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DAILY NEWS ANALYSIS



MARCH 2



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# Iran bombs U.S. allies across West Asia

Iran vows revenge for the killing of Supreme Leader Khamenei; trades strikes with Israel

Trump warns against retaliation; Israel pledges 'non-stop' strikes against Iran's leaders, military

New leadership council begins work, says Iran; next Supreme Leader to be chosen in a few days

Associated Press  
Agence France-Presse  
TEHRAN/DUBAI

Iran vowed revenge on Sunday after the killing of its Supreme Leader, and traded strikes with Israel as part of a widening war prompted by a U.S. and Israeli bombardment a day earlier.

U.S. President Donald Trump warned that any retaliation would only lead to further escalation. He said he would "be talking" to Iranian leaders but was vague on the timing and noted that much of the country's leadership was dead.

"They want to talk, and I have agreed to talk, so I will be talking to them. They should have done it sooner," he was quoted as saying by *The Atlantic*.

Blasts in Tehran sent a huge plume of smoke into

the sky in an area where there are government buildings. Iranian state television said that it had been targeted by strikes.

"The technical team is assessing the damage," said the broadcaster.

Iranian authorities say more than 200 people have been killed since the start of the U.S. and Israeli strikes that killed Ayatollah Ali Khamenei and other senior leaders.

Earlier, Iran fired missiles at an ever-widening list of targets in Israel and Gulf Arab states in retaliation while Israel pledged "non-stop" strikes against Iran's leaders and military.

In Israel, loud explosions caused by missile impacts or interceptions could be heard in Tel Aviv.

Israel's rescue services said nine people were killed and 28 wounded in a strike that hit a synagogue



A video grab from Israeli military footage shows strikes on what it calls 'headquarters of the Iranian terror regime' in Tehran. AFP

in the central town of Beit Shemesh, bringing the overall death toll in the country to 11. The U.S. military said three service members have been killed and five seriously wounded in the Iran operation.

Iran's President Masoud

Pezeshkian said in a pre-recorded message aired on state television that a new leadership council had begun its work.

Iran's Foreign Minister Abbas Araghchi said a new Supreme Leader would be chosen in "one or two

days". Iran has named Ayatollah Alireza Araf, a senior cleric, to its interim leadership council.

The interim council, which will also include the President and the head of the judiciary, will lead the country until the Assembly

of Experts "elects a permanent leader as soon as possible".

## Escalating tensions

"You have crossed our red line and must pay the price," Iran's parliamentary Speaker, Mohammad Bagher Qalibaf, said in a televised address on Sunday. "We will deliver such devastating blows that you yourselves will be driven to beg."

Mr. Trump warning against any retaliation said on a social media post, "They better not do that. If they do, we will hit them with a force that has never been seen before!"

He also said that the strikes had sunk nine Iranian naval vessels and partially destroyed Iran's navy headquarters.

As U.S. and Israeli strikes have pounded Iran, the Islamic Republic has

retaliated with missiles and drone attacks on Israel and nearby Arab Gulf countries hosting U.S. forces.

Israel's Defence Minister Israel Katz said on Sunday that Israel will have "a non-stop air train" of strikes against military and leadership targets in Iran.

Shrapnel from Iranian attacks on Abu Dhabi killed two people, state media said, and debris from aerial interceptions caused fires at the city's main port and on the facade of the Burj Al Arab hotel.

Attacks also extended into Oman – Iran's long-time interlocutor with the West that hadn't been drawn into the fray previously.

## EDITORIAL

» PAGE 8

## RELATED REPORTS ON

» PAGES 5 AND 14

- **Key Terms and Explanations**

- **Assembly of Experts** A body of 88 Islamic scholars elected by Iranian citizens every eight years. Their primary constitutional function is to appoint and, if necessary, dismiss the Supreme Leader. In a crisis like this, they would convene to elect a successor — making them suddenly one of the most geopolitically consequential bodies in the world.

- **Proxy War vs. Direct War**

- A *proxy war* is when two rival powers fight each other through third-party actors. For years, Iran–Israel conflict operated this way — Iran funded Hezbollah in Lebanon, Hamas in Gaza, Houthis in Yemen, etc.

- What this article describes is a *direct war* — a fundamental escalation where Iran and Israel are openly striking each other's territories, which is a qualitative shift in West Asian geopolitics.

- **Non-State Actors** Groups like Hezbollah, Hamas, and Houthi rebels that operate outside the formal state structure but are armed, funded, and directed by state sponsors (here, Iran). UPSC frequently tests the role of non-state actors in international relations.

- **Theocracy** A system of government where religious authority governs the state. Iran is constitutionally an Islamic Republic — its laws derive from Sharia, and the Supreme Leader must be a religious scholar (Faqih). This is important because it means a leadership transition isn't just political — it has deep theological dimensions.

- **Escalation Dominance** A strategic concept in international relations — each side tries to signal it can absorb punishment and inflict more damage, hoping to force the other to back down. Israel's pledge of "non-stop strikes" and Iran's vow of revenge are both escalation dominance signals.

- **Gulf Cooperation Council (GCC) States** Saudi Arabia, UAE, Qatar, Kuwait, Bahrain, and Oman — collectively the Gulf Arab states. They host significant U.S. military infrastructure. Iranian missile attacks on UAE (Abu Dhabi) represent a serious expansion of the conflict's geographic footprint.

- **Interim Leadership Council** A temporary governing body constituted to maintain state functions when the Supreme Leader dies or is incapacitated before a successor is formally elected. Constitutionally, Iran's President, judiciary head, and a clerical representative form this council.

- **Main Arguments and Substantive Parts**

- **Core Thesis of the Crisis** The killing of Iran's Supreme Leader by a joint U.S.–Israel operation has fundamentally shattered the deterrence architecture that kept the West Asia conflict within manageable limits. This is no longer a shadow war — it is an open interstate conflict with global implications.

- **Key Points**

- **Iran's Response Logic:** Iran vowing revenge is not just emotional — it is strategic. Any state that allows its top leader to be killed without retaliation signals weakness, inviting further aggression. Iran had no real choice but to escalate.

- **U.S. Position:** President Trump's warning against retaliation while simultaneously having participated in the strike that triggered it represents a logical contradiction. This ambiguity — warning Iran while supporting Israel — is a classic U.S. strategic double-standard that reduces American credibility in multilateral diplomacy.

- **Israel's Declared Strategy:** Israel's "non-stop air train" of strikes against leadership and military targets suggests a goal beyond retaliation — it looks like an attempt at regime decapitation, which is a far more ambitious and dangerous objective.

- **Iran's Counterstrikes:** Attacking UAE (Abu Dhabi) and Oman is a deliberate escalatory choice. Both are non-combatants in the Israel–Iran war. Hitting them signals Iran's intent to punish states hosting U.S. forces — essentially treating the entire Gulf region as a theater of war.

- **The Naval Dimension:** Israel claiming to have sunk nine Iranian naval vessels and partially destroying Iran's naval headquarters represents not just tactical success but a strategic message — Iran's ability to threaten Gulf shipping lanes (vital for global oil supply) has been degraded.

- **Counterarguments**

- Iran retains asymmetric capabilities — even without its Supreme Leader, the IRGC (Islamic Revolutionary Guard Corps) can continue proxy operations independently.

- Regime change through external military force has historically produced chaos (Iraq 2003, Libya 2011) rather than stable democracies — Israel's stated goal may backfire catastrophically.

- A destabilized Iran could produce a far more radical leadership than Khamenei, worsening the situation.

- **Historical Evolution of the Issue**
- **1979: The Islamic Revolution — Everything Changes**
- Ayatollah Khomeini's revolution transformed Iran from a U.S. ally to a sworn enemy of both the U.S. and Israel.
- Iran declared Israel an illegitimate Zionist entity. The U.S. Embassy hostage crisis (1979–81) permanently poisoned U.S.–Iran relations.
- Israel, once sharing intelligence with Iran, became an existential enemy in Iranian state ideology.
- **1980–1988: Iran–Iraq War**
- Saddam Hussein (Iraq), backed by the U.S. and Gulf states, fought Iran for eight years. This forged Iran's siege mentality — the belief that the entire Western-backed order was hostile to it.
- Iran developed its "Axis of Resistance" strategy — funding non-state actors across the region as strategic depth.
- **1990s–2000s: Proxy Architecture Builds**
- Iran systematically built Hezbollah in Lebanon (founded 1982), maintained ties with Hamas post-Oslo Accords, and later supported Houthi rebels in Yemen.
- Israel fought multiple wars with Hezbollah (2006 being the most significant) and with Hamas (multiple rounds).
- **2002–2015: Nuclear Confrontation**
- Iran's nuclear program became the central flashpoint. Israel threatened preemptive strikes multiple times.
- The JCPOA (Joint Comprehensive Plan of Action) in 2015 under Obama temporarily reduced tensions — Iran agreed to limit enrichment in exchange for sanctions relief.
- **2018: Trump Withdraws from JCPOA**
- The U.S. unilaterally withdrew from JCPOA, reimposing crippling sanctions. Iran responded by gradually exceeding enrichment limits.
- This is the critical policy decision that eliminated diplomacy as a viable path and made a military confrontation more likely.
- **Present : Supreme Leader Killed**
- A joint U.S.–Israeli operation kills Supreme Leader Khamenei — an unprecedented act. This represents the most extreme escalation in the conflict's entire history, triggering the full-scale war described in the article.

# Geopolitics of the Iran-Israel-US Conflict: A UPSC Strategic Analysis

### THE CRISIS MECHANICS

**REGIME DECAPITATION STRATEGY**  
Israel's strategy evolved to targeting top decision-making centers and leadership councils.

**MULTI-THEATER EXPANSION**  
Attacks spread to neutral states hosting US military infrastructure, widening war's footprint.

**SECOND-STRIKE CAPACITY**  
Iran retains asymmetric power through IRGC and proxies (Hezbollah, 150,000+ rockets) despite leadership losses.



### HISTORICAL EVOLUTION (The Road to Direct War)

**1979: THE ISLAMIC REVOLUTION**  
Iran shifted from US ally to theocratic republic, permanently poisoning relations.

**2015-2018: JCPOA & WITHDRAWAL**  
Nuclear deal reduced tensions; unilateral US withdrawal in 2018 eliminated diplomatic path.

**2024: THE FIRST DIRECT STRIKES**  
First time Iran and Israel launched direct military strikes on each other's soil, crossing a historic threshold.

### STRATEGIC VOCABULARY (UPSC Key Terms)

**THEOCRATIC AUTHORITY & SUCCESSION**  
The Supreme Leader holds highest authority over military & foreign policy; Assembly of Experts (88 scholars) appoints/dismisses him.

**PROXY WAR vs. DIRECT WAR**  
Shift from using non-state actors (Hezbollah, Hamas) to nations openly striking each other's sovereign territories.

**ESCALATION DOMINANCE**  
Strategy signaling ability to absorb more punishment and inflict higher damage to force back down.

### MULTIDIMENSIONAL IMPACT (The UPSC GS-Paper Lens)

**GLOBAL OIL & ENERGY SECURITY**  
20-30% of global oil passes through Strait of Hormuz; closure could spike prices to \$150-200 per barrel.

**STRATEGIC AUTONOMY TESTED**  
Assassinating heads of state and targeting urban centers raises critical questions under UN Charter and Just War Theory (proportionality).

### EXAM ALERT: INDIA'S THREE PILLARS OF INTEREST

PILLAR	SIGNIFICANCE	STRATEGIC RISK
<b>ENERGY SECURITY</b>	85% of crude oil imported; 60% from West Asia.	Price volatility, inflation, and Current Account Deficit (CAD) spikes.
<b>DIASPORA</b>	9 million+ Indians live in Gulf states.	Evacuation challenges and loss of \$40 billion in annual remittances.
<b>CONNECTIVITY</b>	Chabahar Port & INSTC corridor.	Disruption of India's direct access to Afghanistan and Central Asia.

- 
- **Linkages with NCERTs**
  - **Class 12 Political Science – Contemporary World Politics**
  - Chapter on "US Hegemony in World Politics" — directly relevant. U.S. involvement in West Asia exemplifies how American hegemony operates: military bases in Gulf states, backing Israel, warning adversaries.
  - Chapter on "International Organisations" — UN's inability to stop this conflict illustrates the structural limitations of the Security Council's veto system.
  - **Class 12 Political Science – India's Foreign Policy**
  - India's non-alignment tradition and current "strategic autonomy" doctrine are directly tested by this crisis. How does India balance its Iran relationship (Chabahar, oil) with its Israel relationship (defense) and U.S. partnership?
  - **Class 10 Social Science (Geography) – Resources and Development**
  - West Asia's oil resources and their global economic significance. Why the Gulf matters to every nation, including India.
  - **Class 9 Social Science (History) – Forest Society and Colonialism / Rise of Nationalism**
  - The creation of Israel in 1948 under British Mandate Palestine, and the displacement of Palestinians, is the deep historical root of the conflict. NCERT's coverage of anti-colonial movements provides context for how West Asian states perceive Western-backed interventions.
  - **Class 11 Political Science – Political Theory**
  - Concepts of sovereignty, legitimacy, and the state directly apply. Is Iran's Supreme Leader a legitimate head of state? Can sovereignty be overridden on security grounds? These are exactly the kinds of questions UPSC Ethics and GS2 tests.

# Institutions, including the courts, must acknowledge error: Singhvi

The measure of a legal system is not how it treats the powerful when they are secure, but how it treats the vulnerable when they are exposed, says senior advocate; democracies strengthen when disagreement remains reasoned, respectful, he says

**The Hindu Bureau**  
NEW DELHI

If institutions, including the courts, have erred, they must have the courage to acknowledge the mistake, senior advocate Abhishek Manu Singhvi said at the "Justice Unplugged: Shaping the Future of Law" conclave on Saturday.

"The Constitution does not defend itself. It relies on disciplined minds and courageous voices... Institutions, including courts, can falter but courage must outlive error. The eventual judicial acknowledgement of that error demonstrates something equally powerful; that constitutional systems possess the capacity for self-correction... The lesson is not to romanticise fallibility, but to recognise that vigilance is generational," Mr. Singhvi said.

His observations were part of his address as chief guest of the conclave organised by the Vellore Institute of Technology School of Law in association with *The Hindu*, to an



Senior advocate Abhishek Manu Singhvi at the Justice Unplugged 2026 conclave in New Delhi on Saturday. R.V. MOORTHY

audience of mostly young law students and lawyers.

Powerful interests may have the capacity to dent ambitions but they cannot take away the soul or conscience of constitutionally protected judges and independent lawyers who stand firmly by the truth, Mr. Singhvi said.

"Ultimately, when history judges such lawyers and judges, it normally gets its verdict right. The loaves and fishes of high office and of high posts are discounted by history. It elevates only those to a pedes-

tal who have followed the call of their soul and the voice of their conscience," Mr. Singhvi said.

The courts should apply constitutional jurisprudence to protect the cherished rights of the common man from arbitrary excesses of the state, including preventive detention, he said. The judiciary's role as protector of the Constitution is critical, especially when the government tries to expand its Executive authority after moments of national trauma, he added.

"The law is ultimately about the people. Behind every Constitutional principle stands a human story – a prisoner seeking bail, a worker seeking wages, a woman seeking equality, a citizen seeking justice," he said.

The character and strength of a legal system has to be measured by the protection it afforded the little person in dire need of access to justice, Mr. Singhvi said. "The measure of a legal system is not how it treats the powerful when they are secure, but how it treats the vulnerable when they are exposed. Law at its noblest is a shield for those without a voice," he added.

Continuous dialogue about liberty, equality, governance among judges, advocates, and scholars is a life force in every democracy, Mr. Singhvi said. "Democracies decline when debate declines. Democracies strengthen when disagreement remains reasoned, respectful, and rooted in Constitutional fidelity," he said.

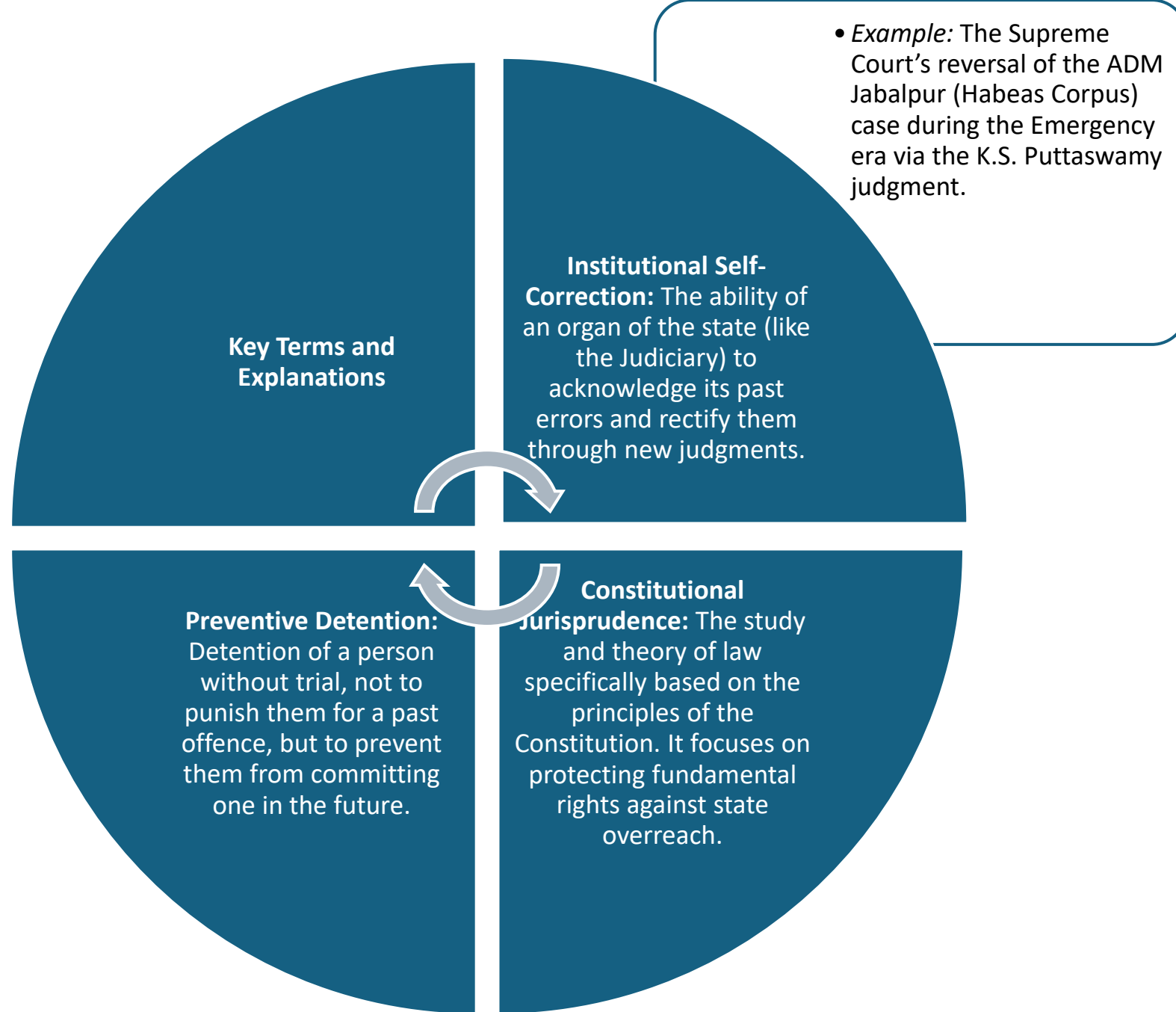
Referring to the conclave's theme of artificial intelligence (AI) in the legal profession, Mr. Singhvi said AI was a remarkable tool, just like nuclear power, but which had to be used constructively and positively.

"As long as AI is the slave and we are the master, AI is of great use," he said. Legal practitioners form the protective wall against invasive technology, the senior advocate added.

A discussion on national building is not complete without economic national building, the senior advocate said, in the same way that politics is the "visible architecture of a nation, law is its invisible foundation".

Economic justice and economic growth are both mediated through law, he said.





**Main Arguments and Substantive Parts**

**Vulnerability as a Metric:** A legal system should not be judged by how it treats the powerful, but by its treatment of the "little person"—the worker, the prisoner, or the woman seeking equality.

**The Human Element in Law:** Behind every cold legal principle is a "human story." Judges and lawyers must look beyond technicalities to the soul of the case.

**The Courage to Acknowledge Error:** The central thesis is that institutions are not infallible. Their strength is not in being "right" all the time, but in having the courage to admit when they have failed the citizens.

**Law as a Shield:** Law is described as a protective barrier against two main threats: **Arbitrary State Excess** (like illegal detention) and **Invasive Technology** (like unregulated AI).

**National Building and Economy:** Economic growth is not just about numbers; it is mediated through law. Without a stable legal foundation, economic justice cannot be achieved.

## Historical Evolution of the Issue

**Pre-Independence:** The law was often used as a tool of colonial oppression (e.g., Sedition laws). The judiciary was subordinate to the Crown.

**Post-Independence (1950s-60s):** The "Literal Interpretation" phase. The courts focused strictly on the letter of the law (e.g., *A.K. Gopalan case*).

**The Darkest Hour (1975-77):** The Emergency. The judiciary failed to protect personal liberty (*ADM Jabalpur case*), showcasing what happens when institutions do not acknowledge error in real-time.

**The Era of Activism (1980s-90s):** Evolution of Public Interest Litigation (PIL). The "vulnerable" finally got a direct line to the courts.

**Modern Era:** Transitioning toward "Transformative Constitutionalism" and dealing with digital-age challenges like data privacy and AI.

An educational guide for civil service aspirants on the philosophical and practical foundations of judicial accountability, institutional self-correction, and the ethical integration of AI in the Indian legal system.

**POLITICS / GOVERNMENT**  
(Visible Architecture)

**Constitutional Morality:** Acting in the spirit of liberty, equality, and fraternity, even when political incentives push otherwise.

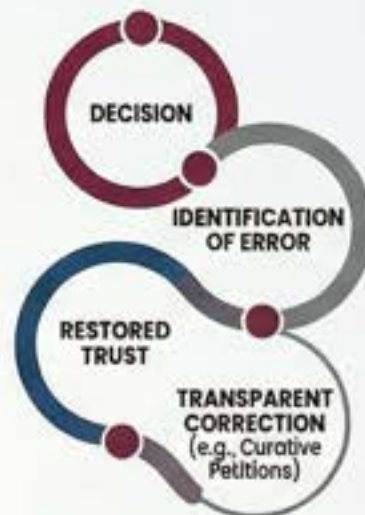
**Rule of Law vs. State Excess:** Ensuring no one is above the law; judicial review acts as a safety valve against arbitrary "state excess".



# The Pillars of a Living Democracy: Institutional Accountability & Justice Delivery

THE MECHANISM:  
**INSTITUTIONAL SELF-CORRECTION**

**Institutional Accountability**  
The duty of public institutions to explain decisions, accept mistakes, and correct course rather than defending flaws.



**The Courage to Acknowledge Error:** Mature institutions distinguish themselves by transparent correction rather than defensive stubbornness.

**Restoring Public Trust:** Judicial legitimacy depends on credibility and fairness; admitting error restores confidence.



**POLITICS / GOVERNMENT**  
(Visible Architecture)

**THE LAW**  
(Invisible Foundation)

**MULTIDIMENSIONAL IMPACTS OF JUDICIAL ACCOUNTABILITY**

Dimension	Key Focus Area
Social	Access to justice for marginalized groups; social stabilizers like legal aid.
Political	Curbing executive overreach; maintaining separation of powers.
Economic	Reducing litigation costs; building investor confidence through predictable law.
Ethical	Institutional humility and the "voice of conscience" in decision-making.



THE MODERN FRONTIER:  
**RESPONSIBLE AI IN LAW**

**AI as an Assistive Tool, Not a Substitute:** AI can summarize documents and locate precedents, but it must remain a "slave" to human constitutional judgment.

- **The Risk of "Digital Hallucinations":** AI may inherit biases or generate confident but wrong outputs; fairness requires audits, transparency, and human oversight.
- **AI Literacy for the Judiciary:** Capacity building for judges and lawyers to understand what AI can and cannot do to ensure data privacy and ethical adjudication.



THE LITMUS TEST:  
**JUSTICE FOR THE VULNERABLE**

**Measuring the "Metric of Justice":** A legal system's moral measure is how it treats the "little person" (workers, prisoners, the marginalized) when they are exposed.



**Breaking Barriers to Access:** Moving beyond "paper promises" to real-world remedies via legal aid quality, simplified e-filing, and "Ball as Rule, Jail as Exception".


**UPSC & APSC STRATEGIC LINKAGES**



**GS Paper 2 & 4 Focus:** Direct relevance to Judiciary, Governance (GS2), and Ethics/Institutional Integrity (GS4).



**Essay Themes:** Ideal for topics like "Technology without ethics is power without direction" or "Justice to the weakest is the real measure".

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- **Linkages with NCERTs**
  - **Class 11 Political Science (Indian Constitution at Work)**
  - **Judicial review, Fundamental Rights, constitutional design**—directly connects to courts as protectors and self-correcting institutions.
  - **Class 12 Political Science (Politics in India Since Independence / Contemporary World Politics)**
  - **Institutions, democratic functioning, public trust**—how democracy consolidates or declines.
  - **Class 11 Sociology (Understanding Society)**
  - **Social inequality and institutions**—why the vulnerable face structural barriers in accessing justice.
  - **Class 12 Sociology (Indian Society)**
  - **Law, society, social change**—role of institutions in mediating conflicts.
  - **Class 11 Economics (Indian Economic Development)**
  - **Institutions and development**—how rule of law supports markets and welfare outcomes.
  - **Class 9–10 Civics (Democratic Politics)**
  - **Accountability, rule of law, democratic rights**—foundation for answer-writing clarity.

# 'Coalition governments gave India opportunities to reform its federal structure'

**The Hindu Bureau**  
CHENNAI

A webinar on "Constitution Under the Microscope: Federalism, Free Speech and the Indian Republic", jointly organised by the SRM Institute of Science and Technology (SRMIST) and *The Hindu*, focused on strained Centre-State ties in many States, the role of Governors, and the importance of free speech.

Responding to a question on whether the Constitution requires amendments to make it more federal in nature, Madras High Court advocate Suhrit Parthasarathy said such an amendment may not be necessary. Instead, he stressed the need to preserve the Constitution's basic essence.

He suggested three ways of interpreting the Constitution with a federal tilt and not a unitary one.



"The first is by restoring fiscal federalism: giving States a greater say in GST design and revenue stability, and revisiting Centrally Sponsored Schemes. The second is rebalancing legislative power by tightening the scope of the Concurrent List and strengthening institutions such as the Inter-State Council. The third is to reform the role of Governors."

Akila R., an advocate practising at the Madras High Court and trial courts in Chennai, said in the current political scenario, amending the Constitution to make it more federal may not be feasible.

A. Vinay Kumar, the Pro

Vice-Chancellor for the Faculty of Science and Humanities, School of Law, and Faculty of Management at SRMIST, Kattankulathur, observed that India had opportunities to reform its federal structure during long stints of coalition governments.

Sree Sudha, Dean of SRM School of Law, said freedom of speech and expression is an important fundamental right.

On the question of hate speeches by politicians, SRMIST School of Law associate professor Sumana Vedanth said there is currently no mechanism in place to restrict hate speeches from being made. Referring to the recent NCERT Class 8 textbook controversy, Dr. Vedanth said, "Ensuring that published content is authentic and verifiable is the way forward." The webinar can be viewed at <https://newsth.live/THSRMLY>



- **Key Terms and Explanations**

- **Federalism:** A system of government where power is divided between a central authority and constituent political units (States).

- *Example:* While the Union handles Defense, the States manage Law and Order.

- **Fiscal Federalism:** The division of financial powers and responsibilities between the Centre and States.

- *Example:* The sharing of GST revenue between the Union and State governments.

- **Concurrent List (Schedule VII):** A list of subjects where both the Centre and States can legislate. However, in case of conflict, Union law usually prevails.

- **Inter-State Council:** A constitutional body (Article 263) meant to support coordination and resolve disputes between the Centre and States.

- **Unitary Bias:** A tendency in the Indian Constitution where the Central government holds more power than the States, especially during emergencies.

- **Centrally Sponsored Schemes (CSS):** Programs funded largely by the Centre but implemented by State governments.

- *Example:* MGNREGA.

- Core Arguments and Substantive Points
- a) On Federalism and Coalition Governments
- Long periods of coalition governments at the Centre created **opportunities to reform India's federal structure**, because national parties depended on regional allies and States' bargaining power increased.
- Instead of formal constitutional amendments, much of this reform happened through **political practice**, inter-governmental negotiations, and institutional innovations (e.g., empowered Finance Commissions, greater devolution, strengthening GST Council and ISC).
- b) Three Broad Reform Directions (Conceptual)
- **Restoring fiscal federalism**
  - Give States a greater say in GST design and revenue-sharing.
  - Revisit Centrally Sponsored Schemes (CSS) to reduce one-size-fits-all conditions and allow more flexibility.
- **Rebalancing legislative power**
  - Tighten or rationalise the Concurrent List to reduce areas where central laws can override State laws.
  - Strengthen the Inter-State Council and similar consultative forums for negotiated legislation.
- **Reforming the role of Governors**
  - Clarify and limit discretionary powers, ensure non-partisan appointments, and create mechanisms to resolve Governor–State stand-offs.
- c) On Free Speech and Hate Speech
- Freedom of speech and expression is emphasised as a **core fundamental right**, crucial for democracy and accountability.
- At the same time, the absence of a clear legal mechanism to deal with hate speech by politicians creates weaknesses in protecting social harmony and minority rights.
- The NCERT controversy and similar episodes illustrate the **tension between free expression and protection of institutional reputation**, especially of the judiciary.



- Historical Evolution of the Issue
- a) Pre-Independence and Constituent Assembly
- Colonial Government of India Acts (1919, 1935) introduced provincial autonomy but retained strong central control, shaping India's cautious approach to federalism.
- Constituent Assembly debates reveal fear of disintegration (Partition trauma), leading to a **"Union of States" with a strong Centre**, single Constitution, single citizenship, and emergency provisions.
- b) Early Decades (1950s–1970s)
- Dominance of the Congress system meant Centre and most States were ruled by the same party; conflicts were managed internally, but centralisation remained high (e.g., frequent use of Article 356 in later decades).
- The Governor's office became controversial in opposition-ruled States, with allegations of partisan dismissal of State governments.
- c) Post-Bomma and Rise of Regional Parties (1989 onwards)
- **S.R. Bommai (1994)** checked misuse of Article 356, strengthening federalism as part of basic structure.
- Coalition governments at the Centre (NDA, UPA) gave regional parties a greater voice, leading to higher tax devolution, greater role for States in national coalitions, and negotiated federalism.
- d) Liberalisation and Fiscal Reforms
- Economic reforms increased importance of States as sites of investment and reform, encouraging **competitive federalism**.
- Finance Commission recommendations gradually enhanced States' share in divisible pool and emphasised principles of fiscal responsibility and transparency.
- e) GST and Cooperative Federalism (2017 onwards)
- GST replaced multiple State taxes, creating a unified national market but also centralising certain fiscal powers.
- The GST Council became a symbol of cooperative federalism but also a site of tension, particularly during compensation disputes (e.g., pandemic period).
- f) Recent Centralisation Debates
- Concerns over cess and surcharges (outside divisible pool), constraints on State borrowing, central influence over universities and schemes, and Governor–CM confrontations have revived debates on "hardening unitary tilt."
- Judicial interventions on GST Council's status, Article 370, and NCERT/judiciary controversies show the judiciary's central role in defining boundaries of federalism and free speech.

# Indian Federalism & The Ethics of Free Speech: A Strategic Guide for UPSC Aspirants

## THE FEDERAL FRAMEWORK & EVOLUTION OF POWER

**Emergency Powers**  
While a "Union of States," Constitution has Unitary Bias; Centre holds more power, especially in emergencies.

**Union of States (Article 1)**

**Strong Centre**  
**FEDERAL TILT (Goal)**  
Shift to prioritizing State autonomy.

## Fiscal Federalism & Concurrent List

**Centre** ↔ **States**

**GST & Finance Commission**  
Division of financial powers; Focus on GST revenue sharing & Finance Commission.

**The Concurrent List (Schedule VII)**  
Subjects (e.g. Education, Forests) where both legislate, Union law prevails in conflict.

**Centrally Sponsored Schemes (CSS)**  
Funded by Centre, implemented by States; often causes local flexibility issues.

## Timeline of Power (1950–Present)

**1950–1967:**  
The Congress System  
One-party dominance, centralized superpartive federalism

**1967–1989:**  
Regional Emergence  
Rise of regional parties, controversial use of Article 255  
President's Rule

**1989–19914:** The Coalition "Daidan Age"  
Regional parties as "singmakers," "negotiated federalism" with deeper State consultation

**Post-2014:**  
Dominant Party Era  
Return to strong Centre; Friction over GXT and Governor despite "Cooperative Federalism" Singan

## THREE PILLARS OF FEDERAL REFORM

**FEDERAL TILT: Goal for Governance**

**PILLAR 1: FINANCIAL REFORM**

- Greater State say in GST design;
- Reduce reliance on unshared Cesses/Surcharges.

**PILLAR 2: LEGISLATIVE REBALANCING**

- Tighten Concurrent List;
- Prevent Centre from "over-legislating" on State matters.

**PILLAR 3: INSTITUTIONAL REFORM**

- Reform Office of the Governor;
- Ensure non-partisan appointments & neutrality;
- End "agent of the Centre" perception.

## ETHICS OF SPEECH & ACCOUNTABILITY & WAY FORWARD

### The Hate Speech Gap

Critical lack of legal mechanisms to deter and punish hate speech by political actors.

### Epistemic Ethics & NCERT

Call for "authentic and verifiable" content in educational materials, Protects institutional dignity & public trust.



### The "Federal Tilt"

Philosophical shift to interpret Constitution prioritizing State autonomy.

## WAY FORWARD & UPSC LINKAGES

**Revitalize Inter-State Council**  
Make Article 268 body permanent with regular meetings to resolve disputes.

**Implement Sarkaria & Punchhi Commissions**  
Exact pending recommendations on appointment, tenure & powers of State Governors.

**Subsidiarity Principle**  
Matters handled by least centralized competent authority possible.

## UPSC RELEVANCE

- GS Paper II: Functions & Responsibilities of Union & States, Federal Structure.
- GS Paper IV: Ethics and Accountability; Political Morality.
- NCERT Class 11: Indian Constitution at Work: Chapter 7 (Federalism).
- NCERT Class 12: Politics in India Since Independence: Chapter 8 (Recent Developments).

- . Linkages with NCERT Textbooks
- **Class 8, Social and Political Life**
  - Chapters on “Understanding Laws”, “Judiciary”, “Understanding Marginalisation” help frame debates on constitutional institutions and rights.
- **Class 9, Democratic Politics I**
  - “What is Democracy? Why Democracy?”, “Constitutional Design”, “Democratic Rights” – basic understanding of free speech, institutions, and citizen–State relations.
- **Class 10, Democratic Politics II**
  - “Federalism” (core chapter for Centre–State relations), “Political Parties”, “Outcomes of Democracy” – perfect for coalition politics and federal tensions.
- **Class 11, Indian Constitution at Work**
  - Chapters on “Constitution as a Living Document”, “Federalism”, “Judiciary”, “Rights in the Indian Constitution” – directly map to debates on Governors, GST, free speech.
- **Class 12, Politics in India since Independence**
  - Chapters on “Challenges to and Restoration of the Congress System”, “Regional Aspirations”, “Recent Developments in Indian Politics” – useful for coalition era and emergence of regional parties.



# Will leverage tech to crack down on market manipulators, says SEBI chief

SEBI Chairman Tuhin Kanta Pandey says market regulator is using AI to educate investors; he urges people to use tools such as SEBI Check to deter fraudsters, and warns against financial influencers promising astronomical returns; he says SEBI will make sure there is no instability in the markets

Lalendu Mishra  
Ashokamithran T.  
MUMBAI

The Securities and Exchange Board of India (SEBI) will enhance surveillance and enforcement on market manipulators and cyberfraudsters through technology and use artificial intelligence (AI) to widen the reach of its investor awareness programmes, its Chairman Tuhin Kanta Pandey told *The Hindu* in an interview.

He said the SEBI aims to have "optimum regulation" in the capital market without "irritating" the stakeholders – exchanges, investors, brokers – such that "the market functions with integrity".

The SEBI chief said that ever since he assumed charge last year, the regulator has rolled out 58 initiatives to ease business processes in the capital market, nine broad initiatives to make the market investor-centric and educate investors to make better choices. The SEBI has made four changes to strengthen the framework regulating market intermediaries such as exchanges.

It has introduced 13 measures to develop the capital market and six regulations to cool down speculation and stabilise the equity derivatives segment, he said.

## Tech-driven initiatives

A lot of the SEBI's initiatives were technology-driven, said Mr. Pandey, highlighting the development of SEBI Check, a tool within the UPI interface that identifies registered intermediaries for investors before they make a payment. The tool is expected to rein in fraudulent brokers or traders who promise unreal gains and dupe investors.

He urged investors to be safe and be proactive while using these tools to identify cyberfrauds. "If someone is approaching, people should say that 'you are a fraud as your account does not show SEBI Check. I will lodge an FIR against you'," he said, adding that people need to be able to make returns they saw during the post-COVID rally. With the markets falling amid sustained selling by foreign investors and geopolitical uncertainty, he said the SEBI's role was to make sure

that there were no major instabilities and some market participants "do not act too smart".



initiatives. The market regulator has collaborated with Bengaluru-based AI company SARVAM to widen the reach of such efforts. "We have also done a pilot AI campaign with SARVAM where they have reached out to about 3,85,000 people through calls, and these calls were made through an AI process in multiple languages to explain about the SEBI Check tool," he said.

## 'Disciplined investing'

Mr. Pandey inherited a correcting stock market in which retail investors may not be able to make returns they saw during the post-COVID rally. With the markets falling amid sustained selling by foreign investors and geopolitical uncertainty, he said the SEBI's role was to make sure



that there were no major instabilities and some market participants "do not act too smart".

The SEBI chief said returns were contingent on multiple factors, and gains should not be judged based on one period alone. "People have always compounded their wealth over a period of time (through disciplined and long investing," he said, adding that the Indian markets were stable and the economy was growing.

## Action is accurate

Speaking on the widespread speculation in options trading (a derivative instrument which is used to protect investors from crashing stocks leading to losses), he said that this was limited to short duration options. With some stakeholders proposing many ideas, including res-

tricting "unsuitable" players from the market to ensure stability, Mr. Pandey said there were no signs of instability in the markets. "Market stability is inherent. Now we don't see any sign of market instability. So, there cannot be scaremongering. There is no need of panic," he said.

Mr. Pandey warned investors against financial influencers who were "conning" investors by promising returns on options. He said people must be careful of such "swindlers" who operate through WhatsApp groups, adding that the SEBI was monitoring such activities.

Mr. Pandey warned investors against financial influencers who were "conning" investors by promising returns on options. He said people must be careful of such "swindlers" who operate through WhatsApp groups, adding that the SEBI was monitoring such activities.

Last year, the SEBI took action against many market manipulators and mis-sellers. Avadhut Sathe, for example, who ran an "unregistered investment advisory" in the name of an academy, and Jane Street, an American hedge fund which allegedly manipulated a significant portion of the options market, were the prominent ones. They were served interim orders and investigations

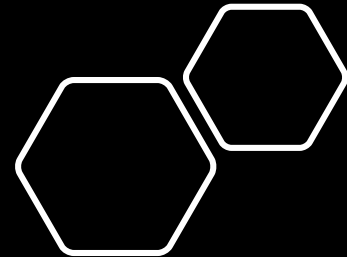
on both the cases are under way. Both have approached the Securities Appellate Tribunals.

While Mr. Pandey refused to comment on individual cases that were *sub-judice*, he expressed confidence that in recent days, the SEBI had 80% to 90% success rate in the tribunal cases and much higher rate in the Supreme Court, and that principles of natural justice should apply.

Mr. Pandey said the SEBI was studying the possibilities of rejuvenating the agri-commodities market.

"Two working groups were created in agriculture to look at all kinds of problems, which were faced by the commodity side of agriculture. And they have given reports to me (last week), and it will go to committee process," he said. The SEBI is also set to focus on deepening the corporate bonds market, he said.

Mr. Pandey said the SEBI would study the impact of regulations and make policy-writing more scientific. A committee under Chief Economic Adviser V. Anantha Nageswaran would discuss this, he said.





- **Key Terms and Explanations**

- **SEBI (Securities and Exchange Board of India):** The statutory regulatory body established to protect the interests of investors in securities and to promote the development of, and to regulate, the securities market.

- **Market Manipulation:** Illegal practices that interfere with the free and fair operation of the market (e.g., "Pump and Dump" schemes where prices are artificially inflated to sell at a profit).

- **Financial Influencers (Finfluencers):** Individuals who use social media platforms to provide financial advice. They are often under scrutiny for providing unregulated advice or having undisclosed tie-ups with platforms.

- **Derivatives (Options/Futures):** Financial contracts whose value is derived from an underlying asset (like a stock). While used for hedging, high speculation in "short-duration options" can lead to massive retail losses.

- **SEBI Check:** A digital tool (often integrated with UPI) that allows investors to verify if an entity is a SEBI-registered intermediary before transferring funds.

- **Algorithmic/AI Trading:** Using computer programs to execute trades at high speeds based on defined criteria. SEBI is now using these same tools for "RegTech" (Regulatory Technology) to catch frauds.

- 
- Main Arguments and Substantive Parts
  - **Core Thesis**
    - The securities regulator is increasingly relying on technology—especially AI-enabled surveillance and complaint-handling—to detect and deter market manipulation, while simultaneously emphasising investor education and caution against misleading financial influencers.
  - **Key Substantive Themes**
    - **Tech-driven Surveillance and Enforcement**
      - Use of AI and data analytics to monitor trades, detect patterns, and link accounts across intermediaries.
      - Introduction of multiple new measures, regulations and tools to curb excessive speculation, stabilise the equity derivatives segment, and deal with cyberfrauds.
    - **Investor-Facing Digital Tools**
      - Creation of online interfaces where investors can verify whether an intermediary is registered, lodge complaints, and track their status.
      - Multilingual AI-based systems to explain complex processes in simple language.
    - **Regulatory Philosophy: “Optimum Regulation”**
      - Aim to regulate in a way that protects investors and market integrity without “irritating” or over-burdening genuine market participants.
      - Balance between curbing malpractices and ensuring ease of doing business for legitimate intermediaries and investors.
    - **Warnings on Financial Influencers and High-Risk Products**
      - Caution to investors against following unregistered advisors or influencers promising “astronomical returns”.
      - Advice to be wary of complex derivative strategies marketed to retail investors.
    - **Reassurance on Market Stability**
      - The regulator asserts that, despite noise, there is no broad-based instability; markets remain fundamentally sound and resilient.
      - Individual cases of misuse are being dealt with through legal processes.

- Historical Evolution of the Issue
- **Pre-SEBI Era (1950s–1980s)**
  - Companies Act provisions and the Controller of Capital Issues provided some oversight.
  - Stock Exchange control largely self-regulatory; insider trading and price rigging were common.
  - Lack of modern surveillance or investor protection mechanisms.
- **Creation and Empowerment of SEBI**
  - SEBI set up in 1988 through an executive resolution as a non-statutory body.
  - After the **Harshad Mehta scam (1992)**, Parliament passed the **SEBI Act, 1992**, giving it statutory powers.
  - Subsequent scams (Ketan Parekh, IPO allotment scams) led to further strengthening of SEBI's powers.
- **Dematerialisation and Technological Modernisation (1990s–2000s)**
  - Introduction of online electronic trading, depositories (NSDL, CDSL), rolling settlement, and screen-based surveillance.
  - This significantly reduced classic floor-based manipulation but created new forms of algorithmic abuses.
- **Post-2008 Global Financial Crisis**
  - Greater emphasis on systemic risk, derivatives oversight, disclosure norms, corporate governance.
  - Emergence of complex derivative products, algorithmic trading, high-frequency trading, and cross-border capital flows.
- **2010s: Retail Participation and Digital Platforms**
  - Growth of online discount brokers, mobile trading apps, and UPI-linked investment platforms.
  - SEBI introduced norms on investment advisers, research analysts, and product labelling, but social-media-based advice grew faster than regulation.
- **Recent Phase: AI, Data Analytics, and Finfluencer Era**
  - Rapid rise in finfluencers, Telegram/WhatsApp tip groups, YouTube options-trading channels.
  - Simultaneously, SEBI (and other regulators globally) began using AI-based systems for market surveillance, text mining, and network analysis.
  - The current debate revolves around: how far should the state go in restricting speculative behaviour, digital advertising, and influencer content while respecting freedom of speech and entrepreneurship.

# Tech-Driven Guardianship: SEBI's Digital Shield for India's Capital Markets

## The Evolution of Market Oversight



**1992: The Statutory Turning Point**  
Following the Harshad Mehta scam, the SEBI Act of 1993 granted SEBI statutory powers to regulate the market and protect investor interests.



**The 2000s: The Tech Integration**  
The shift from physical floor trading to electronic screen-based trading (NSE) and the introduction of T+1 settlement cycles modernized market infrastructure.



**The Present: The AI & 'RegTech' Era**  
SEBI now uses Big Data and AI to conduct real-time surveillance and mass investor outreach in multiple local languages.

## The RegTech Toolkit (Technology as a Shield)



**AI-Driven Real-Time Surveillance**  
SEBI uses machine learning to monitor millions of daily trades, spotting anomalies like 'circular trading' or 'front-running' before they escalate.



**UPI-Integrated 'SEBI Check'**  
A global first in regulation, this tool allows investors to verify if an entity is SEBI-registered directly within the payment interface before transferring funds.



**Multilingual AI Outreach**  
Collaborating with firms like SARVAM, SEBI uses AI to call and educate lakhs of investors in their local languages, democratizing financial literacy.

## The 3 Pillars of Regulation (UPSC Core Framework)

**1. Surveillance (Detection)**

Using AI and pattern recognition to identify suspicious synchronized trades or algorithmic abuses.

**2. Education (Prevention)**

Strengthening 'investor empowerment' through tools like SCORES and multilingual literacy campaigns to bridge information asymmetry.

**3. Enforcement (Action)**

Legal action via show-cause notices, penalties, market bans, and maintaining a high success rate at the Securities Appellate Tribunal (SAT).

## Emerging Threats & Challenges



**The 'Finfluencer' Risk**  
Unregulated financial influencers often promise 'astronomical returns' through social media, leading to the erosion of household savings via undisclosed tie-ups.

**Market Manipulation Schemes**  
Modern frauds include 'Pump and Dump' (artificially inflating prices) and the use of Deepfakes or encrypted apps (Telegram/WhatsApp) to spread rumors.



**The Derivatives Trap**

SEBI reports that **9 out of 10 individual traders in the F&O segment lose money.**

High speculation in short-duration options leads to massive retail losses.

## The Way Forward



**Strict 'Finfluencer' Norms**  
Mandating registration and clear disclosures of sponsorships for anyone providing investment advice online.

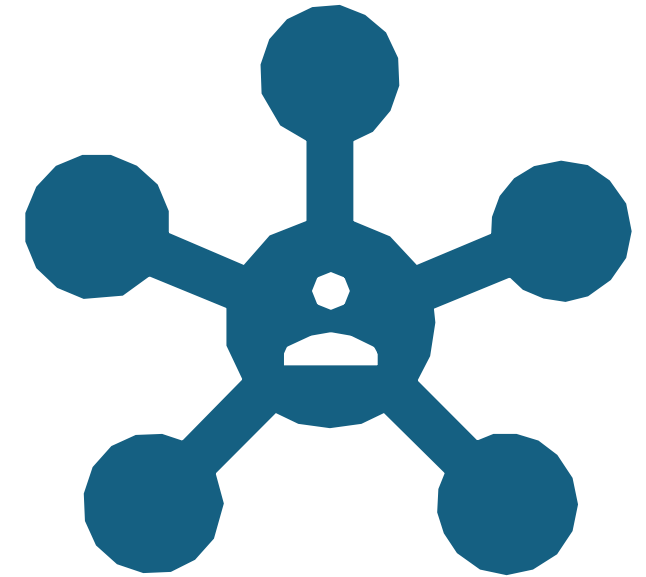


**Mandatory Product Labeling**  
Introducing prominent warnings on high-risk derivative products, similar to health warnings on cigarette packs.



**Global Regulatory Cooperation**  
Working with international bodies like IOSCO to tackle cross-border manipulation by foreign hedge funds.

- Linkages with NCERTs
- **Economics – Class 12 (Introductory Macroeconomics, Indian Economic Development)**
  - Chapters on money and financial system, role of financial markets, reforms in financial sector.
  - Concepts of investment, speculation, capital market, and regulation directly align.
- **Economics – Class 11 (Indian Economic Development)**
  - Chapters on liberalisation, privatisation and globalisation; structural reforms in financial sector.
  - Discussion on 1991 reforms and creation/strengthening of regulators.
- **Political Science – Class 11 & 12**
  - Chapters on Constitution, rule of law, regulatory bodies, and institutional checks and balances.
  - Role of independent regulators in a democracy and their relationship with legislature and judiciary.
- **Business Studies / Accountancy (Class 11–12, for optional understanding)**
  - Concepts of shares, debentures, stock exchanges, SEBI guidelines, investor protection.
  - Practical understanding of how companies raise capital and why regulation is needed.
- **Sociology – Class 12**
  - Discussions on globalisation, consumerism, risk society, and impact of media on social behaviour connect to influencer culture and speculative trends.



# Why key to coconut cultivation today is sustainability, not productivity

The Coconut Promotion Scheme must not be limited to distributing high-yield seedlings but must prioritise the development and mass multiplication of climate-resilient varieties for farms along the east coast and in peninsular regions, and with tolerant varieties for coconut growing regions along the west coast.

R. Ravi Kumar

**T**he 2024-25 Union Budget announced a Coconut Promotion Scheme with the primary aim of improving productivity by rejuvenating old, non-productive gardens with high-yielding coconut varieties and establishing new plantations along the coast. The farming community has welcomed the announcement.

The Coconut Development Board (CDB) is already implementing a similar scheme, which has helped rejuvenate old gardens and expanded cultivation into non-traditional areas, including parts of Gujarat, Assam, and other non-peninsular regions – sufficient to partially offset the widespread destruction of coconut palms in Kerala and Tamil Nadu by disease.

## Heat and disease

India is the world's largest producer and consumer of coconuts. The domestic prices of coconut and tender coconut remain far higher than prevailing international prices even though the productivity per palm in India is already higher than in Sri Lanka, the Philippines, and Indonesia. In places like Andhra Pradesh in Tamil Nadu, Dwarf 1 Tall hybrid palms regularly produce 250 to 300 tender coconuts per tree.

Today, climate change and disease are greater concerns than productivity. Research by the Central Plantation Crops Research Institute (CPCRI) has projected that temperatures in regions with plantations may rise by 1.6-2.7°C by 2050 and up to 1.2°C by 2070. Higher temperatures without a significant change in the rainfall levels will increase the vapour pressure deficit and intensify drought stress.

Studies have also found that large parts of interior peninsular India, including parts of Karnataka and Andhra Pradesh, along with the south interior region of Tamil Nadu and the east coast could become less suitable for coconut cultivation in the coming decades as a result.

## Expanded scope

The CPCRI has found that coconut can still be cultivated along the Western Ghats belt in Kerala, coastal Karnataka, and western Tamil Nadu even during the high temperature regimes. However, these regions are beset by root with diseases in Alappuzha and Palakkad districts, the coconut landscape has been completely devastated.

Therefore, the new Coconut Promotion Scheme must not be limited to distributing high-yield seedlings but must prioritise the development and mass multiplication of climate-resilient varieties for farms along the east coast and in peninsular regions, and with tolerant varieties for the traditional coconut growing regions along the west coast.

Large tracts of land sown with the



A coconut farm at Ponnappuram near Pollachi in Tamil Nadu district, researchers.

State horticulture departments and universities can be used to establish mother palm gardens. Similarly, the State should consider strengthening research institutions like the CPCRI and the Tamil Nadu Agricultural University, so that they can identify and breed heat-tolerant, drought-resistant, and disease-resistant genotypes.

Farmer producer organisations (FPOs), cooperatives, and multiple private enterprises should also be enabled to mass produce these resilient seedlings.

The impact of the scheme to enhance productivity results distributing free or subsidised inputs. Many such schemes often disburse biological inputs, microbial inoculants, micronutrients, etc. But in practice, they are often substandard or poorly stored, reducing the microbial viability.

Instead, the State should consider direct benefits transfers, since farmers must be trained to decide whether they need irrigation systems, soil amendments, labour for rejuvenation or other improvements.

## Failed take-off

The third area that merits a serious rethink is adding value. In many coconut growing regions today, production barely meets rising domestic demand for culinary purposes. The domestic price of coconut has increased three-fold since 2014. Encouraging FPOs to invest in processing units during lean supply periods without also ensuring them of marketing channels will only expose them to financial risk. The equipment already supplied under such schemes often lies idle.

The Cluster Development Programme implemented by the National Horticulture Board (NHB) has an outlay of about 1200

crores for three verticals: production, value addition, and marketing. However, the programme didn't take off because its high investment barriers prevented FPOs and cooperatives from being meaningful participants in implementing agencies. From after repeated stakeholder consultations and deadline extensions, private firms were not interested in being the implementing agencies.

The NHB is already implementing schemes that provide a 20% capital subsidy to the industry involved in coconut value addition, so there is no reason for them to subscribe to the same variant of the scheme implemented by the NHB, that has with numerous compliance requirements, including inspection and auditing regulations. The subsidy percentage also varies across the verticals, confusing farmers and investor alike.

The banana cluster in southern Tamil Nadu is another example of an enterprise that remains largely on paper.

## Smaller but better

The government must evaluate these enterprises in good faith, including by adopting best-practice metrics to measure the success of schemes rather than resorting to official reports and stage-managed interactions with farmers. Large, centrally designed clusters may not be the answer. Instead, smaller pilot

models anchored in a genuine cooperative spirit with land-holding – for example, marketing partnerships with experienced FPOs like Anand or DCL – could be tested in locations such as Thanjavur (high-yield palm coconuts), Anaimalai (tender coconuts), and Pollachi (coconut oil). Smaller but better designed projects can yield more useful lessons as well.

Instilling the Coconut Promotion Scheme with the Cluster Development Programme could also eventually help fund the multiplication of better coconut saplings.

## Real returns

Farmers rarely have the institutional voice that large industries possess. Policies are often drafted based on official briefings rather than ground realities. A single visit to affected areas like Alappuzha and Pollachi will reveal that root with disease is destroying livelihoods and that climate stress is no longer theoretical.

The Coconut Promotion Scheme is an opportunity to study and develop climate-resilient and disease-resistant coconut varieties, and to acknowledge that enhancing productivity alone won't secure the future. Climate resilience, with resistance, direct grant to farmers, and honest evaluation of past failures must guide implementation.

If these principles are adopted to full spirit, the scheme can protect India's leadership in coconut cultivation for decades. If not, however, it will be yet another well-intentioned allocation that doesn't address the real crises facing coconut cultivators.

R. Ravi Kumar is managing director, Pollachi Honey Farmer Producer Company, and ICAR DDB Innovative Farmer Associate. ravi@rkgp.com

## THE GIST

India is the world's largest producer and consumer of coconuts. However, the domestic prices of coconut and tender coconut remain far higher than prevailing international prices.

The 2024-25 Union Budget announced a Coconut Promotion Scheme with the primary aim of improving productivity by rejuvenating old, non-productive gardens with high-yielding coconut varieties and establishing new plantations along the coast.

Today, climate change and disease are greater concerns than productivity for coconut cultivation in the country.

Climate-resilient, with resistance, direct grant to farmers, and honest evaluation of past failures must guide implementation of the scheme.



- **KEY TERMS AND EXPLANATIONS**

- **High-Yield Varieties (HYV)** These are crop varieties selectively bred to produce more output per plant under ideal conditions. Think of them as the "sports cars" of agriculture — impressive under perfect conditions, but fragile when the road gets rough. In coconut cultivation, HYV palms like Dwarf × Tall hybrids can yield 250–300 tender coconuts per tree, but they are often vulnerable to disease and climate stress.

- **Climate-Resilient Varieties** These are crop varieties specifically developed to withstand adverse climatic conditions — drought, erratic rainfall, high temperatures — without significant yield loss. Unlike HYVs, they prioritise survival and consistency over peak output. Example: drought-tolerant millets vs. water-intensive paddy.

- **Wilt-Tolerant Varieties** "Root wilt disease" is a phytoplasma-caused disease that devastates coconut palms, particularly in Kerala's coastal regions. Wilt-tolerant varieties are genetically equipped to resist this pathogen. Their development is critical because no chemical cure currently exists for root wilt once a palm is infected.

- **Coconut Development Board (CDB)** A statutory body established under the Coconut Development Board Act, 1979, functioning under the Ministry of Agriculture and Farmers' Welfare. Its mandate includes research, development, and promotion of the coconut industry across India. It funds rejuvenation of old gardens, promotes processing, and supports farmer producer organisations.

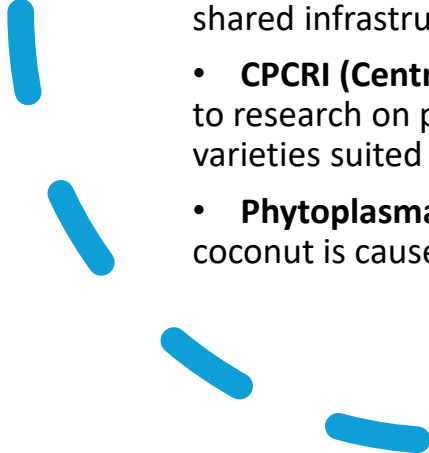
- **Copra** Dried coconut kernel from which coconut oil is extracted. It is the primary traded commodity form of coconut and a key price benchmark in domestic and international coconut markets.

- **National Horticulture Board (NHB)** Established in 1984 under the Ministry of Agriculture, the NHB promotes the holistic development of horticulture in India, including coconuts, by providing financial assistance for infrastructure, processing, and marketing.

- **Cluster Development Programme** A government scheme that groups geographically proximate farms producing similar commodities to enable shared infrastructure, collective branding, and coordinated market access. It is similar to industrial clusters but applied to agriculture.

- **CPCRI (Central Plantation Crops Research Institute)** An ICAR-affiliated research body headquartered in Kasaragod, Kerala, dedicated exclusively to research on plantation crops including coconut, arecanut, cocoa, and cashew. It is the principal body responsible for developing new coconut varieties suited to Indian agro-climatic conditions.

- **Phytoplasma** A type of plant pathogen (bacteria-like organism without cell walls) that infects the vascular tissue of plants. Root wilt disease of coconut is caused by phytoplasma transmitted through insect vectors. Once infected, a palm typically declines over years, with no cure available.



## • **MAIN ARGUMENTS AND SUBSTANTIVE PARTS**

### • **Core Thesis**

• The dominant policy paradigm for coconut cultivation — centred on maximising yield through high-yielding seedlings and expanding plantation area — is fundamentally misaligned with ground realities. The real challenge is climatic vulnerability and disease devastation, not low yield. Policy must pivot from productivity obsession to sustainability thinking.

### • **Key Arguments**

• **The Productivity-First Assumption is Flawed** India's productivity per coconut palm is already comparable to or higher than competing nations like Sri Lanka, the Philippines, and Indonesia. The problem is not that Indian palms yield too little — it is that existing palms are being destroyed by disease and climate stress faster than new ones can replace them. Chasing higher yield from new plantations while ignoring this devastation is like filling a bucket with a hole in it.

• **Climate Change is Reshaping Viability Zones** Research from CPCRI projects a temperature rise of 1.6–2.1°C by 2050 and up to 3.2°C by 2070 across coconut-growing regions. Even without significant rainfall changes, this increase will intensify vapour pressure deficit and drought stress in palms. More critically, large parts of interior peninsular India — Karnataka, Andhra Pradesh, southern Tamil Nadu, and the east coast — are projected to become increasingly unsuitable for coconut cultivation. Policy must account for this geographic shift in viability.

• **Root Wilt is an Existential Crisis, Not a Minor Problem** In districts like Alappuzha and Pollachi, root wilt disease has devastated the coconut landscape comprehensively. When you visit these areas — as the author, a practising farmer himself, suggests — you see entire gardens wiped out. The government's official briefings often miss this on-the-ground reality because policies are drafted from data rooms rather than field experience.

• **The Value Addition Strategy Has Structural Failures** The aspiration to develop coconut processing and value addition through FPOs is sound in principle, but the scheme's implementation has repeatedly failed because:

- High investment barriers make processing units financially unviable for small FPOs

- FMCG companies lack interest in being implementing agencies, preferring to operate independently

- Capital subsidies are inadequate when marketing channels are absent

- The banana cluster in Tamil Nadu is a cautionary example — an enterprise that exists largely on paper despite years of promotion

• **Direct Benefit Transfers Are More Honest** Rather than routing support through substandard biological inputs and micro-nutrient packages (which are often poorly stored and of dubious quality), the State should trust farmers with direct cash transfers so they can independently decide how to invest — whether in irrigation, soil health, or labour for rejuvenation.

• **Mother Palm Gardens Are Infrastructure, Not a Side Activity** State horticulture departments and agricultural universities need to establish and maintain mother palm gardens with climate-resilient and disease-resistant germplasm. This is foundational infrastructure — without it, farmers have no access to quality planting material, however good the policy may be on paper.

- Historical Evolution of the Issue
- Pre-Independence and Early Post-Independence
- Coconut has been cultivated in coastal India for centuries, especially in Kerala, coastal Karnataka, Tamil Nadu and parts of Andhra and Goa.
- In the colonial period, coconut products like copra and coir were important export commodities, but cultivation was largely in smallholder homestead gardens with limited scientific management.
- 1950s–1980s: Building Institutions and Expanding Area
- After Independence, coconut was recognised as a plantation crop of national importance; institutions like the Central Plantation Crops Research Institute (CPCRI) and State Agricultural Universities began specific research programmes.
- Area under coconut expanded with irrigation projects and rural electrification, moving into parts of Maharashtra, Gujarat and inland Karnataka and Tamil Nadu.
- Focus was largely on **area expansion and yield improvement** using tall and hybrid varieties, chemical fertilisers and pest control.
- 1990s–2000s: Liberalisation, Market Integration and Disease Concerns
- Economic liberalisation integrated Indian coconut products with global markets; competition from countries like the Philippines, Indonesia and Sri Lanka became sharper.
- Major disease outbreaks (e.g., root-wilt in Kerala, eriophyid mite, stem bleeding) caused significant yield loss and prompted schemes for **replanting and rejuvenation**.
- The Coconut Development Board (CDB) implemented centrally sponsored programmes for integrated development, value addition and market promotion.
- 2010s: Value Addition, FPOs and Diversification
- Government policy began to emphasise **value-addition** (virgin coconut oil, desiccated coconut, coconut water, coir-based products) and **FPO-centric models** under schemes like Rashtriya Krishi Vikas Yojana (RKVY) and Mission for Integrated Development of Horticulture (MIDH).
- Simultaneously, climate change signals—erratic monsoon, rising temperatures, and more frequent droughts—started affecting yields, especially in rainfed and interior tracts.
- 2020s onwards: Climate Resilience and Sustainability Discourse
- Increasing scientific evidence now points to **shifting agro-climatic suitability** zones for coconut, with some traditional and many newly promoted areas becoming riskier in future.
- Policy debates thus shift from “more coconut everywhere” to “**right crop in the right place, with the right variety**” and to integrating coconut cultivation with water management, agroforestry and livelihood diversification.

### THE CRISIS: Why "More" Isn't Enough



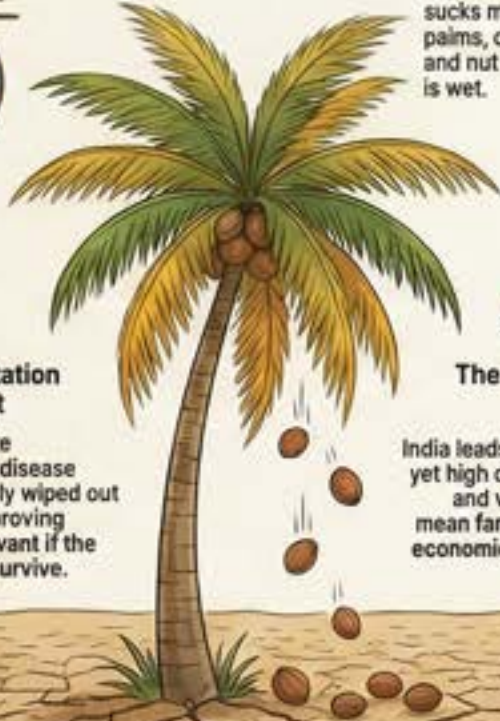
**\$1.6°C to \$3.2°C**

#### TEMPERATURE RISE

Projections for 2070 indicate traditional regions are becoming climatically unsuitable due to heat stress.

#### VAPOUR PRESSURE DEFICIT (VPD)

High VPD (hot, dry air) sucks moisture out of palms, causing stress and nut fall even if soil is wet.



#### The Devastation of Root Wilt

A bacteria-like phytoplasma disease has historically wiped out plantations, proving yield is irrelevant if the tree cannot survive.



#### The Productivity Paradox

India leads in production, yet high domestic prices and volatile markets mean farmers remain in economic crisis despite high yields.

### THE PARADIGM SHIFT: Old vs. New Model

Old Productivity Model (1960s-2010s)	New Sustainability Model (2020s+)
<p><b>Primary Goal:</b> Maximum Nut Count (Efficiency)</p>	<p><b>Primary Goal:</b> Climate/Disease Survival (Resilience)</p>
<p><b>Focus Area:</b> Aggressive Area Expansion</p>	<p><b>Focus Area:</b> Scientific Agro-Climatic Mapping</p>
<p><b>Variety Choice:</b> Dwarf x Tall Hybrids</p>	<p><b>Variety Choice:</b> Heat-Tolerant &amp; Wilt-Tolerant Genotypes</p>
<p><b>Support System:</b> Physical Seed/input Distribution</p>	<p><b>Support System:</b> Direct Benefit Transfer (DBT) to Farmers</p>
<p><b>Processing:</b> Top-Down Mega-Clusters</p>	<p><b>Processing:</b> FPO-led Micro-Clusters &amp; Pilot Projects</p>
<p><b>Success Metric:</b> Seedlings Distributed / Funds Spent</p>	<p><b>Success Metric:</b> Field Survival Rates &amp; Farmer Income</p>

### BUILDING THE RESILIENCE PIPELINE



**RESEARCH (CPCRI)**



**Multiplication of Survivor Genotypes**  
Identifying and mass-producing "survivor trees" via decentralized, FPO-managed nurseries.



**Value Addition as an Economic Buffer**  
Moving from raw nuts to industrial raw materials to stabilize income.



**The Power of FPOs**



**Ecological Realism:**  
A philosophical shift acknowledging that Ecology Precedes Economy

### ROADMAP FOR A CLIMATE-SMART FUTURE



**Shift from Reductionist to Systems Agriculture**  
Viewing the farm as a whole ecosystem involving water management and intercropping.

**Updating the "Coconut Map"**  
Discouraging expansion in high-stress interior zones; focusing on West Coast and humid pockets with long-term stability.

**Resilience is Responsibility:**  
Policy must focus on "Right crop in the right place" to prevent future generations from inheriting unproductive, diseased debt.

- 
- Linkages with NCERTs
  - **Class 9 Geography – Contemporary India, Chapter “Climate” and “Natural Vegetation and Wildlife”**
    - Concepts of climatic regions, temperature and rainfall patterns, and their impact on crops.
    - Helps students understand why coconut thrives in coastal, humid areas and why climate change matters.
  - **Class 10 Geography – “Agriculture”**
    - Discussion on cropping patterns, cash crops vs food crops, and need for diversification and sustainable practices.
    - Coconut can be used as a case study of a plantation crop facing climate challenges.
  - **Class 11 Geography (Fundamentals of Physical Geography and India: Physical Environment)**
    - Topics like monsoon mechanism, soils, and agro-climatic conditions directly connect with suitability of crops like coconut.
  - **Class 12 Geography – “Fundamentals of Human Geography” and “India: People and Economy” (chapters on agriculture and food resources)**
    - Concepts of commercial agriculture, plantation crops, and regional specialisation; relevance of agro-based industries like coir and edible oils.
  - **Class 11 Economics – “Indian Economic Development” (chapters on Agriculture and Infrastructure)**
    - Role of institutional reforms, cooperatives, FPOs, and government schemes in enhancing agricultural productivity and sustainability.



In the lower atmosphere, a returning capsule can still reach hundreds of kilometers per hour, far too fast for a safe landing, so the parachute has to be deployed to reduce the velocity for a soft landing in the sea. PH

## How do astronauts return from space and survive re-entry?

A launch vehicle's ascent battles gravity to gain orbital velocity, while re-entry is a controlled struggle against the atmosphere to systematically shed that immense kinetic energy through aerobraking, thermal protection and precise guidance within the re-entry corridor

Christopher Nair S.

**T**he ascent of a launch vehicle is a battle against gravity to gain the immense velocity required to stay in orbit – while re-entry is a struggle against the atmosphere to shed that same energy in a systematic way.

Initially, aerospace scientists believed that surviving atmospheric re-entry would be impossible because the massive kinetic energy of an orbiting space capsule would be converted into intense heat energy upon re-entry. The resulting temperatures would be so extreme that they would melt any known structural material. The breakthrough came with the blunt body theory, which proved that if the space capsule's forebody is rounded with a large radius, it can deflect most of the re-entry heat into the surrounding air rather than being directed into the capsule.

More than 98% energy of a re-entering capsule is dissipated through the atmosphere and converted into heat. The capsule is shielded from this intense thermal environment by its heatshield, which has a robust thermal protection system to dissipate the heat through either ablation – where the material sacrificially chews and erodes to carry heat away – or thermal insulation, which uses low-conductivity materials to prevent the heat from reaching the capsule's primary structure.

**What is a re-entry corridor?**

To return to earth, a space capsule must break its orbit by reducing its velocity. It does this by performing a deorbit burn turning 180 degrees and firing its engines in the opposite direction of its travel.

Since forward speed is what maintains the orbit, losing that speed allows gravity to overcome the capsule's centrifugal force. The capsule then drops out of its stable circular path and enters a shallow, downward elliptical curve, leading it into the upper atmosphere for re-entry.

The re-entry corridor is a precise atmospheric window that a spacecraft must hit to return safely, balanced between two extremes. If the entry angle is too shallow (like a stone skipping across a pond, bouncing off the atmosphere back into space. Conversely, if the angle is too steep (like a underboot boundary), the capsule will hit the dense air too hard, generating lethal deceleration forces and frictional heat that exceed what the crew and capsule can survive.

**What is a semi-ballistic body?**

A ballistic body behaves like a falling stone. It cannot steer by itself and is slowed only by the air resistance (drag). In contrast, a semi-ballistic body flies at a specific angle, known as the angle of attack. This is achieved by intentionally offsetting its center of gravity laterally, causing the body to fly at an angle relative to the oncoming air.

As the vehicle slams into the atmosphere at hypersonic speeds, this angle forces the air to flow asymmetrically over the body, creating an aerodynamic lift force apart from the drag force, which acts perpendicular to the direction of velocity. This lift force is strategically manipulated to allow the capsule to glide and bank through the atmosphere, providing the cross-range capability necessary to steer it precisely toward a targeted landing zone.

**What is a communication blackout?**

Another issue during re-entry is the communication blackout. The extreme heat generated during re-entry strips electrons from air molecules, turning it into a layer of ionized plasma. This plasma sheath acts like a metallic bubble around the capsule that reflects and blocks radio waves. Because signals cannot pass through this electrified layer, it causes a communication blackout, leaving the crew and ground control unable to speak to each other until the capsule slows down enough for the plasma to vanish.

To manage the dreaded communication blackout during re-entry, engineers utilize a combination of orbital relay networks and high-frequency signal physics. By transmitting data upward to relay satellites (such as NASA's TRAVIS) rather than downward to ground stations, the signal passes through the thinner, less dense regions of the plasma sheath in the rear of the capsule.

**Why are parachutes deployed for landing?**

When a capsule re-enters the atmosphere, it is decelerated by aerobraking, which is the process of using atmospheric drag to slow down a capsule.

As the air density increases at lower altitudes, the capsule's speed drops until it approaches its terminal velocity – the point where the upward force of air resistance balances the downward pull of gravity. Any further reduction in velocity has to be achieved by deploying additional aerodynamic surfaces like parachutes. For a capsule returning from space, the terminal velocity in the lower atmosphere is still hundreds of kilometers per hour, far too fast for a safe landing.

Practically, even before reaching the terminal velocity, the parachute has to be deployed to reduce the velocity further to make a soft landing in the sea.

**How will the Gaganyaan crew module re-enter?**

ISRO pioneered its re-entry capabilities with the 2007 Space Capsule Recovery Experiment (SRE), proving it could safely return an orbiting craft to earth. This was further advanced by the 2014 Crew Module Atmospheric Re-entry Experiment (CARE), which validated the full-scale thermal protection and parachute systems essential for surviving the extreme heat of a sub-orbital re-entry.

The Gaganyaan orbital module has two parts: the crew module (CM) and the service module (SM). The orbital module will be de-orbited by the crewers in the SM and after that, the SM will separate and be destroyed by the intense heat of re-entry. Upon atmospheric re-entry, the CM maintains its trajectory within the re-entry corridor, strictly avoiding underboost and overboost boundaries. Operating as a semi-ballistic body, the CM executes controlled manoeuvres to reach its targeted landing site by modulating its lift vector through its propellant thruster firings.

Once the module reaches lower altitudes, a three-stage redundant parachute system is deployed to ensure a safe and smooth splashdown in the Bay of Bengal, which is the primary landing zone for the mission.

Christopher Nair S. is Project Director, VSSC and ISFC, Founding Director, ISFC, and an expert in launch vehicle systems, orbital re-entry and human spaceflight technologies. Currently Dr Sarathul Professor at VSSC.

- **Key Terms and Explanations**

- **Aerobraking:** The process of using a planet's atmospheric drag to slow down a spacecraft. Instead of using massive amounts of fuel to decelerate, the craft "rubs" against the air molecules to shed speed.

- **Ablation:** A thermal protection method where a specially designed shield (heatshield) melts, vaporizes, or chips away intentionally. This sacrificial process carries the extreme heat away from the capsule's main structure.

- **Re-entry Corridor:** A very narrow "path" in the atmosphere that a spacecraft must hit.

- *Example:* Imagine throwing a stone at a pond. If the angle is too shallow, the stone skips (Overshoot); if it's too steep, it plunges and breaks (Undershoot/Burn up).

- **Plasma Sheath:** At hypersonic speeds, the air in front of the capsule becomes so hot that atoms strip into electrons and ions, forming a layer of "plasma."

- **Communication Blackout:** Since plasma is electrically conductive, it acts like a metallic shield, blocking radio waves. This leads to several minutes where the crew cannot talk to ground control.

- **Semi-Ballistic Body:** Unlike a falling stone (ballistic), a semi-ballistic capsule is shaped to generate a small amount of "lift." This allows pilots or computers to "steer" the craft slightly to reach a specific landing spot.



Main arguments and substantive parts



### Re-entry is a controlled battle against kinetic energy

Launch is a battle *against gravity* to gain orbital velocity; re-entry is a controlled struggle to shed that same energy without destroying the spacecraft.

The central idea is that success depends on three pillars: correct trajectory (re-entry corridor), robust thermal protection and precise guidance/autonomy during blackouts.



### Blunt-body theory made human re-entry feasible

Early scientists feared that no material could withstand heating if a streamlined body plunged into the atmosphere at orbital speeds.

Allen and Eggers' blunt-body theory showed that increasing drag actually *reduces* surface heating and shifts heat into the shock layer.



### Re-entry corridor and guidance are critical

A spacecraft must enter within a narrow band of angles; outside this, it either skips out to space or experiences lethal heating and g-forces.

Guidance systems deliberately put the craft into a shallow, elongated path so that drag and heating occur over longer distance and time.



### Communication blackout is an inherent risk that must be designed around

Plasma sheath blocks radio waves, forcing crews and onboard computers to handle the most dangerous phase independently.

Engineers use pre-programmed guidance, high-reliability sensors, and sometimes relay satellites to minimise operational risk.



### Parachutes and recovery logistics are integral, not add-ons

Even after a successful atmospheric phase, the capsule remains too fast and must rely on carefully sequenced parachute deployment to achieve safe landing speeds.

Recovery forces (navy, coast guard) practise retrievals well in advance, as seen in ISRO's seaborne recovery trials for Gaganyaan.



### India's step-by-step maturation of re-entry capability

SRE-2007, CARE-2014, and subsequent recovery trials have incrementally validated re-entry aerothermodynamics, TPS, parachute systems and maritime recovery.

This stepwise approach underpins the confidence behind Gaganyaan's planned human flights.



- Historical evolution of the issue
- **Pre-space age (early 20th century)**
  - Re-entry was largely a theoretical curiosity; rocketry work by Tsiolkovsky, Oberth, Goddard focused on reaching space rather than coming back.
  - Concerns about “impossible heating” led many to assume crewed orbital return might not be safe.
- **Blunt-body breakthrough (1950s)**
  - H. Julian Allen and A. J. Eggers Jr. at NACA (predecessor of NASA) showed mathematically that a blunt body with high drag experiences lower heat load because the hot gas is pushed away from the surface.
  - This led to the classic conical/rounded capsule used in Mercury, Vostok and other early programmes.
- **Early human spaceflight (1960s–70s)**
  - Mercury, Gemini, Apollo (USA), Vostok and Soyuz (USSR) proved survivable re-entry using ablative shields and parachutes.
  - Apollo missions demonstrated skip re-entry, allowing control of landing point from lunar return speeds higher than LEO speeds.
- **Space Shuttle era (1981–2011)**
  - Introduced reusable winged vehicles with ceramic tiles instead of ablative shields.
  - Highlighted risks: Columbia accident (2003) showed vulnerability of TPS; complexity of reusable systems is high.
- **Modern capsules and commercial missions (2000s onwards)**
  - Return to capsule-based design: Soyuz, Shenzhou, SpaceX Dragon, Boeing Starliner, Orion.
  - Emphasis on improved materials, better guidance, enhanced redundancy, yet fundamental principles (blunt body, parachutes, blackout) remain similar.
- **India’s evolution**
  - 2007: SRE validated basic capsule re-entry and recovery for India.
  - 2014: CARE tested crew module-like configuration, TPS, and parachute cluster in GSLV Mk-III.
  - 2020s: Recovery simulations and sea trials, human-rating LVM3, and upcoming uncrewed Gaganyaan test flights.

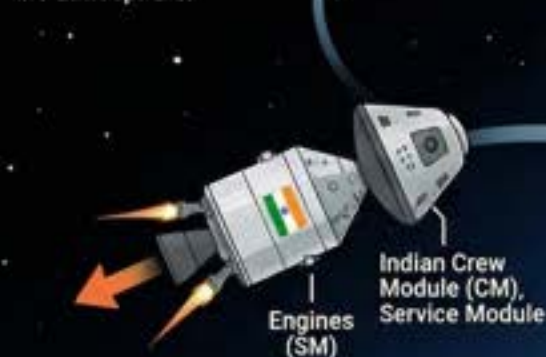
# The Return Ticket: Atmospheric Re-entry & India's Gaganyaan Mission



## The Physics of the "Return Ticket"

7.9 km/s: The Speed of Entry In Low Earth Orbit (LEO), spacecraft carry immense kinetic energy that must be dissipated safely to avoid vaporization upon hitting the atmosphere.

**Aerobraking & Friction**  
The craft uses the atmosphere itself as a brake, converting the heat, converts, speed apart into heat –reaching over 2,000°C.



## 1. De-orbit Burn

Engines fire in reverse to slow the craft, allowing gravity to pull it down from its stable orbit.

## The Re-entry Corridor



## 2. The Plasma Phase

Intense friction ionizes the surrounding air into a "plasma sheath," creating a 4-16 minute communication blackout where radio waves cannot penetrate.

Gaganyaan module modulesepartus to a neatng the canully plaswes canccch used the craft radio waves atmosphere.

## 3. Terminal Deceleration

Once in the lower atmosphere, the craft slows to subsonic speeds. Drogue parachutes deploy first to stabilize the capsule.



## 4. Splashdown

Large main parachutes deploy for the final descent, ensuring a gentle landing in the Bay of Bengal or Arabian Sea for recovery by naval teams.



## Engineering Survival

**Blunt Body Theory: The Shield of Air**

**Shockwave:** Hot gases pushed away, deflected 98% of the heat.



**Ablation: Sacrifice for Survival**  
Heat shield charring energy and vaporizing heat to carry away thermal energy.

**Semi-Ballistic Steering**  
Generates lift to steer a specific laterally towards specific landing zone.


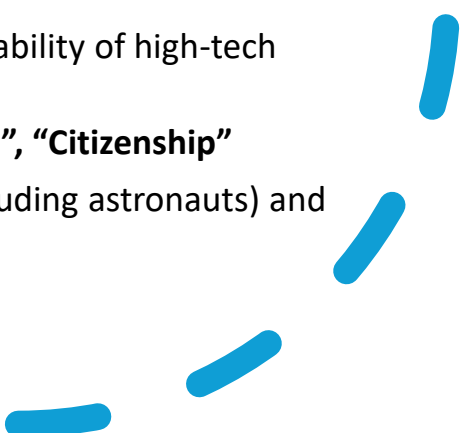
## Comparison of Re-entry Technology

SRE	CARE	Gaganyaan
1.29 km/h	1.24 km/h	4.3%

**GS Paper 3: Indigenization of Technology:** Gaganyaan showcases india's shift from a satellite launcher to a global space power with strategic autonomy.

**GS Paper 4: The Dual-Use Dilemma:** Re-entry technology is ethically complex as it shares the same physics as ICBM warhead return systems.

**Article 51A(h): Scientific Temper:** Developing counter-intuitive science like Blunt Body Theory is a direct application of our Fundamental Duty to pursue empirical inquiry.

- 
- Linkages with NCERTs
  - **Physics NCERT – Class 11, “Laws of Motion”, “Work, Energy and Power”**
    - Concepts of kinetic energy, drag and friction help explain why shedding orbital energy creates intense heat.
  - **Physics NCERT – Class 11, “Gravitation”**
    - Orbital motion, escape velocity, and satellite orbits directly connect with launch and re-entry.
  - **Physics NCERT – Class 12, “Electromagnetic Waves”, “Communication Systems”**
    - Basic idea of radio communication and why a plasma layer can block radio signals links to communication blackout.
  - **Geography NCERT – Class 11, “Composition and Structure of the Atmosphere”**
    - Different atmospheric layers (thermosphere, mesosphere) contextualise where re-entry heating and blackout occur.
  - **Science NCERT – Class 9/10, “Improvement in Food Resources / Natural Resources / Our Environment”**
    - Can be used to discuss environmental impacts and sustainability of high-tech programmes, including space missions.
  - **Political Science NCERT – Class 11, “Constitution: Why and How?”, “Citizenship”**
    - Useful to discuss state responsibility, rights of citizens (including astronauts) and accountability in risky state projects.
- 

# Iran agreed to unprecedented terms. But Trump had to save face



Iran's deal with the United States is a landmark moment in the history of the Persian Gulf region. It marks the end of a decades-long standoff between the two nations, and a new chapter in the region's history.

The deal is a significant step towards resolving the long-standing dispute over Iran's nuclear program. It is a testament to the power of diplomacy and the willingness of both sides to find a common ground.

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## NEWS IN WEST ASIA

# Navigating uncharted waters: What next for Iran

Khamenei's killing by US and Israel has left Iran facing an uncertain future, and the world holding its breath over the expanding conflict



Iran's deal with the United States is a landmark moment in the history of the Persian Gulf region. It marks the end of a decades-long standoff between the two nations, and a new chapter in the region's history.



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# Disruption at Strait of Hormuz: India covered, for now



India's energy security is a top priority, and the Strait of Hormuz is a critical chokepoint for its oil supply. The recent disruption has raised concerns about the country's energy future.

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- **Key Terms and Explanations**

- **Strait of Hormuz:** A narrow "choke point" between the Persian Gulf and the Gulf of Oman. It is the world's most important oil artery.

- *Example:* Imagine a one-lane bridge that carries 20% of the world's food; if it closes, prices everywhere skyrocket.

- **Axis of Resistance:** A term used to describe an informal anti-Western and anti-Israeli political and military alliance between Iran, the Syrian government, Hezbollah in Lebanon, and various militias in Iraq and Yemen (Houthis).

- **Strategic Petroleum Reserve (SPR):** Emergency fuel storage maintained by countries to guard against supply disruptions.

- **Commitment Trap:** A situation where a leader feels forced to follow through on a threat or action (like a military strike) to avoid looking weak, even if the action leads to a worse outcome.

- **Enrichment (Uranium):** The process of increasing the percentage of Uranium-235. 60% enrichment is "near-weapon grade," whereas power plants usually need only 3-5%.

- **Regime Change:** The forced replacement of one government by another, often through foreign military intervention.



- **Main Arguments and Substantive Parts**

- **The "Face-Saving" Conflict:** The core argument is that the current escalation occurred despite Iran offering unprecedented nuclear concessions (zero stockpiling). The US administration, however, chose military action to fulfill a "regime change" objective rather than a diplomatic one.
- **Succession Crisis:** The death of a Supreme Leader who held power for nearly four decades creates a power vacuum. The article highlights three paths: continuity via a new cleric, a military takeover by the IRGC, or a total regime collapse.
- **Economic Warfare via Geography:** Iran's primary leverage is not its army, but its ability to shut down the Strait of Hormuz. This affects not just its enemies, but neutral powers like India and China.
- **India's Vulnerability:** India is caught in the middle because it depends on the region for 60% of its energy and has 9 million citizens living there.



- **Historical Evolution of the Issue**

- **1979 Islamic Revolution:** The turning point where Iran shifted from a pro-US monarchy to an anti-US theocracy under Ayatollah Khomeini.

- **1989:** Ali Khamenei becomes Supreme Leader, consolidating the "Axis of Resistance."

- **2015 JCPOA (The Nuclear Deal):** Iran agreed to limit its nuclear program in exchange for lifting sanctions.

- **2018 US Withdrawal:** The Trump administration exited the JCPOA, beginning the "Maximum Pressure" campaign.

- **2024-2025 Escalation:** Increased strikes on nuclear sites and proxy leaders, leading to the current reported strike on Tehran.

- 
- Linkages with NCERTs
  - **Class 6–8 Geography (Our Earth, Resources)**
    - Chapters on “Major Domains of the Earth” and “Human Environment–Interaction” introduce straits, seas and trade routes.
    - Students can place Hormuz alongside Malacca, Panama, Suez.
  - **Class 9 and 10 Contemporary India (Geography)**
    - Topics on “Location and Size”, “India and the World”, and “Resources and Development” link to India’s energy dependence and trade.
    - Chapter on “Manufacturing Industries” and “Minerals and Energy Resources” explains why oil and gas are critical.
  - **Class 11 Indian Economic Development**
    - Chapters on “Indian Economy 1950–1990” and “New Economic Policy” discuss external sector vulnerabilities and oil shocks.
    - “Infrastructure” chapter covers energy infrastructure, power and transport, directly linked to strategic reserves.
  - **Class 12 Macroeconomics**
    - “Balance of Payments”, “Government Budget and the Economy” help explain how oil price shocks impact fiscal deficit, subsidies and CAD.
  - **Class 12 Political Science – Contemporary World Politics**
    - Chapters on “US Hegemony”, “Alternative Centres of Power”, “Security in the Contemporary World” provide conceptual tools for understanding US–Iran conflict, sanctions and security dilemmas.
  - **Class 12 Political Science – Politics in India since Independence**
    - Chapter on “India’s External Relations” explains non-alignment, strategic autonomy and India’s West Asia policy evolution.



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