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Advancing India-South Korea defence innovation ties

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Since establishing diplomatic relations in 1973, India and South Korea have maintained defence ties. Their first formal agreement, the 2005 MoU on Defence Industry and Logistics, promoted cooperation in production, research and development, and procurement. Subsequently, they signed separate five-year memoranda of understanding on defence cooperation and defence research and development (R&D) in 2010.

The first enabled exchanges of expertise, training, visits and joint exercises, while the second focused on emerging technologies such as marine, electronics, and intelligent systems through links between India's Defence Research and Development Organisation (DRDO) and the South Korean defence industry. In 2015, the partnership was elevated to a Special Strategic Partnership.

Furthermore, the 2020 Roadmap for Defence Industries Cooperation expanded engagements into key areas, such as land, naval, aero, and guided weapon systems, along with investments and technology transfer in India's defence industrial corridors. A notable outcome of this partnership is the K9 Vajra-T self-propelled artillery system, manufactured in India by Larsen & Toubro (L&T) and Hanwha Aerospace, South Korea under the 'Make in India' initiative, whose success led to a follow-on production contract.

The new platform

On April 20, 2026, at the India-South Korea Summit between Prime Minister Narendra Modi and President Lee Jae Myung, a new defence innovation platform called the Korea-India Defence Accelerator (KIND-X) was announced.

As part of the Joint Strategic Vision, KIND-X aims to connect businesses, incubators, investors, defence start-ups, and universities from both sides. KIND-X is not a new model of cooperation for India.

It mirrors similar defence industrial innovation bridges with the United States under INDUS-X (India-U.S. Defense Acceleration Ecosystem) and with France under FRIND-X (France-India Defence Startup Excellence). There have also been suggestions to create an INDUS-X-like model with South Korea. Drawing on these existing models, KIND-X is expected to be led by South Korea's Defense Acquisition Program Administration (DAPA) and India's Defence Innovation Organisation (DIO). Both countries run defence innovation programmes to strengthen their defence start-up ecosystems, such as South Korea's specialised innovation enterprise system and India's Innovations for Defence Excellence (iDEX).

KIND-X can help deepen bilateral defence research and development, co-production, and start-up collaboration

According to India's Ministry of External Affairs special briefing on April 20, 2026, KIND-X is expected to align with the 2020 Roadmap for Defence Industries Cooperation.

What can be unlocked

What can KIND-X unlock? KIND-X can emerge as the "defence innovation bridge", expanding defence R&D, innovation, co-development and co-production, involving startups, investors, universities, academia, and think tanks, essentially creating a joint defence innovation and industrial ecosystem from both countries. This may involve release of joint challenges and grants by DAPA and DIO for their respective startups to innovate defence technologies in the areas envisaged under the 2020 road map.

It may facilitate access to testing facilities through universities and laboratories in both countries, promote joint certification and standardisation processes, and support accelerator and incubator programmes connecting investors and innovators from both sides. It may also include workshops to help stakeholders navigate each other's markets and production systems. These workshops can address export control regimes, funding models for defence production, and intellectual property and licensing requirements related to technology transfer for co-production and co-development.

An annual summit, similar to the INDUS-X summit, could convene high-level representatives from defence ministries, industry, universities, think tanks, and academia in Seoul, New Delhi, and other industrial hubs. The KIND-X summit could also convene Track 1.5 dialogues to emphasise the strategic rationale for bilateral defence cooperation, foster networking, and periodically assess progress on deliverables under the initiative.

The success of KIND-X will depend on leveraging existing co-production ventures such as the K9 Vajra-T howitzers by L&T and Hanwha Aerospace to create templates for future defence projects. It will connect South Korea's innovation clusters in Changwon, Daejeon, and Gumi with India's defence corridors in Tamil Nadu and Uttar Pradesh, and with aerospace hubs in Bengaluru, Chennai, and Hyderabad. Involving major firms such as Hyundai, L&T, Tata Advanced Systems Limited, Mahindra, Bharat Forge, Hanwha, LIG, and Kangnam, alongside start-ups and R&D ecosystems, can further expand linkages.

As an innovation bridge

The launch of KIND-X as a defence innovation bridge signals both governments' keenness to unlock their respective deep-tech innovation ecosystems to develop dual-use technologies. With deepening ties across other strategic sectors such as shipbuilding, artificial intelligence, space, critical minerals, and semiconductors, KIND-X can complement and draw on convergences in these sectors for defence.

Aligning with India's Defence Forces Vision 2047 and South Korea's Defence Innovation 4.0 strategy, and co-investing in emerging and future technologies will be key to making this initiative forward-looking. Potential areas under KIND-X include Artificial Intelligence platforms for military applications, autonomous weapon systems and robotics, joint development of satellites for space-based intelligence, surveillance, and reconnaissance (ISR), Space Situational Awareness (SSA), communication and navigation, critical mineral supply chains, and defence semiconductor fabs. Given both countries' growing defence exports, KIND-X can emerge as an important facilitator.

The onus is now upon both defence ministries to curate tangible deliverables under KIND-X, clarifying its steering template, funding mechanisms and areas of joint innovation.

- **Key Terms and Explanations**
- **Defence Cooperation** means collaboration between two countries in military training, joint exercises, defence production, research, logistics, technology sharing, and procurement. For example, when India and South Korea cooperate on artillery systems or shipbuilding, it becomes part of defence cooperation.
- **Defence Industry and Logistics** involves the production, supply, maintenance, and movement of military equipment. Logistics is not merely about transport; it includes spare parts, repair, supply chains, ammunition, maintenance, and battlefield readiness.
- **Defence R&D** means research and development in defence technologies such as missiles, drones, radar systems, naval platforms, electronic warfare, cyber systems, robotics, and military artificial intelligence. In India, DRDO plays a key role in this field.
- **Special Strategic Partnership** is a higher level of bilateral relationship. It suggests that two countries are not merely trade partners but also cooperate in sensitive sectors like defence, technology, regional security, and global governance.
- **KIND-X — Korea-India Defence Accelerator** is a proposed defence innovation platform aimed at connecting start-ups, universities, defence industries, investors, laboratories, and government agencies of both countries. Its basic idea is simple: bring innovators from India and South Korea together to solve military and dual-use technology problems.
- **DAPA** stands for South Korea's Defense Acquisition Program Administration. It handles defence procurement and acquisition in South Korea.
- **DIO** stands for India's Defence Innovation Organisation. It promotes innovation through platforms such as iDEX.
- **iDEX — Innovations for Defence Excellence** is India's programme to encourage start-ups and MSMEs to develop defence technologies. For example, a start-up making anti-drone technology may receive support under iDEX.
- **Dual-use Technology** refers to technology that can be used for both civilian and military purposes. Artificial intelligence, satellites, semiconductors, drones, and robotics are common examples.
- **Co-development and Co-production** mean jointly designing and manufacturing defence systems. Co-development involves shared research; co-production involves shared manufacturing.
- **K9 Vajra-T** is a self-propelled artillery system manufactured in India through cooperation between Larsen & Toubro and South Korea's Hanwha Aerospace. It is a practical example of defence industrial cooperation.

- **Main Arguments and Substantive Parts**

- **Core Thesis:** KIND-X represents a natural evolution of India–South Korea defence ties, transitioning from a buyer-seller relationship to a joint innovation ecosystem. The platform can unlock mutual benefits by pooling risk capital, testing infrastructure, and technical talent, and can replicate the success of the K9 Vajra-T model in other advanced domains.

- **Key Supporting Points:**
    - The partnership has been built incrementally: from logistical MoUs (2005) to technology-focused MoUs (2010) to a Special Strategic Partnership (2015) and a detailed Defence Industry Roadmap (2020).
    - The K9 Vajra-T has demonstrated that technology transfer, licensed production, and iterative improvement can work smoothly between the two countries.
    - India's iDEX and South Korea's innovation enterprise system are structurally similar, enabling a plug-and-play accelerator model.
    - KIND-X can align with India's Defence Forces Vision 2047 and South Korea's Defence Innovation 4.0, both of which emphasise emerging technologies (AI, robotics, space-based ISR, autonomous systems).

- **Counter-Arguments :**
    - Trust deficits on intellectual property protection and technology leakage could slow real co-development.
    - Bureaucratic inertia and divergent export control regimes (e.g., India is in MTCR, South Korea is not in NSG) may create compliance hurdles.
    - Geopolitical headwinds—especially South Korea's delicate balancing between the US and China, and India's own strategic autonomy—could limit the speed and depth of technology sharing.
    - Start-up-centric models often struggle to scale unless major primes (Hanwha, L&T, Tata, etc.) absorb their innovations into large platforms.

- **Historical Evolution of the Issue**

- **Pre-1973 Context:** India and South Korea were on opposite sides of Cold War alignments. India's non-aligned stance and closeness to the DPRK limited early engagement.

- **1973:** Formal establishment of diplomatic relations, but defence cooperation remained dormant for decades.

- **2005:** First defence-specific agreement – MoU on Defence Industry and Logistics, opening low-level production cooperation, R&D, and procurement.

- **2010:** Two five-year MoUs signed:
    - Defence Cooperation MoU: enabled exchanges of expertise, joint exercises, training, and high-level visits.
    - Defence R&D MoU: linked India's DRDO with South Korean defence industry in marine, electronics, and intelligent systems.

- **2015:** Relationship upgraded to a **Special Strategic Partnership** during Prime Minister Modi's visit to Seoul, broadening the agenda to include regional security and sensitive technology domains.

- **2017–2020:** The K9 Vajra-T contract was finalised; L&T set up a production line in Hazira, Gujarat. Deliveries began in 2019, proving the viability of co-production under 'Make in India'.

- **2020: Roadmap for Defence Industries Cooperation** formalised collaboration in land, naval, aero, and guided weapon systems, and invited South Korean investment in the Tamil Nadu and Uttar Pradesh defence corridors.

- **2026 (April 20):** At the Modi-Lee summit, the **Korea-India Defence Accelerator (KIND-X)** was launched within the Joint Strategic Vision, explicitly modelled on INDUS-X and FRIND-X.

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- 1973: (Flags) Diplomatic Relations
- 2005: MoU on Defence Industry
- 2010: MoUs on Cooperation & R&D (Marine/Electronics)
- 2015: Special Strategic Partnership
- 2020: Roadmap for Cooperation (Land, Naval, Aero)

A NOTABLE SUCCESS:
K9 VAJRA-T
Manufactured in

WHAT KIND-X UNLOCKS

- DEFENCE INNOVATION BRIDGE
- JOINT CHALLENGES & GRANTS
- ACCESS TO TESTING & LABS
- ACCESS TO CERTIFICATION
- JOINT CERTIFICATION
- ACCELERATOR & INCUBATOR PROGRAMS
- WORKSHOPS (IP, EXPORT CONTROL)

FUTURE FOCUS AREAS

- AI for Military Platforms
- Autonomous Weapon Systems
- Space-based ISR & SSA
- Critical Mineral Supply Chains
- Defence Semiconductor Fabs

- **Logical and Philosophical Base**

- **Underlying Logic:** Defence innovation bridges are built on the belief that no single country can master all next-generation technologies alone. By creating a collaborative ecosystem, India and South Korea can shorten development cycles, reduce costs, and mitigate technology denial regimes.

- **Philosophical Foundations:**
    - **Cooperative Security:** Instead of a purely competitive arms-race logic, the two nations embrace a 'gain-together' model where shared R&D deepens mutual trust and interdependency.
    - **Strategic Autonomy Through Partnerships:** India's 'Atmanirbhar Bharat' is not autarky but self-reliance woven through carefully chosen international alliances. KIND-X allows India to source technology without falling into a captive dependency.
    - **Liberal Institutionalism:** The creation of an institutional forum (annual summit, joint challenges, Track 1.5 dialogues) reduces transaction costs and builds norms of reciprocity, making future cooperation more predictable.
    - **Constructivist Angle:** The shared identity of democratic, Indo-Pacific middle powers facilitates the narrative that deep-tech cooperation is not just transactional but value-driven.

- **Epistemological Assumption:** Knowledge creation in defence is becoming increasingly networked. The platform assumes that innovation diffuses best when start-ups, academia, and labs in different countries cross-pollinate, rather than when it remains confined within siloed national programmes.

- **Multidimensional Analysis**
- **Social Dimension**
- Defence innovation can create skilled employment for engineers, scientists, technicians, researchers, and start-up founders. It can also inspire students to enter STEM fields. However, if benefits remain limited to elite urban clusters such as Bengaluru, Hyderabad, Seoul, or Daejeon, the social impact will remain narrow. India must connect defence innovation with universities, technical institutes, MSMEs, and state-level industrial ecosystems.
- **Political Dimension**
- KIND-X can strengthen India's Act East Policy and Indo-Pacific outreach. It shows that India is not only engaging major powers but also building middle-power partnerships. For South Korea, it supports a wider strategic presence beyond the Korean Peninsula. Politically, both countries can use this platform to demonstrate trust, technological ambition, and defence credibility.
- **Legal Dimension**
- Defence cooperation requires clarity on export controls, intellectual property rights, procurement rules, data protection, liability, end-use monitoring, and technology licensing. India must also ensure that defence procurement procedures allow start-up participation without compromising transparency and accountability.
- **Ethical Dimension**
- Emerging defence technologies raise difficult ethical questions. Should machines be allowed to take lethal decisions? How should military AI be audited? Who is responsible if an autonomous system makes an error? KIND-X must include ethical safeguards, human oversight, and compliance with international humanitarian norms.
- **International Dimension**
- The partnership fits into the broader Indo-Pacific framework. It can help India diversify defence sources and reduce overdependence on traditional suppliers. It may also strengthen cooperation among like-minded democracies. However, China may view deeper India–South Korea defence cooperation with suspicion, and South Korea may remain cautious due to its economic exposure to China.
- **Economic Dimension**
- Defence innovation can promote manufacturing, exports, investment, technology transfer, and high-value jobs. It can also support India's defence corridors and South Korea's defence export ambitions. The economic promise is high, but only if joint projects move from prototypes to procurement and export markets.

- **Linkages with NCERTs**
- **Class 6–8 Social Science: Civics and Governance**

The idea of state capacity, public institutions, and national security can be linked with basic NCERT discussions on government, public decision-making, and citizenship. Defence cooperation shows how the state protects sovereignty while using institutions and laws.

- **Class 9 Democratic Politics – Chapter on Constitutional Design**

Strategic partnerships reflect the sovereign authority of the Indian state. Foreign policy and defence cooperation arise from constitutional governance, elected leadership, and national interest.

- **Class 10 Democratic Politics – Power Sharing and Federalism**

Defence is a Union subject, but defence corridors involve states such as Uttar Pradesh and Tamil Nadu. This creates a useful link with cooperative federalism and Centre-State coordination in industrial development.

- **Class 11 Political Science – Indian Constitution at Work**

Foreign policy, defence, executive power, parliamentary accountability, and national security decision-making can be connected with this theme. Defence agreements require executive initiative but also public accountability.

- **Class 12 Political Science – Contemporary World Politics**

This is the strongest NCERT linkage. Chapters on Cold War, US hegemony, alternative centres of power, South Asia, international organisations, and security in the contemporary world help students understand India-South Korea cooperation in the Indo-Pacific context.

- **Class 11 Economics – Indian Economic Development**

Defence manufacturing can be linked with industrialisation, technology, human capital, public investment, and liberalisation.

- **Class 12 Economics – Globalisation and Indian Economy**

KIND-X reflects global production networks, technology transfer, supply-chain integration, and strategic economic interdependence.

- **Class 11–12 Science NCERTs**

Topics such as electronics, semiconductors, communication systems, satellites, artificial intelligence, robotics, and materials science provide the scientific base for understanding defence innovation.

- **Linkages with UPSC CSE Syllabus**
- **GS Paper II: International Relations**
- This is the strongest linkage. The issue connects directly with India's bilateral relations, Act East Policy, Indo-Pacific strategy, regional groupings, strategic partnerships, and the effect of global power politics on India's interests.
- **GS Paper III: Security and Technology**
- The issue is highly relevant to internal and external security, indigenisation of defence technology, science and technology developments, cyber systems, space-based surveillance, artificial intelligence, robotics, semiconductors, and defence manufacturing.
- **GS Paper III: Economy**
- Defence industrial corridors, start-up ecosystems, manufacturing, technology transfer, critical minerals, exports, and supply-chain resilience are relevant to industrial policy and economic development.
- **GS Paper II: Governance**
- The role of institutions such as DRDO, DIO, defence ministries, procurement agencies, and regulatory systems links the issue with governance, public policy, and institutional design.
- **GS Paper IV: Ethics**
- Military AI, autonomous weapons, surveillance technologies, dual-use innovation, accountability, human control, and responsible technology use are directly relevant to ethics and integrity.
- **Essay Paper**
- Possible essay themes include "Technology as the new frontier of national security," "Self-reliance in an interdependent world," "Innovation is the currency of strategic power," and "The future of war will be shaped in laboratories as much as on battlefields."
- **Optional Subjects**
- Political Science and International Relations, Public Administration, Sociology, Economics, Defence Studies, Science and Technology-oriented essays, and Philosophy all have relevant angles.

- **Way Forward**

- India and South Korea should first create a clear institutional structure for KIND-X. A joint steering committee involving defence ministries, DAPA, DIO, armed forces, industry bodies, start-ups, universities, and think tanks should be formed. Without a clear steering mechanism, the initiative may remain fragmented.

- Second, both sides should identify a small number of priority areas instead of spreading resources too thin. Suitable sectors include counter-drone systems, military AI, autonomous ground and naval platforms, electronic warfare, space-based ISR, semiconductors, cyber defence, naval systems, and critical mineral supply chains.

- Third, joint innovation challenges should be launched every year. These challenges should have defined problem statements, funding support, testing access, mentoring, intellectual property rules, and assured procurement pathways for successful prototypes.

- Fourth, India must connect KIND-X with its defence corridors in Uttar Pradesh and Tamil Nadu, and aerospace hubs in Bengaluru, Hyderabad, and Chennai. South Korea can connect its industrial clusters in electronics, shipbuilding, robotics, and defence systems. This will make cooperation geographically and industrially meaningful.

- Fifth, both sides should create a start-up mobility framework. Innovators should be able to access laboratories, military users, incubators, investors, and production partners in both countries.

- Sixth, a clear legal framework for intellectual property, export control, licensing, cybersecurity, data protection, and end-use monitoring is essential.

- Seventh, ethical guidelines must be built into the platform, especially for AI, autonomous systems, surveillance technologies, and robotics.

- Eighth, an annual KIND-X summit should be organised alternately in India and South Korea. It should publish measurable outcomes, including prototypes developed, grants issued, start-ups supported, technologies tested, and systems inducted.

- Finally, KIND-X should not be treated only as a defence project. It should become a strategic technology partnership that supports India’s Atmanirbhar Bharat, Act East Policy, Indo-Pacific vision, and long-term national security.

- **UPSC Mains — General Studies Paper II (International Relations)**

- **"Evaluate the economic and strategic dimensions of India's Look East Policy."** (Mains, GS-II) — This foundational question directly connects to the evolution of India's engagement with East Asia, including South Korea.
- **"India's Act East Policy is strategically complementary to South Korea's New Southern Policy in the Indo-Pacific. Examine the advantages, potential and challenges of India-South Korea bilateral ties in this context."** (Mains Practice/Mock, GS-II) — A direct thematic parallel to the current partnership.
- **"India-South Korea relations are transitioning from transactional economic ties to a comprehensive strategic partnership. Discuss."** (Current Affairs based Mains Question, GS-II) — Directly mirrors the KIND-X context.
- **"What is meant by the 'Act East Policy'? How does it differ from the Look East Policy, and what new dimensions has it added to India's foreign policy?"** (Mains, GS-II) — Frames the policy context within which South Korea relations operate.

- **UPSC Mains — General Studies Paper III (Economy / Science & Technology / Security)**

- **"There has been a persistent call for indigenizing the defence sector in India. Why are these persistent demands being made for indigenization? Have any steps been taken to indigenize the defence sector at present?"** (Mains, GS-III, 15 Marks) — Directly relevant to KIND-X as an indigenization mechanism.
- **"Make in India must pave way for indigenization of defense and space technology in order to bring India on the forefront of global production and supply chain."** (Essay/Mains Theme, GS-III) — Addresses the fundamental policy driver behind KIND-X.
- **Questions on India's defence procurement policy, offset mechanisms, and FDI in defence** — Recurring themes in Prelims and Mains.
- **Questions on Innovations for Defence Excellence (iDEX)** — Asked in Prelims regarding its objectives, functioning, and the role of DIO.

While drafting rules for new tech, avoid early overregulation, as it stifles innovation and growth

Curb Your Overerthusiasm

Aditya Sinha

No need to trip off after another 'tip-off'

In 1865, the British Parliament passed Locomotive Act, requiring every self-propelled vehicle to be preceded by a person on foot carrying a red flag. The law was designed for steam engines lumbering through market towns.

By the time it was repealed in 1896, France and Germany had built automobile industries that Britain would spend decades trying to match. Regulatory caution, when it outlasts the risk it was designed to address, produces losses that are real, large and invisible.

Any economic regulation is supposed to have a philosophical foundation. Arrow-Debreu model of general equilibrium shows that competitive markets produce efficient outcomes only under conditions never met in practice, i.e., complete markets, perfect information, no externalities, no public goods.

George Akerlof in 'The Market for Lemons' showed that information asymmetry alone can cause markets to unravel. Externalities drive a wedge between private and social costs. Natural monopolies and coordination failures require external correction. Regulation exists to address these failures. But it must balance three tensions that rarely resolve. Efficiency against equity, market freedom against state control and short-term price stability against long-term investment. Done well, regulation enables markets. Done poorly, it replaces them with discretion. The difference is measurable. India has rarely chosen to measure it.

The problem sharpens when the regulated field is new. Ex-ante regulation (anticipatory regulations) asks regulator to know, in advance, what an industry will look like, what risks it will generate, what structures will emerge. In a new field, the regulator knows none of this. Frank Knight formalised the distinction in 1921. Risk is measurable. Probabilities can be assigned, tables constructed and insurance priced. Uncertainty is different in kind. It is the domain where probability distributions themselves are unknown. A new technology inhabits this domain. The information the regulator needs does not yet exist. It is tacit, local and embedded in the practices of actors who have not yet arrived.

James C Scott's framework in 'Seeing Like a State' explains how states achieve administrative control by making society legible through standardised categories. But legibility destroys what it cannot map. The practical, contextual knowledge that makes new industries function, what Scott calls metis, cannot survive the imposition of categories designed for a different world. What cannot be mapped cannot be approved. What cannot be approved cannot exist.

Regulatory caution that persists beyond the actual risk can delay or suppress domestic industry formation

Four mechanisms explain why regulators impose ex-ante frameworks on new fields regardless:

▶ **Asymmetric costs** When a regulator approves something that causes harm, the causal chain is short and politically damaging. When a regulator blocks something and an industry fails to emerge, no one is blamed. Daniel Kahneman and Amos Tversky showed that losses are weighted approximately twice as heavily as equivalent gains. For regulators, this produces systematic over-restriction. Their private loss function and social welfare function point in opposite directions. This is not corruption. It is a structurally broken incentive system.

▶ **Temporal misalignment** Regulators calibrate to last accident, not next tech. US Nuclear Regulatory Commission, rebuilt after Three Mile Island in 1979, created processes so elaborate that no new nuclear plant was commissioned for 30 years. France, applying a standardised framework to the same tech at the same moment, built 56 reactors.

▶ **Categorical error** EU applied a process-based precautionary framework to GMOs in the 1990s, treating recombinant DNA technology as presumptively dangerous regardless of the specific product. US asked whether the crop was harmful. European agricultural biotechnology collapsed as a commercial enterprise. Cass Sunstein's precautionary paradox explains why. Precautions against one risk necessarily create exposure to others. Applied to genuine uncertainty, the precautionary principle is prohibition in academic clothing.

▶ **Jurisdictional fragmentation** When a new tech fits no existing category, multiple agencies claim it simultaneously, each applying its own approval logic and compounding the compliance burden. India's response to cryptocurrency is an example. It produced an ecosystem that moved to Singapore and Dubai and continued serving Indian customers from outside the regulatory perimeter RBI had been attempting to enforce.

India's disposition is structural. Colonial administrative architecture was built for extraction and control. Burden of proof falls on the applicant to show that an activity is permissible, not on the state to show that it is harmful. Where neither party has sufficient information, the system defaults to prohibition.

India is now writing regulatory frameworks for AI, genomics, space commercialisation and synthetic biology. These are Knightian uncertainty domains. The frameworks being designed now will determine which of these industries India builds over the next two decades and which it exports to jurisdictions that answered the same question differently.

New technologies operate under uncertainty. Rigid ex-ante rules misfire while sandboxes and sunset clauses allow learning and correction

Three changes are necessary:

- Regulatory sandboxes must become the default mode of engaging with new sectors.
- Every ex-ante requirement for an emerging technology must carry a sunset clause requiring evidence-based re-justification within three years.
- Regulatory impact assessments must be applied to regulations before enactment, holding the rule-maker to the same evidentiary standard it demands of everyone else.

The Red Flag Act was eventually repealed. The 30 years were not recovered. In each emerging industry that will define India's economic future, the country is making a choice. It is worth being honest about which side of that choice it is currently on.

The writer is a public policy professional

- **Key Terms and Explanations**

- **Red Flag Act (Locomotive Act, 1865):** A British law requiring self-propelled vehicles on public roads to be preceded by a person waving a red flag. It was meant for early steam engines, but ended up stifling automobile innovation for three decades.

- **Ex-ante Regulation:** Rules imposed before an activity begins, based on anticipated risks. It demands that the regulator foresee an industry's shape, risks, and structure—something nearly impossible with a new technology.

- **Knightian Uncertainty (Frank Knight, 1921):** Distinction between *risk*, where probabilities can be measured, and *uncertainty*, where even the odds are unknowable. Emerging technologies inhabit the domain of uncertainty; the information needed to regulate them does not yet exist.

- **Arrow-Debreu General Equilibrium:** A theoretical model showing that perfectly competitive markets deliver efficient outcomes only under unrealistic assumptions—complete markets, perfect information, no externalities. Real-world deviations justify regulation.

- **Market for Lemons (George Akerlof, 1970):** Demonstrates that when sellers know more than buyers about product quality, markets can unravel, leaving only poor-quality goods. This information asymmetry is a classic ground for regulation.

- **Seeing Like a State (James C. Scott):** Argues that states make society "legible" through standardised categories to govern it. However, this process destroys local, practical knowledge (*metis*) essential for new industries to function, as what cannot be mapped cannot be approved.

- **Loss Aversion (Kahneman & Tversky):** People feel losses about twice as intensely as equivalent gains. For regulators, the political pain of approving something harmful dwarfs the invisible benefit of enabling an industry, leading to overcautious decisions.

- **Precautionary Principle:** The notion that if an action carries a suspected risk of harm, the burden of proof falls on its proponents. Applied to genuine uncertainty, it can become a prohibition by another name, ignoring the risks of inaction (Cass Sunstein's paradox).

- **Regulatory Sandbox:** A controlled environment where new business models or technologies can be tested under relaxed rules for a limited time, allowing regulators to learn without exposing the entire system to risk.

- **Sunset Clause:** A provision that automatically terminates a regulation after a fixed period unless evidence-based re-justification warrants its extension. Prevents rules from outliving their context.

- **Regulatory Impact Assessment (RIA):** A structured process of evaluating the likely costs, benefits, and unintended consequences of a proposed regulation *before* it is enacted, holding rule-makers to the same evidence standard demanded of applicants.

- **Main Arguments and Substantive Parts**

- The central thesis is that **premature, overly cautious regulation in emerging technology fields produces invisible but massive long-term losses**. When rules designed for yesterday's risks outlast their logic, they silently export entire industries to more adaptive jurisdictions.

- **Key arguments and supporting evidence:**

- **Asymmetric costs drive over-restriction:** When a regulator approves a harmful innovation, the causal chain is short, politically visible, and damaging. When a regulator kills an industry by refusing approval, no one gets blamed because the loss is hypothetical and unseen—a future that never happened. Loss aversion makes this bias chronic.

- **Temporal misalignment:** Regulatory processes often get locked into preventing the last accident, not enabling the next technology. After the 1979 Three Mile Island accident, the US Nuclear Regulatory Commission created such cumbersome licensing processes that no new nuclear plant was ordered for 30 years. Meanwhile, France applied a standardised framework to the same technology and built 56 reactors.

- **Categorical error:** When an entire technology is treated as presumptively dangerous regardless of specific product attributes, innovation dies. The European Union's 1990s process-based precautionary framework for GMOs treated all recombinant DNA crops as suspect, collapsing European agricultural biotech. The US asked whether the *crop itself* was harmful, not the process.

- **Jurisdictional fragmentation:** A new technology that fits no existing regulatory box gets claimed by multiple agencies, each applying its own logic and compounding compliance costs. India's shifting stance on cryptocurrency led to an ecosystem that migrated to Singapore and Dubai, continuing to serve Indian customers from beyond the regulatory perimeter.

- **Counterargument:** Some regulation is essential to protect public safety, prevent fraud, and ensure market stability. The real challenge is not deregulation but crafting *adaptive* regulation that distinguishes risk from uncertainty and learns by doing, not by blocking.

- **Historical Evolution of the Issue**

- **Pre-independence (1865-1947):** The Red Flag Act in Britain illustrates the earliest recorded case of regulatory lag killing an industry. In India, the colonial administrative architecture was designed primarily for extraction and control. The default burden of proof fell on the applicant to show that an activity was permissible, not on the state to prove it harmful—a DNA that still shapes India's instinct for prior approvals.

- **Post-independence (1947-1991):** The license-permit-quota raj institutionalised the colonial control mindset. Ex-ante approvals became the default for nearly all economic activity, stifling private enterprise and creating a high-cost economy. The philosophy was that the state knew best, and markets had to be tamed.

- **Liberalisation (1991 onwards):** Economic reforms dismantled many industrial licences, but the regulatory instinct towards caution in "new" sectors persisted. The telecom revolution showed that a liberal framework could unlock growth, yet the lesson was applied unevenly.

- **Sector-specific evolution:**

    - **Nuclear energy:** After the 1979 Three Mile Island accident, the US regulatory response created a moratorium on new reactors. India's domestic programme, while constrained by sanctions, also proceeded slowly under heavy secrecy and state control.

    - **Biotechnology:** In the 1990s, the EU adopted a process-based precautionary principle for GMOs, effectively banning commercial cultivation. India too adopted a moratorium on Bt brinjal in 2010 after political pushback, despite scientific approval, demonstrating regulatory caution driven by public perception.

    - **Cryptocurrency:** The RBI's 2018 circular banning banks from dealing in crypto was overturned by the Supreme Court in 2020 on proportionality grounds. Since then, the regulatory ecosystem has been marked by ambiguity and multi-agency turf wars, pushing innovation offshore.

    - **Emerging technologies now:** India is drafting frameworks for AI, genomics, space commercialisation, and synthetic biology. The colonial-era instinct to control combined with asymmetric political risk means many of these frameworks lean heavily towards ex-ante restrictions, often with no sunset clauses.

AXIA IAS ACADEMY
AXIA COMPETITIVE EXAM CENTRE

COMPREHENSIVE ANALYSIS OF ECONOMIC REGULATION, INNOVATION & MARKETS for UPSC CSE PREPARATION.

THE LESSON OF THE RED FLAG ACT (1865-1896)

CAUTION OUTLASTS RISK → LOSSES ARE REAL, LARGE AND INVISIBLE.

Repealed in 1896. Britain spends decades playing catch-up.

FOUR MECHANISMS OF FAILURE

1 ASYMMETRIC COSTS
(Kahneman & Tversky loss aversion)

Regulators systematically over-restrict.

2 TEMPORAL MISALIGNMENT

Nuclear plant areas vs. USA commissioning

- Rebuilt US NRC vs. France's Standardized Framework.

3 CATEGORICAL ERROR

Applied Precautionary Paradox to GMOs. EU vs. US.

4 JURISDICTIONAL FRAGMENTATION

- Multiple Agencies with competing logics.
- India's crypto response example.

Crypto startups to Dubai

ARROW-DEBREU GENERAL EQUILIBRIUM

- Markets efficient only under un-met conditions (Complete Markets, Perfect Info, No Externalities, No Public Goods).

REGULATION'S TRIPLE TENSION

EFFICIENCY vs. EQUITY

MARKET FREEDOM vs. STATE vs. CONTROL

SHORT-TERM STABILITY vs. LONG-TERM STABILITY INVESTMENT

Balance is essential! Measures need to be made!

GEORGE AKERLOF: THE MARKET FOR LEMONS

- Information Asymmetry can cause markets to unravel.

Diversified car market.

MANAGING UNCERTAINTY
(KNIGHT, 1921)

KNIGHTIAN RISK (MEASURABLE)

- Probabilities Known,
- Tables Constructed,
- Insurance Priced.

RISK — Probabilities — Probabilistes

KNIGHTIAN UNCERTAINTY (THE DOMAIN OF NEW TECH)

- Probabilities Unknown,
- Domain of New Technology.
- The Information Does Not Yet Exist.

Uncharted void

JAMES C SCOTT: "SEEING LIKE A STATE"

- Legibility destroys Metis.
- What cannot be mapped cannot be approved.

Top-down grids

Organic grids

Ormplexs with organic social and market patterns.

INDIA'S STRUCTURAL DISPOSITION & EMERGING SECTORS

Colonial Architecture for Control → AI, GENOMICS, SPACE COMMERCIALISATION, SYNTHETIC BIOLOGY

CHOOSE: BUILD OR EXPORT

The next two decades will be defined now.

THE WAY FORWARD: THREE ESSENTIAL CHANGES

1 REGULATORY SANDBOXES
(Default Mode)

2 SUNSET CLAUSES
(Re-justification required in 3 years)

3 REGULATORY IMPACT ASSESSMENTS
(Before Enactment)

RIA

Rule-maker held to same standard.

- **Logical and Philosophical Base**

- The debate is anchored in deep-rooted tensions in political philosophy and economic logic.

- **Market failure as justification:** The Arrow-Debreu model and Akerlof's Lemons problem provide the philosophical foundation that unregulated markets rarely achieve ideal outcomes on their own. Information asymmetry, externalities, and public goods create a role for state intervention.

- **The Knightian uncertainty challenge:** But this logic assumes that the state has sufficient knowledge to intervene correctly. In genuinely new domains, neither the regulator nor the market possesses reliable probability models. The information does not exist; it is tacit and embedded in practices that are yet to emerge. Thus, ex-ante regulation based on "risk assessment" is a category error—it applies a risk framework to an uncertainty domain.

- **Utilitarianism vs. precaution:** The precautionary principle promises safety by shifting the burden of proof. However, as Sunstein shows, it ignores the risks created by stagnation—missed cures, lost competitive advantage, and degraded economic welfare. The principle is often a mask for prohibition, not a tool for balanced decision-making.

- **Scott's "legibility" and metis:** The state seeks to make society legible through standardised categories. But new industries thrive on *metis*—local, practical, experiential knowledge that cannot be captured in rules written for an older world. When regulation insists on complete mapping before approval, it implicitly bans the unmappable.

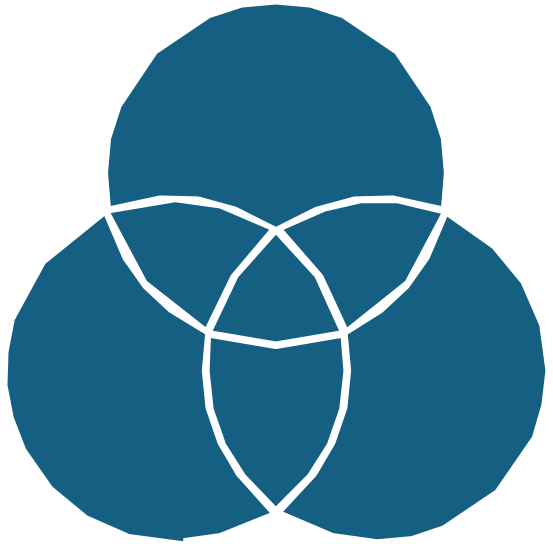
- **Prospect theory and institutional incentives:** Kahneman's finding that losses weigh twice as heavily as gains explains the personal logic of a regulator: the gain from approving a new industry is diffuse and public, while the loss from a mishap is concrete and career-ending. This structural asymmetry pushes regulators to say "no" far more often than a purely rational welfare-maximising agent would.

- **Burden of proof:** In a liberal democracy, the default should arguably be that an activity is permitted unless demonstrably harmful. India's colonial legacy reversed this, creating a system where permission is scarce and the applicant must prove safety—even when such proof cannot yet exist.

- **Multidimensional Analysis**
- To fully grasp the impact of regulatory frameworks, we must dissect them across different societal planes.
- **Economic:** Over-regulation leads to "regulatory arbitrage," where capital and talent migrate to jurisdictions with friendlier rules (e.g., Dubai or Singapore). This strips the home country of the "first-mover advantage" in multi-trillion-dollar industries.
- **Social:** Excessive caution can deepen inequality. For instance, over-regulating fintech or health-tech out of fear of hypothetical risks denies marginalized populations access to cheap credit or diagnostic tools that the elite can easily access elsewhere.
- **Political:** The "blame-game" dynamic shapes policy. Politicians prioritize short-term price stability and zero-risk profiles to win immediate election cycles, fundamentally clashing with the long-term investment horizons required to build frontier industries.
- **Legal:** Outdated laws force new tech into old definitions (e.g., classifying a crypto token as a traditional security or commodity). This leads to endless, unproductive litigation and jurisdictional turf wars between regulators like SEBI, RBI, and the Ministry of Electronics.
- **Ethical:** There is an inherent moral hazard when the state prioritizes the elimination of all risk over human progress. Delaying agricultural biotechnology or synthetic biology approvals has a real, human cost in terms of food security and disease treatment.
- **International:** Geopolitics is increasingly tech-politics. Nations that construct agile regulatory frameworks for AI and space commercialization will write the global standards. Those who over-regulate will become digital colonies, forced to import tech and abide by foreign rules.

- **Linkages with NCERTs**

- **NCERT Class 12 Political Science — Politics in India since Independence**: Chapter 3 on "Politics of Planned Development" discusses the adoption of planning, the mixed economy model, and the regulatory architecture that emerged. The tension between state control and market freedom, and the subsequent shift toward liberalisation, maps directly onto the conceptual framework of regulation versus innovation.
- **NCERT Class 12 Political Science — Contemporary World Politics**: Chapter 9 on "Globalisation and the Indian Economy" discusses structural adjustment programmes and the opening of the Indian economy. The evolution from the license-permit raj to liberalisation provides the historical backdrop for understanding why India's administrative structure remains biased toward control.
- **NCERT Class 12 Economics — Indian Economic Development**: Chapter 3 on "Liberalisation, Privatisation, and Globalisation" covers the dismantling of the license raj and the rationale behind economic reforms. The chapter on "Environment and Sustainable Development" introduces externalities and the role of government intervention, which connects to the Arrow-Debreu and market failure arguments.
- **NCERT Class 11 Economics — Indian Economy on the Eve of Independence**: The discussion of colonial economic policy and its extractive character provides context for understanding why India's inherited administrative architecture defaults to control rather than enablement.
- **NCERT Class 10 Civics — Democratic Politics**: Chapters on federalism and local government introduce questions about how power is distributed across levels, which connects to the jurisdictional fragmentation problem in emerging technology regulation.



- **Linkages with UPSC CSE Syllabus**

- **General Studies Paper I**: No direct linkage, though the broader theme of colonial legacy and administrative structure connects to post-independence consolidation and nation-building.
- **General Studies Paper II (Governance)**: Strong linkage. Topics like important aspects of governance, e-governance, transparency and accountability, citizen charters, and regulatory bodies are directly relevant. The discussion of institutional design, sunset clauses, and regulatory impact assessments fits squarely within governance reform.
- **General Studies Paper III (Economy and S&T)**: Very strong linkage. The entire analysis maps to the Science and Technology section — developments and applications, indigenisation, and India's achievements. It also maps to the Economic Development section — planning, liberalisation, and the role of the state in markets. Questions on innovation ecosystems, R&D policy, and the balance between regulation and growth are directly connected.
- **General Studies Paper III (Environment)**: The precautionary principle is a central concept in environmental law and policy. The EU-US divergence on GMOs and the broader tension between precaution and innovation in climate technology are directly relevant.
- **General Studies Paper IV (Ethics)**: The tension between public interest and innovation, the accountability of regulators, the utilitarian vs. deontological framing of risk, and the ethical dimensions of experimentation in sandboxes all connect to the ethics syllabus. Case studies on regulatory failure and the ethics of precaution fit here.
- **Essay Paper**: The theme "Innovation is the key determinant of social welfare and economic growth" has appeared in UPSC essays and is directly illuminated by this analysis. Other potential essay themes include "Regulation and Freedom," "Technology and the State," and "The Invisible Costs of Caution."
-

- **Way Forward**

- **Legislate Sunset Clauses for Emerging Technology Regulation**: Parliament should amend relevant statutes to mandate that any ex-ante regulatory requirement applied to a sector less than ten years old must automatically expire within three years unless the regulator produces fresh evidence of necessity. This should not be left to executive discretion; it should be a legal default.
- **Expand and Institutionalise Regulatory Sandboxes**: The success of fintech sandboxes under RBI should be replicated across sectors. A central coordination mechanism, perhaps under NITI Aayog, should oversee cross-sectoral sandboxes for AI, biotech, drones, and space applications. Sandboxes should be the rule, not the exception, for technologies operating in Knightian uncertainty.
- **Mandate Regulatory Impact Assessments**: Before any ministry or regulator issues a binding rule on an emerging technology, a published RIA should be required, subject to public comment. The RIA should explicitly estimate compliance costs, innovation impacts, international competitiveness effects, and distributional consequences. This subjects rule-makers to the same rigour they demand of innovators.
- **Build Regulatory Capacity**: India's regulatory agencies need in-house economists, technologists, and data scientists. The current generalist-dominated structure is inadequate for evaluating frontier technologies. A dedicated Indian Regulatory Service or equivalent specialised cadre should be considered.
- **Clarify Jurisdictional Boundaries**: For cross-cutting technologies, the government should designate a single nodal agency to prevent overlapping and contradictory regulation. Cryptocurrency should have a single regulatory home. AI should have a clear division of responsibilities between MeitY, sectoral regulators, and state governments.
- **Shift Burden of Proof in Emerging Sectors**: For genuinely novel technologies where risks are unknown, the default should be permission to experiment in controlled conditions rather than prohibition until proven safe. The burden should shift to the state to demonstrate specific, identifiable harms before imposing permanent restrictions.
- **Create a National Innovation Risk Insurance Pool**: To address the political fear of approving technologies that may cause harm, the government could create a pooled insurance or compensation mechanism for sandbox participants. This reduces the political cost of approval and protects consumers.
- **Foster International Regulatory Cooperation**: India should actively participate in global standards-setting bodies for AI, biotech, and space. Aligning with international best practices reduces the risk of domestic frameworks becoming idiosyncratic obstacles to integration.

- **Mains GS2 (Governance, Constitution, Polity):**

- 2022: “E-governance is not just about technology; it is about transformation in the very fabric of governance.” Discuss in the context of India’s journey. (Links to adaptive regulation)

- 2021: Has digital literacy, particularly in rural areas, created new fault lines in governance? Examine. (Tech and regulatory inclusion)

- 2020: “The Indian regulatory state has undergone a significant transformation since 1991.” Elaborate with examples. (Evolution from license raj to sectoral regulators)

- 2019: “In the context of India, the concept of regulatory state has undergone a transformation.” Discuss.

- 2017: Examine the role of regulators in ensuring good governance. (Regulatory independence vs overreach)

- **Mains GS3 (Economy, S&T, Environment):**

- 2023: What is the government’s plan to have its own space station, and how will it benefit India’s socio-economic development? (Emerging space sector regulation)

- 2022: What are the challenges to our national security from emerging technologies? How can they be mitigated? (Regulation of new tech)

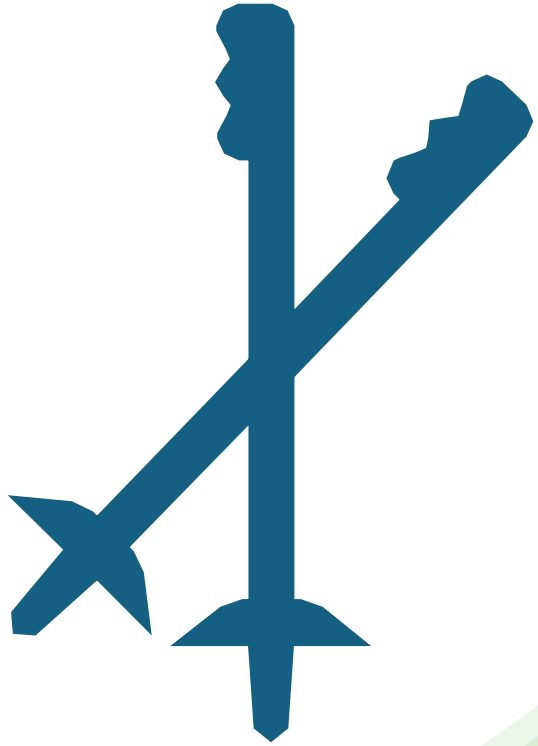
- 2021: How is the principle of ‘precaution’ different from the principle of ‘prevention’ in international environmental law? (Directly related to precautionary principle)

- 2020: What do you understand by ‘regulatory sandbox’? What are its intended benefits? (Direct match)

- 2019: How can the government’s AI and genomics policies ensure inclusive growth while safeguarding privacy? (Ex-ante regulation in new fields)

- 2018: Discuss the implications of the entry of corporate entities into space sector. (Regulatory challenges)

- 2017: What are the salient features of the National IPR Policy? Does it address the concerns of emerging technologies? (Innovation regulatory framework)



[GRAND STRATEGY]

Happymon Jacob

What Xi-Trump meet holds for New Delhi

India has benefited from US-China contradictions over the past decade. That's changing

Three days from today, US President Donald Trump will land in Beijing for a two-day summit with Chinese President Xi Jinping. In the run-up to the summit, the US Treasury sanctioned five Chinese "teapot" refineries for processing Iranian oil, including the Hengli Petrochemical complex in Dalian. On May 2, Beijing invoked an anti-sanctions law ordering Chinese companies and banks to disregard the American measures which some called "unprecedented defiance". Will the friction lead to accommodation or more confrontation?

Two of India's most consequential external relationships will be present at the table in Beijing, and whatever they decide will have implications for New Delhi. China — India's national security challenge, systemic challenger, adversary and another adversary's friend — has signalled warm relations with India, even as it does everything it can to pressure India from all directions. The US — indispensable for India when it comes to technology, capital, and the broader global architecture — imposed 50% tariffs on Indian goods over the country's purchases of Russian crude, twice deferred the Quad summit, criticised Delhi's policies from time to time, and rehabilitated Pakistan army chief Asim Munir to a degree unseen since the early years of Pervez Musharraf's stint in power. So, India has an adversary that is nice to it and a friend doing the opposite.

India has been a quiet beneficiary, for most of the last decade, of a US-China relationship characterised by growing friction. The two countries' rivalry has been sharp enough that both had reason to court New Delhi, but the rivalry was never too sharp that the latter became forced to pick a side. Quad, the India-Middle East-Europe Economic Corridor, Indo-US tech partnerships, the US's chip restrictions architecture aimed at China, India's post-Galwan thaw with China, all function within this narrow band. If the Beijing summit ends in a "huge deal" of structural adjustment between them, the premium Washington and Beijing place on New Delhi will change, and it will become a smaller player in a more bilaterally settled order. On the other hand, if the sanctions standoff deepens into open confrontation, New Delhi faces choice-forcing pressure on energy, banking, and trade simultaneously.

This takes me to a structural conclusion that many are reluctant to state plainly: A US-China friendship is bad for India. Their fighting too is bad for the country. What is good for India is a managed rivalry between the US and China. Put differently, a certain degree of competition between the two is a public good for Indian foreign policy. Whatever Trump and Xi say to each other on May 14, our deeper interest is in the rivalry that brought them to the table. New Delhi would want the continuation of that rivalry.

Let's further unpack this preference structure from the Indian perspective. America's inability to contain China's rise is bad for India, despite its in-principle opposition to hegemonic (read America's) intervention in its neighbourhood. Clearly, conditions apply to India's in-principle opposition to hegemony: It wanted American pressure on Pakistan after Mumbai, wants US backing on the Line of Actual Control, and benefits from American capital and technology even when it resents Washington's demands.

China offers a mirror paradox. Beijing's growing ability to push back against American hegemony decisively is bad for India, even if the two countries share anti-US-hegemony forums such as Brics and the SCO or the broader philosophy underpinning the Global South. India wants the Americans to push back the Chinese without itself getting involved; and, it wants the Chinese to be part of forums highlighting the limits of American hegemony, without having to do so itself even as it benefited from American power. Indian diplomacy has lived with these contradictions for at least two decades. The more India rises globally, the more it will need to deal with these.

Washington's adversary track with Beijing is too intermittent and uncertain for New Delhi to build its own China policy around it. AFP

India marked the first anniversary of Operation Sindoor last week. Twelve months ago, in the immediate aftermath of the four-day conflict with Pakistan, Beijing was careful to avoid public confirmation of the assistance it had provided to Islamabad. That is no longer the case.

Earlier this week, Chinese State television aired an interview with engineers from the Chengdu Aircraft Design and Research Institute, in which they described their on-ground operational role in Pakistan during the conflict, supporting J-10C operations. The decision to broadcast this on the anniversary of India's military operation, through a State-run channel and with the country's premier fighter design institute on camera, is a serious message: Unlike earlier, Beijing now sees no political cost in publicly endorsing what it once denied, that it arms Pakistan against India.

In all honesty, India must recognise that its foreign policy has been free-riding on the structural contradiction between the US and China. The policy is now being exposed as inadequate. For two decades, China managed to keep India preoccupied on the LAC and Pakistan while it built its economic and geopolitical might elsewhere. That arrangement, which did not suit us, is now over. But what has replaced it is worse. China is now everywhere, while the LAC and Pakistan challenges have not gone away either. What New Delhi has to manage now is a great deal more of Beijing — a Beijing that is no longer pretending to be benign.

What makes it worse is that the US has only added to India's difficulties. An honest stocktaking must, therefore, produce measures designed to meet the China challenge in its current shape, on the assumption that Washington's adversary track with Beijing is too intermittent and uncertain for New Delhi to build its own China policy around it. The work ahead is slower and less glamorous than the diplomacy of the last decade. The great power contradiction we have been free-riding will, in time, narrow further.

Happymon Jacob is distinguished visiting professor, School of Humanities & Social Sciences, Shiv Nadar University, and editor, INDIA'S WORLD magazine.

The views expressed are personal

- **Key Terms and Explanations**

- **Teapot Refineries:** These are small, independent Chinese oil refineries—typically much smaller than state-owned giants like Sinopec—that process imported crude, often from sanctioned sources like Iran. The term comes from their modest scale and fragmented nature. For example, the Hengli Petrochemical complex in Dalian processes Iranian crude despite US sanctions, allowing China to maintain energy flows while keeping official state channels somewhat insulated.
- **Anti-Sanctions Law:** Beijing invoked this domestic legislation on May 2, 2026, ordering Chinese companies and banks to disregard American sanctions measures. This represents a direct legal counter to extraterritorial American sanctions and marks a shift from quiet circumvention to open institutional defiance. It functions much like the EU's blocking statutes but carries far greater enforcement weight because Beijing controls its banking and corporate sectors centrally.
- **Managed Rivalry:** The article's central conceptual framework. This refers to a state of competition between the US and China that is sharp enough to force both powers to court India strategically, yet not so explosive that India gets forced into choosing one side definitively. Think of it as a geopolitical sweet spot—neither complete accommodation nor outright confrontation, but a sustained competitive tension.
- **Operation Sindoor:** India's four-day military operation against Pakistan, completed twelve months prior to the article's date. The anniversary is significant because Beijing chose this exact moment to broadcast Chinese engineers' operational role in Pakistan during the conflict, signaling a deliberate shift from covert support to public endorsement.
- **Line of Actual Control (LAC):** The 3,488-km de facto boundary between India and China, undefined and contested. It has seen major standoffs at Doklam (2017), Galwan (2020), and persistent friction at Depsang and Demchok.
- **Quad (Quadrilateral Security Dialogue):** A strategic forum comprising India, the US, Australia, and Japan aimed at ensuring a free and open Indo-Pacific. It has been deferred twice by Washington recently, causing concern in New Delhi about American commitment.
- **Strategic Autonomy / Multi-alignment:** India's foreign policy posture of engaging multiple powers simultaneously—buying Russian oil, importing American weapons, attending BRICS summits, and hosting Quad meetings—without formally joining any single alliance structure.
- **India-Middle East-Europe Economic Corridor (IMEC):** A connectivity initiative linking India to Europe via the Middle East, supported by the US and seen as a counter to China's Belt and Road Initiative. It functions within the managed rivalry framework.
- **Free-riding on Structural Contradictions:** The article's blunt assessment that India benefited for two decades from US-China competition without paying the full strategic cost of openly confronting either power. New Delhi leaned into the contradiction rather than resolving it.

- **Main Arguments and Substantive Parts**

- **Core Thesis:** A US-China friendship is equally bad for India as their open confrontation would be. What serves Indian interests best is a sustained, managed rivalry—a competitive but not catastrophic relationship between Washington and Beijing. This rivalry is described as a "public good" for Indian foreign policy because it creates leverage, options, and strategic space.
- **The Summit Dilemma:** If the May 14 Trump-Xi summit produces a "huge deal" or structural adjustment, both Washington and Beijing will reduce the premium they place on New Delhi. India would shrink from a pivotal swing state to a smaller player in a bilaterally settled order. Conversely, if the sanctions standoff deepens into open confrontation, India faces choice-forcing pressure on energy, banking, and trade simultaneously.
- **The Pakistan-China Axis Is Now Public:** Beijing no longer hides its military-technical support for Pakistan against India. Broadcasting Chengdu Aircraft Institute engineers' role in Operation Sindoor on Chinese state television—timed to the anniversary—is a deliberate political message. The old arrangement, where China kept India preoccupied on the LAC and Pakistan while building power elsewhere, has evolved into something worse: China is now present everywhere while the LAC and Pakistan problems persist.
- **America's Unreliability Has Grown:** The US imposed 50% tariffs on Indian goods over Russian crude purchases, deferred the Quad summit twice, criticized Indian domestic policies, and rehabilitated Pakistan army chief Asim Munir. Washington's adversarial track with Beijing is described as "intermittent and uncertain," making it unwise for New Delhi to build its China policy around American support.
- **India's Contradictions Are Structural, Not Temporary:** India wants American pressure on China without itself becoming a frontline state. Simultaneously, it wants China in forums like BRICS and SCO that challenge American hegemony, without India having to lead that resistance. These contradictions have worked for two decades but are now being exposed as inadequate.
- **The New Reality:** China is no longer pretending to be benign. It is asserting itself openly. The US is transactional and unpredictable. India must now build its China policy on the assumption that Washington cannot be relied upon consistently, and the work ahead is slower, less glamorous, and more domestically grounded than the summit diplomacy of the past decade.

- **Historical Evolution of the Issue**

- **Ancient and Early Modern Foundations:** India and China shared cultural and commercial ties through the Silk Road and Buddhist exchanges for centuries. The colonial period disrupted these linkages, with British India defining borders that China later contested.
- **1949–1954: The Honeymoon Period:** Communist China and independent India shared anti-colonial solidarity. The Panchsheel Agreement (1954) codified mutual respect and non-interference. “Hindi-Chini Bhai Bhai” captured the optimism of this phase.
- **1959–1962: The Breakdown:** The Tibetan uprising (1959), the Dalai Lama’s asylum in India, and border disputes culminated in the 1962 war. China seized Aksai Chin. India suffered a strategic shock that redefined its defense posture and foreign policy realism.
- **1971–1991: The Pakistan-China Entrenchment:** China built the Karakoram Highway through Pakistan-occupied Kashmir, solidified the “all-weather friendship,” and supported Pakistan militarily. India leaned toward the Soviet Union via the 1971 Treaty of Peace and Friendship as a counterbalance.
- **1991–2008: Liberalization and Engagement:** India’s economic opening coincided with China’s export boom. Bilateral trade grew exponentially. At the same time, India began diversifying its foreign policy, signaling a shift away from rigid non-alignment.
- **2008–2020: The Rise of Managed Rivalry:** The US-China competition sharpened after the Global Financial Crisis. India benefited through the civil nuclear deal (2008), defense agreements, and eventually the Quad revival. China’s rise pushed Washington to court New Delhi, while Beijing’s assertiveness made India more receptive to American overtures. The 2017 Doklam standoff tested this balance.
- **2020–2024: Galwan and the Reckoning:** The Galwan clash (June 2020) killed twenty Indian soldiers and shattered the illusion of manageable differences. The post-Galwan thaw was partial and tactical, not strategic. India imposed economic restrictions on Chinese apps and investments but could not decouple fully due to trade dependencies.
- **2024–2026: The Current Crisis:** The Trump-Xi summit, US sanctions on teapot refineries, China’s anti-sanctions law, and the public acknowledgment of Chinese support to Pakistan during Operation Sindoor mark a phase where the old free-riding strategy is no longer viable. China is openly adversarial; the US is intermittently cooperative but frequently punitive.

AXIA IAS ACADEMY PRESENTS: STRATEGIC TRIANGLE - US-CHINA RIVALRY & THE END OF THE 'FREE-RIDE' ERA FOR INDIA.

PREPARING FOR A BILATERALLY SETTLED ORDER OR OPEN CONFRONTATION.

AXIA IAS ACADEMY

AXIA COMPETITIVE EXAM CENTRE

CONTEXT: US-CHINA SANCTIONS CONTEXT & SUMMIT

BEIJING SUMMIT: Managed Rivalry or Structural Adjustment?

US TREASURY SANCTIONS: Five Chinese "teapot" refineries including Hengli Petrochemical

CHINA ANTI-SANCTIONS LAW: Disregard American measures - **Unprecedented Defiance**

US TREASURY SANCTIONS: Five Chinese "teapot" refineries including Hengli Petrochemical

INDIA'S COMPLEX DIPLOMATIC PARADOX

DIFFICULT FRIEND (US)

- **50% TARIFFS** on Indian goods (Russian crude purchases)
- **QUAD SUMMIT DEFERRED TWICE**
- **CRITICISED DELHI'S POLICIES**
- **REHABILITATED PAK ARMY CHIEF ASIM MUNIR** (degree unseen since Musharraf era)

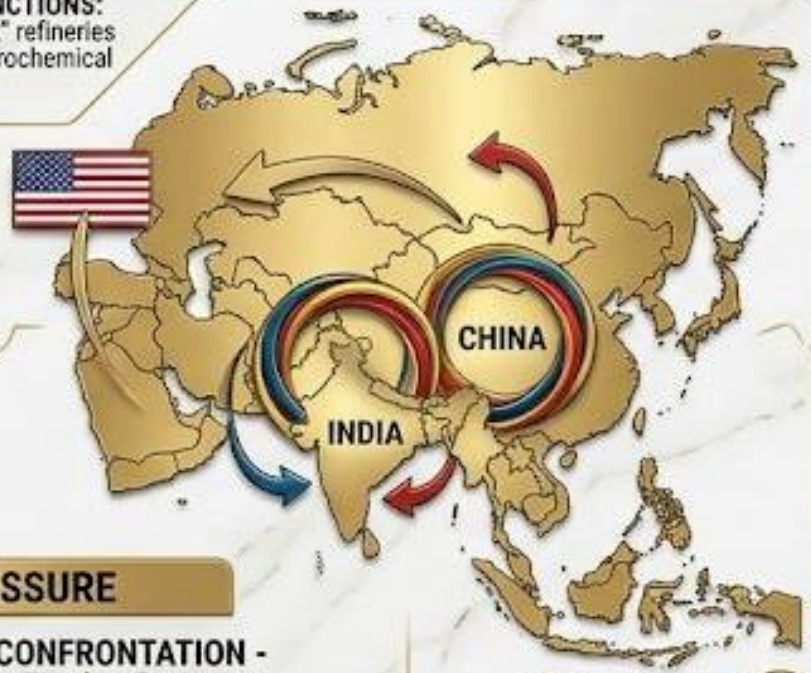
NICE ADVERSARY (CHINA)

- **SIGNALLED WARM RELATIONS**
- **POST-GALWAN THAW**
- **ARMING PAKISTAN** against India
- **SYSTEMIC CHALLENGER,** adversary, and adversary's friend

MANAGED RIVALRY - India's Goldilocks Zone

PREVIOUS BENIGN ERA: friction sharp but not choice-forcing.
COURTED BY BOTH.

- **INDIA AS QUIET BENEFICIARY**
- **MULTIPLE ALIGNMENTS POSSIBLE** (Quad, IMEC, Indo-US Tech partnerships, Chip restrictions architecture)



THE END OF FREE-RIDING

OVERT CHINESE COLLUSION POST-OPERATION SINDOOR ANNIVERSARY

Before: Quiet support, deniable interference

Now: Overt Backing

Chinese State TV details operational role, supporting J-10C operations

PUBLIC ENDORSEMENT of once denied backing.

NEW REALITY: China is everywhere, LAC and Pakistan challenges remain.

EXTREME RISKS & CHOICE-FORCING PRESSURE

A HUGE DEAL (G2 SETTLE) - Smaller Indian Player

Structural adjustment reduces New Delhi's premium.

Smaller player in a more bilaterally settled order.

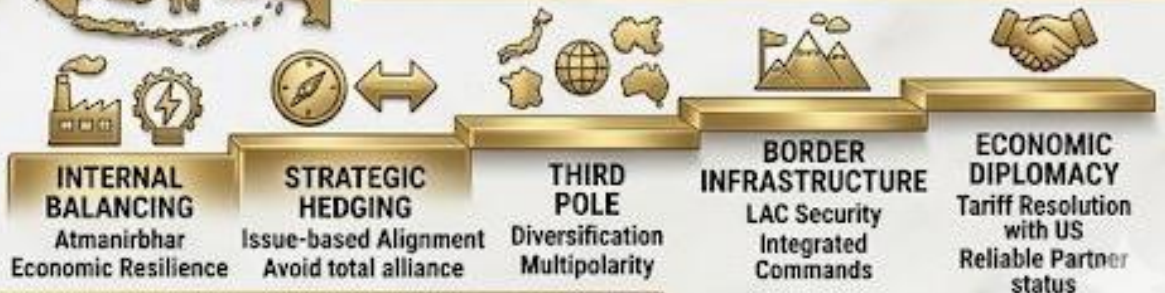
OPEN CONFRONTATION - Choice-Forcing Pressure

India between crushing walls of sanctions and blockade.

Sanctions standoff deepens.

Choice-forcing pressure on energy, banking, and trade simultaneously.

WAY FORWARD - Strategic Shifts



INTERNAL BALANCING	STRATEGIC HEDGING	THIRD POLE	BORDER INFRASTRUCTURE	ECONOMIC DIPLOMACY
Atmanirbhar Economic Resilience	Issue-based Alignment Avoid total alliance	Diversification Multipolarity	LAC Security Integrated Commands	Tariff Resolution with US Reliable Partner status

- **Logical and Philosophical Base**

- **Structural Realism in International Relations:** The analysis rests heavily on Kenneth Waltz-style structural realism, where the distribution of power among major states determines the options available to middle powers. India is not shaping the system; it is responding to the bipolar competition between the US and China.
- **The Public Good Framework in Geopolitics:** The article borrows from economic theory to describe US-China competition as a “public good” for India—something India benefits from without fully contributing to its production. This is an innovative application of public goods theory to security studies.
- **Contradiction as Strategy:** Drawing from dialectical thinking, the article treats the US-China contradiction not as a problem to solve but as a condition to exploit. India’s foreign policy has historically thrived on contradictions: non-alignment during the Cold War was precisely a strategy of inhabiting contradictions rather than resolving them.
- **The Paradox of Hegemony:** India opposes hegemonic intervention in principle, yet welcomes it in practice when directed against Pakistan or China. This reflects a philosophical pragmatism rather than ideological purity—conditions apply to every principle.
- **Agency vs. Structure Debate:** The article ultimately leans toward structural determinism. It argues that India’s foreign policy freedoms are narrowing because the great-power contradiction India free-rode is itself narrowing. Individual diplomatic skill matters less when the structural room shrinks.
- **Mirror Paradoxes:** The analysis uses symmetrical logic. America’s inability to contain China is bad for India; China’s ability to push back America is also bad for India. India wants benefits from both American power and Chinese resistance without bearing the costs of either camp. This is philosophically a free-rider problem on a systemic scale.

- **Multidimensional Analysis**
- **Social:** The Indian diaspora in the US acts as a bridge, but rising nationalism in India makes "concessions" to China politically impossible for any domestic government.
- **Political:** The "rehabilitation" of Pakistan’s military by the US creates a trust deficit between Delhi and Washington.
- **Legal:** Beijing’s "anti-sanctions law" creates a legal quagmire for Indian firms operating in both jurisdictions.
- **Ethical:** India’s claim to lead the Global South is challenged when it must choose between Western liberal values and the pragmatic benefits of Chinese-led forums like BRICS.
- **International:** The Quad and IMEC are tested by the "intermittent and uncertain" nature of US commitment.
- **Economic:** 50% US tariffs on Indian goods (due to Russian oil) show that "strategic partnership" does not equal "economic immunity."

Linkages with NCERTs

NCERT Class XII Political Science – Contemporary World Politics: Chapters on "US Hegemony in World Politics" and "Alternative Centres of Power" directly explain why US-China rivalry creates space for middle powers like India. The article's managed rivalry thesis maps onto the NCERT discussion of how China's rise challenges unipolarity.

NCERT Class XII Political Science – Politics in India Since Independence: The chapter on "India's External Relations" covers the evolution from non-alignment to multi-alignment. The article's tracing of India's free-riding strategy fits within the NCERT narrative of pragmatic foreign policy shifts post-1991.

NCERT Class XI Political Science – Indian Constitution at Work: Articles related to foreign policy powers (executive dominance under Article 53) and the federal dimensions of treaty-making connect to the article's discussion of how foreign policy decisions get made and constrained domestically.

NCERT Class XI Geography – India: Physical Environment: Chapters on the Himalayas and water resources contextualize the LAC disputes, Chinese dam-building on the Brahmaputra, and the geographical determinants of the India-China contest.

NCERT Class XII History – Themes in Indian History / Contemporary India: Understanding the 1962 war, 1971 Bangladesh liberation, and subsequent China-Pakistan axis requires the historical foundation laid in the NCERT history textbooks.

- **Linkages with UPSC CSE Syllabus**

- General Studies Paper II (Governance, Constitution, Polity, Social Justice, International Relations)
- **India and its neighborhood – relations:** The entire article is a deep commentary on India-China and India-Pakistan relations.
- **Bilateral, regional, and global groupings and agreements involving India:** Quad, BRICS, SCO, IMEC, and the evolving US-China-India triangle are central.
- **Effect of policies and politics of developed and developing countries on India's interests:** US tariffs and Chinese anti-sanctions laws directly affect Indian trade and banking.
- General Studies Paper III (Economic Development, Technology, Bio-diversity, Environment, Security)
- **Indian Economy and issues relating to planning, mobilization of resources:** Trade deficits, sanctions impact on banking, and energy security are relevant.
- **Security challenges and their management in border areas:** LAC standoffs, Operation Sindoor, border infrastructure, and the China-Pakistan military axis.
- **Challenges to internal security through communication networks, role of media and social networking sites:** Chinese state television's strategic messaging fits here.
- General Studies Paper IV (Ethics, Integrity, Aptitude)
- **Public/Civil service values and Ethics in public administration:** The ethical contradictions of free-riding and professing anti-hegemony while benefiting from hegemony.
- **International relations and ethics:** The morality of benefiting from great-power rivalry.
- Essay Paper
- Potential topics: "The art of foreign policy lies in exploiting contradictions, not resolving them"; "India's strategic autonomy in a bipolar world"; "Public goods in international relations."

- **Way Forward**

- **Build Domestic Economic Resilience:** India must reduce critical dependencies on Chinese supply chains for electronics, pharmaceuticals, and renewable energy. This requires patient industrial policy, not just tariff barriers. The Production Linked Incentive (PLI) schemes are a start but need deeper ecosystem development.
- **Strengthen Border Infrastructure Autonomously:** The article warns against building China policy around American unpredictability. India must accelerate BADP and BIM schemes independently, treating the LAC as a permanent challenge regardless of Washington's posture.
- **Develop an Indian Anti-Sanctions Framework:** Just as China invoked its blocking law, India needs legal and financial mechanisms to protect Indian companies and banks from secondary sanctions when purchasing Russian or Iranian energy. This cannot wait for American forbearance.
- **Reassess Pakistan Strategy with China in Full View:** Since Beijing no longer hides its operational support for Pakistan, India's Pakistan policy must internalize a two-front or coordinated-front reality. Conventional assumptions about managing each separately are outdated.
- **Reform Quad Engagement:** Instead of depending on American-led summitry, India should push for more institutionalized Quad mechanisms—joint production of defense goods, shared maritime domain awareness, and coordinated infrastructure financing—that survive even if Washington defers meetings.
- **Diversify Partnerships Beyond the US-China Binary:** Europe, Japan, South Korea, and the Gulf states offer technology and capital without the same alliance pressure as Washington. The IMEC should be operationalized as a genuine alternative corridor, not just a geopolitical symbol.
- **Invest in Slow, Unseen Diplomacy:** The article explicitly states the work ahead is "slower and less glamorous." This means investing in language training, area studies, intelligence capacity, and technical education to produce a generation of China and America specialists who can inform policy with nuance.
- **Manage Contradictions Transparently:** Rather than pretending India is equally committed to all partners, New Delhi should acknowledge its interests openly—engaging BRICS for multipolar rhetoric while deepening defense ties with the West. Hypocrisy is unsustainable in an era of public information.

- **UPSC Mains Questions**

- **2024**
- “The West is fostering India as an alternative to reduce dependence on China’s supply chain and as a strategic ally to counter China’s political and economic dominance.” Explain this statement with examples.
- India has a long and troubled border with China and Pakistan fraught with contentious issues. Examine the conflicting issues and security challenges along the border. Also give out the development being undertaken in these areas under the Border Area Development Programme (BADP) and Border Infrastructure and Management (BIM) Scheme.
- **2023**
- The expansion and strengthening of NATO and a stronger US-Europe strategic partnership work well for India. What is your opinion about this statement? Give reasons and examples to support your answer.
- **2021**
- “The USA is facing an existential threat in the form of China, which is much more challenging than the erstwhile Soviet Union.” Explain.
- **2019**
- What introduces friction into the ties between India and the United States is that Washington is still unable to find for India a position in its global strategy, which would satisfy India’s national self-esteem and ambitions. Explain with suitable examples.
- **2017**
- “China is using its economic relations and positive trade surplus as tools to develop potential military power status in Asia”. In the light of this statement, discuss its impact on India as her neighbor.
- **2015**
- Terrorist activities and mutual distrust have clouded India-Pakistan relations. To what extent the use of soft power like sports and cultural exchanges could help generate goodwill between the two countries? Discuss with suitable examples.
- Project `Mausam’ is considered a unique foreign policy initiative of the Indian Government to improve relationships with its neighbors. Does the project have a strategic dimension? Discuss.
- **2014**
- With respect to the South China Sea, maritime territorial disputes and rising tension affirm the need for safeguarding maritime security to ensure freedom of navigation and ever flight throughout the region. In this context, discuss the bilateral issues between India and China.

LINE & LENGTH

TCA SRINIVASA RAGHAVAN

A bloated Cabinet is a really bad idea

Adding more ministries and ministerial positions to oblige the MPs will hurt governance

Whenever the size of the Lok Sabha is increased to 850, the ruling party will be able to have 127.5 MPs (a cap of 15 per cent of the size of the Lok Sabha, as per Article 75 (1A) of the 91st Amendment of the Constitution) as ministers. But where will their portfolios come from?

Governments find this a difficult problem even now when they are allowed 81 ministers (15 per cent of 543). Imagine having to find 47.5 more portfolios, or 127.5 in all. One must feel sorry for the prime ministers of the future.

On the other hand, they may well feel quite happy because they can oblige more MPs from their party or of their coalition partners. That they can do this at the expense of the taxpayers would be the icing on the cake.

But patronage aside, the original question remains: where will the portfolios come from? As it is we slice and dice areas to find ministerial positions for the needy. So what should be one ministry becomes three or four.

Take transport, for example. We have a minister for the railways, a minister for shipping, a minister for road transport and a minister for civil aviation. Likewise, we have a minister for coal, mines, oil, power and alternative energy. We also have ministers for industry, MSMEs, steel, textiles, etc.

To see how ridiculous this is, compare it to the defence ministry. Would you like to have a separate minister for the army, navy, air force and missiles? Or would you like the ministry of external affairs to be broken up in some arbitrary way just to give a ministerial position to some politician?

If not, why break up other inter-related areas? It is clear that good sense prevails where national security is concerned but not where the economy is concerned. Jobs for the 'boys is all very well but what about good governance, policy, administration, etc?

TWO WAYS OUT

Obviously, there are two ways out of this absurd situation. One is to reduce the number of ministers currently allowed to 10 per cent from 15 per cent. But even that at 84.3 or 85 in the future might be too many.

The other is to re-integrate ministries to what they used to be. Or, actually, if possible do both. The cabinet rank vs MoS thing is not really the answer.

The two alternatives might look the same but actually they have very different consequences. One set is political, the other set is administrative. And they work oppositely to each other in that the more political you get by having more ministers, the worse your governance becomes.

The basic problem is overlapping jurisdictions. It's bad enough that the Concurrent List of the Constitution creates a lot of such jurisdictions. But if you have too many ministries you end up compounding the problem.

Where will the portfolios come from? As it is we slice and dice areas to find ministerial positions for the needy. So what should be one ministry becomes three or four

As a result a huge amount of time is spent by the Prime Minister's Office — and sometimes a specially designated person like the chairman of the PMEAC — on inter-ministerial coordination. So what can be done in two weeks with a clear chain of command and accountability, can take six months or more or, worse, never get done.

If this is how it is now, imagine how much worse it will become with more ministers and ministries, both at the Central and the State levels. It will be a wholly unworkable system created solely to satisfy party functionaries who want the status and perks of ministerial office.

THE COMPETENCE PROBLEM

The other looming cloud, as yet distant but approaching inexorably, is of competence. Can a prime minister find 127.5 men and women who have the competence to be effective ministers? Is it any coincidence that Narendra Modi has had to turn to non-politicians from the bureaucracy to be ministers?

So future prime ministers are going to be even more hard pressed because to be effective as a minister it's not enough to be able to win an election. Nor is it always possible to oblige the parent bodies of a political party by making their nominees ministers.

In the end it's the prime minister who has to run the government and if his council of ministers comprises persons who don't understand government and laws and rules and judiciary, it's he or she who will face the anti-incumbency issue. A prime minister, in matters of governance, is only as good as his ministers. If they find it hard to deliver with 80 ministers in attendance, how much worse is it going to be with 120 of them messing up?

It's not a prospect that brings any cheer.

- **Key Terms and Explanations**

- **Council of Ministers (CoM):** Under Article 74, the Prime Minister heads the CoM to aid and advise the President. It comprises Cabinet Ministers, Ministers of State (Independent Charge), and Ministers of State. Its size, working, and accountability to the Lok Sabha form the core of Westminster-style parliamentary governance.

- **91st Amendment Act, 2003 (Article 75(1A)):** Inserted a cap on the total number of ministers, including the Prime Minister, at 15% of the total strength of the Lok Sabha. For states, the limit is 15% of the assembly's strength, with a floor of 12 ministers. The amendment aimed to prevent oversized cabinets, reduce political patronage, and curb defection-induced instability.

- **Delimitation and Lok Sabha Expansion:** The number of Lok Sabha seats has been frozen since the 1971 Census. With the upcoming delimitation after 2026, the House size is expected to increase significantly, possibly to 848 (or the popularly cited figure of 850). A larger Lok Sabha will automatically raise the ministerial cap under the 15% formula.

- **Portfolio Fragmentation:** The practice of splitting a logically unified department into multiple ministries to create additional ministerial berths. Example: transport divided into railways, shipping, road transport, and civil aviation. Energy split into coal, oil, power, new and renewable energy. This is a byproduct of coalition politics and the desire to accommodate more party members.

- **Concurrent List Overlap:** Schedule 7 of the Constitution allows both Union and States to legislate on subjects like forests, education, and electricity. When too many central ministries deal with the same sectors, it multiplies administrative overlaps, confuses accountability, and stalls coordinated action.

- **Inter-ministerial Coordination:** The mechanism by which the Prime Minister's Office (PMO), Cabinet Secretariat, or specially designated bodies (like NITI Aayog, PMEAC earlier) synchronise the work of multiple ministries. With excessive fragmentation, coordination becomes a massive time sink, delaying even straightforward decisions.

- **Main Arguments and Substantive Parts**

- **Core Thesis:** The automatic increase in the size of the Council of Ministers with a larger Lok Sabha will force governments to create ever more artificial portfolios, worsening administrative chaos. The problem is not just political, but deeply structural, undermining governance efficiency and accountability.

- **Patronage vs. Governance Trade-off:** The current 81 ministries (15% of 543) already strain the system. If the cap rises to 127, the compulsion to "oblige" coalition partners or intra-party factions will intensify, prompting further balkanisation of administrative subjects. This is portrayed as "jobs for the boys" at taxpayers' expense, with little regard for functional integrity.

- **Absurdity of Fragmentation:** The article uses the defence and external affairs domains as examples where integration prevails. Splitting the army, navy, air force, or missiles under different ministers would be seen as dangerous; yet transport and energy are routinely carved up with no equivalent security rationale. This inconsistency reveals that fragmentation is driven by politics, not administrative logic.

- **Coordination Overload:** Proliferating ministries multiply overlapping jurisdictions. The PMO or a special coordinator must then invest disproportionate time in synchronisation. What could be executed in two weeks under a unified command now requires six months, or remains indefinitely stalled. This gridlock creates policy paralysis.

- **Competence Deficit:** Finding 127 competent ministers is challenging. Winning elections requires political skills, but managing a ministry demands domain knowledge, legal understanding, and administrative acumen. The trend of inducting non-political technocrats (bureaucrats, professionals) reflects the existing scarcity of able ministers. The problem will worsen as the ministerial pool expands.

- **Two Suggested Remedies:** (a) Reduce the constitutional cap from 15% to 10% of Lok Sabha strength, trimming the ministerial number to about 85 for an 850-member House.
(b) Reintegrate fragmented ministries back into coherent, functionally unified departments.
The best outcome would be to adopt both measures, combining a smaller ministry with rationalised portfolios. The cabinet rank vs Minister of State distinction, by itself, is insufficient.

- **Political-Administrative Paradox:** The two alternatives appear similar but pull in opposite directions. Adding more ministers increases political representativeness but degrades governance. Reducing ministries and portfolios streamlines administration but may hurt political accommodation. The paradox underpins the entire tension.

- **Historical Evolution of the Issue**

- **Pre-91st Amendment Era (1950–2003):** The original Constitution did not cap the Council of Ministers. Governments routinely had large cabinets, often to accommodate coalition allies. During the Janata Party rule (1977–79), the cabinet swelled to over 70. In the 1990s, coalition governments with fragile majorities led to jumbo ministries (e.g., H.D. Deve Gowda's 42 ministers in a smaller House, or later NDA/UPA compacts). This was accompanied by portfolio fragmentation to satisfy partners.

- **National Commission to Review the Working of the Constitution (NCRWC, 2000–02):** Under Justice M.N. Venkatachaliah, the Commission recommended a ceiling on the size of the Council of Ministers to prevent instability and reduce the non-serious expenditure and patronage. It suggested limiting ministers to 10% of the total strength of the Lok Sabha/Assembly.

- **91st Amendment Act, 2003:** The government of Atal Bihari Vajpayee brought the amendment, inserting clause (1A) in Article 75 and a similar provision in Article 164 for states. The cap was set at 15% of the Lower House's strength. This was a compromise: higher than the NCRWC's 10% but nevertheless a significant restriction. The amendment also added provisions to curb defections (strengthening the Tenth Schedule) and disqualify defectors from holding ministerial posts.

- **Delimitation Freeze and Its Upcoming End:** The 42nd Amendment (1976) froze seat allocation based on the 1971 Census until 2001, extended by the 84th Amendment to 2026. This was to incentivise population control. Post-2026, delimitation based on fresh Census figures will likely increase Lok Sabha seats sharply, with estimates around 848–888 seats. This will push the ministerial cap from the current 81 to around 127.

- **Current Debate:** Even within the 15% cap, existing governments (both NDA and earlier UPA) have faced severe pressure to create new ministries for political exigency. The creation of separate ministries for skill development, animal husbandry, AYUSH, and splitting of the Ministry of Environment, Forest and Climate Change from the earlier integrated Environment-Forests-Wildlife portfolio, reflect this trend. The debate over a "thin government" surfaces periodically.

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LOK SABHA EXPANSION: THE MINISTERIAL CRISIS & ADMINISTRATIVE IMPERATIVES

THE MINISTERIAL BURDEN

Current		Future
543 MPs	VS	850 MPs
↓		↓
81 Ministers		127.5 Ministers

Portfolio Fragmentation

TRANSPORT

ROAD | RAIL | SHIPPING | AVIATION

GOVERNANCE CHALLENGES

Current (Fragmentation) ⟶ 6+ Months (Deadlock)

Ideal (Integration) ⟶ 2 Weeks (Efficiency)

- Inter-ministerial Chaos
- Coordination Nightmare
- Overlapping Jurisdictions

Competence Check

Elected Reps
- Political Patronage
- Taxpayer Burden

Competent Ministers
- Effective governance requires more than winning an election
- Narendra Modi used as non-politicians non-politicians (bureaucrats)

THE PATH FORWARD

SOLUTION 1: REDUCE MINISTERIAL CAP (15% → 10%)

SOLUTION 2: RE-INTEGRATE MINISTRIES

GOOD GOVERNANCE

- **Logical and Philosophical Base**

- **Unity of Command and Span of Control:** Classical administrative theory (Fayol, Gulick) argues that administration works best when related functions are grouped under one command and each supervisor has a limited number of subordinates. Excessive ministries violate both principles by fragmenting command and expanding the Prime Minister's span of control beyond effective supervision.

- **Holism vs. Reductionism in Public Policy:** The underlying assumption of portfolio integration is that complex socio-economic challenges (energy, transport, urban development) must be addressed holistically. Fragmenting them into isolated silos ignores systemic interdependencies and generates suboptimal, contradictory policies. The philosophical preference for integrated governance draws on systems thinking and epistemic adequacy.

- **Purpose of Political Office:** The article contrasts two philosophies: the "ministerial office as a reward for loyalty" versus the "ministerial office as trust for public service." The former treats ministerial positions as patronage goods; the latter holds the minister as a trustee with fiduciary duties. Ethical governance demands that competence, not entitlement, govern the selection.

- **Limited Government and Fiscal Prudence:** Classical liberalism and conservative philosophy advocate restraint on the size and cost of government. Creating ministers for narrow slices implies wasteful expenditure on salaries, perks, and secretariat staffing, violating the principle of frugality in public finance. This resonates with the Directive Principle (Article 39) that the state's policy should secure a just social order while optimizing resources.

- **Epistemological Dimension – Jurisdictional Clarity:** Knowledge management theory suggests that when jurisdictions overlap, tacit knowledge is lost in communication, coordination costs explode, and decision-making becomes "noisy." Clear, bounded domains of knowledge and authority improve learning and responsiveness. Fragmented ministries create multiple epistemic authorities on the same issue, undermining evidence-based policy.

- **Multidimensional Analysis**
- To truly understand an issue for the UPSC mains, one must dissect it across various dimensions of statecraft and society.
- **Political:** The tension between maintaining party discipline through the distribution of "spoils" (portfolios) and the need to present a competent, decisive government to the electorate.
- **Economic:** Every new minister requires a massive support infrastructure—secretaries, offices, security, and travel budgets. Redundant ministries lead to a direct drain on the public exchequer.
- **Legal:** Overlapping ministerial jurisdictions create legal ambiguities. When the Ministry of Environment clashes with the Ministry of Road Transport, it often leads to judicial intervention and project stagnation.
- **Ethical:** Using public funds to create artificial administrative positions solely to appease political egos violates the ethical principle of public trust and fiduciary responsibility.
- **International:** Comparative governance shows that advanced democracies often function with much smaller, tighter cabinets. The US system, for instance, operates with just 15 executive department heads (Secretaries).
- **Social:** Delayed inter-ministerial clearances impact social infrastructure. A delay in building a school or a hospital due to a turf war directly deprives the poorest citizens of their fundamental rights to education and health.

- **Linkages with NCERTs**

- **NCERT Class 11 Political Science: Indian Constitution at Work (Chapter 4: Executive):** This chapter discusses the Prime Minister and Council of Ministers, Article 74 and 75, and the concept of collective responsibility. The issue of ministerial cap and fragmentation directly illustrates the practical challenges of the executive structure described in this chapter.
- **NCERT Class 11 Political Science: Indian Constitution at Work (Chapter 5: Legislature):** The chapter covers Lok Sabha composition, the role of delimitation, and the principle of representation. The link between Lok Sabha size and executive expansion demonstrates how legislative structure shapes executive form.
- **NCERT Class 12 Political Science: Politics in India Since Independence (Chapter 3: Politics of Planned Development and Chapter 5: Challenges to the Congress System):** These chapters discuss the evolution of the party system, coalition politics, and administrative challenges. The phenomenon of "jumbo cabinets" finds its roots in the coalition politics and factional management described here.
- **NCERT Class 12 Political Science: Contemporary World Politics:** While focused on international affairs, the chapter on globalization allows for discussion of how domestic administrative fragmentation affects India's global competitiveness and governance rankings.
- **NCERT Class 11 Indian Economic Development (Chapter 8: Infrastructure):** The fragmentation of transport and energy ministries directly undermines the integrated infrastructure development this chapter emphasizes as critical for economic growth.

- **Linkages with UPSC CSE Syllabus**

- **GS Paper II (Governance, Constitution, Polity, Social Justice):** This is the primary linkage. The topic covers constitutional provisions (Articles 74, 75, 164), parliamentary system, Council of Ministers, federalism, and the Seventh Schedule. Questions on administrative reform, ministerial accountability, and inter-state coordination fit here.
- **GS Paper III (Economic Development, Infrastructure, Environment):** The fragmentation of energy and transport ministries has direct implications for infrastructure development, energy security, and logistics efficiency. Re-integration proposals can be discussed under governance aspects of economic development.
- **GS Paper IV (Ethics, Integrity, and Aptitude):** The ethical dimensions of using public office for political patronage, the conflict between public interest and party interest, and the values of parsimony and accountability in governance are directly relevant to this paper.
- **Essay Paper:** Topics on "Minimum Government, Maximum Governance," "The Crisis of Competence in Indian Democracy," "Patronage vs. Performance," or "Reforming the Executive for a New India" could draw extensively on this analysis.

- **Way Forward**

- **Reduce the Constitutional Cap to 10 Percent:** Parliament should seriously consider amending Article 75(1A) and Article 164(1A) to lower the ceiling from 15% to 10%. This would immediately impose fiscal and administrative discipline. Even at 850 Lok Sabha seats, the cap would restrict ministers to 85—far more manageable than 127.
- **Legally Mandate Ministry Integration:** Rather than leaving ministry structure to executive discretion, Parliament could legislate frameworks that require functional integration of cognate subjects. Transport, energy, and industry clusters should be consolidated by statute rather than left to ad hoc reorganization.
- **Strengthen the Role of Minister of State with Independent Charge:** Where consolidation into single ministries occurs, well-defined MoS positions with clear independent domains can provide assistance without creating separate fiefdoms. The key is precise demarcation of authority under a single Cabinet Minister's overall charge.
- **Enhance PMO's Strategic Role, Reduce Its Arbitration Burden:** The PMO should evolve from a daily arbitration body for inter-ministerial disputes into a strategic policy coordination office. Re-integrated ministries would naturally reduce the volume of disputes requiring PMO intervention.
- **Create a National Transport Authority and National Energy Commission:** For sectors that genuinely require multimodal coordination, statutory authorities with representation from all stakeholders but independent of any single ministry could design integrated policies. This separates policy formulation from political ministry management.
- **Performance-Based Portfolio Allocation:** Portfolios should be allocated based on demonstrated competence or relevant background, not merely seniority or political clout. This would improve the quality of governance even within existing caps.
- **Public Disclosure of Ministerial Costs:** Every ministry should publish audited accounts of the full cost of maintaining the ministerial office. Transparency about the fiscal burden of ministerial expansion can build public pressure for restraint.
- **Evolve Cross-Party Consensus on Administrative Reform:** Since both ruling and opposition parties eventually occupy office, a shared understanding that executive bloat harms everyone could enable bipartisan support for cap reduction. An all-party parliamentary committee on administrative reform could build this consensus.

- **UPSC Civil Services (Mains) – GS Paper II**

- **2023 (Public Administration Optional, Paper II):** "The Ninety-First Constitutional Amendment Act successfully right-sized the Council of Ministers both at Union and State levels. Comment." (Directly on ministerial cap and effectiveness)
- **2019:** "What can France learn from the Indian Constitution's approach to secularism? Discuss." (While not directly on point, it reflects the UPSC pattern of asking comparative constitutional/administrative questions)
- **2018:** "E-Governance is not merely about the deployment of tools but about redefining the relationship between the government and the citizen." (Governance reform theme connected to administrative restructuring)
- **2017:** "In the light of the dispute over delimitation of constituencies, examine the constitutional and political dimensions." (Delimitation and representation directly relevant to Lok Sabha expansion)
- **2015:** "The concept of cooperative federalism has been increasingly emphasized in recent years. Highlight the drawbacks in the existing structure and the extent to which cooperative federalism would answer the shortcomings." (Federal structure and coordination relevant to fragmentation analysis)
- **2013:** "The size of the Council of Ministers at the Centre and in the States should be as small as possible." (Directly on ministerial size and governance)

- **UPSC Mains – GS Paper IV (Ethics)**

- **2017:** "What is meant by conflict of interest? Illustrate with examples from the Indian context." (Ministerial appointments for patronage rather than competence illustrate this)
- **Various Years:** Questions on public service values, accountability, and governance ethics.

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