AXIA IAS ACADEMY

DAILY NEWS ANALYSIS

AUGUST 5

CONSISTENT COMPREHENSIVE AND CREDIBLE

UNIQUE AND BEST IN QUALITY

CONTRADICTORY STATEMENTS CAST DOUBT ON SWIFT DIPLOMATIC SOLUTION; ANOTHER SHIP COMES UNDER ATTACK IN STRAIT

Once open waterway, deal could cement Iran's control over Hormuz

New York Times
August 4

IRAN AND Oman are closing in on an agreement to reopen shipping traffic in the Strait of Hormuz, according to Iranian and American officials, but if the accord goes into effect it could come at a high price — ratifying Tehran's control over what, before the war, was an open, international waterway.

As described by officials familiar with the emerging accord, vessels heading into the Persian Gulf will transit a channel controlled by Iran, and close to its coast. Ships leaving the Gulf will travel on a channel near Oman.

Iranian officials say that while there will be no tolls charged, the agreement includes a "service fee" to cover the environmental impact of the shipping, security for the cargo ships and tankers and staffing. Revenues would be divided equally between Iran and Oman, two Iranian officials said.

A US official familiar with the negotiations said Monday that the Iranian account was "not accurate," and said that any "temporary" routes established through the strait would not involve approvals or permissions by Iran, and would involve no tolls.

For US President Donald Trump, the deal, if it happened, could address his most urgent political problem allowing ships to flow again. For their part, Iranian officials said the strait would remain closed, despite any agreement, until the US lifts its naval blockade against Iranian ports in the Persian Gulf and both countries return to the 14-point plan laid out in the Islamabad MoU.

The US could ease the market pressure even further, some officials said, if it decided to issue exemptions on sanctions against Iran so it could legally sell and deliver oil.

But if, ultimately, Iran asserts continued control over the passageway, the opening might come with a geopolitical cost. Iranian officials say they are designing the accord to ratify their capacity to control the strait and therefore retain strategic leverage that they did not employ before the war.

Such restrictions would directly violate the goal set by Secretary of State Marco Rubio, who said repeatedly in recent months that the strait must return to the kind of open waterway that it was before the war.

Getting the strait reopened is vital for Trump politically. And so despite Rubio's statements, the administration appears to be preparing the world for a reopening in which Iran exerts daily control over traffic.

Qatar says progress made toward US-Iran peace talks

Qatar, Pakistan and Oman are working closely for a truce

Reuters
Dubai, Washington, August 4

QATAR SAID mediators were making progress in efforts to end the US-Iran war on Tuesday, driving oil prices lower, although Tehran has denied President Donald Trump's assertion that talks are already under way.

Benchmark Brent crude fell more than 4% after the comments from Qatar, extending Monday's steep losses on hopes that an arrangement could soon be reached to restore traffic through the blockaded Strait of Hormuz.

But for now, the strait remained virtually shut, with another ship reportedly coming under attack while trying to cross it.

Trump said on Monday that talks with Tehran had started and Iran faced a "last chance" to reach a deal. Iranian officials insisted no negotiations with the United States were taking place. Iran says its only talks are with Oman about the strait, and that no major meetings were planned this week.

But senior US officials struck an optimistic tone on Tuesday, with Treasury Secretary Scott Bessent and Secretary of State Marco Rubio both pointing to progress in discussions aimed at reopening the Strait of Hormuz, a corridor that normally carries about a fifth of global oil and liquefied natural gas shipments.

A woman holds a mock-up of a rocket-propelled grenade (RPG) next to a Hezbollah flag during the Arbaeen rally in Tehran on Tuesday. REUTERS

"There's been progress made in those talks, but not finality yet. We're hoping that will happen very shortly," Rubio told reporters at the State Department. Bessent said a deal with Iran on the reopening of Hormuz could be reached by Tuesday or Wednesday. Qatar's foreign ministry spokesperson Majed al-Ansari said diplomatic contacts had reached "very progressive stages".

He said mediators including Qatar, Pakistan and Oman were coordinating closely to facilitate negotiations and exchange draft proposals between Washington and Tehran.

A senior Pakistani security official said: "A lot is happening in the background ... We are talking to both sides. Our sole goal at this moment is to make both parties at least agree to start talking."

Trump's comments followed his weekend decision to cancel what he described as "massive attacks" on Iran, extending a pattern in which he has threatened major military action before later backing off and pointing to diplomatic contacts.

Iran has halted most traffic through Hormuz while Washington maintains a blockade of Iran-related shipping and ports. Yemen's Iran-aligned Houthis have also imposed a naval blockade on Saudi Arabia in the Red Sea, further restricting oil export routes. A cargo vessel reported being struck by an unidentified projectile near the Strait of Hormuz off Oman's coast, according to the UKMTO maritime security agency. Maritime sources told Reuters on Tuesday that the vessel was a dry bulk ship. Its crew had to abandon the vessel and one seafarer was missing.

Iran has long demanded control over the strait, which it says it should share with Oman, which controls the opposite shore. Tehran rejected an Omani proposal last week that would have allowed shared oversight of the strait and the collection of voluntary fees from ships. A senior Iranian source said Iran is seeking full control over inbound shipping through the strait, and visibility over outbound traffic, with the ability to intervene if necessary.

Giving Iran such control would be a major shift in the regional balance of power and make it more difficult for Washington to argue that "Operation Epic Fury", which Trump launched alongside Israel in February, had weakened Washington's longstanding foe.

- **Key Terms and Explanations**
  - **Strait of Hormuz**: A narrow, horseshoe-shaped maritime passage connecting the Persian Gulf with the Gulf of Oman and the Arabian Sea. It serves as the world's most critical oil transit chokepoint, handling roughly one-fifth of global petroleum consumption and vast quantities of Liquefied Natural Gas (LNG).
  - **Chokepoint Geopolitics**: A strategic geographic feature (such as a narrow strait, canal, or valley) through which global traffic or trade must pass. Power projection over a chokepoint grants a littoral state disproportionate asymmetric leverage over global supply chains and international diplomacy.
  - **UNCLOS & Right of Transit Passage**: Under the 1982 United Nations Convention on the Law of the Sea (UNCLOS), "transit passage" guarantees continuous and expeditious navigation for merchant and naval vessels through straits used for international navigation. This framework restricts coastal states from unilaterally levying tolls, shutting down transit, or exercising sovereign control over standard passage.
  - **Naval Blockade and Hybrid Maritime Warfare**: A strategy where a belligerent state or affiliated non-state actor uses military capabilities—ranging from naval assets and mines to anti-ship missiles and drone swarms—to cut off maritime commercial access to an enemy's ports or vital trade corridors.
  - **Middle-Power Mediation**: Diplomatic intervention by non-superpower regional states (such as Qatar, Oman, or Pakistan) that leverage their neutral standing, balanced foreign relations, and regional proximity to facilitate dialogue between major hostile powers.
  - **War-Risk Premium**: An additional insurance charge levied on commercial cargo and ships operating in high-risk zone conflicts. Sudden security spikes in maritime chokepoints trigger steep rises in insurance rates, directly elevating global freight and commodity costs.

- **Main Arguments and Substantive Parts**
  - **Core Thesis**: The convergence of state military assertiveness and proxy warfare in vital maritime chokepoints threatens the foundational principle of "freedom of navigation," turning global public trade corridors into sovereign bargaining chips and destabilizing the global economy.
  - **Sovereignty Assertions vs. Global Commons**:
    - Littoral states often seek to convert international waterways into regulated national corridors by routing traffic through specific territorial channels and imposing environmental or security "service fees."
    - Global powers and energy-importing nations maintain that international straits must remain open, unhindered public goods operating free from unilateral state permissions, regulatory tolls, or naval surveillance.
  - **Asymmetric Leverage and Proxy Dynamics**:
    - Weaker conventional powers weaponize geographical bottlenecks to offset economic sanctions or military pressure applied by dominant international powers.
    - The deployment of proxy forces in adjacent maritime zones (such as the Red Sea or Gulf of Oman) creates a multi-front maritime squeeze, forcing commercial traffic into high-risk detours that disrupt global supply chain timelines.
  - **Diplomatic Balancing and Market Sensitivity**:
    - Regional diplomacy often works under high pressure to broker maritime truces, as even minor diplomatic signals or backchannel discussions can cause sharp fluctuations in global crude prices.
    - Contradictory public narratives—where one power claims diplomatic progress while another denies active negotiations while launching kinetic strikes—highlight the fragile nature of maritime security arrangements.

- **Historical Evolution of the Issue**
  - **Pre-1979 Era (Western Security Umbrella)**: During the mid-20th century, Western-aligned security architectures guaranteed open navigation in the Persian Gulf. The Strait of Hormuz functioned as an unhindered commercial corridor catering to post-WWII industrial energy demands.
  - **1980–1988 (The Tanker War)**: During the Iran-Iraq War, both belligerents targeted commercial oil tankers in the Persian Gulf to disrupt each other's energy exports. This forced major global powers to initiate naval escort operations (such as US Operation Earnest Will) to protect merchant shipping, establishing a precedent for military intervention in international straits.
  - **1982 (Codification of UNCLOS III)**: The international community finalized UNCLOS III, establishing the legal regime of "Transit Passage." This framework balanced the sovereignty of littoral states with the global imperative of unhindered commercial and military navigation through strategic international straits.
  - **2015–2018 (JCPOA to 'Maximum Pressure')**: The signing of the Joint Comprehensive Plan of Action (JCPOA) temporarily eased regional maritime friction. However, the subsequent US withdrawal in 2018 and the imposition of severe sanctions renewed maritime brinkmanship, featuring vessel detentions, limpet mine attacks, and drone strikes in the Gulf waters.
  - **Present Day (Multi-Front Maritime Friction)**: Contemporary tensions have escalated beyond localized naval standoffs to encompass regional proxy warfare across interconnected sea lanes, transforming the Strait of Hormuz and Red Sea into flashpoints for global economic stability.

- **Way Forward**
- **Strengthening Multilateral Maritime Security**:
  - Transition from unilateral naval deployments to inclusive, UN-mandated international maritime policing frameworks that safeguard key shipping lanes without escalating regional political tensions.
- **Codification of Institutional Rules**:
  - Establish clear institutional mechanisms under UNCLOS to prevent coastal states from misusing environmental or safety regulations to impose covert tolls or navigational blockades on international transit.
- **Regional Security Architecture & Dialogue**:
  - Establish dedicated regional maritime security forums—bringing together littoral nations, regional powers, and major global energy importers—to separate commercial shipping security from underlying political and military disputes.
- **Strategic Energy Diversification for Importers**:
  - Developing nations like India must expand Strategic Petroleum Reserves (SPRs), diversify import source geography (increasing sourcing from West Africa, Latin America, and North America), and accelerate investments in renewable energy infrastructure.
- **Alternative Trade and Logistics Infrastructure**:
  - Develop alternative overland and multimodal transportation corridors—such as the India-Middle East-Europe Economic Corridor (IMEC) or International North-South Transport Corridor (INSTC)—to reduce over-reliance on vulnerable maritime bottlenecks.

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RISE ABOVE THE REST

GLOBAL GEOPOLITICS OF MARITIME CHOKEPOINTS: THE STRAIT OF HORMUZ & BEYOND

KEY TERMS & GEOGRAPHY.

- **Strait of Hormuz** (horseshoe passage, critical for 1/5 world's oil)
- **Chokepoint Geopolitics** (Asymmetric strategic leverage over global trade)
- **UNCLOS & Right of Transit Passage** (Guarantees continuous navigation)

HISTORICAL EVOLUTION.

- **Pre-1979**
  - Western security umbrella
  - Unhindered corridor
- **Tanker War**
  - 80-88, merchant ships targeted
  - US naval escort operation Earnest
- **UNCLOS III Codification** 1982
- **JCPOA to Maximum Pressure** 2015-18
- **Present Day**
  - Multi-front friction
  - Drone & missile warfare

CORE DILEMMA & STRATEGIC CALCULATION.

Sovereignty Assertions
- Littoral regulatory claims
- environmental tolls

Global Commons
- open, unhindered corridor for public goods

Freedom of Navigation threatened by state assertiveness & proxy warfare

Hybrid Maritime Warfare
- Mines
- Anti-ship missiles
- Drone swarms

Asymmetric Deterrence creates multi-front maritime squeeze

MULTIDIMENSIONAL IMPACT ANALYSIS.

- **Social** Merchant risks, commodity price hikes
- **Political** Regional alignments, neutral mediators
- **Legal** State laws vs. UNCLOS (Price)
- **Ethical** Collateral economic damage
- **International** Multipolority, tactical alliances
- **Economic** Volatility, War-Risk Premiums, freight costs

WAY FORWARD & INDIA'S CONTEXT.

- **Strengthening Multilateral Security** (Inclusive UN frameworks)
- **Strategic Energy Diversification for India** (SPRs, diverse sources, renewables)
- **Alternative Corridors** (IMEC, INSTC)

India's energy dependency and mased swinds on India, cnxomings and extended neighborhood policy.

SYLLABUS & PYQ REFERENCES

NCERTs (Security, Trade, Rights Theory)
GS 1 (Geography) **GS 2** (IR/West Asia)
GS 3 (Economy/Security) **GS 4** (Ethics) **Optionals: SIR** (PSIR, Geography)

Examples:
UPSC 2020: Innocent passage
2022: Levant region

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• GLOBAL

To become next UN chief, getting 'P5' onboard is key

EXPERT EXPLAINS

MANJEEV SINGH PURI

FORMER AMBASSADOR OF INDIA TO THE EU AND NEPAL

THE UNITED Nations Security Council (UNSC) held its first "straw poll" on Thursday for choosing the next Secretary-General of the UN (UNSG), whose five-year term would start on January 1, 2027.

Although the poll's results weren't announced, three candidates from Latin America are believed to have scored well: Costa Rica's Rebeca Grynspan, an economist who heads UN Trade and Development (UNCTAD); Carolyn Birkett, Guyana's Permanent Representative to the UN; and Rafael Grossi from Argentina, who is director general of the International Atomic Energy Agency (IAEA).

Appointment process

The UNSC consists of 15 members: five permanent members (P5) — China, France, Russia, the UK, and the US — and 10 non-permanent members elected for two-year terms by the UN General Assembly.

Straw polls is a UNSC process which doesn't disclose the name of the voting member-state. The slips carry the name of the candidate and UNSC members note "encourage", "discourage", or leave them blank. While this round didn't distinctly mark the slips as belonging to the P5 or non-permanent members, the slips of the P5 will be coloured in the upcoming rounds. Drawing a "discourage" coloured slip indicates a likely P5 veto.

Of course, views of countries can change, as repeated straw polls are conducted until there is a clear candidate with nine encourage slips and no coloured "discourage" slip, that is, support of the majority in the 15-member UNSC and no veto.

The appointment of the UNSG is governed by Article 97 of the UN charter: that "the Secretary-General shall be appointed by the General Assembly upon the recommendation of the Security Council". The primacy of the UNSC in this process is clear: it forwards just one name to the General Assembly for endorsement.

THE U.N. CHARTER

- The UNSG's appointment is governed by Article 97 of the UN charter: 'the Secretary-General shall be appointed by the General Assembly upon the recommendation of the Security Council'.
- The Security Council's primacy in this process is clear. It forwards one name to the General Assembly for endorsement.

Candidates in the fray

Considering the current UNSG, Antonio Guterres, is from Portugal and his immediate two predecessors were from Asia (Ban Ki-moon of South Korea) and Africa (Kofi Annan of Ghana) respectively, the expectation is that this time, the choice will fall on someone from Latin America and perhaps a woman, as none have held the position.

Other candidates include Michelle Bachelet, former President of Chile; Maria Espinoza, former Foreign Minister of Ecuador; Macky Sall, former President of Senegal; and Olara Otunnu, a former UN official from Uganda. Candidates need to be endorsed by at least one member-state, though not necessarily by their own country.

The three candidates who are said to have done well in the first straw poll are from countries with good relations with the Donald Trump administration in the US. This is particularly important but the others in the P5, particularly China and Russia, may have their own views.

For instance, Grossi has had to deal with sensitive nuclear issues at the IAEA. As head of UNCTAD, Grynspan appears to have been able to positively leverage developing countries on the UNSC, while Birkett would have benefited from a certain camaraderie from fellow Ambassadors as a Permanent Representative.

Considering there's no bar on the entry of more candidates as the process unfolds, success in the end may not be with the strongest candidate in terms of multilateral and diplomatic qualifications, but one who can surmount the biggest hurdle — a certain acceptability with all of the P5.

- **Key Terms and Explanations**
  - **UN Secretary-General (UNSG):** The chief administrative officer of the United Nations under Article 97 of the UN Charter. The UNSG acts as the primary diplomat, mediator, and executive voice of the international community. *Example:* Negotiating humanitarian corridors or arbitrating cross-border disputes during geopolitical conflicts.
  - **Article 97 of the UN Charter:** The constitutional provision specifying that the Secretary-General shall be appointed by the General Assembly upon the recommendation of the Security Council. This structural design places the initial selection power within the 15-member Security Council before sending a single name to the 193-member General Assembly.
  - **P5 Veto Power:** The power held by the five permanent members of the UN Security Council (China, France, Russia, the United Kingdom, and the United States) under Article 27(3). A negative vote by any single permanent member blocks any substantive resolution or recommendation, including candidates for Secretary-General.
  - **Straw Polls:** Informal, unannounced voting rounds conducted by the Security Council to gauge candidate support before formal voting. Council members mark ballots with "encourage," "discourage," or "no opinion." In later rounds, color-coded ballots distinguish P5 votes from non-permanent members, signaling potential vetoes.
  - **Regional Rotation Convention:** An unwritten political understanding that the office of the UNSG should rotate across world regions—such as Africa, Asia-Pacific, Eastern Europe, Latin America and the Caribbean, and Western Europe.
  - **Lowest Common Denominator Selection:** A diplomatic outcome where great powers reject assertive candidates in favor of a compromise candidate who poses minimal threat to national interests.

- **Main Arguments and Substantive Parts**
  - **Institutional Primacy of the Security Council:** While the UN General Assembly represents every member state equally, Article 97 concentrates executive selection power within the Security Council. The General Assembly receives only one recommended candidate, transforming its voting role into an endorsement rather than an open contest.
  - **P5 Veto Dominance over Multilateral Merit:** A candidate's qualifications, administrative track record, or consensus among the wider UN membership remain secondary to P5 acceptability. A candidate supported by 14 of the 15 Security Council members can still be blocked by a single P5 veto.
  - **The Opaque Straw Poll System:** The Security Council uses informal straw polling to evaluate candidates. Color-coded ballots reveal whether a "discourage" vote comes from a permanent member, allowing P5 nations to exercise an informal veto early in the process without launching a public standoff.
  - **Competing Conventions of Region and Gender:** Gender parity and regional balance influence candidate selection alongside power politics. Because no woman has served as UNSG in the organization's eight-decade history, calls for a female appointment are growing alongside expectations for regional rotation toward Latin America and the Caribbean.
  - **Preference for Administrative over Executive Leadership:** P5 members frequently prefer a "Secretary" over a "General." Highly independent candidates risk rejection by major powers seeking to protect their foreign policy flexibility from executive oversight.

- **Historical Evolution of the Issue**
  - **1946 (Foundational Mechanics & General Assembly Resolution 11):** The UN General Assembly adopted Resolution 11(I), establishing that the Security Council should submit only one candidate for consideration. This prevented open debates on the General Assembly floor and entrenched Security Council control over the office.
  - **1950–1953 (Cold War Deadlock & Trygve Lie's Resignation):** The first Secretary-General, Trygve Lie, resigned under Soviet pressure over UN involvement in the Korean War. This episode highlighted how geopolitical alignment could destabilize the Secretary-General's position.
  - **1953–1961 (The Hammarskjöld Era & the Troika Proposal):** Dag Hammarskjöld expanded the independent executive authority of the office through peacekeeping initiatives. Following his active role in the Congo Crisis, the Soviet Union proposed replacing the single Secretary-General with a three-person "Troika" representing Western, Communist, and non-aligned blocs. Although defeated, the proposal underscored great power resistance to independent UN executive authority.
  - **1970s–1980s (Decolonization & Regional Distribution):** The expansion of UN membership through decolonization established regional rotation as an unwritten norm. The selection of Javier Pérez de Cuéllar (Peru) in 1981 confirmed that candidates needed endorsement from both the Global South and the P5.
  - **1996 (The Boutros-Ghali Veto):** Boutros Boutros-Ghali faced an unprecedented single-nation veto from the United States for a second term despite securing 14 votes in the Security Council. This demonstrated that a single P5 member could override broad consensus to block an incumbent.
  - **2015–2016 (UN General Assembly Resolution 69/321 Reforms):** The General Assembly passed landmark resolutions establishing informal public dialogues, town halls, and published vision papers for candidates. While these reforms improved transparency in candidate vetting, the ultimate authority to select the final nominee remained with the P5.

- **Way Forward**
- **Submitting Multiple Candidates to the General Assembly:** The Security Council could recommend two or more qualified candidates to the General Assembly, restoring the Assembly's constitutional role under Article 97 and allowing a democratic choice.
- **Single Non-Renewable Term:** Replacing the current renewable five-year term with a single, non-renewable seven-year term would reduce reelection considerations and allow Secretaries-General to act more independently of P5 preferences.
- **Formalizing Veto Transparency:** Requiring P5 members to formally justify vetoes or "discourage" votes in the General Assembly would limit arbitrary blocks and increase accountability.
- **Institutionalizing Gender Parity and Regional Alternate Rules:** The UN General Assembly should pass a formal resolution codifying gender rotation to ensure female candidates receive equal consideration during selection cycles.
- **Binding Open Vetting Procedures:** Codifying the public debates, town halls, and vision paper presentations introduced under UNGA Resolution 69/321 would make public engagement a mandatory, non-discretionary phase of the election process.

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P5 VETO POWER: THE DEFINITIVE BARRIER

VETO VETO VETO VETO VETO

- Article 27(3) authority
- Blocks any substantive action
- Only one vote needed to veto a UNSG candidate

UNSG ROLE: ADMINISTRATIVE & DIPLOMATIC CHIEF

- Chief Administrative Officer (Article 97)
- Global Mediator
- Spokesperson for international community
- Requires impartiality

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COMPREHENSIVE ANALYSIS: UN SECRETARY-GENERAL SELECTE SELECTION & P5 VETO

SELECTION PROCESS FLOWCHART (ARTICLE 97)

STAGE 1: UNSC STRAW POLLS

encourage
discourage

- Explain color-coding signaling for P5 vetoes, signaling P5 vetoes
- Focus on confidentiality

STAGE 2: UNSC RECOMMENDATION

ONE CANDIDATE NAME

- UNSC forwards just one name
- P5 Acceptability Barrier (Crucial)

STAGE 3: UNGA VOTE & APPOINTMENT

2/3

MAJORITY REQUIRED
UNGA role limited to endorsement, not selection

APPOINTMENT

CANDIDATE DYNAMICS & HURDLES

Example A (IAEA Expertise - Nuclear)

Example A (IAEA Expertise - Nuclear)

P5 ACCEPTABILITY SURMOUNTS MULTILATERAL MERIT

Example B (UNCTAD - Economic Leadership)

Example C (Latin America Rotation & Gender Parity Calls)

- P5 ACCEPTABILITY SURMOUNTS MULTILATERAL MERIT
- Highlight relations with major powers

HISTORICAL EVOLUTION TIMELINE

- **1946** Resolution 11 (UNSC primacy)
- Cold War: Deadlocks & Resignations (Trygve Lie)
- **1961** Troika Proposal (Resistance to UN power)
- **1966** Troika Proposal
- **1996** Boutros-Ghali Veto
- **2016** GA Res 69/321 Reforms (Public dialogues & dialogue process)

GLOBAL GOVERNANCE REFORMS: WAY FORWARD

- **Submit Multiple Candidates** (Restore GA role)
- **Single Non-Renewable Term** (Reduce P5 influence)
- **Formalize Veto Transparency** (Justify votes)
- **Gender Parity Rule** (Address systematic bias)

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UPSC RELEVANCE MAP (GS 1-4, PSIR, PUBLIC ADMIN)

GS 2	GS 4
• International Institutions • Global Politics	• Ethics in IR • Accountability
PSIR Optional	**PUBLIC ADMIN**
• UN Reforms • Global Governance	• Executive Leadership • International Management

PRACTICE QUESTIONS (PRELIMS & MAINS)

Prelims Q: Under which article is UNSG appointed? (Ans: 97)
Prelims Q: Under which arlict is UNSG appointed? (Ans: 97)
Mains Q: Critically evaluate P5 influence on UN executive appointments.

• PHOENIX SPECIES PROJECT LARGEST SINGLE FUND IN HISTORY DEDICATED EXCLUSIVELY TO RECOVERING CRITICALLY ENDANGERED SPECIES

DiCaprio, Bezos lead $200m project to save 100 threatened species

Associated Press
Los Angeles, August 4

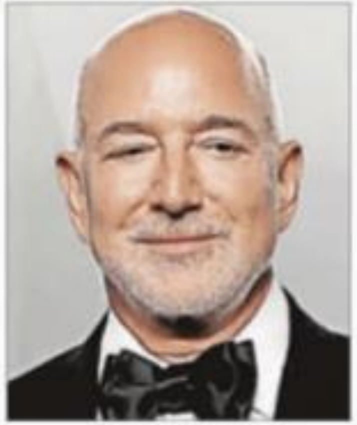
FOUNDATIONS FUNDED and co-founded by Leonardo DiCaprio and Jeff Bezos have launched an initiative committing USD 200 million to revive 100 of Earth's most threatened species, including endangered lemurs, salamanders, pangolins, pigs and echidnas.

DiCaprio's Re:wild and the Bezos Earth Fund are leading the Phoenix Species Project, the groups announced Tuesday. They call it the largest single fund in history dedicated exclusively to recovering critically endangered species.

DiCaprio has for years been developing the idea of a major concerted effort to help species whose habitats and future existence are threatened by climate change.

In 2021, he and Re:wild co-founder Wes Sechrest, a biologist who serves as the organisation's CEO, met with the Amazon-founding mega billionaire Bezos and his wife, former TV news reporter and host Lauren Sanchez Bezos. He serves as chair and she as vice chair of the Bezos Earth Fund.

The meeting led to a series of conversations with local governments, environmental groups and Indigenous people on how best to reverse the decline of their most vulnerable species. Those conversations eventually led to the Phoenix Species Project.



Amazon founder Bezos and actor Leonardo DiCaprio have funded and co-founded the foundation. AP

Animals the initiative is seeking to sustain include: - The golden-crowned sifaka, a lemur from Madagascar - The Hickory Nut Gorge green salamander, a lungless tree-dweller that lives only in a small canyon in North Carolina.

- The Visayan warty pig, endemic to islands in the Philippines.
- Mexico's Cozumel harvest mouse, which lives only on an island off the Yucatan Peninsula.
- The pink land iguana, found only on Wolf Volcano in the Galapagos Islands.
- The Malayan pangolin, also known as the Sunda pangolin, native to Southeast Asia.
- Tanzania's pancake tortoise, named for its flat, flexible shell.
- The starry night harlequin toad, known and named for its black-and-white evening sky appearance, found only in the mountains of Colombia.
- Attenborough's long-beaked echidna, a monotreme, or mammal that lays eggs, from New Guinea named in honour of the 100-year-old naturalist and narrator-of-nature David Attenborough.

The project's goals include giving long-term sustenance to successful but fleeting smaller efforts. "We've protected the golden-crowned sifaka for years on a budget that would never match what this species deserves, but letting it go extinct was never an option," Tiana Andriamanana, executive director of Association Fanamby, one of the groups getting a grant from the initiative, said in a statement.

"This funding, this global platform and technical support change what is possible."

- **Key Terms and Explanations**
  - **Critically Endangered (CR):** The highest risk category assigned by the International Union for Conservation of Nature (IUCN) Red List to wild species. A species is classified as Critically Endangered when it faces an extremely high risk of extinction in the wild due to rapid population declines (greater than 80–90% over ten years or three generations), severely restricted geographic ranges, or tiny absolute population numbers.
    - *Example:* The Malayan Pangolin or the Pink Land Iguana, both constrained to micro-habitats and severely threatened by poaching and habitat fragmentation.
  - **Endemic Species:** Organisms that are ecologically restricted to a specific, defined geographic location—such as an island, a single mountain range, or a specific river valley—and are found nowhere else naturally on Earth.
    - *Example:* The Visayan warty pig, endemic exclusively to specific islands in the Philippines, making its entire global population vulnerable to localized disasters.
  - **Monotreme:** A primitive order of mammals that lay eggs instead of giving birth to live young, representing a critical evolutionary bridge between reptiles and mammals.
    - *Example:* Attenborough's long-beaked echidna, native to New Guinea, which possesses unique evolutionary traits essential for understanding mammalian lineage.
  - **In-Situ Conservation:** The preservation of wild ecosystems and species within their natural habitats, ensuring that evolutionary processes and ecological relationships continue uninterrupted.
    - *Example:* Establishing strict biological corridors and protected reserves for the Golden-crowned Sifaka in Madagascar alongside local forest communities.
  - **Philanthro-Capitalism in Ecology:** The application of substantial private wealth, venture capital mechanisms, and corporate philanthropic funds to address public ecological crises that traditional state budgets fail to fund adequately.
    - *Example:* Large-scale private capital pools earmarked directly for endangered species recovery projects, operating alongside sovereign governments and indigenous communities.
  - **Keystone and Umbrella Species:** Species whose preservation indirectly protects a wide web of co-existing organisms within the same biome. Protecting an "umbrella species" with a large territorial requirement automatically safeguards hundreds of smaller, lesser-known species sharing that habitat.

- **Main Arguments and Substantive Parts**
- **Core Thesis**
- The contemporary global extinction crisis cannot be stemmed solely through traditional, cash-strapped state conservation apparatuses. Bridging the biodiversity finance gap requires targeted, capital-intensive private philanthropy that operates in direct collaboration with sovereign local authorities, indigenous communities, and grassroot conservationists to stabilize highly fragile, micro-endemic species.
- **Key Analytical Arguments**
  - **The Inadequacy of Short-Term Grant Cycles:** Conservation efforts targeting highly vulnerable species often fail due to fragmented, short-term funding regimes. Long-term financial commitment is mandatory to achieve sustained ecological recovery, build local enforcement capacity, and allow slow-reproducing populations to stabilize.
  - **Focus on Neglected and Highly Vulnerable Taxa:** Global conservation attention often tilts toward charismatic megafauna (such as tigers, elephants, and rhinos), leaving smaller mammals, reptiles, amphibians, and micro-endemics—such as the Hickory Nut Gorge green salamander or the Pancake tortoise—severely underfunded despite their ecological importance.
  - **The Primacy of Indigenous and Local Co-Management:** Top-down protectionist conservation models that exclude local communities often generate social friction and enforcement failure. Sustainable species recovery depends on integrating local livelihoods, indigenous ecological knowledge, and direct territorial stewardship into project planning.
  - **Habitat Realism vs. Species Recovery:** Saving a species requires protecting its micro-habitat from climate-induced shifts, illegal wildlife trafficking, and agricultural expansion. For instance, species restricted to single geographic features, like Mexico's Cozumel harvest mouse, require tailored local interventions rather than broad national policies.
- **Counterarguments and Structural Critiques**
  - **Risk of Democratic Deficit:** Over-reliance on private mega-donors can result in "donor-driven priority setting," where individual private interests dictate global environmental agendas rather than democratic processes or transparent scientific consensus.
  - **Sovereign Friction and Green Governance:** Foreign-funded conservation initiatives can occasionally run into friction with national development agendas or sovereign land-use rights, particularly in developing economies prioritizing infrastructure and mineral extraction.
  - **The Greenwashing Hazard:** Large private commitments to conservation can serve as public relations shields for corporate entities, deflecting scrutiny from broader industrial supply chains that drive climate change and habitat destruction.

- **Historical Evolution of the Issue**
  - **Pre-Independence & Early 20th Century (Top-Down Protectionism):** Early wildlife management was driven by colonial forestry laws and royal hunting reserves (e.g., the Indian Forest Act of 1927). Conservation focused primarily on timber extraction and game preservation, treating local forest-dwelling communities as encroachers rather than stakeholders.
  - **Post-Independence to 1970s (Statutory and Institutional Foundations):** The mid-20th century saw the creation of international institutions like the IUCN (1948) and CITES (1973). In India, the landmark Wildlife (Protection) Act of 1972 established strict legal protections for fauna, while flagship state initiatives like Project Tiger (1973) shifted policy toward ecosystem-level preservation.
  - **1990s (The Global Biodiversity Framework):** The 1992 Rio Earth Summit birthed the Convention on Biological Diversity (CBD), recognizing national sovereignty over biological resources alongside the imperative for community-based conservation. India enacted the Biological Diversity Act in 2002 to fulfill these commitments through decentralized Biodiversity Management Committees (BMCs).
  - **2010s to Present (The Rise of Blended Finance and Target 30x30):** The adoption of the Kunming-Montreal Global Biodiversity Framework set a target to protect 30% of Earth's land and oceans by 2030 (30x30 target). Facing a multi-billion-dollar global biodiversity financing deficit, the current era is marked by blended finance, green bonds, and private philanthropy stepping in to fund targeted species recovery.

- **Way Forward**
- **Establish Public-Private-Community Partnerships (PPCP):** Conservation models should move beyond simple state ownership or private intervention. Designing PPCP frameworks ensures state oversight, private financial efficiency, and local community leadership operate in harmony.
- **Institutionalize Sustainable Finance Instruments:** Rather than relying exclusively on discretionary corporate philanthropy, states should build durable financial mechanisms—such as Debt-for-Nature Swaps, Green Bonds, and mandatory Corporate Social Responsibility (CSR) allocations toward biodiversity protection.
- **Strengthen Statutory Habitat Protection:** Pass and enforce stringent land-use policies that prevent industrial encroachment into critical wildlife habitats, while preserving ecological corridors to build climate resilience for isolated species.
- **Empower Local Community Rights:** Ensure species protection plans respect indigenous land tenure and incorporate Traditional Ecological Knowledge (TEK). Aligning conservation with community incentives lowers enforcement costs and yields better long-term protection outcomes.
- **Deploy Modern Ecological Monitoring Tools:** Combine financial support with modern technology—such as satellite habitat mapping, AI-powered acoustic monitoring, environmental DNA (eDNA) sampling, and real-time ranger tracking—to ensure transparent allocation of capital and verifiable ecological outcomes.

COMPREHENSIVE ANALYSIS: WILDLIFE BIODIVERSITY AND CONSERVATION (IAS PREPARATION GUIDE)

KEY TERMS & EXPLANATIONS

- **CR**: Malayan Pangolin
- **Endemic**: Visayan Warty Pig
- **Monotreme**: Echidna
- **In-Situ**: Golden-crowned Sifaka
- **Philanthro-Capitalism**
- **Keystone/Umbrella**: Elephant

CORE THESIS & MAIN ARGUMENTS

THE CHALLENGE
- Fragile State Budgets
- Mega-Fauna Bias
- Enforcement Deficit

THE SOLUTION
- Capital-Intensive Private Philanthropy
- Collaborative Co-Management
- Focus on Neglected Taxa

LOGICAL & PHILOSOPHICAL BASE

- **Ecocentrism** – Intrinsic rights
- **Public Goods Theory** – Market Failure
- **Environmental Justice** – Equity

HISTORICAL EVOLUTION TIMELINE

PRE-INDEPENDENCE
- Colonial reserves

POST-WAR TO 1970S
- Colonial/ Internations acts

IUCN

1990S
- Biological Diversity International Act 2002

PRESENT DAY
- Kunming-Montreal 30x30

1973
- Major legal reserve-itaums
- Major legal/ International Acts

POST-WAR TO 1970S
- IUCN
- CITES 1973
- WPA 1972 1973
- WPA 1972
- Project Tiger 1973

1990S
- Earth Summit
- CBD
- Biological Diversity Act 2002

PRESENT DAY
- Kunming-Montreal 30x30
- Blended Finance
- Philanthro-Capitalism

MULTIDIMENSIONAL ANALYSIS

Social
- TEK
- Ecosystem Services

Economic
- Ecosystem Services
- Etc

International
- SDGs
- North-South

Political
- Sovereignty

Legal
- Rights of Nature

Ethical
- Moral Imperative

ASPIRANT'S CORNER (LINKAGES)

NCERT CLASS LINKAGES
- Class 12 Bio
- Class 11 Geo
- Class 10 SS
- Class 11 Pol Theory

UPSC CSE SYLLABUS RELEVANCE
- GS1 Biogeography
- GS2 Governance
- GS3 Conservation/Economics
- GS4 Ethics
- Essay

WAY FORWARD (STRATEGIC REFORM)

- **Public-Private Partnerships** (PPCP): Private Partnership
- **Sustainable Finance**: Green Bonds, Debt-swaps
- **Statutory Habitat Protection**: Corridors
- Empower Local Community Rights
- **Modern Ecological Monitoring Tools**: GIS, AI tracking, eDNA, Rangers

PREVIOUS YEARS' QUESTIONS (SAMPLE)

UPSC
- Pangolin is exmpliied of corontimmation of pangolin? Campolin?
- Pangolim, Pygmy Hog, is the complinognt trees for hoalvs othen?

APSC
- Pygmy Hog, coums Kunming-Montreal orn noutroniaim, etc.
- Kunming-Montreal exanrns by Kunming-Montreal, etc.

• LEGAL

Why SC expanded scope of domestic cruelty law to women in live-in relationships

Vineet Bhalla
New Delhi, August 4

EXPANDING THE protection against domestic cruelty under criminal law, the Supreme Court has ruled that such protection, ordinarily given to married women under Section 498A of the erstwhile Indian Penal Code (IPC), extends to women in live-in relationships as well, provided the couple shares an "intent to marry".

Since the IPC has now been replaced by the Bharatiya Nyaya Sanhita (BNS), the judgment will likely apply to the corresponding BNS provision: Section 85. The judgment, delivered on Monday by a bench of Justices Sanjay Karol and N Kotiswar Singh, recognises that women facing cruelty in domestic settings cannot be denied the protection of criminal law merely because they have not undergone a formal marriage.

The legal position until now

Section 498A of the IPC penalises a husband or his relatives for subjecting a woman to cruelty. Because the provision explicitly uses the word "husband", its application was traditionally restricted to legally valid marriages.

Over the years, the Supreme Court expanded this definition to cover such men who induced a woman into a marriage that is legally void or voidable — for instance, by hiding a previous subsisting marriage — holding that such men cannot claim that they were not a "husband" to escape prosecution for cruelty.

This was what had transpired in the present case as well. The accused man approached the courts to quash a Section 498A case filed by his partner, arguing that since he was already married to someone else, his relationship with the complainant was not a valid marriage. The Karnataka High Court rejected this argument, ruling that when "a man induces a woman to believe that she is lawfully married to him, and thereafter subjects her to cruelty, [he] cannot be permitted to evade criminal responsibility on the plea that no valid marriage existed in law." This led him to appeal to the Supreme Court.

Beyond void marriages

The Supreme Court could have dismissed the appeal by relying on the established precedent regarding void marriages, but the bench took up the broader question of whether a man in a live-in relationship can be prosecuted under Section 498A.

The judgment, written by Justice Karol, adopted a "purposive interpretation" of the law, noting that since the original objective of Section 498A was to deter domestic cruelty, the law must adapt to changing social realities, observing that "cruelty, any which way, does not check at the door, whether the house it enters is that of a married woman or not". The court reasoned that if a woman faces cruelty from her partner, it makes no logical sense to offer her the protection of criminal law if she is married, but deny it if she is cohabiting before marriage. This distinction, it said, "has no rational nexus with the object of preventing domestic violence and is as such offensive to Article 14 of the Constitution of India", which guarantees the fundamental right to equality.

Why the DV Act is not enough

During the hearings, both the petitioner and the Union government argued against expanding Section 498A, pointing out that unmarried women are already protected under the Protection of Women from Domestic Violence (DV) Act, 2005, since the Act expressly covers not just married persons but also those "related...through a relationship in the nature of marriage".

The Supreme Court rejected this argument on the basis of the fundamental difference between the two laws. The DV Act, it pointed out, is primarily a piece of civil legislation providing remedies like maintenance and protection orders. The court said that equating it with Section 498A would be a "misstatement of law" because "the import of civil and criminal law is different" since "[o]ne has almost singularly civil and monetary consequences, whereas the other is backed by the force of criminal deterrence".

'Intent to marry' is crucial

To determine which live-in couples get this protection of criminal law, the Supreme Court borrowed the concept of a "relationship in the nature of marriage" from the DV Act. The court clarified that a "relationship in the nature of marriage" is a narrower legal subset of a general "live-in relationship". Relying on a 2013 judgment by it, the court reiterated the features of such a relationship, which include pooling financial resources, sharing domestic arrangements, having a sexual relationship, and holding themselves out to society as being akin to spouses.

Monday's judgment, however, added a caveat for the application of Section 498A: The couple must, in addition to the above, also have the "intent to marry".

This is because, according to the court, while many relationships "may meet all the requirements to be a 'relationship in the nature of marriage'", the partners might choose never to enter matrimony. When this intent is absent, the court held, the relationship should not be equated with marriage for the purpose of invoking a penal provision and its "long list of adverse consequences".

"Those relationships that are in the nature of marriage and also have the requisite intent to marry are the closest to marriage itself, and it is those relationships that shall be entitled to the protection of [Section 498A]," the court ruled.

The judgment noted that the initial burden of proof to establish this intent will lie on the female partner seeking the law's protection. But it did not lay down specific parameters for how this internal "intent" is to be legally recognised.

- **Key Terms and Explanations**
  - **Section 498A IPC / Section 85 BNS:** Section 498A of the erstwhile Indian Penal Code (IPC), now mirrored under Section 85 of the Bharatiya Nyaya Sanhita (BNS), penalizes a husband or his relatives for subjecting a woman to cruelty—defined as willful conduct driving a woman to suicide, causing grave injury, or harassing her for dowry.
    - *Example:* If a woman faces systematic physical abuse or mental torture by her partner's family to extract monetary assets, criminal law penalizes such acts through custodial sentencing.
  - **Purposive Interpretation:** A rule of statutory construction where courts interpret the language of a law based on its core intent and underlying social objective rather than adhering strictly to literal or grammatical meanings.
    - *Example:* Interpreting the term "husband" broadly to cover cohabiting partners who induce women into marriage-like setups, thereby preventing abusers from hiding behind legal technicalities like invalid marriages.
  - **Relationship in the Nature of Marriage:** A legal classification distinct from casual cohabitation, characterized by long-term cohabitating arrangements, shared financial resources, domestic household management, and public representation as spouses.
    - *Example:* A couple living together continuously for years, running a joint household, opening joint bank accounts, and presenting themselves as husband and wife to society.
  - **Intent to Marry:** The contractual and psychological commitment shared by a cohabiting couple indicating a mutual expectation to eventually formalize their union under law, serving as a legal threshold to invoke penal provisions.
    - *Example:* Written promises, engagement rituals, joint planning for family life, or holding out to families a clear blueprint for marriage.
  - **Civil Remedy vs. Penal Deterrence:** Civil remedies (like those under the Protection of Women from Domestic Violence Act, 2005) focus on restitution, monetary relief, and protective orders. Penal deterrence focuses on criminal prosecution, penal sanction, and incarceration to deter bodily harm and psychological abuse.
  - **Doctrine of Rational Nexus (Article 14):** A constitutional standard under Article 14 (Right to Equality) requiring that any legal classification created by state action must bear a logical, non-arbitrary connection to the statutory purpose.

- **Main Arguments and Substantive Parts**
- The legal evolution surrounding live-in relationships centers on balancing constitutional rights, social realities, and criminal safeguards.
  - **Substance Over Formal Marriage:** Cruelty within domestic settings inflicts severe mental and physical harm regardless of whether a formal marriage ceremony was performed. Withholding penal deterrence from women in long-term cohabitation purely due to the absence of a legal marriage certificate compromises bodily integrity and human dignity.
  - **Inadequacy of Civil Relief Alone:** While civil statutes like the Protection of Women from Domestic Violence Act (PWDVA), 2005 offer essential protections—such as maintenance, residence rights, and protection orders—they do not replace penal deterrence. Severe physical abuse or systematic harassment requires the force of criminal law.
  - **Constitutional Rationality Under Article 14:** Denying criminal remedies to women cohabiting with an explicit or implicit promise of marriage creates an arbitrary distinction. Since the statutory goal is to eradicate domestic cruelty, excluding cohabiting partners who face similar domestic dynamics lacks a rational nexus to the objective of the law.
  - **The Caveat of "Intent to Marry":** Criminal law carries significant personal liberty implications. To avoid expanding penal liability to casual, short-term, or non-committed relationships, courts mandate establishing a clear "intent to marry." Without this intent, a cohabiting relationship cannot be equated to a legal marriage for criminal prosecution.
  - **Procedural Fairness and Burden of Proof:** The initial evidentiary burden to establish an "intent to marry" lies on the partner seeking criminal protection. This mechanism acts as a safeguard against immediate or arbitrary criminalization while preserving remedies for genuine victims.

- **Historical Evolution of the Issue**
- **Pre-1983 (Rigid Formalism):** Statutory and personal laws recognized rights and duties strictly within formal, legally solemnized marriages. Cohabitation outside legal matrimony carried legal invalidity and social stigma, offering women no legal remedies against abuse.
- **1983 (Introduction of Criminal Remedies):** The enactment of Section 498A in the IPC criminalized domestic cruelty to combat dowry-related violence and marital abuse. However, judicial application remained tied to the strict legal definition of a "husband."
- **2005 (The Civil Breakthrough - PWDVA):** The Protection of Women from Domestic Violence Act, 2005 marked a paradigm shift. Parliament recognized cohabitants by defining aggrieved persons to include women in "relationships in the nature of marriage," granting civil remedies such as residence rights and monetary relief.
- **2010 (Defining Cohabitation Criteria):** In *D. Velusamy v. D. Patchaiammal*, the Supreme Court set explicit tests for a "relationship in the nature of marriage," requiring cohabitation for a significant period, shared household, financial pooling, and public projection as partners.
- **2013 (Structural Taxonomy of Relationships):** The Supreme Court in *Indra Sarma v. V.K.V. Sarma* outlined distinct categories of live-in setups (e.g., domestic cohabitation, fraudulent marriages) and urged Parliament to consider comprehensive statutory frameworks for non-formalized unions.
- **Present Era (Extending Penal Deterrence):** Indian jurisprudence has bridged the gap between civil remedies and penal law. Courts have extended penal protection (Section 498A IPC / Section 85 BNS) to cohabiting partners who share an "intent to marry," ensuring criminal deterrence against domestic abuse across evolving social structures.

- **Way Forward**
  - **Statutory Amendments in Criminal Codes:** Parliament should update the Bharatiya Nyaya Sanhita (BNS) to explicitly define "relationships in the nature of marriage" and specify criteria for "intent to marry." This would provide statutory clarity and reduce reliance on case-by-case judicial interpretation.
  - **Clear Evidentiary Guidelines:** The judiciary should issue clear guidelines establishing objective parameters (e.g., duration of cohabitation, public acknowledgment, or written/recorded commitments) for proving "intent to marry." This ensures consistency in lower court decisions and guards against frivolous claims.
  - **Expanding Legal Aid and Protection Services:** District Legal Services Authorities (DLSAs) and state One-Stop Support Centres (Sakhi Centres) should expand their services to assist women in live-in relationships, ensuring accessible civil and criminal remedies regardless of legal marital status.
  - **Sensitivity Training for Police and Judiciary:** Law enforcement agencies and judicial officers require regular capacity-building and gender-sensitization programs. Training should focus on eliminating socio-cultural biases against cohabiting couples and applying the law objectively.

ESTD : 2024
AXIA IAS ACADEMY
RISE ABOVE THE REST

AXIA IAS ACADEMY: SC EXPANDS DOMESTIC CRUELTY LAW TO LIVE-IN RELATIONSHIPS (S.498A IPC/S.85 BNS)

1 KEY TERMS & EXPLANATIONS

1. SECTION 498A IPC/ SECTION 85 BNS

2. PURPOSIVE INTERPRETATION

3. RELATIONSHIP IN NATURE OF MARRIAGE
Long cohabitation, shared cohabitation, shared resources

4. INTENT TO MARRY
public, public holding out

2 MAIN ARGUMENTS

SUBSTANTIVE EQUALITY

Protection Married | Art 14 Live-in

Civil PWDVA VS Penal Deterrence

THE CAVEAT OF 'INTENT TO MARRY'

Filtering sieve protecting against of casual setups

Burden of proof proof

3 HISTORICAL EVOLUTION

IPC 1983

2005 PWDVA

2010

2013 Indra Sarma

Present SC incument judgment

4 LOGICAL AND PHILOSOPHICAL BASE

1. LIVING CONSTITUTIONALISM
Living constituton and evolving law

2. SUBSTANTIVE EQUALITY
Balanced Article 14

3. HARM PRINCIPLE & FEMINIST JURISPRUDENCE
Dismantlating patriarchal chains

5 MULTIDIMENSIONAL ANALYSIS

SOCIAL
Creatiing emerises, social, enuniiity and social

POLITICAL
Momiate poolliction and governments and protenules

LEGAL
Remans erriting legal ceauher and polioical encoraton

ETHICAL
Knooledges-nessed and tirionaling and turinism

INTERNATIONAL
Internationalisy, global, to omfornt evoited convessions

ECONOMIC
Insenntly exlusive economic each nurani comment

6 LINKAGES WITH NCERTS

Class 11 Pol Sc Rights in Constitution

Class 12 Sociology Social Institutions

Class 11 Sociology Understanding Institutions

3 HISTORICAL EVOLUTION

IPC 1983

2005 PWDVA

2010 D Velusamy Indra Indra Sarma

SC judgment

7 LINKAGES WITH UPSC CSE SYLLABUS

SYLLABUS

- GS Paper 1 - GS paper
- GS Paper 2 - GS paper
- GS Paper 3 - Geoograiny
- GS Paper 4 - GS paper
- Linkages in Essay (norwership)

8 WAY FORWARD

1. STATUTORY CLARITY define in BNS
2. EVIDENTIARY RULES standardized proof
3. LEGAL AID DLSA coverage
4. INSTITUTIONAL CAPACITY train police & judiciary

9 ALL PREVIOUS YEARS' QUESTIONS

STUDY BULLETIN

- Eacent Paper (2049)
- Ecown Paper (2035)
- Eoatents ürgornes (2088)

- Exom fote (2014)
- Esom Aid (2025)
- Exomaies sopines (2023)
- Exom raper (2013)
- Insonnaoous/heps (2024)

• ECONOMY

Cut, hike, hold: How RBI decides monetary policy

Most economists expect a 'status quo' on interest rates this time. But even when RBI chooses to hold the course, it does so after weighing several factors

Udit Misra

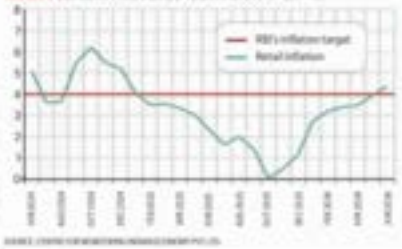
THE MONETARY policy committee (MPC) of the Reserve Bank of India (RBI) will unveil its next policy statement today.

Once every two months, the RBI's MPC sits down to take stock of India's economy and decide whether it wants to change the interest rates prevailing in the country.

Most economists and observers expect the RBI to "maintain a status quo" on interest rates. The lack of any change in the rates, however, should not detract from the fact that economies around the world are facing a fairly unprecedented level of uncertainty. Even when a central bank decides to do nothing, as it were, it bases its decision after considering several factors.

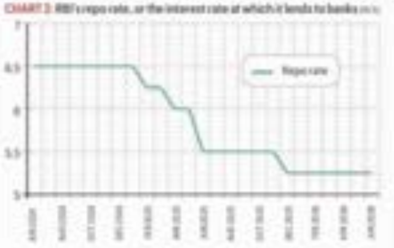
• Retail inflation creeping up

CHART 1: Consumer Price Index, or retail inflation



• Repo rate steadily coming down

CHART 2: RBI's repo rate, or the interest rate at which it lends to banks



What's the point of RBI monetary policy reviews?

What are the factors it has to consider?

1. CRUDE OIL PRICES

2. US-IRAN HOSTILITIES

3. MONSOON, EL NIÑO, INFLATION

4. QUALITY OF GROWTH MOMENTUM

5. ACTION OF OTHER CENTRAL BANKS

Rate actions by key central banks

As of July, US Fed, European Central Bank, Bank of Japan, and Bank of England all maintained status quo on the rates in their economies.

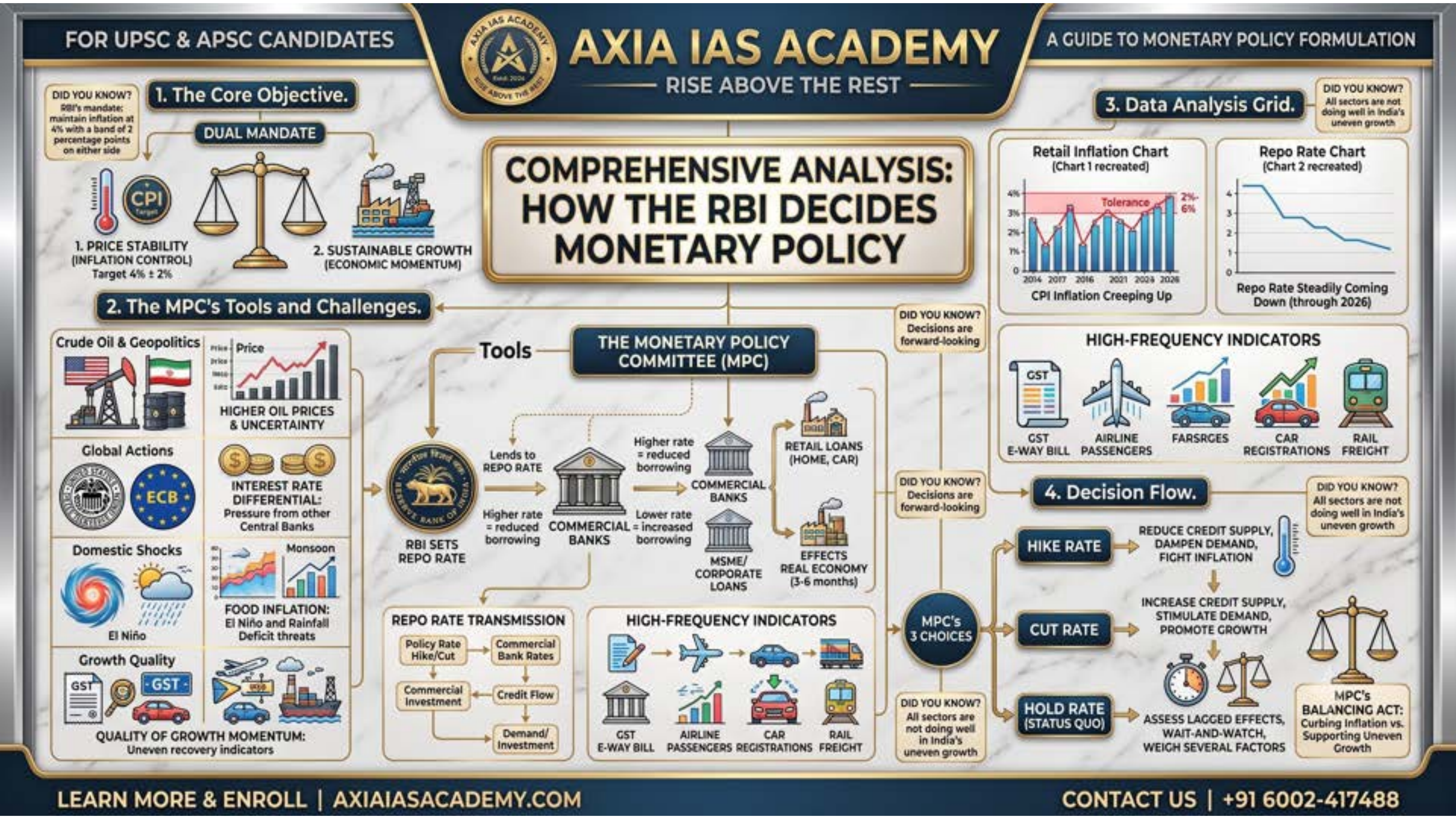
•

This brings down the pressure on the RBI to hike rates.

- **Key Terms and Explanations**
  - **Monetary Policy Committee (MPC)**: A statutory 6-member body established under Section 45ZB of the Reserve Bank of India (RBI) Act, 1934. It comprises three internal members from the RBI and three external members appointed by the Central Government. The MPC is legally tasked with setting the policy interest rate required to achieve the inflation target.
    - *Example*: Every two months, the MPC meets to evaluate national and global macroeconomic data, ultimately voting on whether to cut, hike, or maintain the repo rate.
  - **Flexible Inflation Targeting (FIT)**: A monetary framework wherein the central bank is explicitly mandated to maintain consumer price inflation within a specific target range. In India, the framework sets a anchor target of 4% Headline Consumer Price Index (CPI) inflation, with an upper tolerance limit of 6% and a lower tolerance limit of 2%.
    - *Example*: If seasonal vegetable shortages push CPI inflation to 5.2%, it remains within the allowable band (2%–6%), giving the RBI flexibility to focus on supporting growth rather than immediately hiking rates.
  - **Repo Rate and Monetary Transmission**: The repurchase rate (repo rate) is the key policy rate at which the central bank lends short-term funds to commercial banks against government securities. Monetary transmission refers to the mechanism and speed with which changes in the repo rate are passed on by commercial banks to end-borrowers through retail and corporate lending rates.
    - *Example*: When the RBI reduces the repo rate by 25 basis points, banks lower home loan and business loan interest rates, encouraging borrowing and economic activity.
  - **Headline Inflation vs. Core Inflation**: Headline inflation measures the total inflation within an economy, including volatile commodity sectors such as food and energy. Core inflation strips out food and energy items from the CPI basket to measure underlying, non-volatile price trends.
    - *Example*: A sudden surge in tomato prices inflates headline CPI, but if prices of housing, apparel, and healthcare remain stable, core inflation stays flat.
  - **High-Frequency Indicators (HFIs)**: Granular, real-time economic data points updated monthly, weekly, or daily that track business activity and consumer behavior ahead of official quarterly GDP releases.
    - *Example*: Indicators like GST e-way bill generation, passenger vehicle registrations, rail freight movement, and domestic airline passenger traffic reflect current business momentum.
  - **Interest Rate Differential**: The numerical difference in benchmark interest rates between two countries' central banks. This gap influences cross-border portfolio investment flows and currency valuations.
    - *Example*: If the US Federal Reserve holds rates high while the RBI cuts its repo rate, foreign investors may withdraw capital from Indian bond markets to seek higher risk-adjusted yields in the US, exerting downward pressure on the Indian Rupee.

- **Main Arguments and Substantive Parts**
  - **Forward-Looking Policy Calibration**: Central bank interest rate decisions cannot be based solely on existing inflation or past growth figures. Because policy rate tweaks require several months to filter through commercial banking channels into the real economy, decisions must be forward-looking, anticipating economic conditions 3 to 6 months in advance.
  - **Managing Supply-Side vs. Demand-Side Drivers**: Monetary policy tools (like the repo rate) directly influence aggregate demand by altering borrowing costs. However, inflation in developing economies like India is frequently triggered by supply-side shocks—such as volatile crude oil prices driven by geopolitical friction or domestic food spikes caused by weather anomalies like El Niño. The central bank must determine whether a price rise is transitory or likely to cause generalized inflationary pressures.
  - **Evaluating the Quality and Breadth of Growth**: Aggregate GDP growth figures can mask underlying sectoral weaknesses. Central banks analyze high-frequency indicators to gauge economic health. If growth momentum is uneven—where service sectors and urban consumption thrive while freight movement, rural demand, or fuel consumption lag—raising interest rates to curb inflation risks inflicting collateral damage on struggling sectors.
  - **Navigating the Global Economic Trilemma**: Domestic central banks do not operate in isolation. Shifts in monetary policy by major global regulators (such as the US Federal Reserve, European Central Bank, or Bank of Japan) constrain domestic choices. Narrowing interest rate differentials can trigger capital outflows and currency depreciation, forcing domestic policy rates to stay elevated even when local growth requires stimulus.
  - **Fiscal and Sovereign Borrowing Implications**: Interest rate levels directly impact public debt dynamics. Higher policy rates elevate the government's sovereign borrowing costs, increasing fiscal deficit pressures and potentially crowding out capital spending on long-term infrastructure.

- **Historical Evolution of the Issue**
  - **Pre-Independence to Early Post-Independence (1935–1960s)**:
    - The Reserve Bank of India was established in 1935 under the RBI Act, operating initially as a private shareholders' bank before nationalization in 1949.
    - Monetary policy in early independent India was secondary to physical credit allocation and planned fiscal expenditure, primarily relying on direct controls like the Bank Rate and physical credit quotas to support public sector industrialization.
  - **Social Control and Financial Repression Era (1970s–1980s)**:
    - Following bank nationalizations in 1969 and 1980, the RBI relied heavily on direct reserve requirements—high Cash Reserve Ratios (CRR) and Statutory Liquidity Ratios (SLR)—to channel low-cost credit into government priorities and sovereign debt funding.
    - Automatic monetization of fiscal deficits via Ad-hoc Treasury Bills meant monetary policy remained subservient to government fiscal expansion, frequently triggering structural, high inflation.
  - **Post-1991 Liberalization and the Multiple Indicator Approach**:
    - Following the 1991 macroeconomic crisis, the fiscal monetization mechanism was phased out in 1997 via an agreement between the RBI and the Ministry of Finance.
    - In 1998, under Governors Bimal Jalan and Y.V. Reddy, the RBI adopted the *Multiple Indicator Approach*. Rather than tracking money supply (M_3) alone, the central bank analyzed a broad array of variables including growth, inflation, trade balances, exchange rates, and credit flow.
  - **The Urjit Patel Committee and Flexible Inflation Targeting (2014–2016)**:
    - High inflationary spikes following the 2008 Global Financial Crisis prompted the RBI to set up the Urjit Patel Committee (2014).
    - The committee recommended moving away from the vague Multiple Indicator Approach toward a single, legal anchor: Flexible Inflation Targeting (FIT), anchored to the CPI rather than the Wholesale Price Index (WPI).
    - In 2016, the RBI Act was amended to establish the statutory Monetary Policy Committee (MPC) with a explicit target of 4% CPI inflation ($\pm 2\%$).
  - **Pandemic Crisis and Post-2020 Realities**:
    - During COVID-19, the MPC utilized its flexible target band to lower rates to historic lows (4.0%) and pump emergency liquidity into the market.
    - Post-pandemic developments—including global supply chain disruptions, geopolitical conflicts, and severe climate events—have underlined the challenge of balancing inflation control with economic growth.


FOR UPSC & APSC CANDIDATES
AXIA IAS ACADEMY
RISE ABOVE THE REST
A GUIDE TO MONETARY POLICY FORMULATION
COMPREHENSIVE ANALYSIS: HOW THE RBI DECIDES MONETARY POLICY
DID YOU KNOW? RBI's mandate: maintain inflation at 4% with a band of 2 percentage points on either side
1. The Core Objective.
DUAL MANDATE
CPI
1. PRICE STABILITY (INFLATION CONTROL) Target 4% ± 2%
2. SUSTAINABLE GROWTH (ECONOMIC MOMENTUM)
2. The MPC's Tools and Challenges.
Crude Oil & Geopolitics
Price
HIGHER OIL PRICES & UNCERTAINTY
Global Actions
ECB
INTEREST RATE DIFFERENTIAL: Pressure from other Central Banks
Domestic Shocks
Monsoon
El Niño
FOOD INFLATION: El Niño and Rainfall Deficit threats
Growth Quality
GST
QUALITY OF GROWTH MOMENTUM: Uneven recovery indicators
Tools
THE MONETARY POLICY COMMITTEE (MPC)
RBI SETS REPO RATE
Lends to REPO RATE
Higher rate = reduced borrowing
COMMERCIAL BANKS
Higher rate = reduced borrowing
Lower rate = increased borrowing
COMMERCIAL BANKS
MSME/ CORPORATE LOANS
RETAIL LOANS (HOME, CAR)
EFFECTS REAL ECONOMY (3-6 months)
REPO RATE TRANSMISSION
Policy Rate Hike/Cut
Commercial Bank Rates
Commercial Investment
Credit Flow
Demand/ Investment
HIGH-FREQUENCY INDICATORS
GST E-WAY BILL
AIRLINE PASSENGERS
CAR REGISTRATIONS
RAIL FREIGHT
DID YOU KNOW? Decisions are forward-looking
DID YOU KNOW? Decisions are forward-looking
MPC's 3 CHOICES
DID YOU KNOW? All sectors are not doing well in India's uneven growth
3. Data Analysis Grid.
DID YOU KNOW? All sectors are not doing well in India's uneven growth
Retail Inflation Chart (Chart 1 recreated)
Tolerance 2%-6%
CPI Inflation Creeping Up
Repo Rate Chart (Chart 2 recreated)
Repo Rate Steadily Coming Down (through 2026)
HIGH-FREQUENCY INDICATORS
GST E-WAY BILL
AIRLINE PASSENGERS
FARSRGES
CAR REGISTRATIONS
RAIL FREIGHT
4. Decision Flow.
DID YOU KNOW? All sectors are not doing well in India's uneven growth
HIKE RATE
REDUCE CREDIT SUPPLY, DAMPEN DEMAND, FIGHT INFLATION
CUT RATE
INCREASE CREDIT SUPPLY, STIMULATE DEMAND, PROMOTE GROWTH
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SC directs Centre to frame SOPs to curb 'digital arrest' scams

The Hindu Bureau
NEW DELHI

The Supreme Court on Tuesday passed a detailed order directing the Centre, States, the Reserve Bank of India (RBI) and telecom authorities to prepare standard operating procedures (SOPs) to curb "digital arrest" scams.

The court directed them to operationalise mechanisms to redress grievances of victims, initiate criminal action through Zero first information reports (FIRs) against cyber fraudsters, and restore the monetary losses of those defrauded in a time-bound manner.

The court referred to a status report submitted by the Indian Cyber Crime Coordination Centre (I4C), which said the complaints received on the National Cyber Crime Reporting Portal against digital arrests sharply reduced from 1,23,672 in 2024 to 58,249 in 2025, and stood at 16,377 for the period ending June 30, 2026.

> Complaints received on the National Cyber Crime Reporting Portal against digital arrests have sharply reduced from 1,23,672 in 2024 to 58,249 in 2025, and stood at 16,377 for the period ending June 30
>
> STATUS REPORT SUBMITTED IN SC

'Encouraging' statistics

However, the court said though the statistics were "certainly encouraging", it was still essential to monitor the situation.

"As per the fourth status report, a data-sharing MoU between the Reserve Bank Innovation Hub and I4C was executed on May 11, 2026. The grievance redressal mechanism portal now covers 1,23,590 branches of 69 banks. Additionally, the Money Restoration Mechanism Portal has 57 participating banks and covers all 36 States and Union Territories," the court noted.

The court said the e-Zero FIR mechanism was functional in 19 States, while only 14 States had notified their State Cyber Crime Coordination Centres. Similarly, the Telecommunications (Radio Equipment Possession Authorisation) Rules, 2025 had been notified, while the Telecommunications (User Identification) Rules, 2025 was at the final stage of notification.

In a series of interim directions, the court directed the RBI to prepare and circulate within four weeks an SOP for banks for placing temporary debit holds on mule accounts linked to money laundering activity and cyber-enabled fraud.

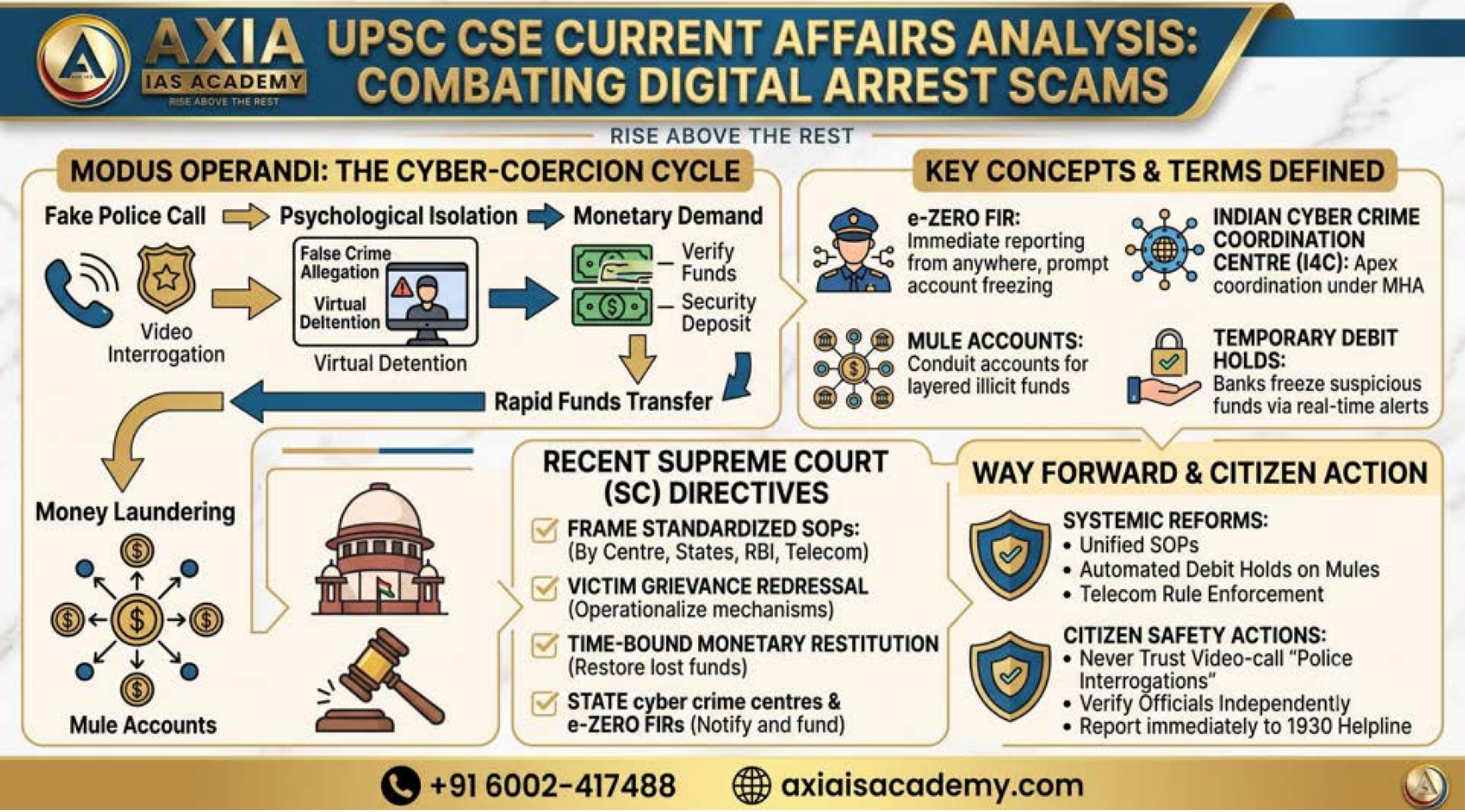
The States and Union Territories were directed to frame modules for grievance redressal and money restoration as per the Ministry of Home Affairs' SOP concerning the National Cyber Crime Reporting Portal and Cyber RMS.

States have been asked to notify Cyber Crime Coordination Centres and e-Zero FIRs within four weeks.

- **Key Terms and Explanations**
  - **Digital Arrest**: A novel cyber-coercion tactic where organized fraudsters impersonate law enforcement agencies (such as the CBI, ED, State Police, or Telecom Authorities) over high-definition video calls. Victims are falsely informed that their personal credentials or mobile numbers are linked to serious illegal activities (e.g., money laundering, drug trafficking, or illegal parcel shipments). The scam risks are magnified by the psychological entrapment: victims are forced to stay on continuous video surveillance—effectively under "virtual detention"—and are coerced into transferring massive sums of money as alleged "security deposits" or "verification funds."
    - *Example*: A retired professional receives a video call from individuals dressed in legal or police uniforms claiming that an unauthorized bank account in their name was used for international money laundering. Coerced by threats of immediate physical arrest, the victim remains on a 48-hour video feed and transfers life savings into a designated "safe government account."
  - **e-Zero FIR (First Information Report)**: A procedural mechanism in criminal law allowing a victim to lodge an emergency First Information Report online or at any police station across India, irrespective of territorial jurisdiction. The receiving police authority registers the crime, initiates immediate preventive action (such as freezing bank accounts), and subsequently transfers the case file to the police station holding geographical jurisdiction.
    - *Example*: A resident of Guwahati falls prey to a cyber fraud where funds are routed through a server in Mumbai. The victim can lodge an e-Zero FIR immediately through a central portal without traveling to Mumbai or navigating local police jurisdictional disputes.
  - **Mule Account**: A legitimate bank account used by cyber criminals as an intermediary conduit to receive, layer, and rapidly siphon off illicit funds generated through cyber fraud. Account holders (mules) may be unwitting victims whose credentials were stolen or individuals who voluntarily rent out their accounts for monetary commission.
    - *Example*: A college student opens a bank account and hands over net-banking credentials to a syndicate for a monthly rental fee of ₹5,000. Fraudsters route stolen money through this account before withdrawing it at distant ATMs or converting it into cryptocurrency.
  - **Indian Cyber Crime Coordination Centre (I4C)**: An apex nodal entity established under the Ministry of Home Affairs (MHA) to serve as a national framework for law enforcement agencies dealing with cybercrime. It coordinates inter-state intelligence, operates national cyber reporting portals, and collaborates with telecom and banking regulators to neutralize digital criminal infrastructure.
  - **Temporary Debit Hold**: A regulatory and preventive banking measure wherein outgoing financial transactions on a suspect bank account are instantly frozen by the bank upon receiving verified fraud alerts from law enforcement or reporting portals, while still allowing incoming deposits or administrative verification.

- **Main Arguments and Substantive Parts**
  - **Rise of Coercive Cyber-Crimes**: Organized digital fraud in India has evolved beyond passive phishing attacks into active, highly coercive psychological operations like "digital arrest." Scammers exploit public fear, institutional trust, and structural gaps in law enforcement to extort citizens.
  - **Imperative for Institutionalized SOPs**: Curbing sophisticated cyber extortion requires standardized, legally binding Standard Operating Procedures (SOPs) across regulatory vectors—specifically linking state police departments, the Reserve Bank of India (RBI), commercial banks, telecom service providers, and central intelligence agencies.
  - **Crucial Role of Real-Time Financial Interventions**: The primary vulnerability in cyber fraud is the rapid velocity with which stolen funds are layered through multiple mule accounts within minutes. Combating this requires immediate, automated measures such as temporary debit holds, inter-bank data sharing, and centralized money restoration portals to freeze and return funds during the critical "golden hour."
  - **Implementation Gaps in State-Level Capacity**: Despite central frameworks established by the Indian Cyber Crime Coordination Centre (I4C), structural enforcement remains uneven across the country. Gaps persist in notifying state-level Cyber Crime Coordination Centres, universalizing e-Zero FIR mechanisms, and enforcing standardized telecom user-identification regulations.
  - **Victim Relief and Institutional Accountability**: Effective cyber jurisprudence must prioritize systemic recovery mechanisms over purely punitive prosecution. Establishing time-bound grievance redressal portals and mandatory inter-agency coordination ensures that victim restitution is treated as a fundamental regulatory obligation.
- **Historical Evolution of the Issue**
- **Pre-Digital & Early IT Act Era (2000–2010)**:
  - *Focus*: Basic computer hacking, unauthorized server access, and identity theft.
  - *Milestones*: Enactment of the Information Technology (IT) Act, 2000. Law enforcement treated cyber offenses largely as localized financial cheating or isolated white-collar crimes under traditional Indian Penal Code (IPC) provisions.
- **Rapid Digitization & Banking Integration (2011–2019)**:
  - *Focus*: Shift from high-skill hacking to mass digital financial fraud (phishing, OTP fraud, vishing, fake ATM cloning).
  - *Milestones*: Launch of the Jan Dhan-Aadhaar-Mobile (JAM) trinity and the Unified Payments Interface (UPI). The exponential increase in digital transactions exposed millions of first-time digital users to basic financial scams. Creation of early cyber cells within state police departments.
- **Emergence of Transnational & Coercive Cyber Fraud (2020–2023)**:
  - *Focus*: Sophisticated financial syndicates operating out of specialized international scam hubs (such as Golden Triangle regions in South-East Asia) and domestic clusters (Jamtara, Mewat).
  - *Milestones*: Introduction of high-speed video communications and deepfake technology enabled "Digital Arrests." Operationalization of the Ministry of Home Affairs' National Cyber Crime Reporting Portal (NCRP) and the 1930 Cyber Fraud Helpline.
- **Comprehensive Regulatory & Judicial Mandate Phase (2024–Present)**:
  - *Focus*: Multi-sectoral, real-time intervention combining telecom rules, banking freezes, and judicial oversight.
  - *Milestones*: Integration of the Reserve Bank Innovation Hub with I4C; enactment of the Telecommunications Rules; judicial directives mandating standardized SOPs, universal e-Zero FIRs across all states, and automated debit holds on mule accounts to protect digital public infrastructure.

- **Way Forward**
  - **Institutionalizing Standardized National SOPs**:
    - Establish unified, legally binding Standard Operating Procedures across state police forces, commercial banks, telecom operators, and central agencies.
    - Mandate clear protocols for time-bound complaint intake, rapid freezing of suspicious funds, and seamless asset restoration without bureaucratic delays.
  - **Universalizing e-Zero FIR and State Coordination**:
    - Require all States and Union Territories to fully integrate and operationalize e-Zero FIR systems within the National Cyber Crime Reporting Portal.
    - Ensure every state formally notifies and funds its State Cyber Crime Coordination Centre to build dedicated, high-tech investigative capacity.
  - **Automated Banking Guardrails and Debit Holds**:
    - Enforce real-time integration between the Reserve Bank Innovation Hub, I4C, and commercial banks.
    - Deploy AI-driven predictive algorithms to detect abnormal transaction patterns in real time, enabling immediate automated debit holds on flagged mule accounts to lock stolen funds before withdrawal.
  - **Hardening Telecom Infrastructure and SIM Verification**:
    - Enforce strict compliance with Telecom User Identification Rules to eliminate unauthorized or spoofed SIM registrations.
    - Deploy advanced firewall filters at international telecom gateways to identify and block spoofed calls originating from overseas scam operations masquerading as Indian law enforcement numbers.
  - **Targeted Public Empowerment and Digital Literacy**:
    - Execute targeted, multi-lingual public awareness campaigns highlighting a critical rule of law: *No Indian law enforcement agency or court conducts judicial interrogations, detentions, or monetary demands via video calls.*
    - Educate citizens to instantly verify suspicious legal demands through official police channels or the 1930 Cyber Fraud Helpline.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UPSC CSE CURRENT AFFAIRS ANALYSIS:
COMBATING DIGITAL ARREST SCAMS
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MODUS OPERANDI: THE CYBER-COERCION CYCLE
Fake Police Call
Psychological Isolation
Monetary Demand
Video Interrogation
False Crime Allegation
Virtual Deltention
Virtual Detention
Verify Funds
Security Deposit
Rapid Funds Transfer
Money Laundering
Mule Accounts
KEY CONCEPTS & TERMS DEFINED
e-ZERO FIR: Immediate reporting from anywhere, prompt account freezing
INDIAN CYBER CRIME COORDINATION CENTRE (I4C): Apex coordination under MHA
MULE ACCOUNTS: Conduit accounts for layered illicit funds
TEMPORARY DEBIT HOLDS: Banks freeze suspicious funds via real-time alerts
RECENT SUPREME COURT (SC) DIRECTIVES
FRAME STANDARDIZED SOPs: (By Centre, States, RBI, Telecom)
VICTIM GRIEVANCE REDRESSAL (Operationalize mechanisms)
TIME-BOUND MONETARY RESTITUTION (Restore lost funds)
STATE cyber crime centres & e-ZERO FIRs (Notify and fund)
WAY FORWARD & CITIZEN ACTION
SYSTEMIC REFORMS:
• Unified SOPs
• Automated Debit Holds on Mules
• Telecom Rule Enforcement
CITIZEN SAFETY ACTIONS:
• Never Trust Video-call "Police Interrogations"
• Verify Officials Independently
• Report immediately to 1930 Helpline
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WHILE NRI INTEREST IN FCNR(B) DEPOSITS IS SKY-HIGH, RUPEE'S TRAJECTORY IS LIKELY TO BE MORE SEDATE

Inflows of $49 billion in 2 months, but no 2013-like boost for rupee

Siddharth Upasani
New Delhi, August 4

OVER JUNE and July, India has received $49 billion in the form of Foreign Currency Non-Resident (Bank) deposits, two types of foreign loans, and net investment in government bonds. But the rupee has hardly budged: on Tuesday, it closed at 95.38 per dollar, just 0.4% stronger than where it stood on June 4, the day before the government and the Reserve Bank of India (RBI) announced a raft of measures to boost foreign inflows.

Contrast this with 2013, when a similar concessional swap window for FCNR(B) deposits was announced. From 67.6-per-dollar on September 3, 2014 — the day before the incoming governor, Raghuram Rajan made the announcement — the rupee rose almost 10% to 61.7-per-dollar in the first 42 days of the scheme. "Such schemes work best when they are aimed at addressing local imbalances and adverse country-specific perceptions, not global risks," ANZ economists Sanjay Mathur and Dhiraj Nim said in a note on Friday, pointing to the re-escalation of the West Asia conflict and the consequent rise in oil prices and the dollar's strength.

Mismatch in numbers

The swap window for FCNR(B) deposits works like this: banks get dollar deposits and send them directly to the RBI in exchange for rupees. As such, these dollars don't enter the open market for foreign currencies and don't help in meeting the demand for them.

And the exchange rate is determined by the supply of and demand for dollars in the open market.

If the supply of dollars increases, that would reduce its price and strengthen the rupee, just like any item whose supply increases. Think of farmers dumping tomatoes or other farm produce by the truckload when a good harvest leads to a jump in supply and a price crash.

But if the dollars from the swap windows are going directly to the RBI, why is it not leading to a matching increase in the central bank's holdings of foreign currency assets (FCA)?

Between June 8 and July 17, Indian banks raised $17 billion of FCNR(B) deposits. Meanwhile, the central bank's holdings of FCA only rose by $7 billion or so.

Delays, forwards, hedges

One reason why the RBI's FCA did not rise at the same pace as inflows under the swap scheme is the operational delay. "In principle, while RBI provides weekly change in FCA every Friday, every bank has a designated time during the week to swap these FCNR(B) deposits with RBI and get equivalent rupee resources. Thus, it is entirely possible that FCNR(B) deposit numbers are being captured by RBI and become a part of FCA with a clear lag," said Soumya Kanti Ghosh, State Bank of India's Group Chief Economic Advisor. Then there are other routes where the dollars may be going. The reemergence of tensions between US and Iran over the second half of July weakened the rupee; this was countered by the RBI's dollar sales, which in turn would have offset some of the inflows.

This is called spot market intervention by the central bank. There is also the forward market. Selling dollars in this market allows the RBI to stop the rupee from falling without having to sell dollars immediately. And the RBI has been very active in this segment.

At the end of June, it had sold $103 billion on a net basis in the forward market. This means it must provide $103 billion in the future. Data shows $9 billion of this needs to be given in July itself. Maybe that's where some of the new inflows have gone. Banks, too, are playing a role in the reduced visible impact of FCNR(B) deposit inflows.

With the RBI only bearing the exchanging rate risk for the principal amount of these deposits, banks must protect their dollar interest payments from any currency risk. So, banks are hedging their interest payment-related exchange rate risk, which raises demand for dollars in the future — and puts pressure on the rupee.

Future of FCNR(B), rupee

Non-residents' interest in FCNR(B) deposits cannot be understated. If the current pace holds and no new problems crop up, bankers expect NRIs to keep taking advantage of the 19x leverage they are being offered and potentially pour in as much as $75 billion by September 30, when the window ends.

According to an official at a private bank, NRIs are literally lining up to make these deposits. "For banks who are sporadically taking minimum deposits of $50,000, they will see people queue up. I heard this happened in SBI's GIFT City branch — people were actually standing in lines because it's such a good investment," an official at a bank who did not wish to be named, said. Many banks have a minimum deposit threshold of around $500,000.

While interest in FCNR(B) deposits is sky-high, the rupee's trajectory is likely to be more sedate. According to Tanvee Gupta Jain, UBS' Chief India Economist, shifting external conditions mean the rupee could end 2026-27 largely unchanged at around 96-per-dollar. This would reflect the balance between a "modestly improved near-term external outlook and persistent medium-term structural headwinds" such as the need to attract higher net Foreign Direct Investment, risks to IT services exports from AI-driven disruption, and a stronger dollar should the US Federal Reserve increase interest rates.

FULL REPORT ON
WWW.INDIANEXPRESS.COM

• 10% GAIN IN 2013 VS 0.4% NOW: FCNR(B) INFLOWS NOT STRENGTHENING RUPEE

Note: T refers to the day FCNR(B) swap window was announced in 2013 (September 4) and 2026 (June 5) **Source:** investing.com

- **Key Terms and Explanations**
  - **Foreign Currency Non-Resident (Bank) Deposit [FCNR(B)]**: This is a specialized term deposit account held by Non-Resident Indians (NRIs) in Indian banks, maintained in foreign currencies such as the US Dollar, Euro, or British Pound. *Example*: An NRI working in the United States deposits $100,000 into an FCNR(B) account in India; the funds remain in US Dollars, protecting the investor from currency exchange rate fluctuation risks.
  - **Concessional Swap Window**: A financial facility provided by the central bank allowing commercial banks to exchange foreign currency raised through specific deposit schemes for domestic currency at subsidized or pre-determined rates, with an agreement to reverse the transaction later. *Example*: A bank receives foreign currency deposits and swaps them directly with the central bank for domestic currency liquidity without dumping the dollars into the open market.
  - **Foreign Currency Assets (FCA)**: The largest component of a country's foreign exchange reserves, consisting of assets denominated in major international currencies held by the central bank. *Example*: Holdings of foreign government bonds, bank deposits, and treasury bills in currencies like the US Dollar and Euro.
  - **Spot Market vs. Forward Market Interventions**: Spot market operations involve the immediate buying or selling of foreign currency for quick delivery, directly altering daily market exchange rates. Forward market operations involve contracts to buy or sell currency at a predetermined future date, helping manage long-term currency expectations without immediate spot market cash shifts.
  - **Currency Hedging**: A strategic financial practice where institutional investors or banks use derivative contracts (such as forward contracts) to offset potential losses caused by adverse exchange rate movements. *Example*: A bank holding dollar-denominated liabilities buys forward dollar contracts to fix its future repayment costs.

- **Main Arguments and Substantive Parts**
  - **Divergence Between Inflow Volume and Currency Appreciation**: Substantial foreign financial inflows into a nation's banking system do not automatically guarantee a strengthening of the domestic currency. Recent trends demonstrate that despite mobilizing tens of billions of dollars through specialized non-resident deposits and foreign portfolio investments, exchange rate appreciation can remain remarkably subdued.
  - **Off-Market Central Bank Swap Mechanics**: When foreign currency raised through non-resident deposit windows is swapped directly with the central bank off the open market, those dollars do not enter general foreign exchange trading channels. Consequently, this direct absorption fails to directly alleviate immediate dollar demand among commercial importers in the spot currency market.
  - **Reporting Lags and Compensatory Forex Interventions**: Variations between actual capital raised by commercial banks and official increases in foreign currency assets often arise from operational delays in weekly reporting. Furthermore, central banks frequently sell dollars in the spot market to cushion domestic currency against geopolitical shocks, offsetting the official growth of foreign currency reserves.
  - **Future Dollar Demand via Banking Sector Hedges**: Commercial banks offering high yields on foreign currency deposits actively hedge their future interest obligations in the forward market. This defensive financial engineering creates significant future dollar demand, counteracting the initial positive market sentiment created by capital inflows.
  - **Global Macroeconomic Drivers vs. Domestic Liquidity Measures**: Specialized central bank swap instruments are highly effective against localized confidence shocks, as demonstrated during emerging market stress in 2013. However, when currency headwinds stem from global structural pressures—such as sustained foreign central bank interest rate hikes, high global crude oil prices, and technological disruptions in service exports—domestic capital surges serve primarily as a defensive shield rather than an appreciation engine.

- **Historical Evolution of the Issue**
  - **Pre-1991 Era (Fixed Rate Regime and Reserve Crises)**: Prior to structural economic reforms, India followed a pegged exchange rate system under strict foreign exchange controls governed by the Foreign Exchange Regulation Act (FERA). External shocks, such as the 1990 Gulf Crisis, caused rapid reserve depletion, culminating in the historic 1991 Balance of Payments crisis and forcing a complete rethinking of external sector management.
  - **Post-1991 Liberalization (Managed Float and Capital Mobilization)**: The introduction of the Liberalised Exchange Rate Management System (LERMS) in 1992 marked the transition toward a market-determined exchange rate. India achieved current account convertibility in 1994 and introduced instruments like FCNR accounts to attract stable non-resident capital inflows while building foreign forex buffers.
  - **The 2013 Taper Tantrum and Concessional Swaps**: Following the US Federal Reserve's signals to wind down quantitative easing in 2013, capital rapidly exited emerging markets. The Reserve Bank of India (RBI) introduced a landmark concessional FCNR(B) swap window, successfully attracting over $34 billion. This localized intervention repaired market confidence, driving a sharp nearly 10% appreciation in the rupee over a short period.
  - **Post-2016 Inflation Targeting and Reserve Accumulation**: With the formalization of the Flexible Inflation Targeting (FIT) framework under the RBI Act, foreign exchange interventions shifted toward mitigating sharp volatility rather than targeting specific exchange rate levels. Central bank strategy prioritized accumulating massive foreign reserves to withstand global spillovers.
  - **Current Macroeconomic Phase (Complex Geopolitical and Structural Dynamics)**: Today, external sector management operates in a complex environment characterized by prolonged geopolitical conflicts, volatile global energy markets, technological transitions impacting traditional service exports, and recalibrated global interest rate trajectories, altering how foreign inflows influence currency strength.
- **Way Forward**
- **Shifting Focus Toward Long-Term Productive Equity Capital**: Transition policy emphasis from reliance on debt-creating non-resident term deposits toward attracting stable, greenfield Foreign Direct Investment (FDI). Equity investments flow directly into real economic output and clear through open market channels without creating forward currency liabilities.
- **Active Management and Smoothing of Forward Liabilities**: Strategically stagger and smooth the central bank's forward contract maturities to prevent concentrated dollar delivery timelines. This approach reduces periodic surges in commercial dollar demand and lowers forward premia pressures in domestic money markets.
- **Enhancing Export Competitiveness Beyond Traditional Services**: Diversify manufacturing and service export portfolios to counter structural global disruptions, such as artificial intelligence integration in technology sectors. Strengthening high-value domestic manufacturing under schemes like Production Linked Incentives (PLI) builds sustained structural current account support.
- **Expanding Local Currency Settlement Frameworks**: Accelerate bilateral and regional trade agreements settled in local domestic currencies rather than global reserve currencies, directly reducing baseline commercial dollar demand for critical imports like crude oil and raw materials.
- **Calibrated Communication and Market Transparency**: Maintain clear strategic communication regarding central bank foreign exchange operations and swap mechanisms. Transparent guidance prevents market speculation, helps market participants accurately price risk, and stabilizes domestic exchange rate expectations.

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COMPREHENSIVE ANALYSIS: INFLOWS OF $49BN BUT NO RUPEE BOOST

KEY TERMS & CONCEPTS

FCNR(B) Deposits
Foreign Currency Non-Resident Accounts – roploɛn current deposits

Concessional Swap Window
Direct Exchange Mechanism – oecared by drhamancements

Foreign Currency Assets
FCA - Reserves Vault, – defhed trading Foreign currency assets

Currency Hedging
Shield with contracts to definit a currency asets

UNDERSTANDING THE DIVERGENCE

(2013 vs. PRESENT)

STANDARD Direct Market Inflow Flow

Currency → Standard Inflows

OFF-MARKET Swap Window Flow Flow

Off-market Flows + Swap windows → Fenerval Funds

Off-market funds bypass general trading channels

$49bn 2 months

A mere 0.4% gain (vs. 10% in 2013)

MULTIDIMENSIONAL IMPACTS

(SOCIAL - ECONOMIC)

Social	Political	Legal
• Imported Inflation	• Economic Stability Perceptions	• Eompetitivenery and Goat Entened Ponts
Legal	**Ethical**	**Ethical**
• FEMA Compliance (FCA/R adtices)	• Economic: Condlicted	• Systemic Equity
Ethical	**International**	**Economic**
• Systemic Equity	• Global Monetary Policy	• Export Competitiveness • Balance of Payments

HISTORICAL EVOLUTION & PHILOSOPHY

- **1991** BoP Crisis
- **1992** LERMS
- **2013** Taper Tantrum FCNR(B) success
- **Post-2016** Inflation Targeting (FIT)
- **Present** Complex Macroeconomic dynamics
  - Geopolitical conflict
  - US Fed Rates
  - Technology disruption

Impossible Trinity

Impossible Trinity

- **Volatility Smoothing**
  - Volatility Smoothing for importinn of insomioaations
  - Colonility smoothing bestingaries in thances

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THE WAY FORWARD: STRATEGIC RECOMMENDATIONS

- Shift to Prefoctive Equity (PDI)
- Manage & Smooth Liabitties
- Enhance Export Competitiveness
- Expand Local Currency Settlement
- Strategic Communication

3 widely used medicines classified as carcinogenic by WHO research agency

Bindu Shajan Perappadan
NEW DELHI

Three widely prescribed medicines used to treat high blood pressure, fungal infections, and organ transplant rejection have been classified as "carcinogenic to humans" (Group 1) by the International Agency for Research on Cancer (IARC), the World Health Organization (WHO)'s cancer research agency.

Experts said the classification is a hazard identification and should not prompt patients to discontinue treatment without consulting their doctors.

The three medicines – hydrochlorothiazide (hypertension), voriconazole (fungal infections), and tacrolimus (an immunosuppressant preventing transplant rejection) – are on the WHO Model List of Essential Medicines, prescribed to millions worldwide. The assessment, published as Volume 137 of the IARC Monographs, expands on conclusions first released in *The Lancet Oncology* in November 2024.

There is sufficient evidence that hydrochlorothiazide causes squamous cell skin carcinoma and lip cancer, IARC said.

Voriconazole was similarly linked to squamous cell skin carcinoma in transplant recipients on prolonged therapy, through the same phototoxic mechanism. Tacrolimus was linked to non-Hodgkin lymphoma and post-transplant lymphoproliferative disorder, with limited evidence for leukaemia and skin carcinoma.

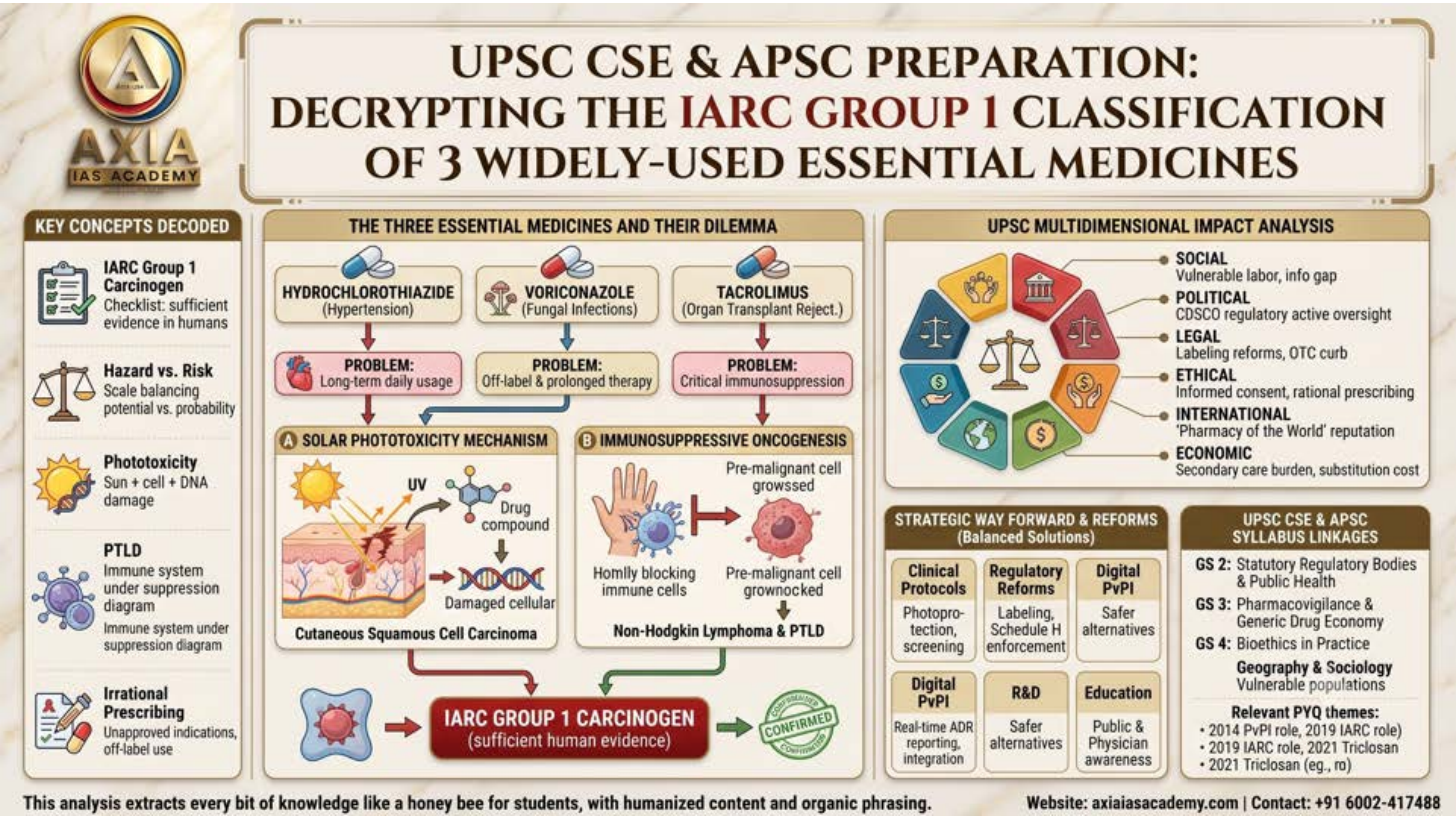
Kabir Sardana, Director, Professor and Head of the Department, Department of Dermatology, at Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, said: "Hydrochlorothiazide has long been recognised as carrying a risk, especially in rural areas, the Northeast, hilly and coastal regions, and among outdoor workers.

Voriconazole is another concern, not only because of its known association with skin cancer risk, but also because it is frequently prescribed without labelled indications, including for fungal infections caused by *Trichophyton indotineae*. We cannot ignore these warnings in a country where irrational prescribing, over-the-counter availability, and poor adherence to ethical prescribing and dispensing practices remain significant challenges."

- **Key Terms and Concepts**
  - **IARC Group 1 Carcinogen**: A classification assigned by the International Agency for Research on Cancer (IARC), the specialized cancer agency of the World Health Organization (WHO). Group 1 indicates that there is *sufficient evidence of carcinogenicity in humans*. This rating does not evaluate the degree of risk at a specific dose, but rather confirms the biological capability of an agent to cause cancer. *Example*: Asbestos, tobacco smoke, ultraviolet radiation, and now therapeutic agents like hydrochlorothiazide.
  - **Hazard Identification vs. Risk Assessment**: Hazard identification answers whether an agent *can* cause harm under specific conditions, whereas risk assessment determines the *probability* and severity of harm occurring under real-world exposure levels and clinical dosages.
  - **Phototoxicity**: A non-immunological skin reaction triggered when a chemical or pharmaceutical substance absorbs ultraviolet (UV) light, generating reactive oxygen species that cause direct tissue and cellular DNA damage. *Example*: A patient taking hydrochlorothiazide developing severe sunburns or lip carcinomas following routine exposure to sunlight.
  - **WHO Model List of Essential Medicines (EML)**: A list of minimum medicine needs for a basic health-care system, selected based on disease prevalence, public health relevance, evidence of clinical efficacy, safety, and comparative cost-effectiveness.
  - **Post-Transplant Lymphoproliferative Disorder (PTLD)**: A spectrum of B-cell hyperproliferative conditions ranging from reactive lymphoid hyperplasia to frank malignant lymphoma, occurring as a direct consequence of long-term therapeutic immunosuppression after organ transplantation.
  - **Irrational and Off-Label Prescribing**: The practice of prescribing drugs for unapproved indications, unverified fungal strains, or incorrect durations without standardized clinical protocols or diagnostic confirmation.

- **Main Arguments and Core Analysis**
- The classification of widely prescribed essential drugs as human carcinogens presents a complex public health challenge that requires a balanced regulatory and clinical response.
  - **Therapeutic Benefit vs. Long-Term Carcinogenic Risk**: The primary dilemma lies in the tension between immediate, life-saving therapeutic interventions and long-term carcinogenic hazards. Abrupt discontinuation of hydrochlorothiazide, voriconazole, or tacrolimus poses immediate life-threatening risks—such as hypertensive crises, fatal invasive fungal septicemia, or acute organ transplant rejection—which far outweigh the long-term statistical risk of developing cancer.
  - **Mechanisms of Pharmacological Carcinogenesis**:
    - *Solar Interaction Mechanism*: Hydrochlorothiazide and voriconazole act via phototoxic pathways. When exposed to UV radiation, these compounds undergo photochemical reactions that damage cutaneous cellular DNA, significantly elevating the risk of cutaneous squamous cell carcinoma and lip cancer.
    - *Immunosuppressive Mechanism*: Tacrolimus induces oncogenesis through sustained systemic suppression of cell-mediated immunity. By disabling T-cell surveillance, the body loses its natural ability to eliminate oncogenic viruses (like Epstein-Barr Virus) and pre-malignant cells, leading to non-Hodgkin lymphoma and PTLD.
  - **Amplification of Risk in the Indian Socio-Geographic Context**:
    - *Environmental Factors*: Tropical climate, high solar insolation, and intense UV exposure in hilly, coastal, and rural regions magnify the phototoxic potential of these drugs.
    - *Occupational Exposure*: Outdoor laborers, agricultural workers, and construction workers face prolonged solar exposure, turning a baseline pharmacological hazard into an elevated clinical risk.
    - *Systemic Vulnerabilities*: Rampant over-the-counter (OTC) drug availability, off-label usage (such as treating stubborn dermatophytosis like *Trichophyton indotineae* with potent antifungals), and a lack of standardized patient counseling aggravate exposure risks.

- **Historical Evolution of Regulatory and Pharmacovigilance Standards**
- The regulation of drug safety and pharmacovigilance in India has evolved from basic quality control to monitoring complex, long-term drug-induced pathologies.
  - **Pre-Independence to Post-Independence (1940s–1970s)**: The passage of the Drugs and Cosmetics Act in 1940 focused primarily on preventing adulteration, fake medicines, and short-term toxicities. Pharmacovigilance was largely absent, and drug safety was evaluated through acute toxicity metrics rather than chronic carcinogenic surveillance.
  - **Global Essential Medicine Framework & Indian Adoption (1970s–1990s)**: Following the WHO's formulation of the first Model List of Essential Medicines in 1977, India established its own National Essential Drugs Framework. The focus was predominantly on expanding access to affordable, life-saving cardiovascular, antimicrobial, and immunosuppressive therapies, with limited long-term post-market epidemiological surveillance.
  - **Formalization of Pharmacovigilance (2000s–2010s)**: The Indian Pharmacopoeia Commission (IPC) launched the Pharmacovigilance Programme of India (PvPI) in 2010 to collect, analyze, and monitor Adverse Drug Reactions (ADRs). During this era, regulatory attention shifted toward drug-induced organ toxicities and cross-reactivities.
  - **Contemporary Era & Long-Term Carcinogen Re-evaluation (2020s–Present)**: Advanced epidemiological cohort tracking and molecular oncology have enabled bodies like IARC to re-evaluate chronic drug usage patterns. The classification of essential daily therapeutics (Volume 137 of IARC Monographs) represents a paradigm shift: essential, widely accessible medicines now require structured, lifelong post-market surveillance and environmental risk-mitigation strategies.
- **Strategic Way Forward**
- A modern public health approach must combine regulatory updates, clinical adjustments, and patient communication to address these risks effectively.
- **Clinical Protocol Updates & Photoprotection Guidelines**:
  - Issue updated clinical directives instructing physicians to combine prescriptions of phototoxic drugs (hydrochlorothiazide, voriconazole) with mandatory photoprotective advice (broad-spectrum sunscreen, protective clothing, and minimizing peak-hour sun exposure).
  - Establish routine dermatological screening protocols for high-risk patients, such as organ transplant recipients on prolonged tacrolimus or voriconazole therapy.
- **Regulatory Enforcement & Package Labeling Reforms**:
  - Mandate clear warning labels and Patient Information Leaflets (PIL) on packaging for all Group 1 classified essential drugs, detailing phototoxicity risks and the importance of sun protection.
  - Strictly enforce Schedule H and H1 restrictions under the Drugs and Cosmetics Rules to eliminate over-the-counter sales and curb irrational, off-label prescribing of potent antifungals.
- **Strengthening Digital Pharmacovigilance (PvPI)**:
  - Integrate PvPI reporting portals directly into digital health infrastructure, such as the Ayushman Bharat Digital Mission (ABDM), enabling real-time adverse drug reaction reporting across primary, secondary, and tertiary health centers.
  - Conduct region-specific post-market epidemiological surveillance in high-UV areas (e.g., Northeast, coastal, and hilly regions) to monitor real-world incidence rates of drug-induced skin neoplasms.


AXIA
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UPSC CSE & APSC PREPARATION: DECRYPTING THE IARC GROUP 1 CLASSIFICATION OF 3 WIDELY-USED ESSENTIAL MEDICINES
KEY CONCEPTS DECODED
IARC Group 1 Carcinogen
Checklist: sufficient evidence in humans
Hazard vs. Risk
Scale balancing potential vs. probability
Phototoxicity
Sun + cell + DNA damage
PTLD
Immune system under suppression diagram
Immune system under suppression diagram
Irrational Prescribing
Unapproved indications, off-label use
THE THREE ESSENTIAL MEDICINES AND THEIR DILEMMA
HYDROCHLOROTHIAZIDE
(Hypertension)
VORICONAZOLE
(Fungal Infections)
TACROLIMUS
(Organ Transplant Reject.)
PROBLEM:
Long-term daily usage
PROBLEM:
Off-label & prolonged therapy
PROBLEM:
Critical immunosuppression
A SOLAR PHOTOTOXICITY MECHANISM
UV
Drug compound
Damaged cellular
Cutaneous Squamous Cell Carcinoma
B IMMUNOSUPPRESSIVE ONCOGENESIS
Pre-malignant cell growssed
Homlly blocking immune cells
Pre-malignant cell grownocked
Non-Hodgkin Lymphoma & PTLD
IARC GROUP 1 CARCINOGEN
(sufficient human evidence)
CONFIRMED
UPSC MULTIDIMENSIONAL IMPACT ANALYSIS
SOCIAL
Vulnerable labor, info gap
POLITICAL
CDSCO regulatory active oversight
LEGAL
Labeling reforms, OTC curb
ETHICAL
Informed consent, rational prescribing
INTERNATIONAL
'Pharmacy of the World' reputation
ECONOMIC
Secondary care burden, substitution cost
STRATEGIC WAY FORWARD & REFORMS
(Balanced Solutions)
Clinical Protocols
Photopro-tection, screening
Regulatory Reforms
Labeling, Schedule H enforcement
Digital PvPI
Safer alternatives
Digital PvPI
Real-time ADR reporting, integration
R&D
Safer alternatives
Education
Public & Physician awareness
UPSC CSE & APSC SYLLABUS LINKAGES
GS 2: Statutory Regulatory Bodies & Public Health
GS 3: Pharmacovigilance & Generic Drug Economy
GS 4: Bioethics in Practice
Geography & Sociology
Vulnerable populations
Relevant PYQ themes:
• 2014 PvPI role, 2019 IARC role)
• 2019 IARC role, 2021 Triclosan
• 2021 Triclosan (eg., ro)
This analysis extracts every bit of knowledge like a honey bee for students, with humanized content and organic phrasing.
Website: axiaiasacademy.com | Contact: +91 6002-417488

SpaceX rocket stage hurtles toward moon, astronomers hot on its trail

This Falcon 9 rocket had launched two satellites towards the moon in January 2025, then SpaceX abandoned the rocket's spent upper stage in an unstable orbit as it lacked enough fuel to return to the earth or head into deep space; it is now expected to hit the moon at 12:05 p.m. IST on August 5

Shreejaya Karantha

Astronomers are closely monitoring a SpaceX rocket stage that is on the way to striking the moon. This Falcon 9 rocket had launched two satellites towards the moon in January 2025. Then SpaceX abandoned the rocket's spent upper stage in an unstable orbit as it lacked enough fuel to return to the earth or head into deep space. It is now expected to hit the moon at 12:05 p.m. IST on August 5.

The independent astronomer Bill Gray's calculations showed that the rocket stage is en route to the Einstein Crater on the moon. Mr. Gray said that over the course of a year, any small changes could add up and cause the object to fly close to the moon instead of impacting it. So he gathered more data, with which by January 2026 he was 100% sure that the stage was on a collision course.

"By April, I was confident enough to announce that it would hit near the Einstein crater," he said, giving scientists roughly 3.5 months to plan observations. All details regarding this event are posted on his website, 'Project Pluto'.

Since he had tracked the rocket within days of its launch, identifying the debris was easy: "We were somewhat fortunate in this case. If an object isn't spotted until months or years after launch, identifying it can be quite challenging," Mr. Gray said.

Accidental opportunity

Rather than threaten astronomy studies, experts said the collision will be an opportunity to study what happens in such events. Specifically, artificial impacts like this are rare. They are also valuable because scientists already know the impactor's mass, speed, and size in advance, unlike with natural meteoroid strikes, rendering the collision a so-called controlled source event.

The last time a similar event was observed was NASA's 2009 LCROSS mission, which deliberately crashed a rocket stage near the moon's south pole and confirmed water ice in the debris it kicked up.

What to expect

Mr. Gray has estimated the impact speed to be at 8,700 km/hr. During the time of the collision, astronomers are planning to investigate the behaviour of lunar dust, which can reveal more about the consequences of natural impacts and seismic activity. Since dust on the moon is not the same as dust anywhere on the earth, astronomers can also benefit from knowing how long dust will remain suspended or what kind of dust storms may be expected if humans want to start living on the moon.

The Falcon 9 rocket whose upper stage is going to crash on the moon (right) and the location of Einstein crater on the moon.

According to a paper by U.S. Los Alamos National Laboratory planetary scientist Benjamin Fernando and colleagues (uploaded to the arXiv preprint server on July 16), three particular effects are expected from the impact.

First is a flash of light at the moment of impact, which may last less than a second. This is produced by material from the rocket stage vaporising on contact with the moon. Second, a cloud of debris or ejecta, possibly vapour, will be thrown up. Finally, a crater 20-30 m across, estimated based on past impacts and computer models.

The researchers wrote in their paper that "a double crater may be produced" if the object breaks apart, "which may occur depending on the stage's attitude at the time of impact".

However, catching the flash won't be easy because it will be on the moon's night side, and any attempt will require a telescope.

Observers in India also won't get a chance to see it live as the impact will happen at noon, with the moon below the horizon then.

What if...?

According to Mr. Gray, current estimates of the impact time and location carry an uncertainty of about 5 seconds in impact time and roughly 20 km in location.

Einstein crater sits at 88° W, 17° N, close to the western edge of the near side. It is far from the equatorial and south polar regions, where most current and planned lunar landings are concentrated. So the chances of the rocket stage altering any sites that spacefaring nations consider significant are low.

With space agencies and private companies both targeting the moon for long-term lunar bases, mining, and satellites, accidental interference between missions may arise. Lunar scientific and cultural heritage are also at risk

Hypothetically, if this rocket stage or any other debris happened to strike any significant location on the moon – such as the Shiv Shakti point where Chandrayaan-3 landed – there currently is no legal instrument to protect them.

"There is no legal claim," Ranjana Kaul, partner at Dua Associates & Vice President, International Institute of Space Law, Paris, said. "Our outer space treaty does not recognise sovereignty in outer space." She added that just because a country happened to land at a site, it doesn't own that piece of the moon under current regulations.

Moon as a laboratory

Dr. Kaul also stressed the importance of studying artificial impacts like this one because of how quickly activity on the moon is expanding. With space agencies and private companies both targeting the moon for long-term lunar bases, mining, and satellites, accidental interference between missions may arise. Lunar scientific and cultural heritage are also at risk. "Debris regulation is a serious problem," Dr. Kaul added.

At the United Nations, the Action Team on Lunar Activity Consultation (ATLAC) working group is trying to build consensus among spacefaring nations on issues from coordinating on landing sites to lunar dust mitigation and debris rules – which is a scenario the impending impact previews.

The UN discussions will nonetheless take time to come up with new rules.

"In the United Nations, decisions are by consensus," Dr. Kaul said. This means all participating countries must agree before a proposal becomes binding international regulation, a process that can take years.

Mr. Gray also said space agencies handle leftover rocket stages differently. NASA and the European Space Agency, he said, have been careful. The upper stage that launched the Webb telescope, for instance, was placed in an orbit that will keep it away from the earth-moon system for roughly a century. China's recent stages have similarly been directed toward the Pacific Ocean or orbits around the Sun.

SpaceX has made no public statement on its disposal policy, however.

(Shreejaya Karantha is a freelance science writer. shreejayakarantha@gmail.com)

THE GIST

- Astronomers are closely monitoring a SpaceX rocket stage that is on the way to striking the moon
- Experts said the collision will be an opportunity to study what happens in such events. Specifically, artificial impacts like this are rare
- Astronomers are planning to investigate the behaviour of lunar dust, which can reveal more about the consequences of natural impacts and seismic activity

- **Key Terms and Explanations**
  - **Spent Upper Stage**: The final engine section of a multi-stage launch vehicle that fires at high altitudes to insert a payload into its intended orbit. Once its propellant is exhausted, it becomes non-functional space hardware (orbital debris) subject to gravitational perturbations.
  - **Controlled Source Event**: A high-velocity impact on a celestial body where parameters such as mass, impact velocity, angle, and precise trajectory are known prior to collision. Unlike unpredictable natural meteoroid strikes, these events allow scientists to establish baseline measurements for seismic and geological studies.
  - **Regolith and Dust Levitation**: Regolith refers to the loose, fragmented layer of dust, soil, and broken rock covering lunar bedrock. Dust levitation occurs when fine particles become electrostatically charged or mechanically displaced by impacts, floating above the surface—a phenomenon critical for designing long-term human lunar habitats and machinery.
  - **Outer Space Treaty (OST, 1967)**: The foundational framework of international space law. Its central pillar, Article II, specifies that outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.
  - **Action Team on Lunar Activity Consultation (ATLAC)**: A specialized UN-level initiative formed under the Committee on the Peaceful Uses of Outer Space (UN-COPUOS) to foster multilateral consensus on lunar coordination, landing site safety, and celestial debris mitigation.

- **Main Arguments and Substantive Parts**
  - **Dual Nature of Uncontrolled Celestial Impacts**: Abandoned upper-stage rocket collisions present a striking dichotomy. On one side, they offer a rare, zero-cost scientific opportunity to observe shock physics and subsurface geology; on the other, they highlight an escalating threat of space congestion.
  - **Scientific Value of Calibrated Lunar Collisions**: Because the exact mass, velocity, and composition of an artificial impactor are documented, the resulting light flash, debris plume, and crater morphology provide crucial data on lunar seismology and regolith behavior under extreme kinetic forces.
  - **Vulnerability of Lunar Cultural and Scientific Heritage**: With increasing international and private presence on the Moon, rogue impacts threaten historic hardware, active scientific instruments, and designated landing markers (such as Chandrayaan-3's *Shiv Shakti Point* or Apollo landing sites).
  - **The Global Regulatory Deficit**: Current international space law lacks explicit provisions to mandate end-of-life disposal for deep-space hardware. Furthermore, because no nation can claim sovereignty over lunar territory, establishing legally enforceable safety or exclusion zones around lunar assets remains legally ambiguous.
  - **Disparate Agency Standards for Space Hardware Disposal**: Major spacefaring entities follow divergent operational policies. While some agencies utilize direct heliocentric (solar) disposal orbits, private commercial actors often operate under minimal regulatory mandates for spent stages left in complex Earth-Moon trajectories.

- **Historical Evolution of the Issue**
  - **1950s–1960s (The Early Space Race Era)**: Space exploration prioritized orbital capability over long-term environmental management. Deep space was viewed as an infinite sink, leading to the deliberate abandonment of expended rocket hardware in Earth and cis-lunar orbits.
  - **1967–1972 (Foundational Legal Frameworks)**: The codification of the Outer Space Treaty (1967) and the Liability Convention (1972) established basic principles of state liability for space objects, but focused overwhelmingly on Earth-bound damages and nuclear power sources rather than orbital debris management.
  - **1970s (Early Intentional Lunar Impacts)**: During the Apollo program, NASA routinely guided upper stages (S-IVB) and spent lunar modules to impact the Moon intentionally. These controlled impacts served as calibration tools for the seismometers left on the surface by astronauts.
  - **2009 (Targeted Scientific Debris Crashing)**: Missions such as NASA's LCROSS (Lunar Crater Observation and Sensing Satellite) deliberately crashed a spent Centaur rocket stage into the permanently shadowed Cabeus crater, successfully confirming the existence of water ice in lunar regolith.
  - **2020s–Present (Commercial Lunar Renaissance)**: The surge in private space exploration, combined with multi-nation lunar initiatives like the Artemis program and China's ILRS, has dramatically elevated hardware traffic in cis-lunar space, transforming abandoned stages into untracked, unpredictable kinetic risks.

- **Way Forward**
- **Mandatory Deep-Space End-of-Life Disposal Protocols**: International regulatory bodies should mandate that upper-stage rocket boosters retain sufficient delta-v (fuel reserves) to execute either a controlled disposal into a designated, safe lunar impact site or an escape trajectory into a heliocentric (solar) orbit.
- **Establishment of International Debris Tracking in Cis-Lunar Space**: Expand existing terrestrial Space Situational Awareness (SSA) networks to track objects operating beyond Geostationary Earth Orbit (GEO), creating an open-access international repository for deep-space hardware trajectories.
- **Legal Harmonization under UN-COPUOS**: Update the legal interpretation of the Outer Space Treaty through consensus mechanisms like ATLAC to formally define non-sovereign "Safety and Heritage Corridors" around active scientific landers and historic lunar sites.
- **Incentivizing Clean Space Technologies**: Space agencies should offer licensing preferences and financial incentives to commercial operators that incorporate active debris removal mechanisms, passivation systems, or biodegradable/burn-up capabilities into their upper-stage architectures.

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COMPREHENSIVE ANALYSIS: THE LUNAR COLLISION & CIS-LUNAR DEBRIS CHALLENGE

MULTI-DIMENSIONAL ANALYSIS

- **SOCIAL:** Historic Heritage vs. Pollution.
- **POLITICAL:** Geopolitical Mistrust & Congestion.
- **LEGAL:** Unclear 'Safety Zones' vs. Non-Appropriation.
- **ETHICAL:** Environmental Stewardship & Cosmoethics.

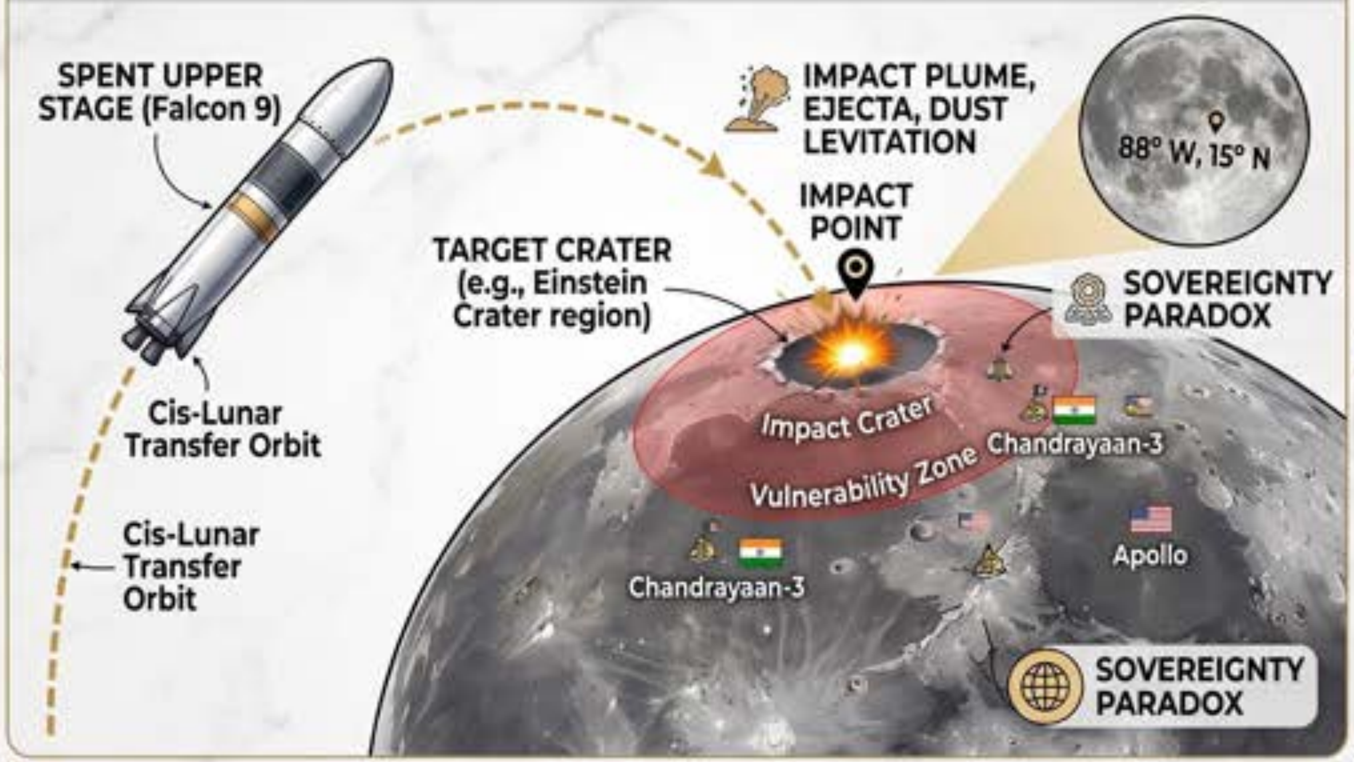
THE LEGAL GAP

OUTER SPACE TREATY (1967): ARTICLE II: Non-Appropriation principle means NO State can claim sovereignty over the Moon.

No legal mechanism to enforce safety zones for national bases (e.g., Shiv Shakti Point).

Action Team on Lunar Activity Consultation (ATLAC)

TRAJECTORY OF A CONTROLLED SOURCE EVENT



SCIENTIFIC & HERITAGE VULNERABILITY

Scientific Opportunities: Seismic studies, regolith composition, dust behavior.

Scientific Heritage at risk (Apollo, Chandrayaan, future habitats).

WAY FORWARD: PRACTICAL REFORMS

1. Mandatory Deep-Space End-of-Life Disposal: Controlled impact or heliocentric.
2. Enhanced Cis-Lunar Space Situational Awareness (SSA).
3. Legal Harmonization of Safety Zones & Buffer Areas.
4. Incentivizing Commercial Operator Compliance.

UPSC CSE SYLLABUS LINKAGES

GS1	GS2	GS3	GS4
Brief illustrative keywords	Outer Space Treaty	Space Debris Challenges	Technological Ethics

ALL PREVIOUS YEARS' QUESTIONS (PYQs)

Example Q's: Space Debris & Mitigations (2022 GS3) | Asteroid Deflection (2016 Prelims) | Global Commons Governance (GS4 Ethics)

CRITICAL THINKING FOR EXAM SUCCESS. RISE ABOVE THE REST.