large/cosmic scales** 🌌
  - **Quantum Theory** → physics at **atomic/subatomic scales** ⚛️
- These frameworks are individually successful but become difficult to reconcile in extreme regimes such as **black holes** and the **early universe**.
- String theory proposes that fundamental entities are not merely point-like particles but extremely tiny **one-dimensional strings**.
- Different **vibrational modes** of strings appear as different particles.

🪄 *Magic Diagram*



🧠 Sen's Key Contribution



- Sen's 1990s work on **strong–weak coupling duality (S-duality)** helped demonstrate deep equivalences among apparently different string theories.
- This contributed to the **"Second Superstring Revolution"** and the broader idea that multiple string theories may be limits of a deeper framework.
- ⚠️ **Key limitation:** String theory has strong mathematical foundations but still lacks decisive **direct experimental verification**.

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🏆 High-Yield Awards

- **Shanti Swarup Bhatnagar Prize** — 1994
- **Fellow of the Royal Society (FRS)**
- **Infosys Prize** — 2009
- **Padma Bhushan** — 2013
- **Breakthrough Prize in Fundamental Physics**
- **Dirac Medal** — first Indian recipient
- **Oskar Klein Medal** — latest honour

🔥 Prelims Memory Trick

"Sen Strings the Two Worlds"

Quantum ⚛ → STRING → 🌌 Gravity

Prelims trap: String theory does **not** currently constitute an experimentally established "Theory of Everything"; it is a leading theoretical framework attempting quantum gravity/unification.

Jogen Chowdhury: Modern Indian Art

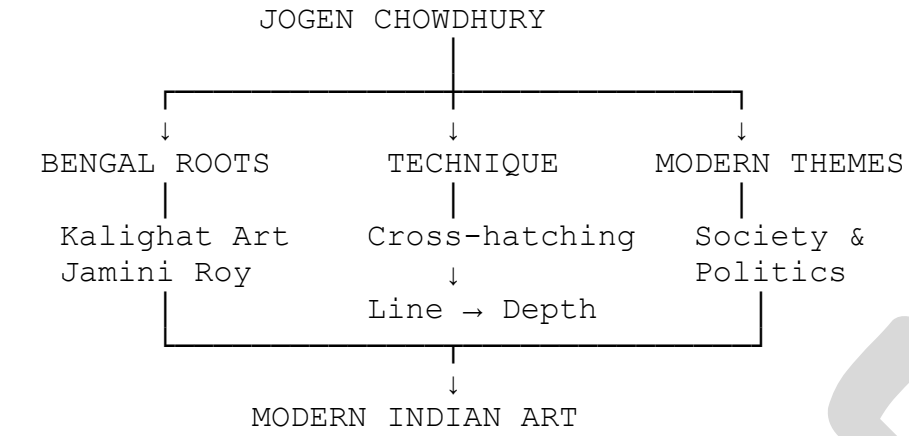
Brief

- Eminent modern Indian artist **Jogen Chowdhury** passed away in Kolkata aged **87**.
- A major figure of post-Independence Indian art, he was celebrated for combining **Bengal's traditional visual vocabulary with contemporary socio-political themes**.

🖌️ Artistic Style – High Yield

- Best known for **cross-hatching** — closely intersecting lines used to create **texture, volume, shadow and depth**.
- His visual language combined:
  - **Kalighat painting tradition**
  - Influence of **Jamini Roy**
  - Traditional Bengali imagery
  - Contemporary social and political realities
- Famous work: ***Tiger in Moonlight***.

Magic Mind Map



Institutions & Career

- Graduated from **Government College of Art & Craft, Kolkata**.
- Trained in **printmaking/painting** at **École Nationale Supérieure des Beaux-Arts, Paris**.
- Served as **Keeper of Art at Rashtrapati Bhavan (1972–87)**:
  - Curated, managed and helped conserve its art collection.
- Later taught at **Santiniketan**.

Art-Tradition Link

Kalighat Painting
↓
19th-century Kolkata
↓
Bold, flowing lines
↓
Influenced modern artists
↓
Jamini Roy → Jogen Chowdhury

Public Life

- **Rajya Sabha MP: 2014–2020**
- Raised issues concerning the **art ecosystem**, including taxation/GST on artworks.
- Created portraits of prominent parliamentarians.

Prelims Traps

Jogen Chowdhury ≠ Bengal School founder
Cross-hatching ≠ exclusively Indian technique

IMPULSE

Kalighat painting → **Bengal/Kolkata**, originally associated with artists around the **Kalighat temple area**.

Memory Key: 🎨 **"Jogen = Kalighat roots + Cross-hatched lines + Contemporary India."**

26.10.2026

Agrivoltaics:

Solar Power + Agriculture on the Same Land

Brief

- The government plans to introduce **agri-photovoltaics (Agri-PV)** under **Phase-II of PM-KUSUM**, India's flagship scheme for solarising irrigation.
- **Agrivoltaics** combines **solar electricity generation with crop cultivation on the same agricultural land**.
- It can address **land scarcity for solar projects** while giving farmers an additional income stream.

1️⃣ How Does Agrivoltaics Work?

🧠 *MAGIC DIAGRAM*

Agricultural Land 🌾

⬇️

Elevated Solar Panels ☀️

⬇️

Panels installed at around **3.5–4 metres height**

⬇️

Farm machinery + cultivation continue underneath

⬇️

One Land → Two Outputs

Food + Electricity

- The basic photovoltaic technology remains similar to conventional ground-mounted solar.
- The major difference is the **elevated supporting infrastructure** required to leave adequate farming space beneath the panels.

IMPULSE

2️⃣ Why is India Exploring Agrivoltaics?

Potential

- Around **30% of India's 160 million hectares of cropland** could potentially be suitable.
- This translates into an estimated **1–2 TW (1,000–2,000 GW)** potential capacity.
- Particularly useful for states with **limited non-agricultural land** for large-scale solar projects.

Farmer Benefits

Solar generation
➕
Continued cultivation
➕
Additional electricity income
⬇️
Higher land-use efficiency

⚠️ 3️⃣ Major Challenges

🌱 *Crop suitability*

Agrivoltaics is **not suitable for every crop**.

Initial assessments indicate that while it may be suitable for **fruits and leafy vegetables**, it has not been found suitable for crops such as **rice and sugarcane** in the initial evaluation cited in the article.

Therefore:
Solar expansion ≠ universal compatibility with agriculture

💰 *Higher Cost*

Elevated panels require additional structural and civil infrastructure.

➡️ Agrivoltaic projects are estimated to be **25–30% more expensive** than conventional ground-mounted solar projects.

👩‍🌾 *Small & Marginal Farmers*

- More than **85% of India's farmers are small and marginal farmers**.

IMPULSE

- Average landholding is only around **0.96 hectare**.

Therefore, policy must ensure:

Solar project → Farmer benefit

rather than:

Solar project → Loss of agricultural control

🧩4️⃣ Policy Challenges

MAGIC MIND MAP

AGRIVOLTAICS

↙️ Technology

• Elevated panels
• Machinery movement
• Structural safety

↓ Agriculture

• Crop yield
• Soil health
• Food security
• Crop-specific suitability

↘️ Socio-economic

• Land ownership/control
• Small farmer interests
• Additional income
• Fair contracts

⬇️

Need for evidence-based scaling

🎯 UPSC Mains Takeaway

Agrivoltaics offers a **"dual-use land" model** for India's clean-energy transition by combining **food production and renewable-energy generation.** However, its large-scale adoption should follow **pilot-based assessment of crop yields, soil health and farmer incomes.** A suitable policy framework must protect **farmers' land rights and agricultural production**, promote crop-specific deployment, and address the higher infrastructure costs.

IMPULSE

🔑 **One-Line Revision**

Agrivoltaics = "Same Land → Food + Clean Energy → Higher Land Productivity, but only with Crop & Farmer Safeguards."

Cancer Drug Price Regulation: Beyond Trade-Margin Caps

Brief

- The Centre has informed the **Supreme Court** that trade margins on specified **non-scheduled cancer medicines** will be capped at **30%**.
- An **expert committee** will identify medicines for coverage, followed by examination by the **National Pharmaceutical Pricing Authority (NPPA)**.
- While improving **affordability** is essential, durable reform must simultaneously protect **availability, quality, patient safety and healthcare investment**.

1. Why Regulation is Needed

- Large gaps between **supply-chain entry price → final patient price** may impose unjustified costs.
- In a welfare state, government has a responsibility to make healthcare **accessible and affordable**.
- The **2019 Trade Margin Rationalisation pilot** already covered **42 selected non-scheduled anti-cancer medicines**.

🔑 ***Key distinction***

Trade margin ≠ Total cost of healthcare delivery

The procurement price does not capture:

- storage and handling;
- specialist clinical expertise;
- infection control and monitoring;
- hospital infrastructure;
- emergency support;
- geographical/logistical costs.

Thus, the same medicine can legitimately involve different treatment costs across hospitals.

2. Problems with a Narrow/Blanket Approach

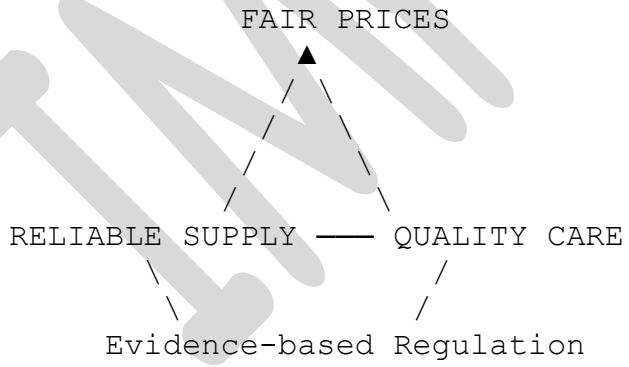
- **Fragmented regulation** of one product category at a time may merely shift market distortions elsewhere.
- Uniform caps can ignore differences between **routine outpatient drugs and complex specialist therapies**.
- *Excessively rigid controls may:*
  - undermine smaller manufacturers' viability;
  - disrupt supplies, particularly in **remote areas**;
  - discourage hospital investment and adoption of newer technologies;
  - potentially affect **quality and safety**.

3. Need for Comprehensive Reform

- India should examine trade margins across **medicines + medical devices + consumables**, but without applying an identical formula to all.
- *A **scientifically credible methodology** should distinguish:*
  - **Unjustified commercial margin** from **legitimate cost of delivering safe healthcare**.
- Consultations should include **manufacturers, distributors, hospitals, clinicians, insurers, patient groups and State governments**.

🧠 Magic Diagram

Affordable Healthcare Triangle



👉 Weakening any one side can ultimately harm the patient.

4. How Should Success Be Measured?

Not merely by **number of products price-controlled**, but whether:
Lower/Fairer Prices → No Shortages → Continued Access → Quality & Safety Maintained

IMPULSE

UPSC Mains Takeaway

India needs **smart rather than indiscriminate price regulation.** Cancer-drug affordability should form part of a broader, evidence-based framework covering healthcare products while recognising legitimate differences in **clinical complexity, infrastructure and geographical reach.** The objective should be **patient-centric affordability without undermining supply security, innovation, investment or quality of care.**

27.10.2026

Tiger Reintroduction in Buxa: T-138's Journey Across State Borders

Brief

- **T-138**, a three-year-old tigress, was translocated from **Valmiki Tiger Reserve, Bihar → Buxa Tiger Reserve, West Bengal** on **September 30, 2026**.
- It was part of a programme to **re-establish a resident tiger population in Buxa**, where a stable population has been absent for decades.
- In a major conservation first, it was reportedly the **first tiger successfully airlifted between Indian States for such a reintroduction initiative**.
- However, T-138 subsequently travelled about **35 km into Assam's Raimona National Park**, highlighting the importance of **landscape-level conservation and wildlife corridors**.

1. Why was T-138 introduced in Buxa?

🐅 ***Buxa Tiger Reserve***

- Located in **Alipurduar district, West Bengal**.
- Protected forest/national park landscape spanning about **760 sq km**.
- Historically an important **North Bengal tiger landscape**.
- *Tiger recovery was affected by:*
    - **Habitat degradation**
    - Land-use changes
    - Declining **prey availability**

T-138's release marked the beginning of a **phased tiger recovery programme**.

🎯 ***Initial plan***

Establish one breeding unit:

1 Tiger + 2 Tigresses → Breeding → Resident Population

To improve habitat and prey availability, the Forest Department had relocated **242 households** from core villages including **Bhutia Basti and Gangutia Basti**.

2. T-138's Journey

Valmiki Tiger Reserve
BIHAR
↓
✈️ Airlifted
↓
Buxa Tiger Reserve
WEST BENGAL
↓
Sankosh River
↓
Raimona National Park
ASSAM

- T-138 was initially kept in a **2.2-hectare soft enclosure** before release.
- After exploring Buxa, it crossed towards the **Sankosh River** and entered Assam.
- Being **GPS-tagged**, its movement is being continuously monitored.
- Authorities initially preferred allowing natural exploration rather than immediately tranquilising it.

3. Why is the Movement Significant?

Tigers naturally disperse over considerable distances while searching for **territory, prey and mates**. T-138 demonstrates that tiger conservation cannot be confined to individual protected areas.

🧠 *Magic Conservation Mind Map*

Tiger Recovery

→ **Source Population** — Valmiki
→ **Reintroduction Site** — Buxa
→ **Dispersal Landscape** — Raimona
→ **Connectivity** — forests + rivers + corridors

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→ **Challenge** — human-wildlife conflict
→ **Goal** — viable metapopulation

A similar dispersal occurred in **2024**, when tigress **Zeenat** travelled around **300 km from Odisha's Similipal landscape into West Bengal** before being captured after 21 days.

UPSC Mains Takeaway

T-138 illustrates the transition from **"protected-area conservation" to "landscape conservation."** Successful tiger reintroduction requires not merely releasing animals but ensuring **adequate prey, habitat connectivity, interstate coordination, scientific monitoring and community participation**. Long-distance dispersal should therefore be incorporated into conservation planning rather than treated merely as an escape from a reserve.

Fund for Loss and Damage: Climate Justice Needs Faster Compensation

Brief

- Nearly **two months after devastating floods in Nepal**, the UN climate regime's **Fund for Loss and Damage (FLD)** allocated **$21.6 million** to the country.
- It is the **first time the Fund has earmarked a grant for a disaster-affected nation**.
- Nepal contributes barely **0.1% of global emissions**, yet faces severe Himalayan climate risks—making its case a test of **climate justice**.
- Its estimated recovery and reconstruction requirement is at least **$5 billion**, showing the huge gap between **climate losses and available compensation**.

1. What is the Fund for Loss and Damage?

- Established at UNFCCC COP27 (2022).
- **Operationalised in 2023** after nearly three decades of campaigning by climate-vulnerable countries.
- Designed to assist countries suffering climate-related **loss and damage** that cannot be adequately addressed merely through adaptation.

🔑 *Core Principle*

Climate compensation ≠ Humanitarian charity

It rests on **climate justice**—countries contributing least to global warming often suffer disproportionately, while historically high emitters have greater responsibility and financial capacity.

2. Nepal: Why a Test Case?

An **ice-and-rock avalanche → flash floods in Bhotekoshi & Trishuli river systems** caused:

- **1,400+ deaths**
- Several villages swept away
- At least **10% of Nepal's hydropower facilities lost**
- Reconstruction needs: **≥ $5 billion**

Yet FLD assistance = **$21.6 million**.

3. Problems Exposed by Nepal's Experience

① *Slow response*

⊗ Nepal sought emergency assistance after the application window had closed, while claims from **119 countries** were awaiting approval.

⊗ Developed countries initially resisted allowing Nepal to **"jump the queue"**, eventually treating its allocation as an exceptional case rather than creating a permanent rapid-response mechanism.

② *Severe financing gap*

- FLD pledges: about **$822 million**
- This represents only around **one-third of pending claims**.

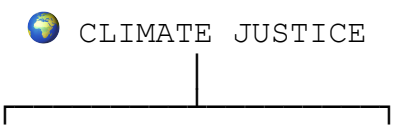
③ *Bureaucratic procedures*

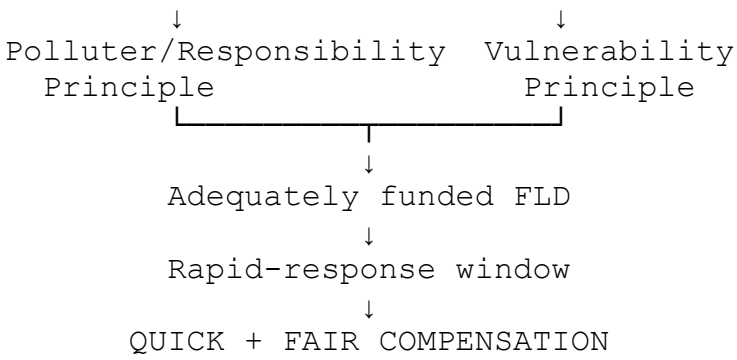
Lengthy approval can:

Delay essential services → increase human suffering → raise reconstruction costs → deepen fiscal stress

⊗ Poorer countries have particularly limited capacity to absorb sudden climate losses.

4. What Needs to Change?





The Fund needs **predictable and adequate financing**, simpler access procedures and a **permanent rapid-response mechanism** for catastrophic events.

UPSC Mains Takeaway

The Nepal case marks an important transition from **climate-justice commitments to actual compensation**, but also exposes the FLD's structural weakness. Climate justice loses meaning if compensation arrives **too little and too late.** As extreme events intensify, strengthening the Fund's **scale, predictability, accessibility and speed** should become central to global climate governance, including discussions at **COP31 in Antalya, Turkey**.

Lula's Historic Comeback: Brazil, Latin America & the Global South

Brief

- Brazil's President **Luiz Inácio Lula da Silva** won a historic **fourth term**, defeating far-right **Flávio Bolsonaro** in the runoff with **51.79% (~52%)** votes.
- Lula had finished **second in the first round**—the first candidate since Brazil returned to direct presidential elections in **1989** to subsequently win the runoff.
- The victory interrupts a streak of **seven consecutive right-wing presidential victories in Latin America**, but the narrow result reveals a **deeply polarised Brazil**.

1. How did Lula Script the Turnaround?

① *Higher turnout & mobilisation*

- Nearly **3 million additional voters** participated in the runoff.
- Youth demonstrations, rallies and a stronger **digital campaign** energised Lula's supporters.
- Welfare measures included enhanced/early **cash-transfer payments**.

- Congress approved reduction of the maximum working week from **44 → 40 hours**, without cutting pay.

② *Electoral Geography*

- Lula retained all **nine north-eastern states**—his traditional stronghold.
- Crucially, he also gained ground in areas that had earlier favoured Bolsonaro.

2. Why is the Result Significant?

🇧🇷 *Democracy*

✓ Flávio Bolsonaro has sought annulment of the result, reviving concerns over peaceful democratic transition following the **2022 post-election crisis**, when Jair Bolsonaro's supporters stormed government buildings.

🌎 *Latin America*

✓ *Lula's victory:*

Right-wing regional surge → Interrupted, not reversed

✓ Bolsonarism remains resilient, reflecting ideological conservatism and concerns regarding **state intervention and religion**.

3. Formidable Domestic Challenges

- Public debt: **over 82% of GDP**
- Interest rate: around **13.75% (September)**
- Slowing economy and affordability pressures
- Rising household debt
- Conservative majority in **Congress**
- More than a dozen right-wing state governors
- Nearly half the electorate voted against Lula.

Thus, despite **record-low unemployment and wage growth exceeding inflation**, fiscal and political constraints could limit reforms.

4. Geopolitical Significance

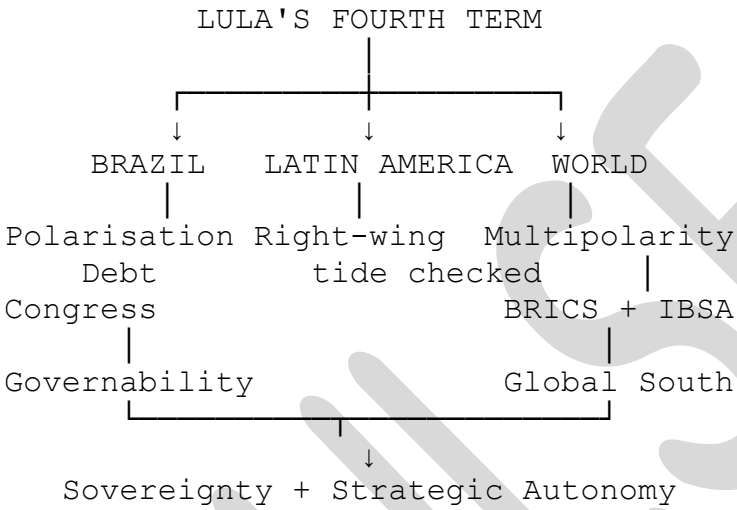
Lula's victory denies US President **Donald Trump** a major ideological ally in Latin America's largest economy.

Lula has:

IMPULSE

- resisted US pressure/tariffs;
- defended Brazilian sovereignty — **"Brazil is no one's backyard"**;
- deepened relations with **China**;
- maintained a **Global South-oriented foreign policy**.

🧠 Magic Diagram



🇮🇳 India Angle / UPSC Takeaway

Lula's continuation strengthens **India–Brazil convergence** through **BRICS and IBSA**, platforms both countries view as instruments for a **more multipolar world order** and greater developing-country representation in global governance.

However, Lula's narrow victory demonstrates that electoral success does not automatically ensure political dominance. His fourth term will depend on reconciling **economic stability, fiscal sustainability, social welfare and political polarisation**, while navigating intensifying **US–China competition and Global South aspirations**.

New 'Antibody Cocktail' Against Cobra Venom

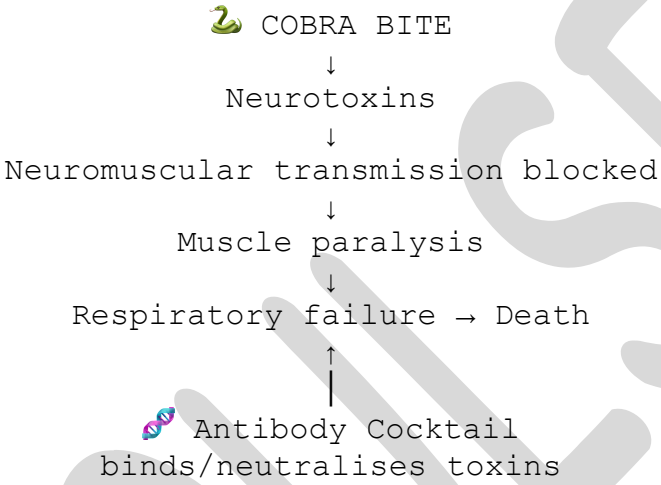
🔬 Why in News?

- Scientists from **IISc Bengaluru's Centre for Ecological Sciences (CES)** and **Technical University of Denmark (DTU)** have developed an experimental **antibody cocktail** capable of neutralising venom from **multiple Indian cobra species**.
- Research published in ***Science Translational Medicine***.
- Successfully tested **in mice → not yet an approved human treatment**.

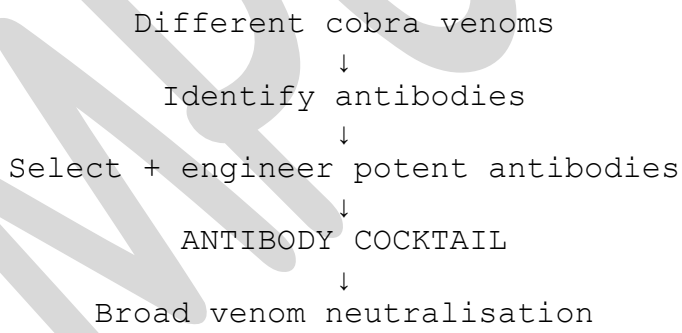
🧪 Cobra Venom — Science

- Cobra venom is predominantly **neurotoxic**.
- Neurotoxins interfere with **nerve–muscle signalling** → muscle paralysis → **respiratory failure** → death.
- *Venom composition can vary:*
  - **between species**, and
  - **geographically within the same species**.

🪄 Magic Diagram



💉 New Approach



- Inspired by earlier antibody research involving animals such as **alpacas and llamas**.
- Cocktail protected mice exposed to venom from **spectacled cobra, monocled cobra and two king-cobra species**, even when administered **30 minutes after venom injection**.
- Carefully selected/engineered antibodies may achieve neutralisation using **smaller quantities** → potential **safety and cost advantages**.

🐍 India's 'Big Four' — MUST REMEMBER

♉ **Spectacled cobra (*Naja naja*)** – Neurotoxic

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- ♉ **Common krait (*Bungarus caeruleus*)** – Neurotoxic
- ♉ **Russell's viper (*Daboia russelii*)** – predominantly haemotoxic
- ♉ **Saw-scaled viper (*Echis carinatus*)** – predominantly haemotoxic

⚠️ Prelims Traps

- King cobra is NOT one of India's "Big Four".
- Existing Indian **polyvalent antivenom** targets the Big Four; it is **not reliably effective against king-cobra envenoming**.
- Antivenoms work through **antibodies binding venom toxins**, not by directly destroying the snake venom.
- 🧠 **Memory: "Cobra + Krait → Nerves 🧠 | Russell + Saw-scaled → Blood 🩸."**

28.10.2026

The message in Microsoft exit offer for 60,000 staff

Microsoft has not linked the job cuts to AI, but they come amid growing concerns over AI-driven job losses, particularly in the technology sector

Indian jobs that may be hit

Microsoft employs around 23,000 people in India.

Employees in divisions such as Copilot, AI, Windows and Devices, Xbox, finance and HR are among those eligible for the voluntary exit package.

Microsoft's India footprint

- A significant part of Microsoft's India operations is its India Development Center, one of the company's largest research and development facilities outside its headquarters in Redmond, Washington.
- With operations in Hyderabad, Bengaluru and the National Capital Region, the centre develops technologies for Microsoft's global businesses, including Windows, Azure, Microsoft 365 and AI products.
- Its Indian teams also contribute to Copilot Studio, Azure AI Search, AI agents, speech and translation technologies and machine learning platforms.

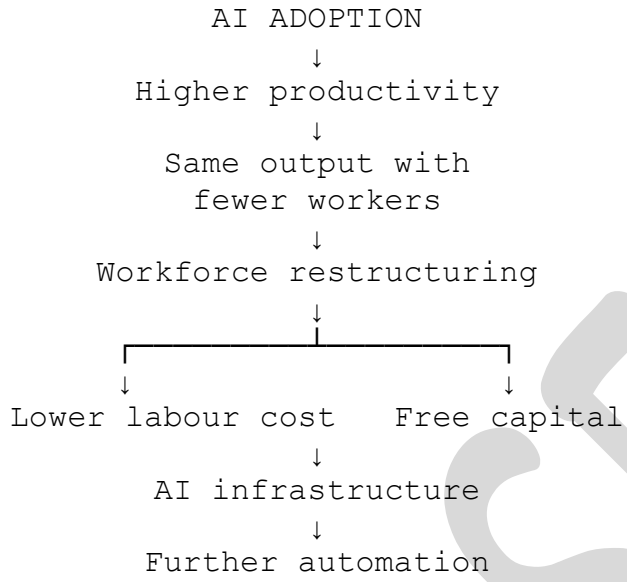
AI-Driven Workforce Shake-up: Why India Needs a Human-Capital Strategy

Brief

- **Microsoft** has extended a global **Voluntary Exit Offer (VEO)** covering approximately **60,000 employees**, including eligible employees in India, amid a broader technology-sector workforce restructuring.
- Microsoft employs around **23,000 people in India**; employees across **Copilot, AI experiences, Windows & Devices, Xbox, finance and HR** may be affected.
- Microsoft has **not explicitly attributed the latest programme to AI replacing workers**. However, the move comes alongside rapidly rising investment in **AI infrastructure and automation**.
- The issue is particularly significant for India because its **youth-heavy workforce** and large **labour-intensive IT sector** face simultaneous pressure to create quality employment and adapt to AI.

1. Why are Companies Restructuring?

🤖 AI + Productivity + Capital Reallocation



- AI can automate tasks in **software development, testing, customer support and routine white-collar functions**.
- *Companies may simultaneously face pressure to:*
    - improve productivity;
    - reduce labour costs;
    - redirect resources towards AI infrastructure.

Examples cited

- **Block:** >4,000 jobs cut in 2026; decision explicitly linked by its CEO to AI improvements.
- **Salesforce:** customer-support workforce reduced as AI agents increasingly handled queries.
- **Livspace:** around 1,000 jobs cut amid an AI-led operating model.
- **TCS:** announced reduction of around 12,000 employees, citing skill mismatches/business requirements rather than directly attributing cuts to AI.
- **Klarna:** subsequently increased human-support hiring after finding that customers still needed humans for complex problems.

2. Impact on India 🇮🇳

India faces a unique dilemma:

Demographic dividend + AI-led labour displacement

The IT-services industry is one of India's largest providers of **white-collar employment**, but its traditional labour-intensive model may face pressure as AI increases productivity.

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Potential effects

Short term

→ New demand for AI, cloud, data and specialised skills

→ Emerging technology-oriented jobs

Medium term

→ Automation of routine tasks

→ Skill mismatch

→ Pressure on conventional software/customer-support roles

→ Possible slower employment growth

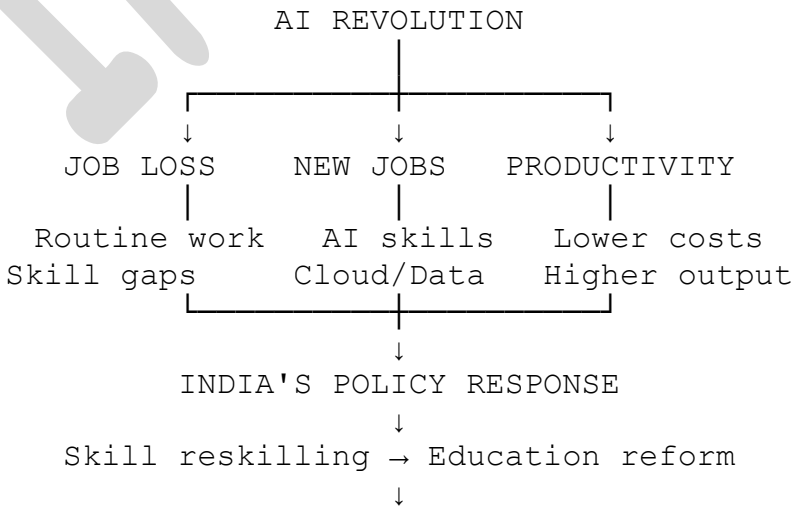
3. Microsoft India: Specific Concerns

- India Development Centre operates from **Hyderabad, Bengaluru and NCR**.
- Indian teams contribute to **Azure, Windows, Microsoft 365, Copilot, AI agents, speech/translation and machine-learning technologies**.
- The VEO is available to eligible employees at **Level 70 and below** across participating teams.
- Employees choosing voluntary exit may receive severance and **career-transition assistance**.
- Indian employees on **H-1B visas** in the US may face additional immigration challenges if they leave without another sponsoring employer.

4. Policy Challenge for India

India cannot rely merely on creating more jobs; it needs to create **AI-complementary jobs**.

🧠 Magic Mind Map



AI + Human complementarity
↓
Inclusive job creation

UPSC Mains Takeaway

AI-driven restructuring represents not simply a **technology challenge but a human-capital challenge.** India must simultaneously promote **AI adoption and employment security** through reskilling, industry-linked education, stronger digital capabilities and creation of new productive sectors. The objective should not be to resist automation, but to ensure that **AI augments human capabilities rather than converting India's demographic dividend into a demographic burden.**

Food Colouring Safety:
Rhodamine-B and the Need for Stronger Food Regulation

Brief

- Uttar Pradesh has intensified scrutiny of **food colourings** after detecting **non-food-grade industrial dyes** in chutney.
- The focus is particularly important during the festive season, when consumption of coloured sweets, snacks and street foods rises.
- Authorities have issued guidelines on **permitted colours, prohibited dyes, their measurement and usage**.

1. What is Under the Scanner?

🚫 *Prohibited practices*

- Adding colours to **green/red chutneys** served with samosa, chaat, momos and rolls.
- *Using industrial dyes in:*
  - **Cotton candy**
  - Ice lollies
  - Chicken tikka/kebabs/chaap
  - Fried fish
  - Sweets and spices

🌿 *Safer alternatives*

Vendors are advised to use natural food ingredients such as:

Tomato + Beetroot + Coriander + Mint

For red meat preparations:

Kashmiri chilli + Degi mirch

2. Rhodamine-B: Why Concern?

- ✓ **Rhodamine-B** is an **industrial dye** used for colouring textiles and paper and is **not a food-grade colour**.
- ✓ Its illegal use can occur because small vendors may not be aware of its potential risks.

Other prohibited industrial dyes

- **Metanil Yellow**
- **Butter Yellow**
- **Malachite Green**
- **Auramine**
- **Orange II**
- **Sudan dyes**

These may be used illegally to make food appear **brighter and more attractive**.

3. Health Concerns

Colour/dye	*Potential concern mentioned*
Rhodamine-B	Acute poisoning at high exposure; prolonged exposure associated with liver dysfunction/cancer
Tartrazine	Hives and hypersensitivity/allergic reactions
Carmoisine	Hypersensitivity, swelling, breathing difficulties and hives
Sudan dyes	Associated with adulteration of edible oils and packaged sauces

⚠ **UPSC trap:** Not every artificial food colour is illegal. The problem is **unauthorised colour, unauthorised food category or excessive quantity**.

4. What Does the Law Say?

Food Safety and Standards Act, 2006

Provides for action against:

- **Sub-standard food**
- **Misbranded food**
- **Unsafe food**

Depending on the violation, penalties can include **fine up to ₹3 lakh and imprisonment up to six months**, as stated in the source.

FSS (Food Products Standards and Food Additives) Regulations, 2011

Artificial colours **can be used in certain foods**, including sweets and cakes, **only when**:

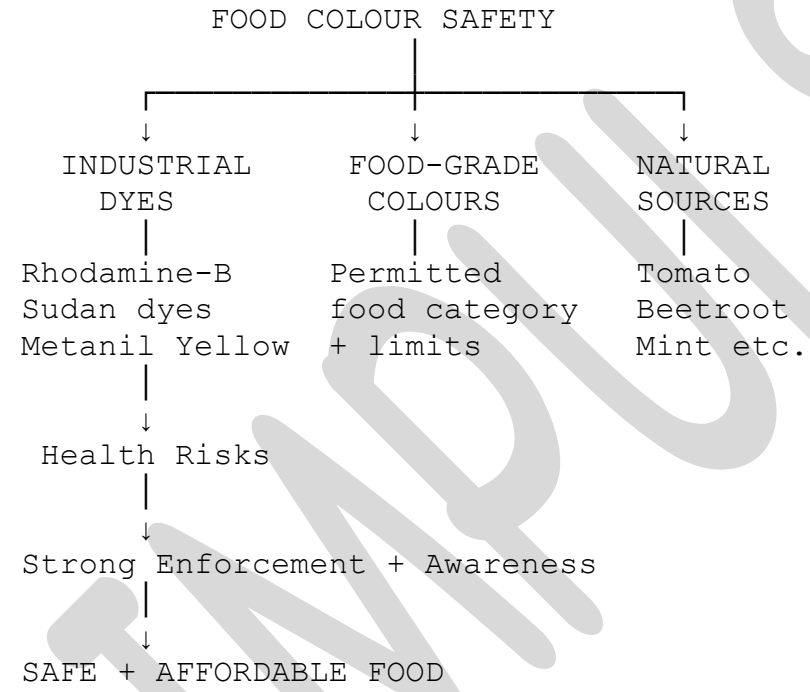
1. the colour is permitted for that particular food category; and
2. the prescribed limit is followed.

Therefore:

Permitted in cake ≠ automatically permitted in bread/chutney/another food.

Safety assessment can also depend on processing conditions, such as **heat stability and formation of by-products during deep frying**.

🧠 Magic Mind Map



UPSC Mains Takeaway

Food-colour regulation illustrates the challenge of balancing **consumer safety, food aesthetics, vendor livelihoods and effective enforcement.** India needs stronger **testing, traceability, vendor awareness and local-level enforcement**, while ensuring that legitimate food-grade additives remain available within scientifically prescribed limits. The focus should be on preventing **industrial-dye adulteration**, rather than treating all artificial food colours as inherently unsafe.

IMPULSE

29.10.2026

• CLIMATE

How El Niño shaped path, intensity of Cyclone Arnab

Odisha and West Bengal are more prone to Bay of Bengal cyclones. But during El Niño years, cyclones affect the Andhra and Tamil Nadu coasts

• HOW ARE CYCLONES NAMED?

● **The naming** of tropical cyclones in the Bay of Bengal and Arabian Sea began in September 2004 after a meeting of an intergovernmental panel in 2000.

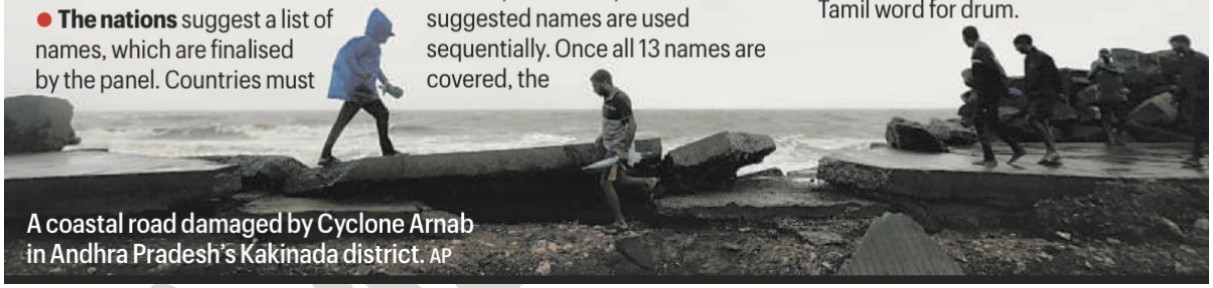
● **Names were** initially provided by eight panel members — Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand. In 2018, five more countries joined — Iran, Qatar, Saudi Arabia, UAE and Yemen.

● **The nations** suggest a list of names, which are finalised by the panel. Countries must follow certain guidelines while proposing names. For instance, they must be short, easy to pronounce and inoffensive.

● **The Regional** Specialised Meteorological Centre at New Delhi officially assigns the names once a weather system meets the threshold of 62 kmph to be declared a cyclone.

● **The 13 member** countries are listed alphabetically, and their suggested names are used sequentially. Once all 13 names are covered, the list from which cyclones can be picked moves on to the next column, where countries are again arranged alphabetically. Once used, a cyclone name is not repeated.

● **The current** cyclone's name, **Arnab (pronounced Ornab),** has been put forward by Bangladesh. The next name in the sequence is **Murasu**, proposed by India, which follows Bangladesh alphabetically in the list of 13 countries. Murasu is a Tamil word for drum.



A coastal road damaged by Cyclone Arnab in Andhra Pradesh's Kakinada district. AP

Bay watch

The Bay of Bengal is prone to storm surges in part due to its funnel-like shape. It is landlocked on three sides and is shallow for a large distance from the coast.

Cyclones on the northern hemisphere move west; so, India's east coast comes in line of a cyclone's path.

Cyclone Arnab & El Niño:
Why Andhra Pradesh Faced the Storm

Brief

- **Cyclone Arnab**, the **first cyclone of 2026 in the North Indian Ocean basin**, originated as a low-pressure system over the **south-east Bay of Bengal on October 23** and became a cyclone by **October 26**.
- It rapidly intensified into a **Very Severe Cyclonic Storm (VSCS)** and crossed the **Andhra Pradesh–Yanam coast** with winds of **125–135 kmph, gusting to 140 kmph**.
- While **Odisha and West Bengal** are normally more cyclone-prone, **El Niño years can favour cyclone formation at lower latitudes**, increasing the probability of landfall towards **Andhra Pradesh and Tamil Nadu**.

1. Why is the Bay of Bengal Cyclone-Prone?

- **Funnel-shaped basin** amplifies storm-surge risk.
- Landlocked on **three sides**.
- Shallow waters extend considerably from the coast.
- Northern Hemisphere tropical cyclones generally have a **westward component**, bringing India's east coast into their trajectory.
- Ocean temperatures of **≥26°C extending roughly 50–100 m deep** favour cyclone formation.

2. How Did El Niño Influence Arnab?

- **El Niño** = abnormal warming of surface waters in the equatorial Pacific.
- In 2026, it was intensifying rapidly, altering **global wind patterns, atmospheric pressure and oceanic conditions**.
- *After southwest monsoon withdrawal by mid-October:*
  Monsoon winds weaken → Monsoon trough shifts southward → Cyclogenesis favoured at lower latitudes
- During El Niño years, Bay of Bengal cyclones forming at these **lower latitudes** are more likely to move towards **Andhra Pradesh–Tamil Nadu** rather than Odisha–West Bengal.
  📌 **Example:** El Niño year **2014 → Cyclone Hudhud → Andhra Pradesh coast**.

3. Why Did Arnab Intensify Rapidly?

The **Niño 3.4 region** recorded sea-surface temperatures **2–2.8°C above normal during July–September 2026**.

INSIGHTS

🧠 Magic Diagram

STRONG EL NIÑO
↓
Changes in global winds & pressure
↓
Monsoon trough shifts south
↓
Cyclogenesis at LOWER LATITUDES
↓
Warm ocean provides energy
↓
Rapid intensification
↓
Faster westward movement
↓
Andhra Pradesh–Tamil Nadu more exposed to landfall

However, cyclone intensification is **multifactorial**, depending on **wind shear, convection, atmospheric boundary layers, upper-ocean circulation and air-sea interaction**.

4. Arnab's Unusual Behaviour

- Reached **VSCS intensity within a single day**.
- Moved towards land **faster than initially forecast**.
- Remained at VSCS strength for about **six hours after landfall** before weakening.
- Became nearly stationary around **Narsapur–Yanam**, slowing the landfall process.
- Over **1.8 lakh people** were evacuated in Andhra Pradesh and Odisha.

Cyclone Classification

➔ **Severe Cyclone:** 89–118 kmph
➔ **Very Severe Cyclone:** 119–221 kmph

5. Cyclone Naming – Prelims Pointer

- North Indian Ocean cyclone naming began in **2004**.
- **13 countries** currently contribute names.
- Regional Specialized Meteorological Centre New Delhi assigns the name once wind speed reaches **62 kmph**.
- **Arnab** was proposed by **Bangladesh**.
- Next: **Murasu**, proposed by **India**; *Murasu* means **drum in Tamil**.
- Once used, a cyclone name is **not repeated**.

IMPULSE

UPSC Mains Takeaway

Cyclone Arnab demonstrates how **ocean-atmosphere interactions such as El Niño can influence not merely cyclone intensity but also genesis location and trajectory.** With warmer oceans favouring rapid intensification, India needs better **ocean observation, dynamic forecasting, evacuation systems and climate-resilient coastal planning** rather than relying solely on historical cyclone-risk geography.

Jio Listing Reshapes India Inc: Reliance Group Overtakes Tatas & Adanis

Brief

- **Jio Platforms** became **India's second-most valuable listed company** after its shares closed their first trading day at **₹1,417.35**, up **26.6%**.
- Its market capitalisation reached **₹13.05 lakh crore**, behind only **Reliance Industries Ltd (RIL)** at **₹15.17 lakh crore**.
- The listing lifted the combined market value of the **Reliance group** to **₹29.57 lakh crore**, ahead of the **Tata group (₹25.1 lakh crore)** and **Adani group (₹16.5 lakh crore)**.

1. India's New Market-Cap Pecking Order

Rank	*Company*	*Market Cap*
1	**RIL**	₹15.17 lakh cr
2	**Jio Platforms**	₹13.05 lakh cr
3	**Bharti Airtel**	₹12.16 lakh cr
4	**HDFC Bank**	₹10.58 lakh cr
5	**ICICI Bank**	₹9.86 lakh cr
6	**TCS**	₹8.89 lakh cr
7	**SBI**	₹8.83 lakh cr
8	**Bajaj Finance**	₹5.71 lakh cr
9	**L&T**	₹5.23 lakh cr
10	**LIC**	₹4.94 lakh cr

Infosys: ₹4.55 lakh crore.

🏢 *Group comparison*

Reliance ₹29.57 lakh cr > Tata ₹25.1 lakh cr > Adani ₹16.5 lakh cr

Reliance's figure comprises:

RIL + Jio Platforms + Jio Financial Services (₹1.35 lakh crore).

2. Why Does Jio's Separate Listing Matter?

Earlier, Jio's telecom and digital-services business was housed within RIL.

Before listing

Jio's value → embedded within RIL valuation

After listing

Jio → independently traded → standalone market valuation

This improves **price discovery** and allows investors to separately assess Jio's digital and telecom businesses.

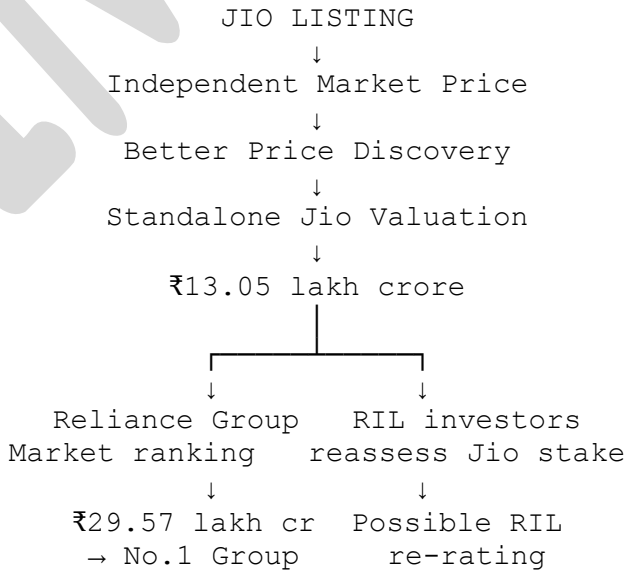
3. Does ₹13.05 Lakh Crore Mean Equivalent New Wealth for RIL?

- **No — important UPSC/economy concept.**
- RIL already owned Jio before listing; therefore, Jio's economic value was **partly reflected in RIL's existing share price**.
- *Following the IPO:*

  RIL stake: 66.35% → 64.41%
- *At Jio's ₹13.05 lakh crore valuation:*

  Value of RIL's 64.41% stake ≈ ₹8.41 lakh crore.
- Hence, simply adding Jio's entire market capitalisation to promoter wealth would involve **double counting**.

🧠 Magic Diagram



IMPULSE

4. Actual Wealth-Creation Test

- The meaningful measure is not **Jio's entire market cap**, but how markets **revalue existing holdings**.
- For example, a sustained **5–8% increase in RIL's ₹15.17 lakh crore valuation** would add roughly **₹75,850 crore–₹1.21 lakh crore** to RIL's market value.
  - Given the promoter group's reported **50.44% holding**, its stake could rise in value by roughly **₹38,258–₹61,213 crore**. These are illustrative scenarios, not forecasts.

UPSC Mains Takeaway

Jio's listing demonstrates how **corporate restructuring and separate listing can unlock price discovery and reveal the standalone valuation of businesses.** However, **market capitalisation should not be confused with newly created promoter wealth.** For conglomerates, the key economic question is whether separate listing produces a sustained **re-rating of existing holdings**, rather than merely making previously embedded value more visible.

India's Growth Holds Up, but Structural Pain Points Persist

Brief

- India's economy continues to display **resilience despite a difficult global environment.**
- **ADB and Moody's** have raised their growth forecasts to **7%**, while **OECD** projects **7.1%.**
- RBI's *State of the Economy* report points to strength across **industry, services, consumption, exports and government capital expenditure**.
- However, **deficit monsoon, weak private investment, FPI outflows, stock-market weakness and rupee depreciation** remain major vulnerabilities.

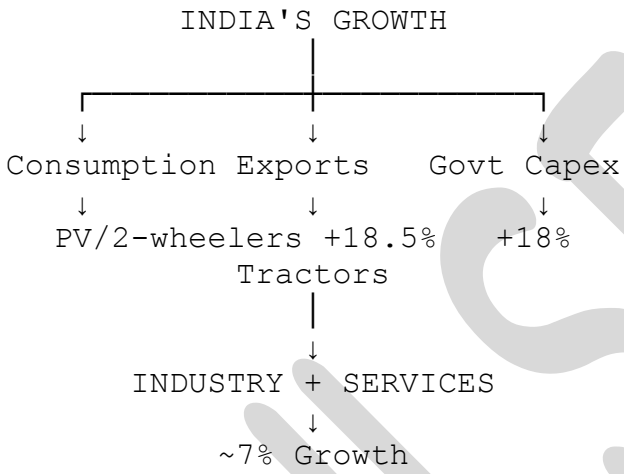
1. What is Supporting Growth?

High-frequency indicators

- ***GST revenues*:** Double-digit growth for **4 consecutive months**.
- ***Electricity demand*:** Robust.
- ***Petrol consumption*:** Healthy.
- ***IIP*:** Grew **6.8% in H1**.

- ***Passenger vehicles*:** Strong sales in both rural and urban markets.
- ***Rural demand*:** Robust **two-wheeler and tractor sales**.
- ***Merchandise exports*:** Up **18.5% in first two quarters**; rupee depreciation may have provided some support.
- ***Central government capex*:** Up **18% during April–August**.

🧠 **Growth Engine**



2. Where are the Pain Points?

🌾 *Agriculture*

- A **deficit monsoon** could reduce farm output, while higher input costs may squeeze profitability.

🏭 *Private investment*

- There are still few signs of a **broad-based revival in the private capex cycle**. Sustained growth cannot depend indefinitely on government investment.

📉 *Financial markets*

- **Sensex:** Down almost **14% over the past year**.
- *FPI net outflows:*
  - **2024-25:** $14.6 billion
  - **2025-26:** $19.6 billion
  - **2026-27 so far:** $17.3 billion

- Persistent foreign capital outflows indicate weak investor sentiment.

💱 *Rupee pressure*

- Rupee depreciated around **5.5% during the year**.
- Trading near **₹95.2/$** despite central-bank measures.

IMPULSE

A weaker rupee can aid export competitiveness but can also increase the cost of **imports and external liabilities**.

3. The Core Policy Challenge

Current Resilience
↓
Consumption + Exports + Public Capex
↓
BUT
↓
Deficit Monsoon
+
Weak Private Capex
+
FPI Outflows
+
Rupee Pressure
↓
STRUCTURAL REFORMS

India needs:

Lower trade barriers → Better business environment → Domestic & foreign investment → Private capex revival → Sustainable growth

UPSC Mains Takeaway

India's current growth resilience is encouraging, but **headline GDP growth should not obscure underlying vulnerabilities**. The next phase must shift from growth supported heavily by **public capex and consumption** towards a more durable model driven by **private investment, productivity and foreign capital**. Restoring investor confidence, improving ease of doing business and addressing agricultural and external-sector vulnerabilities will be essential to convert cyclical resilience into **sustained, broad-based growth**.

Elderly Care:
Kerala's Rights-Based Model for an Ageing India

Brief

- The **Kerala Assembly** has passed the **Senior Citizens' (Care and Protection of Rights) Bill, 2026**, seeking to protect the **dignity, autonomy and rights of elderly persons**.

- It marks a shift from viewing senior citizens merely as recipients of **family support or state welfare** towards a **rights-based approach to ageing**.
- *Its central principle is:*

  "Live independently at home" → Institutional care as the last resort
- The initiative is significant as India moves rapidly towards an **ageing society**.

1. Key Provisions

The Bill recognises rights to:

- **Affordable care**
- **Legal aid**
- **Digital inclusion**
- **Safe public spaces**
- Independent living at home

Institutional framework

It proposes to:

- Regulate **old-age homes**
- Regulate **home-care services**
- Establish **State and district-level protection units**
- Train and professionalise **caregivers**
- Prescribe standards for elderly-care facilities.

2. Why is Kerala Acting Now?

Kerala is undergoing one of India's fastest **demographic transitions**.

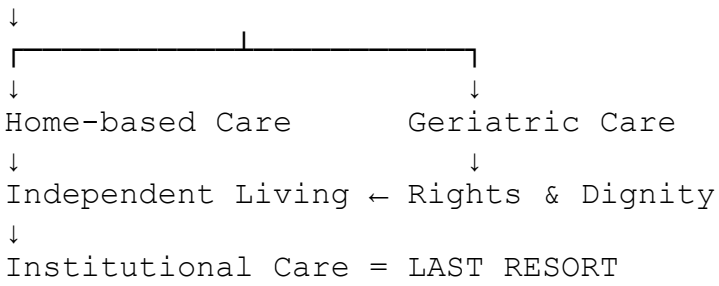
60+ population:

- ✓ **12.7% (2011) → 15% (2021) → Elderly may exceed children within next 5 years**
- ✓ Changing family structures are simultaneously weakening traditional systems of elder care.
- ✓ At the national level, **more than one-fifth of India's population could be above 60 by 2050**.

🧠 *Magic Demographic Diagram*

```
Lower Fertility + Longer Life
↓
POPULATION AGEING
↓
Changing Family Structures
↓
Traditional Care Weakens
```

INSIGHTS IAS



3. Implementation Challenges

🏥 *Healthcare infrastructure*

Elderly persons often face:

- multiple illnesses;
- reduced mobility;
- mental-health concerns;
- need for specialised **geriatric care**.

The **National Programme for Health Care of the Elderly (2010)** recognised these requirements. Yet a later **NITI Aayog report** found specialised elderly-care infrastructure inadequate.

🌾 *Urban–rural mismatch*

Most dedicated senior-care centres are concentrated in **urban areas**, although most elderly Indians live in **rural areas**.

Kerala therefore needs:

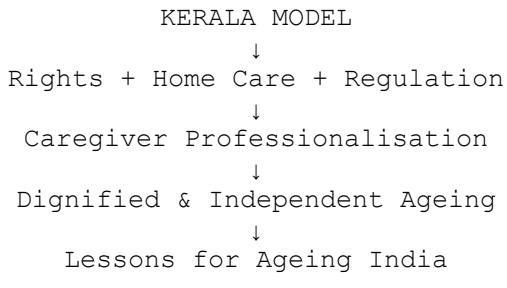
Stronger public-hospital geriatric services + quality-regulated care centres + expanded home-based care.

💰 *Financing*

Key questions remain:

- How much should the State finance?
- What should be the role of the **private sector**?
- How can quality remain affordable and sustainable?

4. Why Kerala Matters for India



INPULSE

UPSC Mains Takeaway

Kerala's initiative represents a transition from **"welfare for the elderly" to "rights of the elderly."** But legislation alone cannot guarantee dignified ageing. India needs an integrated **silver-economy and care ecosystem** combining geriatric healthcare, trained caregivers, home-based services, accessible infrastructure and sustainable financing. As India's 60+ population expands, Kerala could become an important **policy laboratory for ageing with dignity and autonomy.**

30.10.2026

CPC Plenum:
From Economic Planning to Party Discipline

Brief

- The **Chinese Communist Party (CPC) Central Committee plenum**, held **October 26–29, 2026**, focused on **Party discipline, anti-corruption and internal governance**, rather than economic planning.
- Normally, the **fifth plenum** helps set priorities for the next Five-Year Plan. However, the **15th Five-Year Plan** had already been discussed at the **fourth plenum in 2025**, following disruption caused by the delayed third plenum in 2024.
- *The shift is significant:* the ruling party of the **world's second-largest economy** appears increasingly focused on ensuring the loyalty and effectiveness of its own governing apparatus.

1. What is a CPC Plenum?

- Between two **Party Congresses**, held every **five years**, the CPC Central Committee normally meets in a series of plenums.
- *Traditionally:*
  Party Congress → Central Committee → Plenums → Major policy/leadership decisions
- The latest meeting focused on what the Politburo termed:
  "Full and rigorous Party self-governance."

2. Why the Focus on Discipline?

① *Xi's anti-corruption campaign*

President **Xi Jinping's** long-running campaign has produced extensive **purges of Party and military officials**.

- The **Central Military Commission (CMC)**, normally consisting of **7 members**, has reportedly been reduced to only **2**.
- At the previous plenum, **37 Central Committee members** were absent, including **27 military figures**.

② *Political loyalty*

- Xi has warned against **"two-faced people"**, signalling intolerance towards perceived disloyalty.
- The latest communique stresses officials possessing:
  Political commitment + Professional competence + Work discipline + Loyalty

③ *2027 leadership transition*

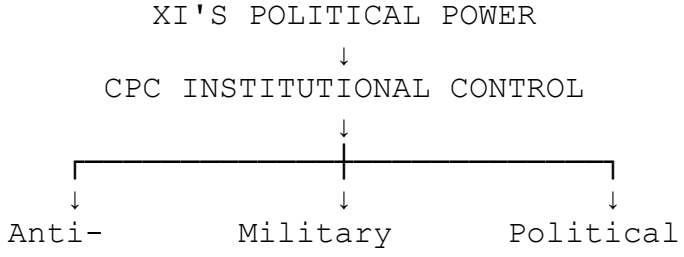
- The **21st Party Congress** is due in **2027**, where Xi is widely expected to seek a **fourth term as CPC chief**.
- Hence, discipline also becomes a mechanism for **consolidating political control before leadership restructuring**.

3. Xi vs Mao: Different Foundations of Power

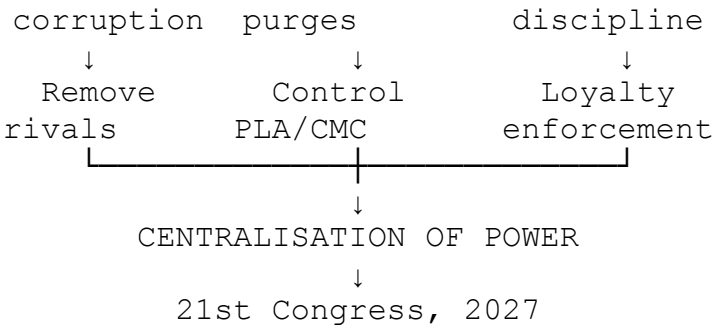
Mao Zedong	Xi Jinping
Personality cult central	Party institutions central
Could override institutions	Exercises authority through institutions
Personal mobilisation	Organisational discipline
Authority could challenge Party apparatus	Party apparatus implements leader's authority

Thus, Xi requires an efficient and loyal **Party machinery** to translate centralised authority into governance.

🧠 Magic Diagram



IMPULSE



4. Why Does It Matter Globally?

- In China, the **Party effectively subsumes the State**. Therefore, changes in internal CPC governance affect how China formulates both domestic and foreign policy.
  Party discipline → Decision-making → Chinese economic/strategic policy → Global consequences
- *This can influence:*
  - **Global markets**
  - International **supply chains**
  - Technology competition
  - Military decision-making
  - Strategic calculations of other major powers.

UPSC Mains Takeaway

The plenum indicates that **political consolidation and institutional loyalty have become central priorities under Xi Jinping**. Unlike Mao's largely personalised authority, Xi's centralisation operates substantially through the **formal CPC apparatus**, making internal discipline crucial to his political model. For India and the wider world, developments inside the CPC are therefore not merely Chinese domestic politics—they can shape **China's economic choices, military behaviour and external power projection.**

Affordable Cancer Care:
Why India Must Go Beyond Trade-Margin Caps

Brief

- The government has capped the **seller's profit/trade margin on specified non-scheduled cancer medicines at 30% of MRP**.
- *The intervention addresses a serious public-health problem:* **high drug prices can force cancer patients to delay treatment, skip doses or discontinue medication**.

IMPULSE

- According to the **National Pharmaceutical Pricing Authority (NPPA)**, intermediaries such as stockists, distributors, wholesale agents and hospital pharmacies add an average profit mark-up of around **170%**.
- However, **trade-margin regulation ≠ comprehensive drug-price control**.

1. Why is the 30% Cap Important?

Cancer treatment often involves prolonged and expensive medication.

```
High Drug Prices
        ↓
Financial Toxicity
        ↓
Delay treatment → Skip doses
        ↓
Treatment discontinuation
        ↓
Poorer health outcomes
```

Reducing excessive intermediary margins can therefore improve **affordability and treatment adherence**.

2. Why is Trade-Margin Regulation Insufficient?

① *Manufacturer's price remains outside the cap*

- ❒ The government is limiting the margin earned further down the supply chain, rather than necessarily controlling the **initial price charged by manufacturers**.
- ❒ Thus:
  High manufacturer price + 30% trade margin = Still expensive medicine

- ❒ This is particularly important for **patented medicines**, which face limited generic competition and therefore give manufacturers greater pricing power.

② *Evidence from Ribociclib*

- ❒ The breast-cancer drug **ribociclib**:
  ₹58,000/month → ₹78,000/month
  despite restrictions on trade margins introduced in **2019**.
- ❒ This illustrates that restricting intermediary margins alone may not prevent the underlying medicine price from rising.

IMPULSE

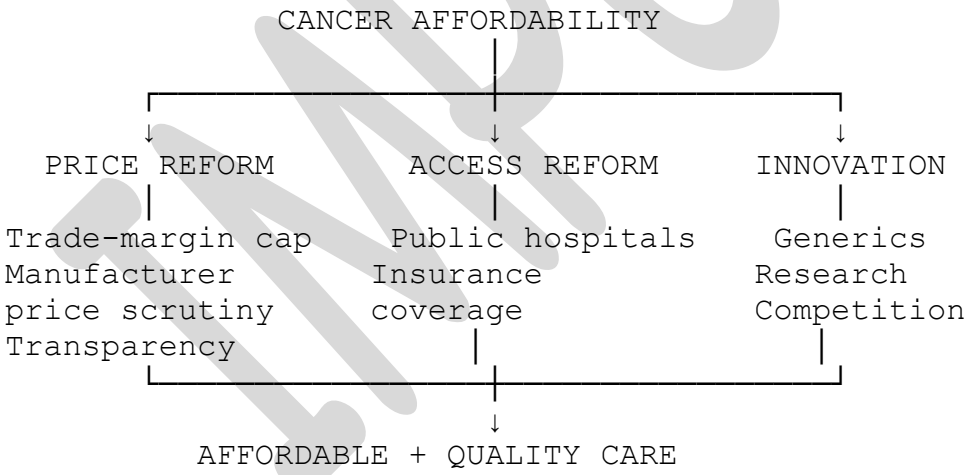
③ *Artificial discounts can distort prices*

- ❒ *Manufacturers may:*
  Large discounts on few units to selected hospitals + High prices on majority of sales
  - Artificially lower apparent market price
  - Make regulatory price assessment difficult.
- ❒ Hence, regulators need **transparent disclosure of actual sales prices, volumes and discounts**.

3. Why Blanket Price Controls Can Also Backfire

- ❒ Pharmacies and hospitals incur legitimate costs for:
  - **storage and handling**;
  - distribution and inventory;
  - ensuring availability in underserved regions;
  - safe administration and quality care.
- ❒ Overly rigid regulation could:
  Lower viability → Supply disruption → Reduced access
- ❒ Hospitals could also compensate for lost margins by increasing other charges, such as **room rents**, merely shifting the patient's financial burden.

🧠 Magic Diagram: Affordable Cancer Care



UPSC Mains Takeaway

Cancer affordability cannot be achieved through a **30% trade-margin cap alone**. India needs a comprehensive approach combining **transparent manufacturer pricing, scrutiny of discounts, generic competition, stronger public healthcare and wider insurance coverage**. At the same time, regulation must recognise legitimate distribution and healthcare-delivery costs. The ultimate benchmark should not merely be **lower medicine prices**, but whether patients can **access and complete quality cancer treatment without catastrophic financial burden**.

IMPULSE

NavIC:

Can NVS-03 Restore India's Own Satellite Navigation System?

Brief

- Indian Space Research Organisation is set to launch **NVS-03**, the **third new-generation navigation satellite**, to restore the full functioning of **NavIC**.
- NavIC had stopped providing positioning data following **expiry of older satellites, failure of atomic clocks and problems with replacement missions**.
- NVS-03 represents an important step towards restoring India's **strategic autonomy in Positioning, Navigation and Timing (PNT)** services.

1. What is NavIC?

NavIC = Navigation with Indian Constellation

- Operational name of **IRNSS — Indian Regional Navigation Satellite System**.
- Designed as a **7-satellite constellation**.
- *Coverage:*
  - **Entire Indian subcontinent**
  - Approximately **1,500 km beyond India's boundaries**.
- Designed public positioning accuracy: **up to 10 metres**.
- Also provides a more accurate **restricted service** for authorised users, including strategic/military applications.

🌍 Navigation Systems — Prelims Pointer

Global systems:

GPS (USA) | GLONASS (Russia) | Galileo (Europe) | BeiDou (China)

Regional: **NavIC (India)**

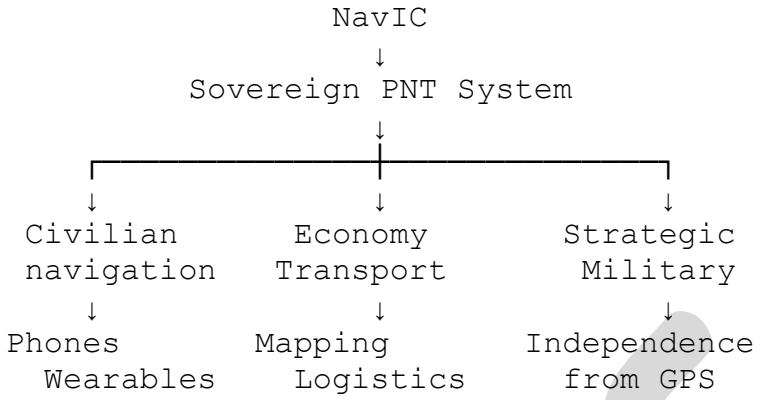
📌 India is the **only country with a regional navigation system**.

2. Why Does India Need NavIC?

- ❒ GPS signals reach India at an angle, which can make reception difficult in some **valleys and forests**.
- ❒ NavIC can provide stronger regional coverage while reducing dependence on foreign navigation infrastructure.

IMPULSE

🧠 Strategic significance



3. Why Did NavIC Stop Providing Location Data?

ISRO has launched **11 navigation satellites since July 2013** for the nearly **₹2,250-crore system**, but six reportedly failed primarily due to:

① *Atomic-clock failures*

- ❒ Navigation satellites use extremely precise **atomic clocks** to calculate signal travel time and determine location.
- ❒ Defective imported clocks on some first-generation satellites malfunctioned.

② *Ageing constellation*

- ❒ Most initial satellites had a **10-year mission life**, which has now ended or is approaching completion.

③ *Replacement mission failures*

- ❒ **IRNSS-1H:** Could not reach orbit because the PSLV's protective heat shield/fairing failed to separate.
- ❒ **NVS-02:** Reached its transfer orbit, but its **propulsion system failed to perform manoeuvres required for final orbit insertion**.

④ *Delayed downstream ecosystem*

- ❒ The **CAG (2018)** noted that development of consumer receivers began only in **2017**, even though the first satellite had been launched in 2013, wasting part of the constellation's useful life.

IMPULSE

4. What is New in Second-Generation NavIC?

Beginning with **NVS-01**, the new generation introduces:

Feature	*Improvement*
Atomic clocks	Indigenously developed
Mission life	**12 years**
Existing signals	**L5 + S band**
New signal	**L1 band**
Benefit	Greater interoperability

⭐ *Why is L1 Important?*

- ⊗ **L1 is widely used by GPS**, making NavIC more interoperable with existing navigation ecosystems.
- ⊗ It also enables integration into **low-power, single-frequency devices**, including **smartwatches and other wearables**.

5. NVS-03: Why It Matters

```
Old NavIC Constellation
          ↓
Clock failures + Ageing satellites
          +
Replacement mission failures
          ↓
Loss of positioning capability
          ↓
        NVS-03
          ↓
Indigenous clocks + L1/L5/S signals
          ↓
      RESTORE NavIC
          ↓
Reliable sovereign navigation
```

UPSC Mains Takeaway

NavIC is more than an alternative to GPS; it is part of India's **strategic technological sovereignty**. NVS-03 can help rebuild the constellation, but NavIC's long-term success requires not only reliable satellites and indigenous atomic clocks but also widespread integration into **smartphones, wearables, transport, mapping and strategic applications**. The lesson from NavIC's setbacks is clear: **space autonomy requires an entire domestic ecosystem—from satellites and critical components to consumer receivers and applications.**

INSIGHTS

Siang Upper Multipurpose Project:
National Security vs Indigenous Rights

Brief

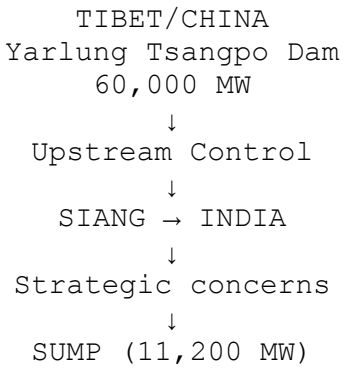
- The proposed **Siang Upper Multipurpose Project (SUMP)** in Arunachal Pradesh has triggered protests among sections of the indigenous **Adi community**, youth groups and residents.
- At **11,200 MW**, it is projected to be **India's largest hydropower project**.
- The government argues that the project has acquired **strategic importance** following China's approval of a massive **60,000-MW hydropower project on the lower Yarlung Tsangpo** in December 2024.
- Opposition centres on **displacement, livelihood loss, cultural attachment to the Siang and uncertainty over environmental impacts**.

1. What is the Siang Project?

- The **Siang River** is the name taken by the **Yarlung Tsangpo** after it enters *India from Tibet*; downstream it contributes to the *Brahmaputra system*.
- Plans to harness the **Siang and Subansiri rivers** date to **1982**, when the Brahmaputra Board proposed three smaller projects.
- *Later:*
  Siang Upper Stage-I + Stage-II → merged → SUMP (11,200 MW)
- Initially, countering China was **not the primary motivation**. *Strategic concerns increased after **2013**, when India raised concerns about Chinese projects upstream.*

2. Why is China Central to the Debate?

- China's proposed **60,000-MW lower Yarlung Tsangpo project** has heightened India's downstream concerns.
- Supporters argue SUMP could provide a strategic buffer against possible fluctuations in upstream water releases.



- ❒ However, critics argue that India does not yet possess sufficient public information about the **dimensions and operating procedures of the Chinese project** to establish precisely how SUMP would counter it.

3. Current Status — Important Prelims Point

⚠️ **SUMP has NOT reached the construction stage.**

It is currently at the **Pre-Feasibility Report/Survey (PFR) stage**.

The Arunachal Pradesh government has stated that:

- if experts find it unfeasible, it will not progress;
- consultations will precede further development;
- later stages would involve **Social Impact Assessment (SIA)**, environmental assessment and a **Detailed Project Report (DPR)**.

4. Why are Local Communities Opposing It?

🌿 Land–Livelihood–Identity Nexus

For indigenous communities, the Siang is not merely a water resource.

Siang = Land + Agriculture + Livelihood + Culture + Religion + Identity

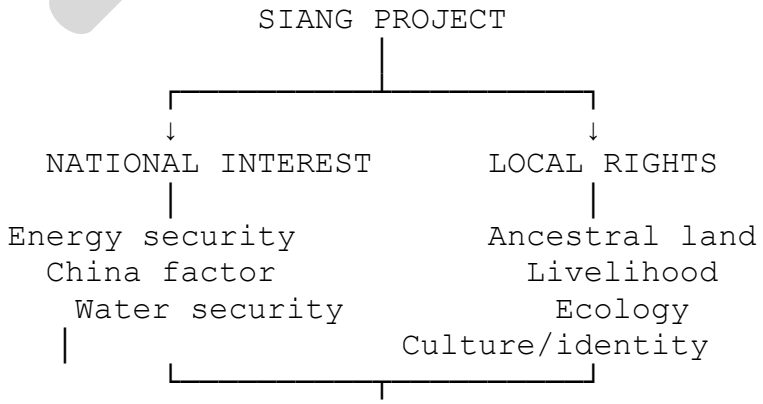
Major concerns include:

- loss of **ancestral land**;
- displacement and rehabilitation;
- livelihood disruption;
- ecological consequences;
- fear that completion of the PFR will make the project politically difficult to reverse.

One resident summarised the displacement fear as becoming **"refugees in our own land."**

5. Core Governance Dilemma

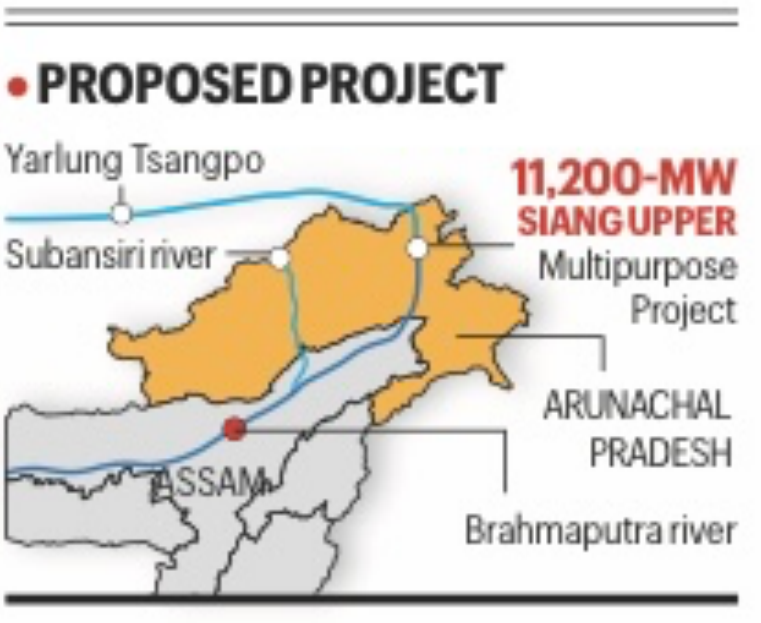
🧠 *Magic Diagram*



↓
Scientific Assessment
+
Community Consent
+
China Water Data
↓
SUSTAINABLE SECURITY

UPSC Mains Takeaway

The Siang controversy demonstrates that **national security and environmental justice cannot be treated as competing absolutes.** India's downstream vulnerability to Chinese infrastructure makes the Siang strategically important, but strategic urgency cannot substitute for **scientific feasibility, environmental assessment and meaningful engagement with indigenous communities.** Durable Himalayan security requires a combination of **transboundary water information, ecological safeguards, energy planning and community legitimacy.**



31.10.2026

Israel Election: Political Deadlock, Limited Policy Change & Continued Global Isolation

Brief

- Israel's election has produced another **hung Knesset**, reflecting its deeply fragmented political landscape.
- Neither Prime Minister **Benjamin Netanyahu's bloc** nor challenger **Gadi Eisenkot's bloc** has secured the **61 seats required in the 120-member Knesset**.
- Despite sharp differences in personality and political style, both leaders broadly converge on crucial security questions, particularly **opposition to Palestinian statehood**.
- Thus, even a change of Prime Minister may produce **more conciliatory rhetoric but limited change in Israel's foreign and security policy**.

1. Electoral Arithmetic

- **Likud:** 27 seats
- Netanyahu-led bloc: **53 seats**
- Arab parties — **Joint List + Ra'am: 19 seats**, an all-time high and almost double their previous tally of 10.

Why are Arab parties important?

Palestinian citizens of Israel constitute roughly **one-fifth of the population**. Their unprecedented representation could make Arab parties **pivotal in coalition formation**.

However:

- Netanyahu has traditionally been hostile towards partnering with them.
- Eisenkot also ruled out such an alliance during campaigning because of disagreements over **Gaza and national security**.
- A **Netanyahu–Eisenkot national unity government** also appears unlikely.

Hence:

Hung Knesset → Coalition bargaining → Caretaker government / possible fresh election

IMPULSE

2. Why Netanyahu Has Neither Won Nor Lost Decisively

- ❒ The opposition sought to turn the election into a referendum on Netanyahu's security failures surrounding the **October 7, 2023 Hamas attack**.
- ❒ Yet his bloc winning **53 seats** shows that Netanyahu and the political forces associated with him retain substantial support.
- ❒ At the same time, failure to achieve 61 seats means the result cannot be interpreted as a clear **popular mandate**.

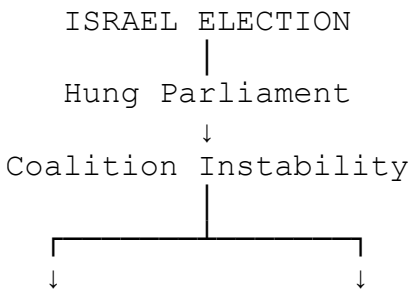
3. Would Eisenkot Change Israeli Policy?

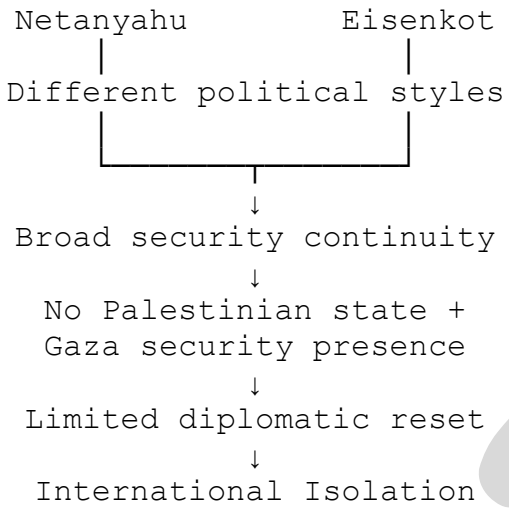
- ❒ Probably only at the margins.
- ❒ *Eisenkot:*
    - opposes **Palestinian statehood**;
    - supports maintaining an Israeli **security presence in Gaza**;
    - is unlikely to abandon Israel's active conflicts involving **Hamas, Hezbollah and Iran**.
- ❒ *Therefore*:
  Change of leadership ≠ Fundamental change in strategic doctrine
- ❒ His tone could nevertheless be **more accommodating**, potentially creating limited diplomatic openings.

4. Why is Israel Facing International Isolation?

- ❒ Israel initially received widespread sympathy after the **October 7 attack**, but this has been eroded by:
  Gaza war + Lebanon bombing + West Bank settler violence + Iran conflict
- ❒ *Consequences include:*
    - declining international support;
    - strains with the **United States**;
    - weakening support among US Democrats;
    - obstacles to **Saudi normalisation**;
    - difficulties expanding the **Abraham Accords**.

🧠 ***Magic Diagram***





5. Potential Turning Point: Arab Representation

- The **19-seat Arab representation** may be the election's most consequential structural development.
- It could:
  - deepen political participation of **Palestinian citizens of Israel**;
  - make them important coalition actors;
  - potentially encourage longer-term **Jewish-Arab political partnership**.
- Yet existing security and ideological divisions make such realignment difficult.

UPSC Mains Takeaway

Israel's election demonstrates the distinction between **leadership change and strategic-policy change**. The unprecedented rise of Arab representation creates possibilities for domestic political realignment, but the broad consensus against Palestinian statehood constrains any major foreign-policy reset. Consequently, without substantive changes on **Gaza, the West Bank and the Palestinian question**, a new Prime Minister alone is unlikely to reverse Israel's growing diplomatic isolation.

IMPULSE

India's Extreme Poverty Falls to 2.6%:
Progress, but Jobs & Inequality Remain Challenges

Brief

- According to the **World Bank's Poverty & Equity Brief**, India's **extreme poverty rate**, measured at **$3/day in 2021 PPP terms**, declined to **2.6% in 2023**.
- This compares with **5.3% in 2022-23** and **27.1% in 2011**, indicating one of the world's fastest poverty reductions.
- At the **Lower-Middle-Income Country (LMIC) poverty line of $4.20/day**, poverty declined from **57.7% (2011) → 16.1% (2023)**, lifting an estimated **496 million people** above this threshold.
- Yet **geographical concentration, wage disparities, low-productivity employment and youth unemployment** remain major concerns.

1. Key Poverty Numbers

Indicator	*2011*	*2023*
Extreme poverty — **$3/day**	**27.1%**	**2.6%**
LMIC line — **$4.20/day**	**57.7%**	**16.1%**
Upper-middle-income line — **$8.30/day**	>90%	**80%**

At the **$4.20 line**:

- Rural poverty: **19.3%**
- Urban poverty: **8.6%**
- Male: **15.7%**
- Female: **16.6%**

Absolute numbers cited

$3 → 7.5 crore | $4.20 → 34 crore | $8.30 → 115 crore

2. What is PPP? — Prelims Important

- **Purchasing Power Parity (PPP)** compares currencies according to the quantity of **goods and services they can purchase**, accounting for differences in price levels between countries.
- Therefore:

  $3 PPP ≠ $3 × market exchange rate

- At ₹95/$, $3 equals ₹285 using the market exchange rate, but this is **not how the World Bank's PPP poverty threshold should be converted**.

INSIGHTS

- India's PPP conversion factor cited for **2025 = 20.09**.

3. Inequality: Improvement with a Caveat

- India's consumption **Gini Index** declined:

  28.8 (2011-12) → 25.5 (2022-23) → 23.0 (2023)

- 📌 **Gini:**

  0 = perfect equality | 100 = maximum inequality

- However, the World Bank cautions that household surveys may **under-capture consumption of richer households**, potentially understating inequality.
- Further, median earnings of the **top 10% of workers are around 13 times those of the bottom 10%**.

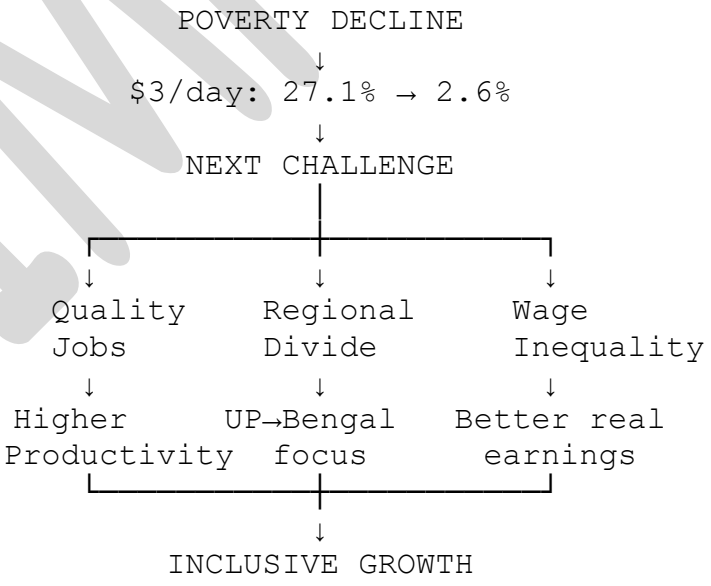
4. The Employment Paradox

- Employment increased by **13.4 crore between 2017 and 2023**, driven significantly by **rural women entering paid employment**.
- *But:*

  More employment ≠ automatically better employment

- Real earnings remained broadly stagnant.
- New employment was concentrated in **relatively low-productivity activities**.
- Youth unemployment increased from **14.6% → 15.9%**.
- Around **57% of India's poor** are now concentrated in the **UP-to-West Bengal belt**.

🧠 Magic Diagram



IMPULSE

5. Outlook

The World Bank expects poverty at the **$4.20/day threshold** to decline more gradually:

16.1% (2023) → 14.2% (2026) → 12.1% (2028).

UPSC Mains Takeaway

India's sharp reduction in extreme poverty is a major development achievement, but the policy challenge is shifting from **poverty alleviation to sustained economic mobility.** The next phase requires **productive employment, rising real wages and geographically balanced development**, particularly across the UP–West Bengal poverty belt. For **Viksit Bharat 2047**, success must therefore be judged not only by how many people cross an extreme-poverty line, but also by whether they obtain **secure, productive and adequately paid livelihoods.**

Trump 2.0 & State Capitalism: Is the US Becoming More 'Socialist'?

Brief

- Ahead of the **November 3 US midterm elections**, President Donald Trump has attacked Democrats for advocating "socialist" policies.
- Yet, the **Trump administration itself has substantially increased direct government involvement in private businesses**.
- Examples include a **"golden share" in US Steel**, a **10% government stake in Intel**, and stakes in firms such as **MP Materials, Lithium Americas and Trilogy Metals**.
- This does **not necessarily mean ideological socialism**; rather, it demonstrates a movement away from traditional US **laissez-faire capitalism towards greater State intervention/state capitalism**.

1. Capitalism vs Socialism — Conceptual Clarity

The crucial distinction is **ownership/control of productive resources**.

Capitalism	*Socialism*
Private ownership dominant	State/public ownership important
Market allocation	Greater State direction
Limited direct government control	Government controls key resources
Profit/competition central	Social/public objectives prominent

📌 **Prelims Trap:**

Welfare spending or redistribution alone does not define socialism. State **ownership/control of productive assets** is a major distinguishing feature.

2. How Has Trump Increased State Control?

① *US Steel — Golden Share*

- ✓ When Japan's **Nippon Steel** acquired US Steel in **June 2025**, the US government obtained a **"golden share"**.
- ✓ A golden share can provide the government with **special veto/control rights** over strategically important corporate decisions despite not necessarily holding a conventional controlling equity stake.

② *Intel*

- ✓ In **August 2025**, the US government acquired a **10% stake in Intel**, increasing direct State involvement in a strategically important semiconductor company.

③ *Critical Minerals*

- ✓ The government also acquired stakes in companies including:

  MP Materials → Lithium Americas → Trilogy Metals

- ✓ These sectors are closely connected with **critical minerals, supply-chain security and strategic technologies**.

3. What Does V-Dem Data Show?

V-Dem State Ownership of Economy Index

```
0 ———————————————————————————— 4
↑                                ↑
Greater State                    Less State
control                          ownership/control
```

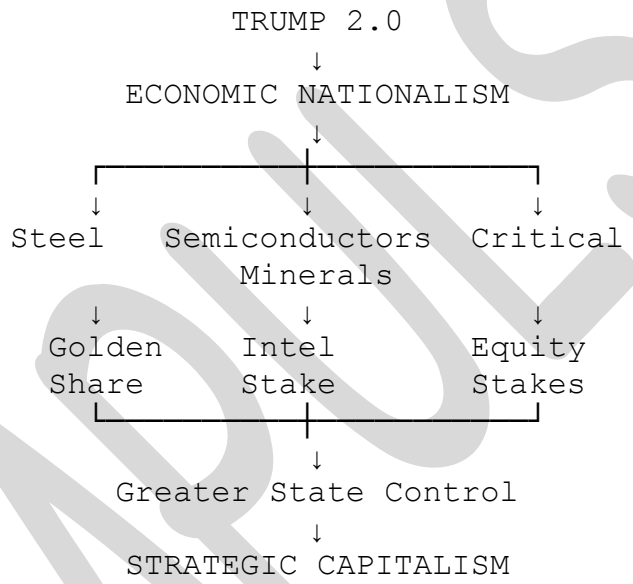
- Historically, the US ranked among countries with the **least State control** of the economy.

- Since **2010**, it had never ranked below **4th out of 179 countries** on this measure.
- But in **2025**, the first year of Trump's second administration, State control increased sufficiently that **15 countries had less State control than the US**.
- China nevertheless remains substantially more State-controlled.

4. Why Would a Right-Wing Government Intervene?

This apparent contradiction can be understood through **economic nationalism rather than traditional socialism**.

🧠 *Magic Diagram*



The objective may be less about eliminating private ownership and more about securing **strategic industries, technology, critical minerals and national-security supply chains**.

5. Why Do US Midterms Matter?

- The US follows a relatively strict **separation of powers**:
  Legislature — Congress | Executive — President | Judiciary — Courts
- Currently, Republicans control the **House, Senate and Presidency**, facilitating Trump's legislative agenda.
- If Democrats gain control of one or both chambers in the **November 3 midterms**, the President could face stronger legislative constraints.

IMPULSE

6. India Parallel in the Article

- The V-Dem data cited also suggests that **State control over India's economy has increased since around 2020**, despite a government generally identified with market-oriented policies.
- *This highlights an important conceptual point:*
  Political ideology and economic policy do not always move neatly along a capitalism–socialism binary.
- Governments can simultaneously pursue **privatisation in some sectors and greater strategic State control in others**.

UPSC Mains Takeaway

The US experience illustrates the contemporary rise of **strategic State capitalism**, where governments intervene directly in markets to secure semiconductors, steel, critical minerals and other national-security assets. Therefore, the Trump administration's increased State ownership should not automatically be equated with classical socialism. It reflects a broader global shift from **laissez-faire globalisation towards economic nationalism, industrial policy and strategic control of critical sectors.**

INSIGHTS