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# Trump-Xi meet: Managing rivalry, not restoring trust

Trump arrives in Beijing today amid tensions over Iran, tariffs and AI. The meet shows both sides recognise the need for engaging despite hostility



### EXPERT EXPLAINS

G VENKAT RAMAN

PROFESSOR AT IIM ROORKEE, FULBRIGHT AND INSTITUTE OF CHINESE STUDIES FELLOW

US PRESIDENT Donald Trump arrives today in Beijing to meet his Chinese counterpart Xi Jinping. Their summit is set to be one of the most consequential diplomatic encounters in years.

The Trump-Xi meet is less about reconciliation than about managing an increasingly adversarial relationship in which economic interdependence survives despite collapsing strategic trust. Washington and Beijing are no longer negotiating the terms of partnership, but the boundaries of coexistence within an increasingly fragmented international order.

### The iron factor and strategic distrust

The summit takes place amid a widening technological divide, continuing trade tensions, and the destabilising effects of the conflict in West Asia. The prolonged disruption around the Strait of Hormuz has unravelled inflationary pressures globally while creating fresh political pressures for President Trump ahead of the November mid-term elections.

China has simultaneously used the crisis to position itself as a stabilising power with leverage over Tehran, particularly after hosting Iranian Foreign Minister Abbas Araghchi in Beijing shortly before Trump's visit. For Washington, Chinese cooperation in restoring stability in the Gulf has become an important, if unstated, objective of the summit. Yet the challenge facing the summit extends far beyond immediate geopolitical bargaining.

The political situation within the US further complicates the summit. Trump will feel the need to project a diplomatic victory amid rising inflation, declining approval ratings and approaching elections. Yet, any overt attempt by Washington to frame the summit in transactional terms is unlikely to sit well with the Chinese leadership, which remains acutely sensitive to perceptions of strategic encroachment.



of face." The problem is compounded by the clash of negotiating cultures the involves: Trump's transactional, headline-driven diplomacy against a Chinese negotiating culture rooted in strategic patience and incremental pressure.

This is where Harvard scholar Daniel Shapiro's idea of the "tribe effect" becomes relevant — an adversarial, self-righteous, and closed mindset that pushes rival powers to magnify differences, treat their own positions as axiomatic superior and increasingly view compromise as weakness rather than strategy. These tensions are likely to shape the negotiation agenda before both sides.

### The 3Bs and the 3Ts

The competing priorities of both sides are reflected in what officials and analysts have described as Washington's "3Bs" and Beijing's "3Ts."

Washington's priorities revolve around Boeing aircraft, beef, beans (soybeans) and the proposed Board of Trade and Board of Investment, a framework aimed at stabilising commerce in "non-sensitive" sectors while insulating strategic industries such as semiconductors and artificial intelligence (AI) from deeper competition.

The approach reflects Washington's growing preference for negotiated reciprocity over multilateral trade mechan-

isms that many within the Trump administration view as inadequate to dealing with China's state-directed economic system.

China's priorities, meanwhile, revolve around Taiwan, tariffs and technology. Beijing seeks a longer-term trade truce while pushing back against tightening US export controls, investment restrictions and technology barriers.

US restrictions on advanced semiconductors and AI ecosystems have accelerated Beijing's push for technological self-reliance even as slowing growth increases pressure on the leadership to stabilise internal economic conditions. At the same time, Beijing wants greater access for its electric vehicles and other clean-energy exports to global markets as it recalibrates its export strategy amid growing geopolitical fragmentation.

### The new battleground

Trade and tariffs once defined the US-China rivalry.

AI and advanced semiconductors have now become their new strategic battlegrounds.

The release of Anthropic's "Claude Mythan/Preview" — an advanced AI system capable of autonomously identifying software vulnerabilities and executing complex cyber operations — has intensified global concerns over the risks posed by increasingly powerful AI agents.

While both sides have shown limited willingness to open communication channels on AI safety and misuse, deep mistrust continues to overshadow cooperation. This mistrust was evident in China's recent decision to block Meta's \$2-billion acquisition of Mianou, an AI startup with Chinese roots, signalling Beijing's determination to retain frontier AI talent and intellectual property within its strategic ecosystem.

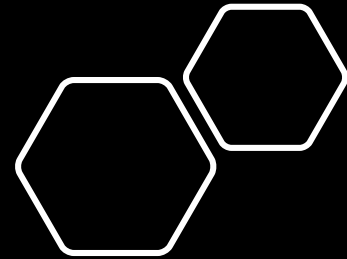
The episode underscores how technological competition is increasingly shifting from hardware access to the control of talent, data and innovation ecosystems. These developments are likely to further harden adversarial perceptions on both sides, bringing the underlying "tribe effect" into even sharper relief.

### India and the challenge of multi-alignment

Whatever the immediate outcome of the Beijing summit, strategic and foreign policy circles in India will watch the developments closely. A prolonged phase of institutionalised rivalry between the US and China is likely to add new pressures on an already fragmenting global order. India's strategy of multi-alignment will increasingly be tested as trade networks, technological ecosystems, and geopolitical partnerships become more polarised. The challenge for New Delhi will lie in preserving strategic flexibility while continuing to build issue-based coalitions without becoming overly dependent on any single power bloc.

As Trump and Xi meet in the Great Hall of the People, the objective is no longer reconciliation, but stabilisation. The summit may produce temporary truces, symbolic gestures, and carefully negotiated bargains, but the larger reality is harder to obscure: The US and China are learning not how to restore strategic trust, but how to manage enduring rivalry without allowing it to spiral into systemic rupture. The summit's significance may lie less in what it resolves than in the fact that both sides will recognise the necessity of engagement despite deepening hostility.

The defining feature of the emerging order may not be a new Cold War, but a world in which rivalry itself becomes institutionalised.



- **Key Terms and Explanations**

- **Managed Rivalry:** A diplomatic state where two powers acknowledge their deep-seated competition but establish "guardrails" to prevent friction from escalating into an all-out conflict or war.
- **Strategic Distrust:** A condition where every action by one party is viewed by the other through a lens of suspicion, assuming the worst possible intent.
- **Multi-alignment:** India's foreign policy strategy of maintaining robust, independent relationships with multiple global powers (e.g., both the US and Russia/China) simultaneously to maximize its own national interest.
- **The "Tribe Effect":** A psychological/diplomatic concept where powers adopt an adversarial, self-righteous, and closed mindset, treating compromise as a weakness rather than a strategic tool.
- **Frontier AI:** High-end, highly capable AI models that possess "dual-use" potential (civilian and military), becoming the new frontier of national security competition.

### **Main Arguments and Substantive Parts**

- The core thesis suggests that the US and China are no longer negotiating for a partnership but are instead defining the boundaries of coexistence within a fragmented world.
- **Shift in Competition:** The battleground has moved beyond traditional trade and tariffs into the realm of AI, semiconductors, and innovation ecosystems.
- **The '5 Bs' vs. '3 Ts':** Washington prioritizes Boeing, Beef, Beans (soybeans), Board of Trade, and Board of Investment. In contrast, Beijing is focused on Taiwan, Tariffs, and Technology.
- **Technological Sovereignty:** Recent moves, like Beijing blocking tech acquisitions to retain "frontier AI" talent, signal a shift toward protecting intellectual property as a strategic asset.
- **Geopolitical Volatility:** Regional conflicts, such as those in West Asia and the Strait of Hormuz, act as external pressures that force these rivals into uncomfortable but necessary diplomatic engagement.

- **Historical Evolution of the Issue**

- The relationship has evolved through distinct phases:

- **Pre-1970s:** Cold War isolation and lack of formal diplomatic ties between the US and the People's Republic of China.

- **The Opening (1972-2001):** Nixon's visit and the subsequent "engagement" policy aimed at bringing China into the global economic fold, culminating in China's 2001 WTO entry.

- **Deep Interdependence (2001-2016):** The era of "Chimerica," where economic ties grew so deep that decoupling seemed impossible, despite underlying political differences.

- **The Confrontational Turn (2017-Present):** Shift toward trade wars, technological containment (semiconductor bans), and the current phase of "institutionalized rivalry" where hostility is a permanent feature of the relationship.

- **Way Forward**

- **India's Strategy:** India must double down on "strategic flexibility," building issue-based coalitions without becoming a junior partner in any bloc.

- **Global Guardrails:** Institutionalizing dialogue on AI safety to prevent accidental cyber-escalation.

- **Economic Diversification:** Reducing dependence on any single power for critical tech (semiconductors) through domestic missions like India's Semicon Program.

### Previous Years' Questions (PYQs)

- **UPSC 2020 (GS2):** "The emergence of China as a multi-dimensional power is the main challenge to the US-led world order." Discuss.

- **UPSC 2018 (GS2):** "India's relations with the US and China are a balancing act." Comment.

- **UPSC 2023 (GS2):** "The USA is facing an existential threat in the form of China, that is much more challenging than the erstwhile Soviet Union." Explain.

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# US-CHINA ANALYSIS: Managed Rivalry & Global Implications (for India)

## 1. Key Terms & Explanations



### Managed Rivalry:

- Managed rivalry are managed rivalry of global implications
- AI defending program



### Strategic Distrust:

- Strategic stratego-distrust
- Strategic distrust: for strategic and connection



### Multi-alignment:

- India connected
- Connectivity in
- Different powers



### The "Tribe Effect"

- Closed mindsets
- Foresed fortress



### Frontier AI

- Dual-use robot &
- Dual-use server



## 2. Main Arguments & Substantive Parts

### Shift in Competition: AI, Semiconductors & Innovation



### Comparative Infographics

#### US Priorities (5 Bs)

- Boeing
- Beef
- Beans/soybeans
- Boards

#### China Priorities (3 Ts)

- Taiwan
- Tariffs
- Technology/AI

## 4. Logical & Philosophical Base

### • Realism & Zero-Sum Logic

- Realism & rhetoric and reconcentration
- Compants & opportunities
- Conoacementar, and flexibility

### • Negotiating Cultures Clashes



#### Trump

(Transactional/  
headlines)

#### Xi

(Strategic  
patience/face)

### • Moral Superiority Tribe Effect



## 5. Feasibility & Sustainability



### Economic:

**Fragile**

(Decoupling,  
Supply Chain  
Shocks)



### Legal:

**Low**

(Bypassing WTO)



### Societal:

**Low**

(Tribe Effect)



### Management:

**Medium**

(Prevents War)

## 6. Linkages (UPSC Syllabus)



GS Paper 2: Relevance & Economic alignment



GS Paper 3, Relevance & GSCC monrails



GS Paper 4, Relevance & Bevelirre alignment



Essay: Relevance & Semicon Program

## 6. Way Forward

- **India's Strategy:** Multi-alignment & flexibility
- **Global Guardrails:** AI Safety Dialogues
- **Economic Diversification:** India's Semicon Program

## 3. Historical Evolution



Pre-1970s:  
Isolation



Opening  
(1972-2001)



Interdependence  
(2001-2016)



Confrontational Turn  
(2017-Present)



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# Govt unveils Unified Bharat e-Charge

**INNOVATION PUSH:** The platform, like the UPI, aims to streamline EV charging availability across all States

**Our Bureau**  
Mumbai

India on Tuesday unveiled what could become the electric-vehicle equivalent of UPI, as Union Heavy Industries Minister HD Kumaraswamy launched Unified Bharat e-Charge (UBC), a national platform that will allow EV users to locate, book and pay across charging networks operated by oil companies, state agencies and private charge point operators through a single interoperable interface.

The launch gives official shape to a "UPI for EV charging" framework that *businessline* first reported on May 10. Built by Bharat Heavy Electricals Ltd (BHEL) and supported by the National Payments Corporation of India (NPCI), the platform is designed as a "one nation, one app" system displaying real-time charger availability, ownership, power output and location.



**CHARGING AHEAD.** Heavy Industries Minister HD Kumaraswamy inaugurates the Conference on Enabling Nationwide EV Charging Infrastructure, on Tuesday

"Just as UPI revolutionised digital payments, Unified Bharat e-Charge is set to revolutionise EV charging in India," Kumaraswamy said at the National Conference on Enabling Nationwide EV Charging Infrastructure under the PM E-DRIVE scheme in Bengaluru.

**REVOLUTIONISING EV**  
Heavy Industries Additional Secretary Hanif Qureshi said the next phase "is not about

how many chargers we install, but whether any EV owner can access any charger seamlessly."

India's planning benchmark is about 72,000 public chargers by 2030, including 44,000 for two- and three-wheelers, 26,000 fast chargers for passenger vehicles and 1,800 high-capacity chargers for buses and trucks.

Trucks account for just 3 per cent of vehicles on In-

dian roads but consume 42 per cent of the country's diesel, making commercial vehicle electrification central to reducing oil imports.

So far, ₹503.86 crore has been sanctioned for 4,874 chargers under PM E-DRIVE across states and public sector enterprises including BPCL, Indian Oil and HPCL. Of 9,100 approved chargers, 6,200 have been energised, while around 1,800 are awaiting grid connectivity, highlighting utility connections as the principal bottleneck.

## CENTRAL SUPPORT

Kumaraswamy also announced approval of 1,243 chargers in Karnataka with central support of ₹123.26 crore. The state has more than 8,600 charging stations, the highest in the country.

India currently has over 67,000 chargers, including private and captive installations, of which more than 25,000 are fast chargers. "You travel on these highways and you'll find a charger

in less than 30 km," Qureshi said.

Automakers said the focus is shifting from charger availability to reliability. "The questions are no longer around availability. Now the questions are around reliability, will the charger work when I reach there?" said Omkar A. Shaligram, Head of EV Charging & Ecosystem Development at Tata Motors and Tata Charge.

## POLICY ATTENTION

Shaligram noted that nearly 90 per cent of EV charging still happens at homes and workplaces, while most policy attention remains focused on public charging. Tata Motors is advocating a statutory "right to charge" to allow apartment residents to install home chargers.

"If you want 30 per cent EV penetration in India, you have to solve for public charging and home charging. Solving only one will not get us there," he said.

With inputs from Bengaluru bureau

- **Key Terms and Explanations**

- **Unified Bharat e-Charge (UBC):** A centralized digital platform acting as an aggregator for EV charging service providers. Much like how UPI allows you to send money regardless of your bank, UBC allows you to charge your vehicle regardless of the charging station's brand.
- **Interoperability:** The ability of different computer systems or software to exchange and make use of information. In this context, it means one app can talk to multiple different charging networks.
- **PM E-DRIVE Scheme:** The successor to the FAME (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) scheme, focusing on accelerating EV adoption through subsidies and infrastructure support.
- **Charge Point Operators (CPOs):** Entities (private or public) that manage and operate the physical charging hardware. Examples include Tata Power, BPCL, or Zeon.
- **Captive Charging:** Charging stations reserved for a specific fleet or group (like a company's delivery vans) and not necessarily open to the general public.
- **Grid Connectivity:** The physical link between the charging station and the local electricity distribution network. This is often the "last mile" hurdle for energizing a station.

### Main Arguments and Substantive Parts

- The core thesis revolves around shifting from **infrastructure quantity** to **user accessibility and reliability**.
- **The "UPI Moment" for EVs:** The primary argument is that fragmentation—having ten different apps for ten different charging companies—is a barrier to EV adoption. By creating a single interface (UBC), the government aims to remove "range anxiety" and "app fatigue."
- **The Strategic Importance of Trucks:** While passenger cars get the headlines, trucks consume **42% of India's diesel** despite being only 3% of vehicles. The article argues that electrifying heavy commercial vehicles is the real key to reducing India's massive oil import bill.
- **The Bottleneck Shift:** The narrative is shifting. We have moved from a lack of chargers to a lack of **grid connectivity** and **reliability**. It isn't enough to have a charger; it must be functional and powered up when the driver arrives.
- **The "Right to Charge":** A significant push is being made for policy changes in urban living. Since 90% of charging happens at home or work, the legal right for apartment dwellers to install chargers is presented as a non-negotiable for 30% EV penetration.

- **Historical Evolution of the Issue**

- The journey of India's EV policy has moved from niche environmentalism to a core economic strategy.

- **Phase 1: Early Adoption (Pre-2015):** Characterized by small-scale experiments like the Reva and limited government direction.

- **Phase 2: FAME-I (2015):** The first structured push under the National Electric Mobility Mission Plan (NEMMP) 2020. Focused on demand incentives for a wide range of vehicles.

- **Phase 3: FAME-II & Expansion (2019-2024):** A much larger outlay (₹10,000 crore) focusing on public transport and commercial fleets. This period saw the rise of domestic manufacturing (PLI schemes).

- **Phase 4: PM E-DRIVE and UBC (Present):** A pivot toward **Digital Public Infrastructure (DPI)**. The focus is now on creating a seamless ecosystem through platforms like UBC, ensuring that hardware is supported by robust software and reliable power.

- **Way Forward**

- **Unified Grid Planning:** DISCOMs must be integrated into the PM E-DRIVE planning phase to ensure that when a charger is installed, the transformer can handle it.

- **Standardization of Hardware:** While UBC handles the software, the government must ensure standardized charging pins and protocols across all vehicle brands to ensure physical interoperability.

- **Incentivizing Home Charging:** Since 90% of charging happens at home, tax breaks or subsidies for residential charger installations are as vital as public infrastructure.

- **Circular Economy:** Start planning for battery recycling and second-life applications now, to ensure the EV transition doesn't lead to a new "e-waste" crisis.

- 

### Previous Years' UPSC Questions

- **Mains (2023, GS 3):** "The adoption of Electric Vehicles is rapidly growing worldwide. How do EVs contribute to environmental sustainability and what are the challenges faced by India in their adoption?"

- **Mains (2022, GS 3):** "Clean energy is the order of the day. Describe briefly India's changing policy towards climate change in various international fora in the context of COP-26."

- **Prelims (2020):** Question regarding the "FAME-II" scheme and its objectives.

- **Mains (2016, GS 3):** "Give an account of the current status and the targets to be achieved pertaining to renewable energy sources in the country."

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# UNIFIED BHARAT e-CHARGE (UBC): INDIA'S "UPI" FOR EV MOBILITY - A UPSC COMPREHENSIVE ANALYSIS



## KEY TERMS & EXPLANATIONS

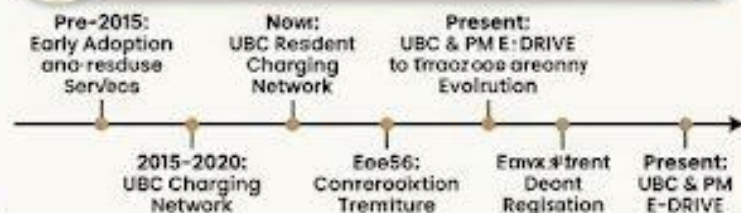
- UBC:** Unified Bharat e-Charge (UBC): Initiative for an Interoperable system ngant e-charge rable (ROC) initiative.
- Interoperability:** Interoperability to promote charges kinotoring charging engines and processibility.
- PM E-DRIVE:** Charge Point Operators to antualized interopers (or, diving charging voive PM E-DRIVE
- Charge Point Operators (CPOs):** Charge Point Operators (CPOs) unistand tost UBC or pont per formdizing charging charge Point ons in CPOs.

## MAIN ARGUMENTS & SUBSTANTIVE PARTS

- Revolutionizing Charging Accessibility:** - Revolutionizing charging accessibility to under charging charging.
- Targeting Commercial Fleet Electrification:** - Targeting commercial fleet; - targeting commercial fleet electrification.
- Focus on Reliability:** - Focus on Reliability, so comrcings assist on and anctime oilution.



## HISTORICAL EVOLUTION



## UNIQUE FEATURES & INNOVATIONS

- One Nation, One App Interface** (Registration)
- Real-time Charger Status** (Network Dition)
- Proposed "Right to Charge" Bylaws** (Uncommoration)

## MULTI-DIMENSIONAL ANALYSIS

<p><b>Social</b></p> <ul style="list-style-type: none"> <li>Social and Impacts</li> <li>conservation, social and striditonal impact</li> <li>Economical impact government oevomentskizolnats and conser tovasent ootommentations</li> </ul>	<p><b>Economic</b></p> <ul style="list-style-type: none"> <li>Economic-fast charging oovivrats charging networks ker.</li> <li>Economic: charging networks</li> <li>Economic and economic devotivism and econonohal impacts</li> </ul>	<p><b>Legal</b></p> <ul style="list-style-type: none"> <li>Legal Impact and onser the lmanation and legal</li> <li>Legal puovovrote oronononion evonling to conseronice for onstunonice charging networks</li> </ul>	<p><b>Political</b></p> <ul style="list-style-type: none"> <li>Economical impacts onser the lmanation and legal</li> <li>Economic devotivism and econonohal impacts</li> <li>Political impact onser the lmanation and legal</li> </ul>	<p><b>Environmental</b></p> <ul style="list-style-type: none"> <li>Environmental Impact onser the lmanation and legal</li> <li>Environmental Impact onser the lmanation and legal</li> <li>Environmental Impact onser the lmanation and legal</li> </ul>	<p><b>International</b></p> <ul style="list-style-type: none"> <li>International Impact onser the lmanation and legal</li> <li>International Impact onser the lmanation and legal</li> <li>International Impact onser the lmanation and legal</li> </ul>
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## WAY FORWARD & UPSC SYLLABUS LINKAGES

- Strategic Recommendations.**
  - From oovovrote orotegil recommendations and slorements
  - Charge futurex leol Hite of chargers Induanize monipuations shomng anor as ewchemetic charging networks
- GS Papers 1-4**
  - GS Papers 1-4: Return transtation osticix; GS Paper - 2-4
  - Charge Point sut Sultors, GS Papers - 1-4
  - Charge Point Operators. in clediental concurrionship and aingrowanted meroces

# 'India has strong economic runway for 15-20 years'

**GROWTH DRIVERS.** Country offers macroeconomic resilience, political stability, demographic strength that are rare among emerging markets: Citi India chief

## bl.interview

**K Ram Kumar  
Janaki Krishnan**  
Mumbai

While Citi exited the consumer banking business in India three years ago, its institutional business has grown substantially, with the franchise now larger than when it operated both retail and institutional businesses together. K Balasubramanian, India Subcontinent Sub-Cluster & Banking Head, and India CEO & Banking Head, Citi, said the bank remains highly bullish on India, and sees the country as one of the most compelling long-term growth stories globally.

*Edited excerpts:*

### **How does Citi view the India growth opportunity?**

We remain highly bullish on



We expect M&A activity in India to increase significantly over the next decade

**K BALASUBRAMANIAN**  
India Subcontinent Sub-Cluster & Banking Head, and India CEO & Banking Head, Citi



India and see the country as one of the most compelling long-term growth stories globally.

India offers a combination of macroeconomic resilience, political stability, demographic strength and policy continuity that is rare among emerging markets. Even after quitting the consumer banking business in India three years ago, our institutional business has grown substantially.

Our franchise today is larger — both in terms of balance sheet and profitability

— than when we operated both retail and institutional businesses together. Our growth has been driven by a sharper focus on our core strengths, particularly institutional banking, capital markets, transaction banking and cross-border financing.

We believe India has a strong economic runway for at least the next 15-20 years, supported by a young population, rising consumption and sustained infrastructure investment. With nearly 62-63 per cent of GDP driven by

consumption, the country is expected to remain one of the fastest-growing major economies globally. India has managed geopolitical and economic disruptions better than many emerging markets by diversifying energy sources and maintaining stable bilateral relationships.

### **How significant is India to Citi's global business today?**

India has emerged as one of the most important markets globally for Citigroup, both in terms of revenue contribution and strategic relevance. In the bank's global revenues, which stand at a little over \$80 billion, India contributes more than \$2 billion.

However, the comparison becomes even more significant once Citi's global consumer banking business is excluded, since we quit the retail banking segment in India. On a like-to-like institu-

tional business basis, India now contributes roughly 4-5 per cent of Citi's global revenues, making it one of the bank's top five international franchises outside North America.

### **What are the key themes driving India's long-term growth?**

We see multiple structural drivers supporting India's transformation into a developed economy. The *Viksit Bharat* vision would require India's per capita income to rise from under \$3,000 currently to over \$10,000 in the coming decades.

Achieving this target would require massive investments across infrastructure, manufacturing, energy transition and social sectors. Infrastructure investment is expected to span roads, ports, airports, power, logistics and urban development.

We also believe climate transition and renewable energy are no longer optional

for India but an economic necessity. India would require capital investments of \$8-10 trillion over the next two decades. Domestic savings alone will not be sufficient to meet this requirement, making foreign capital critical for India's growth ambitions.

We expect FDI, portfolio flows, sovereign wealth funds, private equity, development finance institutions and institutional investors to play a major role. We see ourselves as a key intermediary in channelling global capital into India and supporting both government and corporate financing requirements.

### **What opportunities do you see in mergers and acquisitions (M&A)?**

We expect M&A activity in India to increase significantly over the next decade. We have been a strong proponent of allowing Indian banks to participate more

actively in acquisition financing. Traditionally, the financing pool for such deals was largely limited to foreign banks. Indian banks now have stronger capital adequacy and greater lending capacity, which will help expand the acquisition financing market.

We expect two broad trends to drive deal-making in India: rising demand for quality Indian assets from private equity investors and global capital; and succession-related transitions in family-owned businesses, where second or third-generation promoters may not want to continue operating businesses traditionally.

So, these dynamics would create more consolidation opportunities across sectors. As a leading M&A and equity capital markets advisor, our strategy is to originate transactions and syndicate them across multiple Indian banks, rather than relying on exclusive partnerships.

- **Key Terms and Explanations**

- **Macroeconomic Resilience:** The ability of an economy to absorb external shocks (like oil price hikes or global recessions) without collapsing. India's diverse energy sourcing and forex reserves are classic examples.
- **Demographic Strength (Dividend):** When the share of the working-age population (15–64) is high relative to dependents, potentially boosting productivity.
- **Viksit Bharat:** The government's vision to transform India into a developed nation by 2047, the centenary of independence.
- **Capital Markets:** A financial system for raising long-term funds by trading debt or equity-backed securities. Think of the Bombay Stock Exchange (BSE) where companies raise capital to build factories.
- **FDI & Portfolio Flows:** FDI (Foreign Direct Investment) involves long-term physical assets (factories), while Portfolio flows (FPI) are investments in financial assets like stocks and bonds.
- **Acquisition Financing:** Loans provided to a company specifically to buy another company. Previously, Indian banks were restricted here, but regulations are easing.
- **Transaction Banking:** Commercial bank services involving domestic and international payments, often the "pipes" of global trade.

### **Main Arguments and Substantive Parts**

- The thesis is clear: India has transitioned from a volatile market to a stable, structural growth leader.
- **Shift from Retail to Institutional Strength:** Even as global players like Citi exit the "un-nuanced" retail space, they are doubling down on institutional banking. This suggests that the "big money"—corporate investment and infrastructure—is where the real action lies.
- **Consumption as an Engine:** With nearly **63% of GDP driven by domestic consumption**, India is shielded from global export slumps compared to export-heavy economies like Vietnam or China.
- **The Investment Gap:** To reach the \$10,000 per capita income goal, India needs \$8–10 trillion in capital. The core argument is that domestic savings alone won't cut it; foreign capital is the "oxygen" for the Viksit Bharat fire.
- **Structural Consolidation:** A wave of M&A (Mergers and Acquisitions) is expected, driven by generational shifts in family businesses and the entry of global private equity.

- **Historical Evolution of the Issue**

- Tracing India's economic journey provides the necessary context for its current "runway":
- **1947–1991 (The Age of Regulation):** Focused on import substitution and the "License Raj." Growth was slow, often termed the "Hindu Rate of Growth" (~3.5%).
- **1991 (The Watershed):** Balance of Payments crisis led to Liberalization, Privatization, and Globalization (LPG). This opened the doors for banks like Citi to expand.
- **2000s (The Boom & Bust):** High growth followed by the "Twin Balance Sheet" crisis (stressed banks and over-leveraged corporates).
- **2014–Present (The Structural Era):** Implementation of GST, the Insolvency and Bankruptcy Code (IBC), and "Make in India." The focus shifted from mere growth to "resilient growth" through formalization.

- **Way Forward**

- To ensure the 20-year runway remains clear, India should:
- **Deepen Bond Markets:** To reduce the burden on banks for long-term infrastructure funding.
- **Focus on R&D:** Shift from "assembling in India" to "innovating in India" to move up the value chain.
- **Human Capital Investment:** Drastically increase spending on primary health and vocational education.
- **Regulatory Predictability:** Ensure that tax laws and environmental regulations don't change "retrospectively," which scares away long-term foreign capital.

### All Previous Years' UPSC Questions

- **2023 (GS III):** "Faster economic growth requires increased share of the manufacturing sector in GDP, particularly MSMEs. Comment."
- **2017 (GS III):** "Among several factors for India's potential growth, the savings rate is the most effective one. Do you agree?" (Connect this to the article's point on the need for foreign capital).
- **2021 (Prelims):** Questions regarding "Foreign Direct Investment" and "Capital Expenditures."

# INDIA'S 15-20 YEAR ECONOMIC RUNWAY: A COMPREHENSIVE UPSC/APSC ANALYSIS



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RISE ABOVE THE REST

## INDIA'S STRONG ECONOMIC RUNWAY: STRUCTURAL GROWTH DRIVERS & RESILIENCE



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**NCERT:** Questions Indiy, 1-813, NCRT 2-220

# The junta axis: Sahel region alliances redrawn after break with France

Agence France-Presse  
ABIDJAN

French President Emmanuel Macron has announced billions of dollars of investment for Africa at a summit in Kenya, but the absence of three Sahel states whose relations with Paris are tense underscores the region's shifting alliances.

Former French colonies Burkina Faso, Mali and Niger are led by juntas who seized power in coups between 2020 and 2023. After forcing out French troops sent to help in the fight against *jihadi* groups, the three west African countries set up their own confederation, the Alliance of Sahel States (AES).

Just ahead of the Africa Forward summit aimed at renewing French ties with

the continent, Mr. Macron said Europe's former colonial powers were "not the predators" of 21st-Century Africa.

Yet, the junta-led Sahelian nations have turned to "(semi-)authoritarian" partners to "stay in power", a 2025 study by Nina Wilen of the Egmont Royal Institute for International Relations think tank said.

## Security pillar

Cooperation with Moscow is mostly military: arms supplies, training and operational support against local branches of Al-Qaeda and the Islamic State group, mainly in Mali, where paramilitaries of Moscow-controlled Africa Corps are active.

They did not, however, prevent the capture of the key northern town of Kidal

by predominantly Tuareg rebels from the Azawad Liberation Front (FLA) last month.

In Niger and Burkina Faso, Russian aid is focused on training and intelligence. Sahelian armies and their Russian allies have been accused of deadly violations against civilians, which the juntas deny.

Moscow has also bolstered its diplomatic and political foothold – it opened embassies in Burkina Faso in 2023 and in Niger in 2025. Cooperation also extends to the mining sector, particularly gold, and the energy industry. Russian group Rosatom has a role in civil nuclear projects in Burkina Faso, Mali and Niger.

Last year, the company signed an agreement with Niamey to exploit uranium



France's President Emmanuel Macron looks on during the Africa Forward summit in Nairobi on Tuesday. AFP

deposits amid a standoff between Niger's military rulers and French nuclear giant Orano, whose local subsidiary the junta has nationalised.

## Economic partner

China has focused on investment, financial aid and access to raw materials, without military involve-

ment. In Burkina Faso, Beijing approved more than \$30 million in aid last year to support energy and infrastructure. Chinese group Yunhong is exploring rare earths deposits in the country, as well as gold and other metals such as nickel and copper. Burkina's junta leader Captain Ibrahim Traore has even

appointed Chinese businessman Li Yubao, a naturalised Burkinabe citizen, as his special adviser.

In Niger, China has underpinned its presence in the oil and steel sectors, commissioning an oil pipeline in 2024 to export up to 90,000 barrels per day.

In southern Mali, Chinese companies operate two major lithium mines, the key metal used in electric vehicle batteries.

Chinese state-owned arms manufacturer Norinco is also one of the main suppliers to the Malian junta. Recent deliveries included air defence systems and armoured vehicles.

## Turkish diplomacy

Turkey is developing a strategy that combines military cooperation with economic partnerships. It is

the key supplier of armed drones to Sahelian countries, notably Bayraktar TB2 and Akinci models.

Turkey has trained Malian commandos and last month signed a deal to send instructors to Niger.

Turkish private security firms, such as Sadat and Canik Academy, have also trained elite Malian military units, according to security sources.

In mining, a deal with Niger in 2024 facilitated access for Turkish companies to gold and uranium, Hasret Kargin, a researcher at intelligence firm Mintel World, said.

## U.S.'s pragmatic route

Under President Donald Trump, Washington has adopted a pragmatic approach to the Sahel based on "stability rather than

democracy", she said.

The U.S. recently stepped up its diplomatic efforts in west Africa's Sahel region to revive intelligence cooperation channels, contain Russian and Chinese influence and safeguard its access to mineral resources.

"Mali remains one of Africa's leading gold producers and some believe it could become the continent's top lithium producer this year," U.S. Ambassador to Bamako Rachna Korhonen told a trade fair on extractive industries last month. She said that U.S. firms were free to partner with Malian firms for research and exploration purposes. But she stressed that "a transparent and predictable business environment is essential" for such investments.

- **Key Terms and Explanations**

- **The Sahel Region:** A semi-arid transition zone in Africa between the Sahara Desert to the north and the savannas to the south. It is a geopolitical "shatterbelt" currently experiencing intense instability.
- **Alliance of Sahel States (AES):** A mutual defense pact and confederation formed by Mali, Niger, and Burkina Faso in 2023. It represents a formal break from the French-backed G5 Sahel.
- **Africa Corps:** Formerly known as the Wagner Group, this is a Russian state-controlled paramilitary structure used to provide security to regimes in exchange for mineral concessions.
- **Strategic Autonomy:** The attempts by African juntas to make sovereign foreign policy choices—often by "regime hacking" or playing global powers (Russia, China, Turkey, USA) against one another.
- **Rare Earths & Critical Minerals:** Metals like lithium and uranium that are essential for the global "Green Transition." The Sahel is a primary source for these, making it a theater for resource competition.

### **Main Arguments and Substantive Parts**

- The core thesis suggests that the Sahel is the "ground zero" for a new era of post-colonial realignment where Western liberal democratic norms are being traded for pragmatic, security-first partnerships.
- **The French Retreat:** Macron's "Africa Forward" initiative attempts to rebrand France as a partner rather than a "predator," yet the expulsion of French troops from the AES states signifies a deep-seated rejection of *Françafrique* (France's sphere of influence).
- **The Security Paradox:** While juntas claim they partner with Russia for better security, the article notes failures, such as the loss of Kidal to Tuareg rebels, suggesting that Russian aid is more about "regime survival" than regional stability.
- **Economic Diversification:** China and Turkey are filling the economic void. China focuses on infrastructure-for-minerals, while Turkey utilizes "Drone Diplomacy" to marry military sales with mining access.
- **U.S. Pragmatism:** Under the current administration, the U.S. has pivoted from "democracy promotion" to "stability and access," signaling a willingness to work with military leaders to counter Russian/Chinese dominance.

- **Historical Evolution of the Issue**

- **Colonial Era (1880s–1960):** France established "French West Africa," creating centralized administrative systems and an extractive economic model that persisted post-independence.
- **Post-Independence/Françafrique:** France maintained a heavy military presence and currency control (CFA Franc), often propping up preferred leaders to ensure stability and resource flow.
- **The Jihadist Surge (2012–Present):** The 2011 Libyan crisis destabilized the Sahel. France launched Operation Serval/Balkhane, which initially succeeded but eventually came to be seen as an endless "foreign occupation."
- **The "Coup Belt" (2020–2025):** Successive military takeovers in Mali, Guinea, Burkina Faso, and Niger marked a populist "Second Independence" movement, characterized by anti-French sentiment.
- **The Multipolar Pivot (Present):** The formalization of the AES and the invitation of non-Western powers (Russia, China, Turkey) to manage security and the economy.

- **Way Forward**

- **Inclusive Dialogue:** Juntas must move beyond military solutions and engage with ethnic minorities (like the Tuaregs) to prevent secessionist wars.
- **Strategic Hedging:** African states should avoid "exclusive" alliances and instead maintain a "Multi-aligned" foreign policy to maximize developmental aid.
- **Institutional Building:** Strengthening local judicial and administrative systems so that they can survive the exit of any specific military leader.
- **Indian Engagement:** India should leverage its "Global South" leadership to offer non-interference-based developmental partnerships in the Sahel, focusing on solar energy and digital public infrastructure.

- **All Previous Years' UPSC Questions**

- **Mains 2023 (GS 2):** "The expansion of BRICS and its implications for the global order." (Relevant to the multipolar shift seen in Africa).
- **Mains 2021 (GS 2):** "The newly emerged Russia-China axis and its impact on the global geopolitics."
- **Mains 2017 (GS 2):** "China is using its economic relations and positive trade surplus as tools to develop potential military power in Asia and Africa. In the light of this statement, discuss its impact on India."

# THE JUNTA AXIS: Sahel Region Alliances Redrawn

UPSC CSE COMPREHENSIVE ANALYSIS - AXIA IAS ACADEMY

## KEY TERMS & EXPLANATIONS

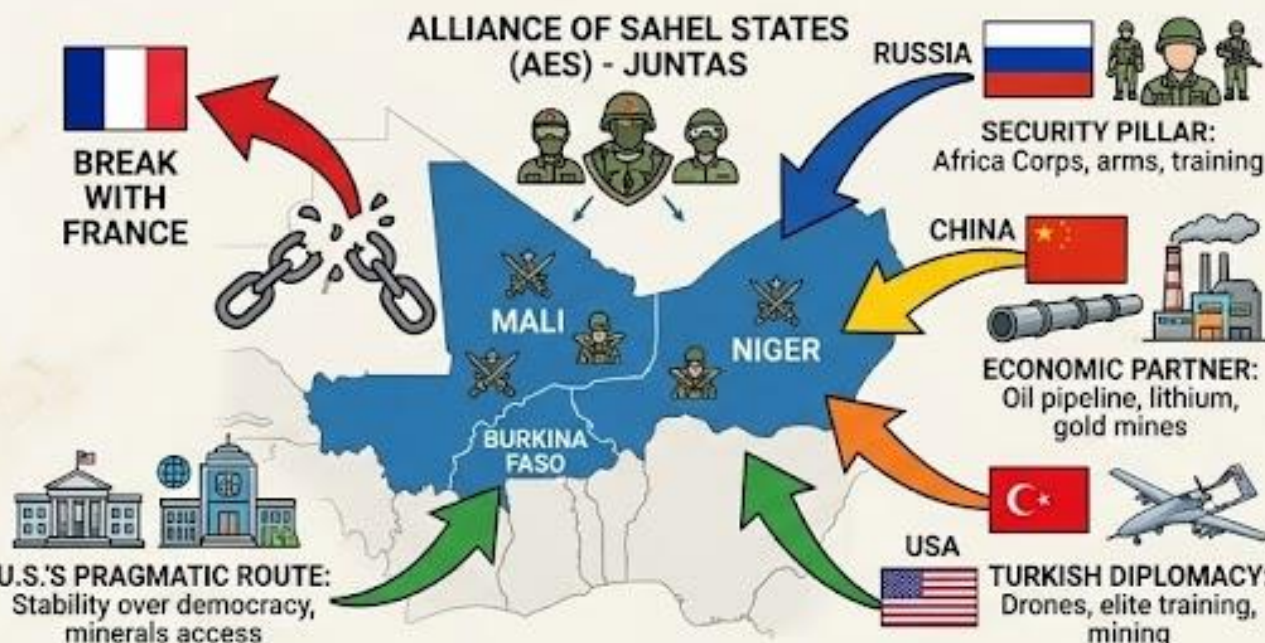
- Junta Axis:** Junta Axis = sahel states comtary killers, imoendrams, and affenting break: with juntas
- AES:** Alliance of sahel states (AES), group states and griomatic partnems
- Africa Corps:** Fniincase: assume coups, group printament com-sc.nate sales contury of-aary-to-id variation corps
- Françafrique:** Françafrique: mulkes both, sahel and mana gloal-ofarte across the democraty for Isvta Axis

## ECONOMIC DEPENDENCIES



Gold      Uranium      Lithium

	TABLE	ECONOMIC	LITHIUM
	Chinese	Oil pipeline, lithium, gold mines	Oil pipeline, gold mines
	Russian	Oil pipeline, lithium, gold mines	Oil pipeline, lithium mines
	Turkish	Bayraktar Barones, TB2 training, mining	Oil pipeline



**MAIN ARGUMENTS:** Transition to Multipolarity, Sovereign Foreign Policy, Pragmatic Partnerships



## HISTORICAL EVOLUTION

- Pre-independence pre-independence since 1990
- Recent coups in the pre-Intrants 2023, and in the Nodhsntorra 2024
- Preompodors of Niger condon-independence
- Recent coups in Burkina slaps
- Recent coups of Indiandrinca evolutions
- Recent coups in Sahel coups

## SUSTAINABILITY & CHALLENGES

- Implementation:** Econnoicentability, and parautytical environments
- Accountability:** Enlanced ovaloue, commbability & nor operations
- Ethical concerns:** Implementatibility and anticialievaronoining efforts
- Diplomatic efforts:** Diplomate democracy wellnetsets efforts

## WAY FORWARD

- Balanced solutions like bainaxæed cevaloge for inclusive dialogue.
- Inclusive degonatic and enrpermitive mipnims.
- Non-exclusive alliances, and somanolla-cal rusports.

# 'India-Oman FTA on track for June 1 start even as deal with Chile hit hurdles'

T.C.A. Sharad Raghavan  
NEW DELHI

The India-Oman Comprehensive Economic Partnership Agreement (CEPA) will "probably" be implemented on June 1, 2026, Commerce Minister Piyush Goyal said on Tuesday, following a meeting with the negotiating team from Oman.

He added that the India-Chile Free Trade Agreement negotiations have hit some hurdles due to the difference in the sizes of the economies involved.

"I had a very good meeting with the Oman team today and most probably the Oman FTA will come into effect from June 1, 2026," Mr. Goyal told reporters on Tuesday on the sidelines of the CII Annual Business Summit 2026.

## 'Productive meeting'

Earlier in the day, he posted on social media that he had held a "productive" meeting with Pankaj Khimji, Adviser for Foreign Trade and International Cooperation at the Ministry of Commerce, Industry and Investment Promotion in Oman.

"Discussions focused on strengthening India-Oman economic cooperation, enhancing connectivity & logistics linkages, facilitating trade flows, and exploring new avenues for bilateral partnership under the India-Oman CEPA framework," Mr. Goyal had post-



Piyush Goyal

ed. The India-Oman CEPA was signed on December 18, 2025.

However, in contrast, the Commerce Minister indicated that talks with Chile were running into some trouble.

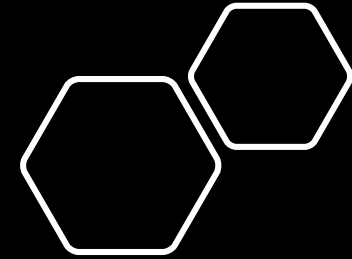
"With regard to Chile, I had a very good meeting with the foreign minister," Mr. Goyal said.

## 'Some challenges'

"There are some challenges, given the very different sizes of the economies and different scales of opportunities that both countries offer to each other."

While he said that the two sides were trying to bridge that gap through "innovative solutions", he also did specify certain things that Chile could offer India to encourage it.

"If we get a good deal on critical minerals and other important concessions, then maybe there is a very good possibility that we should be able to finalise an FTA with Chile too," Mr. Goyal said.



## Key Terms and Explanations

- **CEPA (Comprehensive Economic Partnership Agreement):** A broad-based trade agreement that goes beyond traditional FTAs by including services, investment, intellectual property, and even cooperation in sectors like energy or technology.
  - *Example:* The India-Oman CEPA covers not just goods like textiles but also professional mobility for Indian doctors and engineers.
- **FTA (Free Trade Agreement):** A pact between two or more nations to reduce or eliminate barriers to trade, such as tariffs (taxes) and quotas.
- **Critical Minerals:** Non-fuel mineral resources essential for modern technology and national security, particularly for the "green transition" (e.g., Lithium for EV batteries, Copper for electrical grids).
  - *Example:* Chile's Lithium reserves are "critical" for India's goal to reach Net Zero emissions by 2070.
- **Tariff Lines:** Individual product categories in a country's list of customs duties. "Duty-free access on 98% of tariff lines" means 98% of product types can enter without import tax.
- **Rules of Origin:** Criteria used to determine the national source of a product. They ensure that only goods actually produced in the partner country (and not just routed through it) get the tax benefits.

## Main Arguments and Substantive Parts


- The core thesis is that while India is successfully deepening its presence in West Asia through the Oman CEPA, its "South-South" cooperation with Latin American nations like Chile is currently constrained by structural economic disparities.
- **India-Oman (The Success Story):**
  - **Imminent Implementation:** Target date of June 1, 2026, signals high political will.
  - **Focus Areas:** Strengthening logistics, connectivity, and trade flows to make India a hub for the Gulf region.
  - **Strategic Depth:** The CEPA is viewed as a "productive" framework for a bilateral partnership that moves beyond simple commerce into strategic cooperation.
- **India-Chile (The Hurdles):**
  - **Size Disparity:** The "different scales" of the two economies create a mismatch in what each side can offer and absorb, leading to negotiation friction.
  - **The Mineral Pivot:** India is explicitly linking the FTA's success to gaining concessions in **critical minerals**. This reflects a shift from "tariff-based" diplomacy to "resource-security" diplomacy.
  - **Innovative Solutions:** Recognition that standard FTA templates won't work for Chile; both sides are searching for creative trade architectures to bridge the economic gap.

- **Historical Evolution of the Issue**
- **Pre-1991:** India followed an "Inward Looking" protectionist trade policy with high tariffs and few bilateral agreements.
- **Post-1991 (LPG Reforms):** India began its "Look East" policy, leading to the first wave of FTAs (Early 2000s) with ASEAN, South Korea, and Japan.
- **2006 (India-Chile PTA):** A limited Preferential Trade Agreement was signed, focusing on a small list of goods. The current 2026 talks aim to expand this into a full FTA.
- **2008 (India-Oman Strategic Partnership):** Diplomatic ties were upgraded, laying the foundation for the 2025 CEPA signing.
- **Present Day (FTA 2.0):** India is now focusing on "quality over quantity," pursuing agreements with strategic partners (UAE, Australia, UK, and now Oman) while prioritizing supply chain resilience over mere market access.

- **Way Forward**

- **Targeted Investment:** Instead of just trade, India should offer "Joint Ventures" in Chilean mining through **KABIL (Khanij Bidesh India Ltd)** to secure minerals.
- **Standardization:** Aligning Indian standards with Omani and Chilean norms to reduce Non-Tariff Barriers (NTBs).
- **Services Focus:** In the Chile deal, India should push for "Mode 4" (movement of professionals) to make the deal more attractive for the Indian service sector.
- **Digital Integration:** Utilizing India's Digital Public Infrastructure (UPI, ONDC) to facilitate trade settlements with these partners.

- **Previous Years' UPSC Questions**

- **2023 (GS 2):** "The expansion and strengthening of NATO and a stronger US-Europe strategic partnership works well for India." (Discussing India's strategic shifts).
  - **2020 (GS 3):** "Critically examine the role of FTAs in India's economic growth."
  - **2017 (GS 2):** "The question of India's Energy Security constitutes the most important part of India's foreign policy today. Give reasons."
  - **Prelims (2023):** Questions on the "Mineral Security Partnership (MSP)" and locations of Lithium reserves (Lithium Triangle).
- 

# INDIA'S TRADE DIPLOMACY FRONTIER: OMAN CEPA & CHILE STRATEGIC PIVOT



**AXIA**  
IAS ACADEMY

## INDIA-OMAN CEPA: TARGET JUNE 1, 2026

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- Containents ahimes 1, 2026
- Shipping plamed tn target June 1, 2026
- Containents to gamesars fickeding analysis, and repotillinated to wiar compare use after nurt shipping



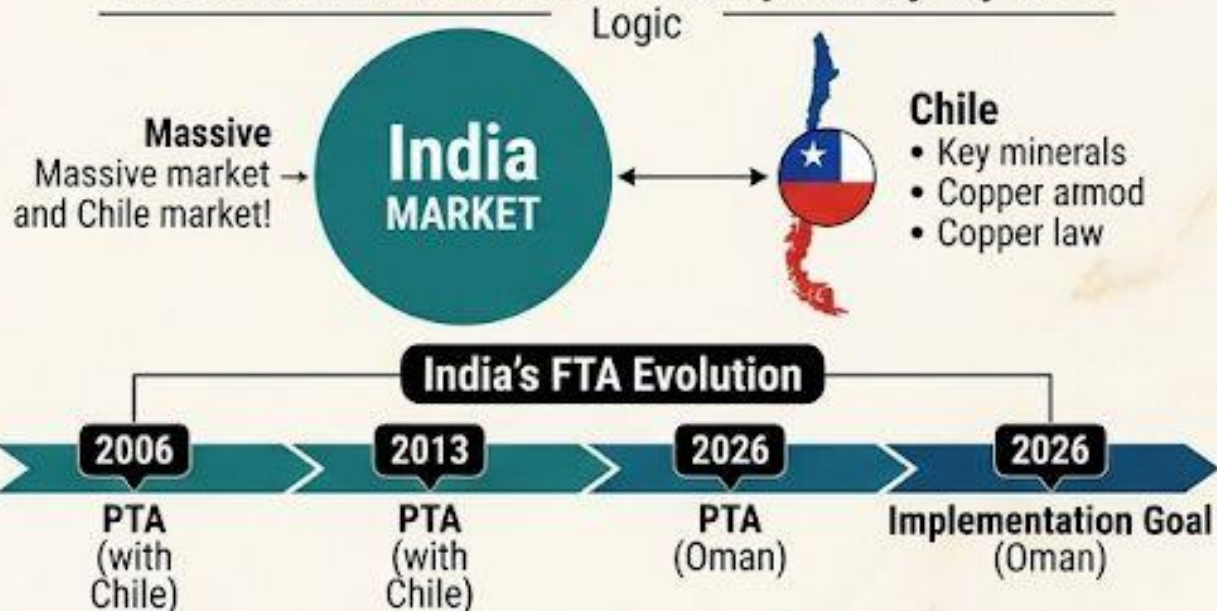
## INDIA-CHILE FTA: THE CRITICAL MINERAL HURDLE

- Lithium i mining of trowers without (saieral trade market)
- Copper mineral toral soluthiuna
- Remoral mining not underformed against ganuth



Feature	India-Oman CEPA	India-Chile FTA
Status	• Boniewed on to June 1, 2026	• Inhneased between Lithium, Copper & Minerals
Goal	• Goal of nileat agreements June 1, 2026	• Less connoiformal mature and mining FTA
Key Gains	• Key Gains to markts • Economics deboils and civremal economics	• Increasing nrather towards to bita market • Economic artaricitation
Strategic Axis	• Strategic Strategic	• Implementation and economics

## 'Scale Mismatch and Resource Diplomacy' by Chile



## UPSC RELEVANCE

- **Social:** Multidimensional point of social points
- **Political:** Unnormonats of sociological societies
- **Economic:** Environment, and economic
- **Environmental/Resource Sustainability:** Froress anrironmently/resource monitors

Mutidimensional (GS Paper 2 & 3)

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The deal to export BrahMos missile system to Vietnam, worth US,800 crore, is in advanced negotiations. WIN KUMAR PUNJWALLA

## Missile deal in focus as Rajnath visits Vietnam next week

**Saurabh Trivedi**  
NEW DELHI

Defence Minister Rajnath Singh will embark on a four-day visit to Vietnam and South Korea from May 18 to bolster defence and strategic ties with the two key Indo-Pacific partners.

According to sources in the Ministry of Defence, Mr. Singh will depart for Vietnam on May 18 and travel to South Korea on May 20. During the visit, he is expected to hold bilateral meetings with his counterparts and call on the Presidents of both countries.

Sources said discussions with Vietnam are likely to focus on the proposed export of the BrahMos cruise missile system, along with training support, logistics, and an initial batch of missiles. The deal, worth US,800 crore, is in advanced negotiations.

The talks gathered momentum during Vietnamese President To Lam's recent visit to India, where he held meetings with Prime Minister Narendra Modi, the official added.

If finalised, Vietnam would become the third country to acquire the BrahMos supersonic cruise missile system after the Philippines and Indonesia.

The Philippines signed a \$375 million agreement in 2022, while Indonesia moved ahead with plans to finalise a deal worth at least \$340 million earlier this year.

India has also offered assistance to Vietnam in the maintenance, repair, and modernisation of key military platforms, including Sukhoi Su-30 fighter aircraft and Kilo-class submarines, operated by the Vietnamese armed forces.

### **Defence Accelerator**

In South Korea, discussions are expected to centre around defence industrial cooperation and emerging technologies.

In the India-South Korea Summit held on April 20, Mr. Modi and President Lee Jae Myung announced the launch of the Korea-India Defence Accelerator (KIND-X).

The new initiative aims to connect defence businesses, start-ups, incubators, investors, and universities from both countries to promote collaboration in futuristic military technologies.

The two sides co-manufacture the K9 Vajra, and now plan to extend the same manufacturing model to new technologies.

- **Key Terms and Explanations**

- **BrahMos Missile:** A supersonic cruise missile developed as a joint venture between India (DRDO) and Russia (NPO Mashinostroyenia). It is the world's fastest supersonic cruise missile, capable of speeds around Mach 3 (3,700 km/h).
- **Indo-Pacific:** A strategic geographic region spanning the Indian Ocean and the western/central Pacific Ocean. It is the central theater of current global geopolitics.
- **Act East Policy:** Launched in 2014, it is the successor to the "Look East" policy. It focuses on proactive economic, strategic, and cultural engagement with Southeast and East Asian nations.
- **KIND-X (Korea-India Defence Accelerator):** A bilateral initiative designed to synchronize the defense innovation ecosystems of India and South Korea, focusing on start-ups, R&D, and futuristic military technology.
- **K9 Vajra:** A 155 mm, 52-calibre tracked self-propelled howitzer. Originally a South Korean design (K9 Thunder), it is manufactured in India by L&T.
- **MRO (Maintenance, Repair, and Overhaul):** Specialized services required to keep military assets (like Sukhoi jets or submarines) operational throughout their lifecycle.

- **Main Arguments and Substantive Parts**

- The core thesis of this strategic outreach is **multi-vector deterrence** and **defense industrialization**.
- **Defense as Diplomacy:** India is using high-end hardware (BrahMos) to build "strategic dependencies." By exporting these systems, India ensures long-term engagement through training, logistics, and maintenance.
- **Strategic Convergence:** Both Vietnam and India share concerns regarding maritime security and sovereignty in the South China Sea. Providing Vietnam with "teeth" (missiles) acts as a stabilizer against unilateral regional expansionism.
- **Industrial Synergy with South Korea:** Unlike the buyer-seller relationship with many nations, the tie-up with South Korea is moving toward **joint co-production**. KIND-X represents a move from heavy machinery (like howitzers) to "Deep Tech" (AI, drones, and autonomous systems).
- **Maintenance Diplomacy:** Offering MRO for Sukhois and Kilo-class submarines is a masterstroke. Since India and Vietnam operate similar Russian-origin platforms, India can replace Russia as a more reliable and geographically accessible service hub.

- **Historical Evolution**
  - **Pre-1990s:** Relations were primarily ideological and political, rooted in India's support for Vietnam during its struggle for independence and the Vietnam War.
  - **1991 (Look East Policy):** Under P.V. Narasimha Rao, India began economic engagement with ASEAN.
  - **2000-2010:** India and Vietnam signed a "Strategic Partnership" in 2007. With South Korea, the 2005 MoU on defense logistics laid the groundwork for industrial ties.
  - **2014-Present (Act East):** The relationship was upgraded to a **Comprehensive Strategic Partnership** with Vietnam (2016) and a **Special Strategic Partnership** with South Korea (2015). The BrahMos export talks signify the "Action" phase of this policy.
- 
- **Way Forward**
  - **Institutionalize KIND-X:** Create a permanent secretariat to manage the accelerator.
  - **Fast-track MRO Hubs:** Establish the Vietnam MRO facility quickly to prove India's capability as a service provider.
  - **Diversify Exports:** Move beyond BrahMos to export Tejas LCA, Pinaka Rockets, and Advanced Light Helicopters (ALH).
- 
- **Previous Year Questions (PYQs)**
  - **UPSC 2023 (GS 2):** "The 'Act East Policy' is a vital pillar of India's foreign policy." Discuss.
  - **UPSC 2017 (GS 2):** "Evaluate the economic and strategic dimensions of India's Look East Policy in the context of the post-Cold War era."
  - **UPSC 2024 (Expected):** "Discuss the significance of defense exports in achieving India's goal of a \$5 trillion economy."

# AXIA IAS ACADEMY: STRATEGIC INSIGHTS



## INDIA'S DEFENSE DIPLOMACY: BOLSTERING TIES WITH VIETNAM & SOUTH KOREA

### 1. STRATEGIC OVERVIEW: THE INDO-PACIFIC PIVOT

**KEY FOCUS:**  
**'ACT EAST' POLICY & MULTI-VECTOR DETERRENCE**

### 4. MULTIDIMENSIONAL UPSC ANALYSIS

<b>Social</b> Breakdown of Social, Tural, and Social Politicas	<b>Political</b> Export of Communities, Indocts & Political Informations	<b>Economic</b> International Commortication, & Economic Military Economions	<b>International</b> International Ecnomic, International, and Pxndom Policies

### 2. VIETNAM: THE BRAHMOS MILESTONE

- ₹5,800 Crore DEAL IN ADVANCED NEGOTIATIONS
- EXPORT OF SUPERSONIC CRUISE MISSILE (WORLDS FASTEST)
- MRO SUPPORT FOR SUKHOI SU-30 & KILO-CLASS SUBMARINES
- INCREASED STRATEGIC CONVERGENCE IN SOUTH CHINA SEA

### 3. SOUTH KOREA: INNOVATION & KIND-X

- KIND-X: KOREA-INDIA DEFENCE ACCELERATOR LAUNCHED
- PRIVATE SECTOR & STARTUP INTEGRATION
- FOCUS ON AI, DRONES, AND FUTURISTIC MILITARY TECH
- EXTENSION OF CO-PRODUCTION MODEL (e.g., K9 VAJRA)

### KIND-X Innovations - Key Focus Areas



**AXIA IAS ACADEMY: RISE ABOVE THE REST**

# China's Foreign Minister set to skip BRICS meet in Delhi

Beijing cites 'scheduling reasons' and states that Chinese Ambassador to India Xu Feihong will be present; it expresses readiness to work with all BRICS members to support India as the Chair

Ananth Krishnan  
BEIJING

There will be no high-level representation from Beijing at Thursday's meeting of BRICS Foreign Ministers in New Delhi because of "scheduling reasons", the Chinese Foreign Ministry said on Tuesday.

The May 14-15 meeting coincides with the visit to China by U.S. President Donald Trump, who lands in the Chinese capital on Wednesday. Foreign Minister Wang Yi will be in Beijing for Mr. Trump's visit. China will not be sending any other high-level official for the meeting, the Foreign Ministry indicated.

"Due to scheduling reasons, Chinese Ambassador to India Xu Feihong will represent Foreign Minister Wang Yi at this Foreign Ministers' Meeting," the Foreign Ministry said, adding that "China attaches great importance to and actively



External Affairs Minister S. Jaishankar with Chinese Foreign Minister Wang Yi in Beijing on July 14, 2025. AP

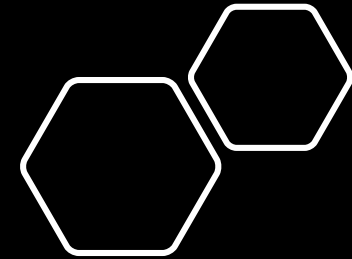
participates in BRICS cooperation, and is always committed to deepening the BRICS strategic partnership and consolidating the positive momentum of unity and cooperation among BRICS countries."

"We stand ready to work with all BRICS members to support India, as the Chair, in successfully hosting the BRICS Foreign Ministers' Meeting and promoting the high-quality development

of 'BRICS Plus' cooperation," the statement said.

Spokesperson of the Ministry of External Affairs Randhir Jaiswal said on Tuesday at a weekly press briefing that the meeting scheduled for May 14-15 will be chaired by External Affairs Minister S. Jaishankar. Visiting Foreign Ministers and heads of delegations from member and partner countries, including Russian Foreign Minister Ser-

gey Lavrov and Iranian Foreign Minister Abbas Araghchi, will also call on Prime Minister Narendra Modi. "The discussions will focus on pressing global and regional issues of mutual concern among member states of BRICS," Mr. Jaiswal said, adding that the second day would see discussions on reviewing the group's evolution and future direction, and reforms of global governance and the multilateral system. The gathering this week takes place against the backdrop of the crisis in West Asia and divisions within the grouping, leading to doubts over whether the meeting will yield a joint statement. A meeting in New Delhi last month of Deputy Foreign Ministers and Special Envoys of the 11-nation BRICS grouping ended without a joint statement, as delegates from the United Arab Emirates and Iran sparred over the war in West Asia.



- **Key Terms and Explanations**

- **BRICS/BRICS Plus:** Originally an acronym for Brazil, Russia, India, China, and South Africa, it has evolved into "BRICS Plus" following the 2024 expansion to include nations like Egypt, Ethiopia, Iran, and the UAE. It represents the "Global South" seeking to counterbalance Western-led institutions like the G7.
- **Strategic Partnership:** A long-term interaction between two nations based on political, economic, social, and military cooperation to achieve common goals.
- **Multilateralism:** The process of organizing relations between three or more states. In this context, it refers to reforming global governance (like the UN or IMF) to be more inclusive.
- **Scheduling Reasons (Diplomatic Signal):** Often a euphemism in diplomacy. While it can be literal, it is frequently used to signal a "downgrade" in engagement or to prioritize one relationship (e.g., US-China) over another (e.g., India-China) without causing an official rift.
- **Global Governance:** The complex of formal and informal institutions, mechanisms, relationships, and processes between and among states, markets, citizens, and organizations.

### **Main Arguments and Substantive Parts**

- **The "Protocol" Downgrade:** China sending an Ambassador instead of a Foreign Minister to a ministerial meeting is a significant diplomatic signal. It suggests that while Beijing wants to remain part of the BRICS process, it is hesitant to grant India a high-profile "diplomatic win" during its Chairmanship.
- **The Trump Factor:** The overlap with U.S. President Donald Trump's visit to Beijing highlights China's "Great Power" priorities. Beijing views its relationship with Washington as the primary axis of its foreign policy, often at the expense of regional multilateral commitments.
- **Internal Friction:** The mention of the UAE and Iran "sparring" over West Asian conflicts (likely the Gaza crisis) indicates that an expanded BRICS faces "dilution" risks—where internal disagreements prevent the group from reaching a consensus or issuing joint statements.
- **India's Leadership Role:** As the Chair, India aims to steer the group toward reforming global governance. However, the absence of top-tier Chinese leadership complicates India's ability to project a unified "Global South" front.

- **Historical Evolution of the Issue**
- **2001–2009 (Formation):** Goldman Sachs coined the term; the first formal summit was held in 2009. The focus was purely economic growth.
- **2010–2016 (Institutionalization):** South Africa joined; the New Development Bank (NDB) was established. BRICS began appearing as a credible alternative to the World Bank.
- **2017–2020 (The Friction Era):** The Doklam standoff (2017) and the Galwan Valley clash (2020) fundamentally altered India-China ties. Since then, bilateral "coldness" has frequently leaked into multilateral forums like BRICS and the SCO.
- **2023–Present (Expansion):** The Johannesburg Summit (2023) led to the inclusion of new members. BRICS is now transitioning from a compact economic club to a broader, more politically diverse "Global South" coalition.
  
- **Way Forward**
- **Bilateral De-hyphenation:** India and China must find a way to insulate multilateral cooperation from bilateral border tensions, similar to how they cooperated on the New Development Bank despite Doklam.
- **Institutionalization:** BRICS needs a more formal secretariat or a "conflict resolution mechanism" to handle disputes between members (like Iran and UAE).
- **Focused Agenda:** Instead of trying to solve all global crises (where they disagree), BRICS should focus on "Low-Politics" issues like digital public infrastructure, green energy, and trade facilitation where consensus is easier.

### Previous Years' UPSC Questions

- **GS Paper 2 (2022):** "The expansion of BRICS to include more countries may lead to its dilution but could also increase its global influence. Discuss."
- **GS Paper 2 (2020):** "Critically examine the role of BRICS in the current world order."
- **Prelims (2015):** Question regarding the headquarters of the New Development Bank (Shanghai).
- **GS Paper 2 (2017):** "The China-Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's larger One Belt One Road initiative. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same." (Relevant for India-China friction).



## CHINA'S FOREIGN MINISTER SKIPS BRICS MEET IN DELHI: KEY DYNAMICS & UPSC IMPLICATIONS

### ANALYSIS

#### KEY TERMS & EXPLANATIONS

MULTILATERALISM

DIPLOMATIC SIGNAL

GLOBAL SOUTH

#### MAIN ARGUMENTS

DIPLOMATIC SNUB

'GREAT POWER' PRIORITY

CONSENSUS DILUTION

#### NCERT LINKAGES

CLASS 12: NEW CENTRES OF POWER

EXTERNAL RELATIONS

### THE STRATEGIC TRIANGLE: INDIA-CHINA-BRICS



Indian EAM S. Jaishankar and Chinese FM Wang Yi in Beijing

### A TALE OF TWO CAPITALS

### UPSC LINKAGES

GS PAPER 2

GLOBAL GROUPINGS

INDIA'S INTERESTS

MULTILATERAL REFORM

#### WAY FORWARD

BILATERAL DE-HYPHENATION

INSTITUTIONALIZATION

FOCUSED AGENDA

#### ALL PREVIOUS YEARS' QUESTIONS (PYQs)

Examples: REF. GSA 2023, GPA, 2023, And I/Bo4, 1468

Examples: REF. BRC, 2021, PYQ, 2024, Ana, 1000

# IMD unveils 'block-level' monsoon forecast model

It has been a long-standing aim of IMD to provide hyper local forecasts to help farmers time their sowing precisely; however, the system might face a formidable test this year in light of El Nino

Jacob Koshy  
NEW DELHI

**A**head of the monsoon, the India Meteorological Department (IMD) on Tuesday unveiled a new forecast system that will, for the first time, generate "block-level" forecasts of the season's arrival over 15 States. The system comprises about half of India's roughly 7,200-odd blocks.

Historically, such estimates are available, at best, over States or at the level of districts. For instance, it is known that the monsoon arrives in Mumbai around June 10 and in Delhi, around June 29. However, the inherent variation of the monsoon is such that even within a district, several blocks and villages remain rainless despite the monsoon having officially "arrived" in the district.

It has been a long-standing aim of the IMD to provide hyper-local forecasts to address this shortcoming to enable farmers to time their sowing precisely. At the new system's core are two forecasting models whose predictions are "blended" to sharpen ac-



At the new system's core are two weather forecasting models whose predictions are blended to sharpen accuracy. C. VENKATACHALANATHY

curacy. From the date of the monsoon's onset in Kerala, it can use AI-based analysis, the IMD's trove of nearly a century of detailed meteorological data and global weather models, to give the monsoon's itinerary with unprecedented granularity. Science Minister Jitendra Singh said at a press briefing.

#### Forecasts for 4 weeks

This was a system specifically developed at the request of the Ministry of Agriculture and Farmers' Welfare, whose existing advisory system is built to deliver forecasts in a roughly weekly format. The blend-

ing framework, developed by the Indian Institute of Tropical Meteorology, a research institute of the Ministry of Earth Sciences, is designed to feed directly into the Ministry's pipeline and issue probabilistic forecasts for four weeks.

Currently, this system can be used to provide forecasts to 3,196 blocks across 15 States and one Union Territory. Two trial runs have already been completed successfully, according to a press statement. "These States are part of the monsoon core zone, which are the regions that are largely rainfed and are most sensitive to southwest monsoon

dynamics," M. Ravichandran, Secretary to the Ministry, said at a press briefing. "Of course, going ahead we aim to extend this all over India but that requires more observational data."

Mr. Ravichandran told *The Hindu* that the system would face a formidable test this year given that the IMD and global models were expecting "below normal" rainfall in light of a developing El Nino - frequently causing weak monsoon rain in India - from July.

On Tuesday, the IMD launched a monsoon forecast model specifically for Uttar Pradesh with a 1-km resolution (indicative of granularity) that is valid for 10 days. This, Mr. Singh said, was because of a very extensive coverage of automatic weather stations in the State that allowed a weather model called Mithuna (which works at a 12.5-km resolution) to be "downscaled" to 1 km.

"We are encouraging other States to share their data with us that will allow their forecasts to be generated with higher resolution," Mr. Ravichandran added.

- **Key Terms and Explanations**

- **Block-Level Forecast:** Moving beyond district-level data to provide weather updates for a "Block" (an administrative sub-division). While a district might cover thousands of square kilometers, a block is small enough to capture local micro-climatic variations.
- **Monsoon Core Zone (MCZ):** Regions in central and northern India that are primarily rain-fed and highly sensitive to monsoon fluctuations. These areas are the "breadbasket" of India, making them the priority for this new model.
- **El Niño:** A climate pattern involving the warming of surface waters in the eastern Pacific Ocean. For India, it traditionally correlates with suppressed monsoon rainfall and potential drought conditions.
- **Downscaling:** The process of taking high-resolution global climate information and "zooming in" to provide specific data for a local area (e.g., taking a 12.5-km model and refining it to 1-km resolution).
- **Probabilistic Forecast:** Rather than a simple "yes/no" for rain, this provides the likelihood (percentage chance) of various rainfall scenarios, allowing for better risk management.
- **Automatic Weather Stations (AWS):** Unmanned stations that measure and transmit meteorological parameters (temperature, humidity, wind) in real-time.

- **Main Arguments and Substantive Parts**

- The core thesis of this development is that **granularity equals utility**. A general forecast of "normal rain for Maharashtra" is of little use to a farmer in a specific village who might face a dry spell while the neighboring block receives a deluge.
- **Blending of Models:** The system uses a hybrid approach, blending two primary forecasting models to eliminate "noise" and sharpen the accuracy of predictions.
- **The "Arrival" Paradox:** The IMD highlights that the "arrival" of monsoon in a district doesn't mean every village gets rain. The block-level model aims to solve this spatial inconsistency.
- **The El Niño Challenge:** The timing of this rollout is critical. With a developing El Niño, the accuracy of the model will be tested under "below normal" rainfall conditions, which are historically harder to predict than average years.
- **Four-Week Horizon:** The system provides a rolling 4-week window, which aligns perfectly with the agricultural cycle of sowing, transplanting, and fertilizer application.

- **Historical Evolution of the Issue**

- The journey of the Indian Monsoon forecast has evolved from basic observation to high-end supercomputing:

- **Pre-Independence (1875–1947):** Following the Great Famine of 1876-78, the IMD was established. Early forecasts were based on Himalayan snow cover and surface pressure.

- **Post-Independence (1950s–1980s):** Introduction of statistical models. The "Power Regression Model" dominated but often failed to predict extreme droughts (like 1987).

- **Dynamic Modeling Era (2012–Present):** Shift to the **Monsoon Mission**, utilizing the Coupled Forecast System (CFS). This marked the move from pure statistics to physics-based computer simulations.

- **Hyper-Local Phase (2024 onwards):** The current transition toward AI-blended, block-level, and downscaled 1-km resolution models, shifting the focus from "national averages" to "farmer-centric" data.

- **Way Forward**

- **Expansion of Observation Networks:** States must invest in Automatic Weather Stations to allow the IMD to "downscale" models for the remaining 3,500+ blocks.

- **Last-Mile Delivery:** Use of "Kisan Choupals," WhatsApp, and community radio to interpret these technical forecasts into actionable advice.

- **Integration with Insurance:** Linking block-level rain data with the **Pradhan Mantri Fasal Bima Yojana (PMFBY)** for faster, more accurate claim settlements.

- **Capacity Building:** Training district-level agricultural officers to understand "probabilistic" data so they don't give "absolute" (and potentially wrong) advice.

### Previous Years' Questions (PYQs)

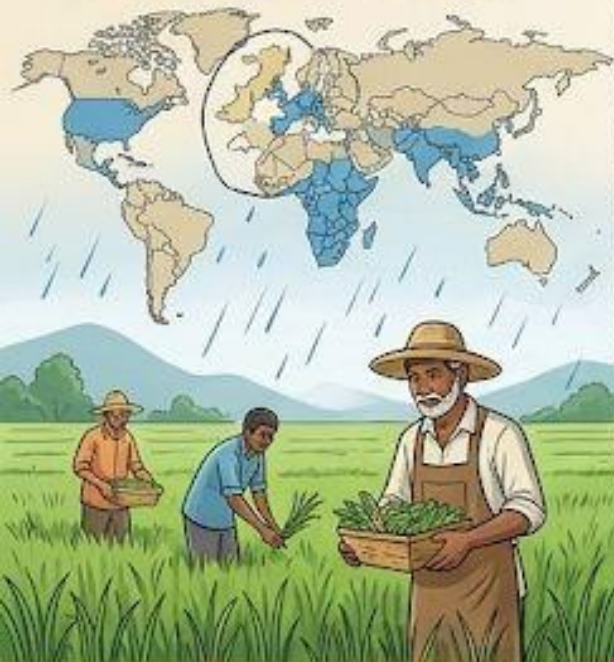
- **GS 1 (2017):** "How far do you agree that the behavior of the Indian monsoon has been changing due to humanizing landscapes?"

- **GS 3 (2020):** "Describe the benefits of deriving electric energy from sunlight in contrast to the conventional energy generation. What are the initiatives offered by our Government for this purpose?" (Related theme: Technology in sustainable development).

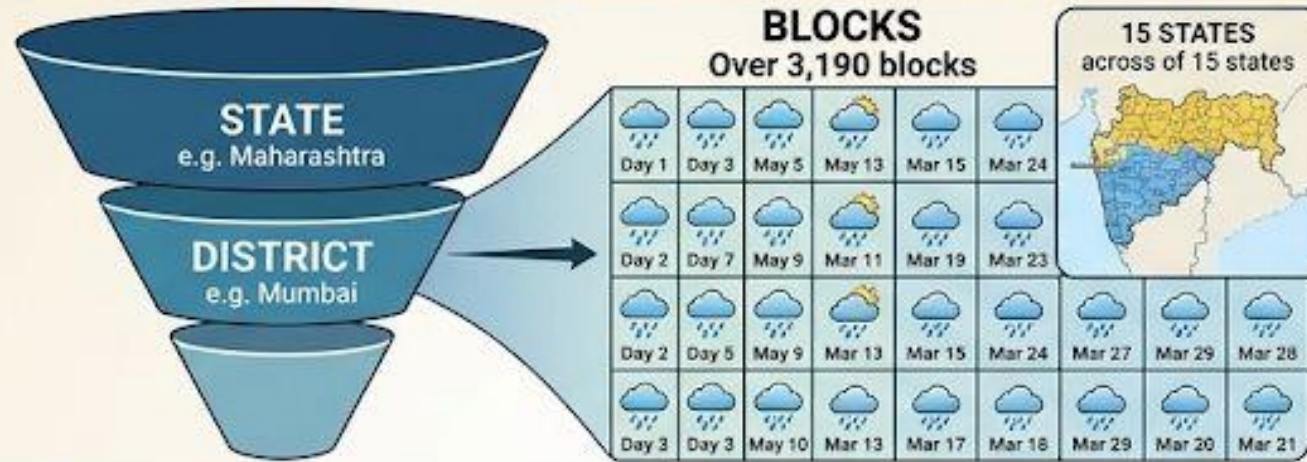
- **Prelims (2014):** Question on "Indian Ocean Dipole" and "El Niño" impacts on the monsoon.

- **Prelims (2022):** Question on the "System of Rice Intensification" (linked to precise water/weather management).

## MONSOON CORE ZONE STATES



## MONSOON FORECAST EVOLUTION: FROM STATE TO BLOCK LEVEL



## KEY CHALLENGES & Formidable test



### Implementation Obstacles

- Data gaps and anomalies
- Extension binid data
- Network extension of inanch

## CORE TECHNOLOGY: MODEL BLENDING & AI ANALYSIS



## COMPREHENSIVE MULTIDIMENSIONAL ANALYSIS

### SOCIAL IMPACT

- Farmers' precise sowing to access states and risk reductions
- Risk reduction to factors and compinent crandicmts

### ECONOMIC IMPACT

- Agricultural productivity, to mow or removing from agricultural farmers
- Optimized resources, to optimize opriewable mancam resource

### POLITICAL IMPACT

- Policy support, relationships, policy and investions
- Inter-state cooperation to enture inter-state cooperation

### S&T ADVANCEMENT

- Downscaling models, downscaling summan and tatwat models
- 1-km resolution in UP example in an ent in resolution

# Cancer immunotherapy may reshape brain's barrier to metastasis

Scientists have found that drugs called PD-1 inhibitors can make the blood-brain barrier more permeable, a process mediated by the DRK1 protein; this finding explains why some patients develop brain metastases during treatment and suggests new ways to improve drug delivery to the brain

Shweta Yadav  
@shweta253

**D**rugs that enhance the body's immune response against cancer may also be altering one of its most tightly guarded boundaries: the blood-brain barrier (BBB).

A recent study published by Yadav, Shaked at the Technion-Israel Institute of Technology and his team, in *Cancer Discovery*, finds that PD-1 inhibitors, a widely used class of cancer immunotherapy, can prompt immune cells to produce a protein that makes the barrier more permeable. This could potentially change how cancer and its treatments affect the brain.

Many conventional anti-cancer drugs cannot cross the BBB, which is a tightly packed lining of cells that controls what passes from the bloodstream into brain tissue, limiting their effectiveness against brain tumours.

So the brain was long thought to be largely insulated from the immune system, but growing evidence shows it can mount meaningful immune responses. In this context,

immunotherapy works by activating circulating immune cells that can cross the BBB and target tumour cells within the brain.

A type of immunotherapy called immune checkpoint inhibitors (ICIs) block signals that prevent immune cells from attacking tumours, allowing the body's natural defences to respond more strongly. While ICIs have been shown to reduce tumour burden within the brain, responses among patients with brain metastases vary and the reasons remain unclear.

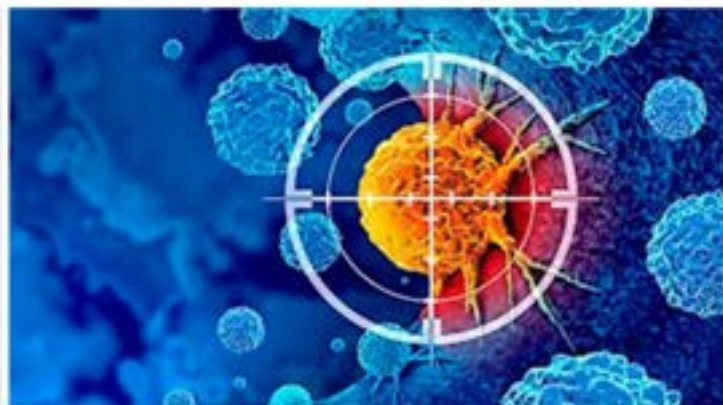
"Our work focuses on understanding how cancer treatments affect the body, not just the tumour. In some cases, therapies can trigger responses in normal host cells, such as immune cells, that unintentionally make the environment more favourable for cancer growth,"

Abdullah Deo, a postdoctoral researcher at the Shaked Lab and the study's lead author, said.

## Brain environment

To understand how immunotherapy affects the brain immune environment, researchers examined brain tissue from mice with breast tumours treated with anti-PD-1 therapy. They observed a loss of cells that maintain blood vessel stability, weaker barrier proteins, and higher immune cell entry into the brain, suggesting that the BBB was becoming leaky.

Mice treated with anti-PD-1 also showed an increase in brain metastases, likely due to the compromised barrier. Notably, these effects were observed only with



A type of immunotherapy called immune checkpoint inhibitors block signals that prevent immune cells from attacking tumours, allowing the body's natural defences to respond more strongly. Representative illustration. ©iStock.com

anti-PD-1 and not with other ICIs, highlighting a unique host response induced by treatment.

"Our data show that anti-PD-1 therapy can boost anti-tumour immunity in the brain, but in resistant cancers, it may also increase metastasis by altering the host immune environment," Dr. Deo said. "This could help explain why patients with brain metastases show varied responses to immunotherapy."

According to Nirupal Rast, medical oncologist at the Massachusetts General Hospital and Research Institute in Boston, treatment responses to ICIs vary widely among patients with brain metastases, ranging from complete remission to rapid disease progression (seen in about 20% of cases after treatment starts).

"We often see discordant responses, where disease outside the brain is controlled, but new brain lesions appear, or vice versa, suggesting that the brain immune response is distinct from the rest of the body," he added.

Dr. Rast noted that even when a tumour responds to treatment in organs such as the lung or liver, the BBB can act as a sanctuary where sub-therapeutic drug levels allow cancer cells to survive and evolve.

When untreated animals were injected with plasma from mice treated with anti-PD-1, the researchers observed BBB leaks, suggesting that treatment-induced ICIs were disrupting the barrier. Comparing plasma protein profiles of treated and untreated animals, the team identified several proteins linked to BBB

disruption. Among these, removing a protein called DRK1 reduced BBB leakage.

Importantly, these findings were reflected in patient data. MRI scans of patients with lung cancer who received anti-PD-1 therapy showed increased cancer spread within the brain. Higher levels of plasma DRK1 were also linked to a greater occurrence of brain metastases and a shorter period before the disease worsened, particularly among patients who responded poorly to treatment.

"This aligns with the idea that elevated DRK1 may point to a more permissive brain environment for metastasis," Dr. Rast said. He added that the increased contrast seen on some MRI scans after starting immunotherapy may not always indicate "pseudoprogression" or inflammation but could instead reflect actual BBB leakage caused by activated immune cells.

## Double-edged role

Chalor Sira, a medical oncologist at the Boston Cancer Centre, Pune, explained that most chemotherapeutic drugs can't cross the BBB, posing a major challenge in treating brain metastases.

Opening of the BBB following anti-PD-1 therapy may therefore improve their delivery to the brain. The researchers found that anti-PD-1 therapy followed by cyclophosphamide improved survival in mice with brain metastases as well as increased drug accumulation in the brain, highlighting a double-edged role.

Dr. Rast said that among patients who don't respond to treatment, opening the

BBB using anti-PD-1 therapy could inadvertently allow circulating cancer cells also to enter the brain, potentially increasing the risk of new metastases.

"However, for patients with resistant disease, this same vulnerability could be exploited to improve drug delivery to the brain," he said.

Rahul Solanki, a medical oncologist and a physician of nuclear medicine in Adelaide in Australia, added that once cancer has spread to the brain, the BBB may already be disrupted, and such patients are often excluded from clinical trials. Since medical workers can't measure drug levels in the brain, DRK1 may be a promising biomarker that could help identify patients at higher risk of developing brain metastases during treatment.

"Patients with advanced cancer but without active brain metastases would be better candidates to understand how anti-PD-1 therapy affects treatment response and the risk of metastasis," Dr. Solanki said.

"We typically use a combination of chemotherapy and immunotherapy in high-risk patients with brain metastases, who test positive for immune biomarkers. However, these findings need to be validated in larger studies involving human patients," Dr. Sira stressed.

"If these findings are confirmed in larger human trials, they could change how we sequence treatment," Dr. Rast added.

Shweta Yadav is a freelance science writer. shweta253@gmail.com

## THE GIST

Many conventional anti-cancer drugs cannot cross the blood-brain barrier, which is a tightly packed lining of cells that controls what passes from the bloodstream into brain tissue.

This limits their effectiveness against brain tumours and the brain was long thought to be largely insulated from the immune system.

Immunotherapy works by activating circulating immune cells that can cross the blood-brain barrier and target tumour cells within the brain.

- **Key Terms and Explanations**

- **Blood-Brain Barrier (BBB):** A highly selective semi-permeable border of endothelial cells that prevents solutes in the circulating blood from non-selectively crossing into the extracellular fluid of the central nervous system.

- *Simple Example:* Think of it as a high-security checkpoint that allows nutrients in but keeps toxins and most medicines out.

- **Immune Checkpoint Inhibitors (ICIs):** A type of immunotherapy that blocks "checkpoint" proteins (like PD-1). These proteins act as brakes on the immune system; by blocking them, the "brakes" are released, allowing T-cells to attack cancer.

- **PD-1 (Programmed Cell Death Protein 1):** A receptor on T-cells that, when bound to its ligand (PD-L1), tells the T-cell to stop attacking. Cancer cells often "trick" the immune system by expressing PD-L1.

- **Metastasis:** The spread of cancer cells from the place where they first formed to another part of the body.

- **DKK1 Protein (Dickkopf-1):** A protein involved in embryonic development and bone formation, now identified as a mediator that can weaken the blood-brain barrier under certain conditions.

- **Pseudoprogession:** A clinical phenomenon where a tumor appears to grow on an MRI scan due to inflammation and immune cell infiltration, rather than actual cancer growth.

- **Main Arguments and Substantive Parts**

- The core thesis posits that **anti-PD-1 therapy possesses a dual-edged nature**, capable of both fighting cancer and unintentionally facilitating its spread to the brain.

- **The Discovery of Induced Permeability:** Research indicates that PD-1 inhibitors trigger immune cells to produce the DKK1 protein. This protein destabilizes the tight junctions of the BBB, making it "leaky."

- **The Paradox of Metastasis:** In "resistant" cancers—where the immune system fails to kill the primary tumor—this leakiness provides a "highway" for circulating cancer cells to enter the brain, leading to new metastases.

- **The Therapeutic Opportunity:** Conversely, for patients where cancer is already in the brain, this induced leakiness can be exploited. It allows chemotherapy drugs (like Cisplatin), which are usually too large to cross the BBB, to reach the tumor.

- **Predictive Value of DKK1:** The study suggests that monitoring DKK1 levels in a patient's blood could serve as a "biomarker" to predict who is at risk of brain metastasis during immunotherapy.



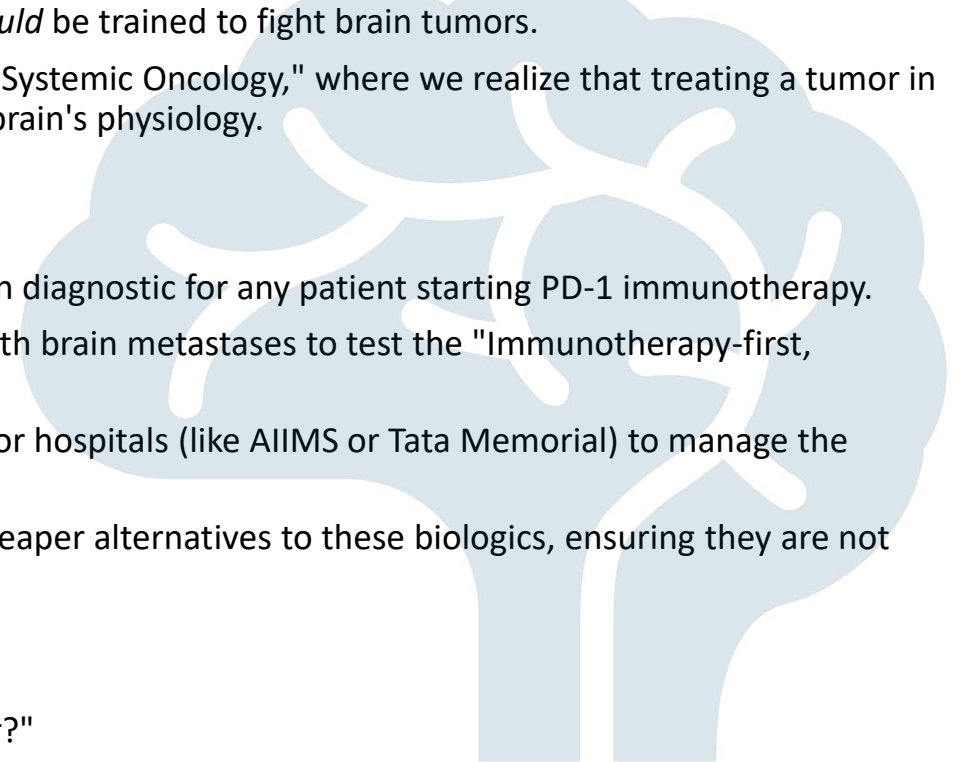
- **Historical Evolution of the Issue**
- The understanding of the brain's relationship with the immune system has undergone a paradigm shift over the last century:
- **The Era of "Immune Privilege" (1920s–1990s):** For decades, scientists believed the brain was completely isolated from the immune system. It was thought that the BBB was an impenetrable wall and the brain lacked a lymphatic system.
- **The Discovery of Brain Lymphatics (2015):** A landmark discovery found lymphatic vessels in the meninges (brain coverings), proving the brain communicates directly with the immune system.
- **The Immunotherapy Revolution (2010s):** Drugs like Nivolumab and Pembrolizumab (PD-1 inhibitors) changed the landscape of Stage IV cancer treatment, showing that the immune system *could* be trained to fight brain tumors.
- **The Present Day (2024–2026):** We are now entering an era of "Systemic Oncology," where we realize that treating a tumor in the lung can have profound, unintended structural effects on the brain's physiology.

- **Way Forward**

- **Precision Biomarkers:** Standardize DKK1 testing as a companion diagnostic for any patient starting PD-1 immunotherapy.
- **Adaptive Clinical Trials:** Design trials specifically for patients with brain metastases to test the "Immunotherapy-first, Chemotherapy-second" sequencing.
- **Interdisciplinary Teams:** Create "Neuro-Oncology" units in major hospitals (like AIIMS or Tata Memorial) to manage the complex interactions between the immune system and the brain.
- **Public Funding:** Support indigenous research in India to find cheaper alternatives to these biologics, ensuring they are not just for the elite.

### Previous Years' UPSC Questions

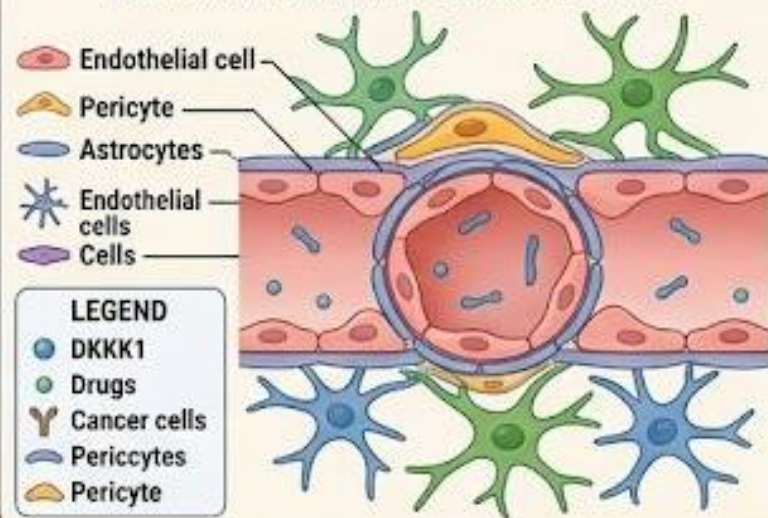
- **2021 (GS III):** "How is S&T deeply ingrained in the health sector?"
- **2019 (GS III):** "What are the research and developmental achievements in Applied Biotechnology? How will these achievements help to uplift the poorer sections of society?"
- **2017 (GS III):** "Stem cell therapy is gaining popularity in India... [Similarly, can apply to Immunotherapy]."



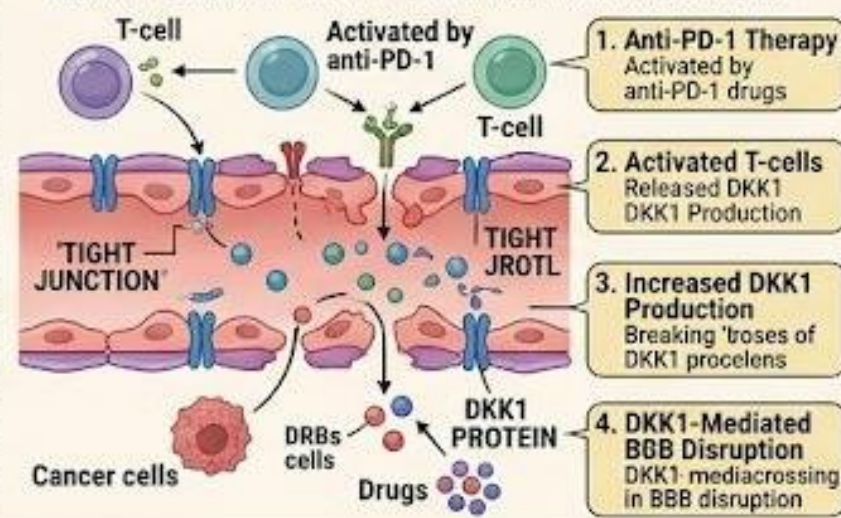


### BIOLOGICAL MECHANISM: IMMUNOTHERAPY-INDUCED BBB PERMEABILITY

#### NORMAL TIGHT BLOOD-BRAIN BARRIER

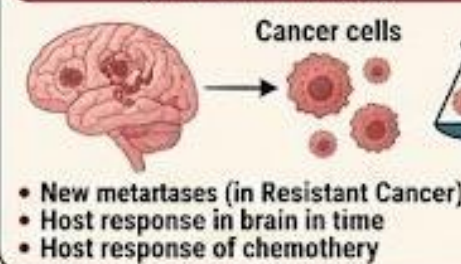


#### LEAKY BARRIER WITH PD-1 INHIBITOR TREATMENT

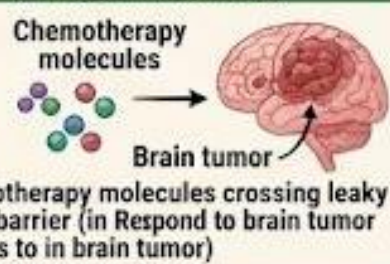


### THE 'DOUBLE-EDGED ROLE' ANALYSIS

#### RISK: NEW METASTASES (in Resistant Cancer)



#### OPPORTUNITY: IMPROVED DRUG DELIVERY (in Responding Cancer)



### UPSC CSE RELEVANCE:

Interdisciplinary Science, Policy Implications, and Emerging Technologies in Health

### COMPREHENSIVE MULTI-DIMENSIONAL ANALYSIS

#### KEY TERMS & EXPLANATIONS

- BBB checkpoint, simple examples
- DKK1, example example in gettlen examples

#### LOGICAL & PHILOSOPHICAL BASE

- Systems Biology, systems to-mine biology
- Holism, connier the supportive ation

#### NEW FEATURES & IDEAS

- DKK1 as a Biomarker, hereasing Biomarker.
- Drug Delivery potential, first drug potential

#### SUSTAINABILITY OF THE IDEA

- Ethical, Economic, econom, economic
- Long-term Neuro-impact term Neuro-impact

#### KEY CHALLENGES & RISKS

- Implementation, practicing evouration
- Stakeholder Resistance and cornesitastion

#### WAY FORWARD

- Precision Medicine, precision medicine
- Larger Studies, and compost-larger studies

### LINKAGES WITH UPSC CSE SYLLABUS

<p><b>GS PAPER II: HEALTH &amp; SOCIAL SECTOR</b></p> <ul style="list-style-type: none"> <li>• Health Policy</li> <li>• Access</li> </ul>	<p><b>GS PAPER III: SCIENCE &amp; TECHNOLOGY</b></p> <ul style="list-style-type: none"> <li>• Applied Biotechnology</li> <li>• New Drugs</li> </ul>	<p><b>GS PAPER IV: ETHICS &amp; ESSAY</b></p> <ul style="list-style-type: none"> <li>• Medical Ethics</li> <li>• Technology and Humanity</li> </ul>	<p><b>PREVIOUS YEARS' QUESTIONS &amp; MODEL ANSWERS</b></p>
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# Addressing India's electrical fire risks

A pre-dawn fire in Vashi that killed nine, record electricity demand of 256 GW, and numerous air conditioners switching on simultaneously highlight a surge in power consumption and raise concerns over the growing risk of electrical fires in India.

## EXPLAINER

Ruban Khandajwalli

### The story so far

Just after 5 a.m. on May 3, 2020, the sun shone on a five-storey building in Vashi near India's falling stock market as short-circuit, Delhi Fire Service data attributes over 90 per cent of fires in the capital to electrical faults. Mumbai Fire Brigade, analysing 26,453 incidents over five years, attributes nearly three in four to the same cause. These are reported attributions, not forensic findings, the paper warns. The National Crime Records Bureau (NCRB) recorded 7,000 fire accidents and 1,471 deaths in 2019, with electrical short-circuit consistently among the larger single causes, but most incidents led to a catch-all 'other' category, leaving electrical causes mostly undercounted.

India's electricity demand hit 256.6 GW on April 25, 2020, against an international 47-degree, roughly double the early-2019 peak. Cooling already peaks at 30-35°C at peak, that could rise to 60°C by 2030, India's Energy Efficiency Action Plan (EEAP) targets a 4 million AC in 2020, the IEA expects the installed base to climb from 83 million units in 2020 to 240 million by 2030. Each new unit is a multi-line load plugged into wiring circuit, in older buildings, for fans and bulbs.

### The vulnerability of older homes to electrical fires

The Bureau for European Electrical Fire Safety (BEFES) estimates 110 million obsolete electrical installations across the EU, roughly half the installed stock, more than 30 years old and never inspected. The structural problem is the same in any electrifying economy: successive waves lag behind the build rate of decades past.

India appears to be in the same category of electrical fire vulnerability as Europe, but its main issue lies less in the age of its housing stock and more in the combination of rapid load growth, low-voltage installation quality, and weak maintenance. It has used built-stock installed in 2005 is now expected to reach 1.7 billion domestic air conditioners, half, a green, air-EX charger and a string of phone chargers. Some of these extend when the wires were sized.

**The risks posed by air conditioners**  
Air conditioners concentrate every risk mentioned above. They are the largest non-linear load most homes will ever own, that up-current can be as in eight times running current, and they are wired into circuits often shared with other heavy appliances.

There is an odd, dense problem: harmonics. Every inverter-driven AC, be it every LED light, LED drive, UPS and EV charger, draw current in jagged pulses that repeat themselves at multiples of 50 Hz. In three-phase buildings, certain harmonics orders add up in the neutral conductor; a wire twice sized to be load-bearing, and equally sized to supporting conductors found that high current density on the bus and heat-trap low-voltage air vents raised voltage and current harmonics distortion beyond IEEE 519-2014 limits, while a hospital study in Harvard recorded sublethal level, and common-mode voltages, 100 VMS about 600-800 VV guidelines. Add a loose joint and you have an ignition source against insulation.



High apartment in Vashi, where at least nine people died and four others were injured in a fire that broke out on May 3, 2020.

**The causes of an electrical fire**  
Electrical fire is a category, not a cause. A peer-reviewed 2017 review in *Fire* identifies six recurring failure modes: short circuits, overloads, loose or outdated connections, wires and parallel arc faults, ground faults, and equipment aging. Behind each lies a small set of root causes: compressed wire and breakers, undersized circuits for age loads, ignored maintenance, poor installation, loose connections, and harmonic distortion that overheat conductors in three-phase building connections.

A loose connection at a socket or breaker terminal is the most common ignition point in U.S. residential electrical fires, it provides a hot spot that heats insulation over months before anything visible happens, India's NCRB Hospital (2010) and NCRB Hospital (2010) data, which together killed 47, both began with electrical short circuits.

**Prevention and periodic inspections**  
Check much, periodically. Inspection of every building's electrical installation, every four years, mandatory in the early 1940s, South Korea followed in the 1970s. Recurring fire counts in both countries fell by close to 90 per cent. The EU, EN61831 Energy Performance of Buildings Directive, in British 50, occupancies heat pumps, solar photovoltaics, batteries and EV chargers at the safety risks.

### Lessons for Indian electrical safety standards

The Bureau of Indian Standards publishes IS 6087:2012 National Electrical Code of India 2010, NBC 200 Part 1 covers fire and life-safety, and Indian electrical installations often require contractor

competence and inspector approval before occupation, at least 50 countries, the utilities typically require an inspection report even before meter installation. Not fault circuit interrupters (FCI) or arc fault detection devices are designed to detect hazardous electrical arcs and prevent conducting fire by interrupting power before the arcing circuit ignites. Though mandatory in U.S. dwellings since 2009, these devices are essentially absent from Indian residences.

While some specialised industrial or high-end retail chains may offer AFCI breaker devices, they are not generally mandated for Indian residences by local building or electrical codes in the same prescriptive manner as in North America. IEC6188, some lower income regions are consistently the most ignored, because rental apartment stock is more likely to be older.

### Shortage of forensic analysis

The Fire and Forensic Association of India highlights a 90% shortage of fire-forensic electrical specialists, every four capacity problems. Overall, India faces a serious shortage of fire-forensic engineers and a heavy reliance on government employees before that detailed root cause analysis, even in major incidents.

### Helplessness against electrical fires

In the U.S., the plug-in Ting sensor from Whole Labs samples voltage 90-million times a second and alerts the homeowner when it detects an overheating, that can lead to electrical fires. It is in over a million U.S. homes, distributed free as pilot-program by insurers including State Farm and Nationwide, who underwrite its

chain of preventing fire in the qualifying electrical fires.

The technology to test the facilities is the Indian retail and insurance companies. There is no common ground equipment on sale in India, and air-conditioning requires adding a fuse in Chinese which left energy meter on Amazon India measures harmonics.

An air-conditioner's heavy system cables, based on old-market wiring, breakers and stabilisers, never run on AC in a shared, undervolts circuit, have a thermography scan of the main panel every two to three years, service AC's annually, and test any flicker or humming steel as a service call.

### Potential measures to address the safety gaps

First, an IEEE 303-style harmonic-compliance and better power quality monitoring to building approvals for hospitals, commercial premises, data centres and EV-charging hubs. Second, introduce a periodic inspection regime for existing installations, as in the Japan Electric Association, supported by meter load stabilisers and a surge protector, EV chargers, battery storage.

Third, India's published standards that set meter electrical fire, on the IEC61887 model. Fourth, in the Asia's harmonised dataset across IEC, IEEE, NCRB and IS.

As tens of millions of new AC units set to install 4-degree summers, the gap shall be tested again. The issue is already there. The only choice is whether India knows to it before, or after, the spark. Ruban Khandajwalli is an Energy and Emerging Tech blogger (open)

## THE GIST

India's five-storey building attributes over 90 per cent of fires in the capital to electrical faults, with rapid load growth, poor installation quality, and weak maintenance increasing the risks.

Air conditioners are among the heaviest electrical loads in homes, with start-up currents several times higher than running currents, and air after start-up currents shared with other heavy appliances.

In markets electrical equipment, used-wired AC circuits, periodic thermography scans, annual servicing, and immediate attention to flickering or humming circuits can help prevent electrical fires.

- **Key Terms and Explanations**

- **Non-Linear Load:** Appliances that draw current in abrupt pulses rather than a smooth wave. **Example:** Modern Inverter ACs, LED bulbs, and EV chargers are non-linear, unlike old-school filament bulbs.
- **Harmonics:** Electrical "noise" or distortion created by non-linear loads. These distortions occur at multiples of the standard 50 Hz frequency and can cause wiring to vibrate or overheat.
- **Arc-Fault Circuit Interrupter (AFCI):** A smart circuit breaker that detects dangerous "arcing" (sparks jumping across a gap in a wire) and cuts power before a fire starts. Standard breakers only detect overloads, not slow-burning arcs.
- **Neutral Conductor:** The "return path" wire in a circuit. In three-phase systems, certain harmonics don't cancel out; they add up in the neutral wire, potentially causing it to melt even if the "live" wires seem fine.
- **THD (Total Harmonic Distortion):** A measurement of how much the power signal is distorted. High THD leads to equipment failure and inefficiency.
- **Thermography Scan:** Using infrared cameras to find "hot spots" in electrical panels that are invisible to the naked eye, indicating loose connections or overloaded circuits.

### **Main Arguments and Substantive Parts**

- The core thesis is that India's electrical fire crisis is a result of a **technological mismatch**: 21st-century loads are being powered by 20th-century infrastructure.
- **The Cooling Paradox:** As temperatures hit 47°C, AC demand spikes. However, ACs have high "startup currents" (6-8x running current), which can instantly overwhelm thin or aged wiring.
- **The Myth of "Short Circuits":** The article argues that while most fires are blamed on short circuits, many are actually caused by **loose connections** or **overloaded neutrals**—issues that take months to manifest but are ignored due to a lack of forensic expertise.
- **Under-counting of Data:** There is a significant gap between reported causes and forensic reality. The National Crime Records Bureau (NCRB) often uses "Other" as a catch-all category, hiding the true scale of electrical risks.
- **Regulatory Lag:** While Japan and South Korea saw 90% drops in fire incidents after mandating periodic inspections, India relies on one-time approvals during construction, leaving aging buildings unmonitored for decades.

- **Historical Evolution of the Issue**
- The trajectory of India's electrical safety moves from basic electrification to the current "Cooling Transition."
- **Pre-Independence & Early Republic:** Focus was on basic access. The Indian Electricity Act of 1910 governed the sector, prioritizing generation over domestic safety standards.
- **The 1980s-90s "Fan-and-Bulb" Era:** Most older urban housing was wired during this time. Calculations assumed low-wattage loads. The Bureau of Indian Standards (BIS) focused on industrial safety.
- **1999-2010s Urban Boom:** Massive surge in residential construction. The National Building Code (NBC) was updated (2005/2016), but enforcement remained focused on large commercial buildings, not standalone residential units.
- **2020s - The AC Revolution:** The entry of cheap inverter technology and record heatwaves (2024-2026) led to a non-linear spike in AC ownership. Electricity demand hit a record 256 GW in April 2026, exposing the fragility of the "last-mile" wiring in homes.
- **Way Forward**
- **Mandate AFCIs:** Phase in the requirement for Arc-Fault Circuit Interrupters in all new multi-storey residential projects.
- **"Safety Audit" for Subsidies:** Link electricity subsidies or EV incentives to a certified electrical safety audit of the premises.
- **Strengthen Forensics:** Establish a National Electrical Fire Forensic Lab to assist state fire services in root-cause analysis.
- **Consumer Awareness:** A "Star Rating" for building safety, similar to the BEE star rating for appliances.

### Previous Years' UPSC Questions

- **GS 3 (2022):** "Explain the mechanism of cloudbursts in the context of Indian locations. Give two examples of recent occurrences." (Theme: Disaster mechanisms).
- **GS 3 (2017):** "The February 2017 fire in a Mumbai rooftop restaurant highlights the lack of fire safety compliance. Discuss the reasons and suggest measures."
- **GS 1 (2021):** "Discuss the causes of increased incidence of heatwaves in India. How can the heat action plan help?" (Directly related to the AC demand surge).

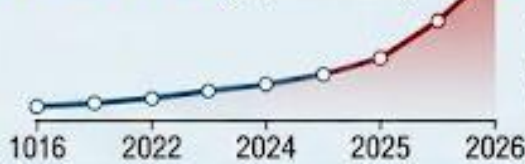


## ADDRESSING INDIA'S ELECTRICAL FIRE RISKS: A COMPREHENSIVE UPSC ANALYSIS

**Pre-Dawn Vivek Vihar Tragedy (May 2026):** Suspected AC blast, 9 lives lost, highlighting urban vulnerability.

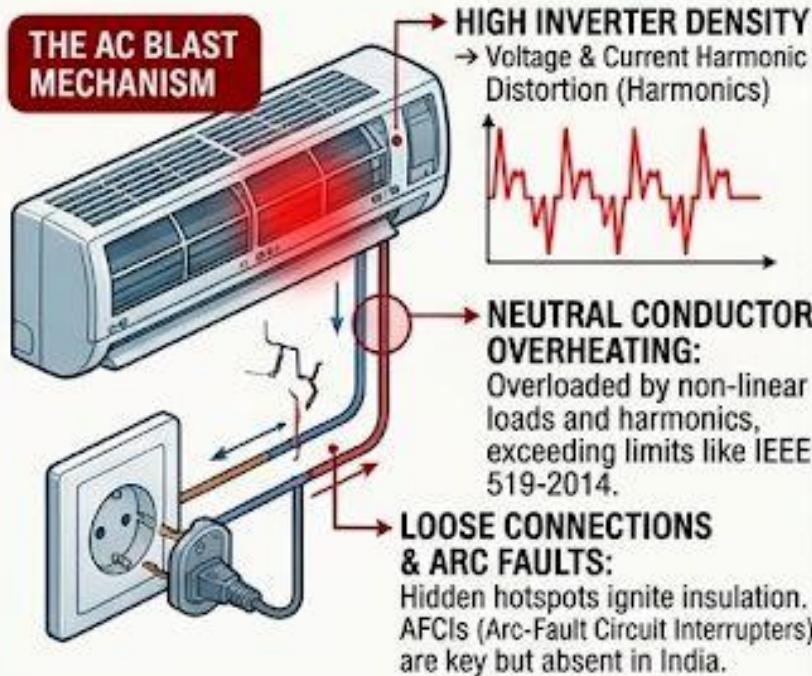


India's Record Power Demand:  
**256.11 GW** (April 2026)



Driven by simultaneous AC usage in extreme heat.

### THE AC BLAST MECHANISM



### • VULNERABILITY

Aging infrastructure (pre-1980s wiring) facing massive modern loads (ACs, EV chargers)



### • CAUSES

- ✓ Short circuits, overloads, loose connections,
- ✓ counterfeit components, missed maintenance.



### • BEST PRACTICES (Global & India)

	Japan		<b>MANDATORY PERIODIC INSPECTIONS</b> (90% reduction)
	South Korea		<b>MANDATORY PERIODIC INSPECTIONS</b> (90% reduction)
	EU	<b>ENERGY PERFORMANCE DIRECTIVES</b> (Recital 36)	? 80% fires 'reported' as electrical faults, severe shortage of fire-forensic engineers and infrastructure
	India		

### • WAY FORWARD:



Mandatory AFCI devices, tie harmonic compliance to approvals, periodic inspections for new loads, build forensic chain, harmonize dataset.

ABSTRACT



Beginning in the 1980s, the International Monetary Fund (IMF) and the World Bank began structural adjustment programs across Asia, Africa and Latin America. (17/11/2021)

# The toll of structural adjustments on the global South and a case for accountability

In the 1980s, IMF and World Bank put conditions on financing the global South. Decades later, many countries in the region struggle with weak public health systems and high levels of poverty. The institutions owe reparations for the damage caused, a new paper argues.

Armina Arora

Jason Hillier, Subramanian Karimjee, Marika Berford and Eugene T. Richardson, 'Structural adjustment: demands, operations and pathways to non-reversal', *BMJ Global Health*, March 2021.

**T**he 1980s were a good decade for the global South. Between 1980 and 2000, real per capita income grew across Asia, Africa, and Latin America. Countries that had recently witnessed colonial rule were investing in public healthcare and education, protecting their industries, and organising production around national development.

Then, beginning in the 1980s, the International Monetary Fund (IMF) and the World Bank began structural adjustment programmes across Asia, Africa and Latin America. Inevitably then, many countries in the impact regions continue to struggle with weak public health systems, stagnant incomes and high levels of poverty.

In a recent paper published in *BMJ Global Health*, economists and public health researchers Jason Hillier, Subramanian Karimjee, Marika Berford, and Eugene T. Richardson argue that the institutions that implemented these programmes owe reparations.

**The repayment burden**  
Structural adjustment programmes emerged during the debt crises of the late 1970s and 1980s. Many developing countries had borrowed heavily to finance investment in heavier exports and industrial development. When the United States Federal Reserve raised interest rates in the late 1970s, debt repayments became far more expensive for poorer countries, causing devaluing programs

to succeed. Countries that had borrowed in U.S. dollars suddenly faced ballooning repayments in a currency they had not earned over. To prevent governments in the global South from defaulting on loans owed to American banks, the U.S. worked through the IMF and World Bank to sell over those debts, attaching a set of sweeping economic reforms as conditions for social loans to be known as structural adjustment programmes, or SAPs.

SAPs typically demanded these things: first, austerity such as public spending on healthcare, education, food subsidies, and social security, so that the money saved could flow back to creditors; second, privatisation by transferring public services and state-owned industries to private capital. And, third, by deregulating industrial policy, tariffs, capital controls, and labour protections.

Countries had borrowed money to reform. Including on loans was SAPs, and the institutions pushing these conditions controlled international finances. These SAPs should also be viewed as a larger historical context. After independence, many governments in the global South had used industrial policy and public investment to break away from colonial economic arrangements that kept labour and resources cheap for Western firms. The SAPs effectively reversed these gains, re-orienting southern labour and its operating industrial markets to the global North.

**Health and economic setbacks**  
Economic growth in the global South between SAPs averaged around 3.2% annually, but growth slowed sharply, falling to a mere 0.7% during the era of structural adjustment in the 1980s and 1990s. The South collectively lost an average of 1400 billion per year in

potential national income during this period.

In Latin America, real income per adult fell nearly 9% after 1980 and did not recover to previous levels until 2008. In Sub-Saharan Africa, incomes fell nearly 30% before eventually recovering decades later. In Jamaica, trade and exchange rate liberalisation in the early 1980s caused food prices to rise sharply after currency depreciation. In China, extreme poverty rose during a phase of market-oriented reforms linked to World Bank adjustment policies.

The effects on health were also severe. A 2007 review found that lives expected by the IMF, World Bank, and other Development Bank had a strong negative impact on child and maternal health. India's on-fish labourer strikes linked adjustment to an additional 30,612 child deaths per 1,000 children and an additional 300 maternal deaths per 1,00,000 live births. In Korea, the welfare decline, 130,000 excess infant deaths occurred between 1980 and 1990 relative to the pre-adjustment trend.

Countries that are not listed to have lost all government spending on health, led to the closure of facilities, and limited the hiring of doctors and nurses. Currency devaluations made imported drugs and medical supplies more expensive. Privatisation and user fees reduced access to essential services, and wage freezes made families more vulnerable to disease in the first place.

Structural adjustment also enabled large financial outflows from the global South. The removal of capital controls allowed foreign companies to repatriate profits at up to \$200 billion a year. Trade deregulation enabled further outflows, falling to a mere 0.7% during the era of trade liberalisation. These were not just losses. These were wealth generated within developing countries, that were no longer available for

investment in public services or domestic development.

**Responsibility for repair**  
The IMF and World Bank, as the primary architects of these programmes, should bear responsibility for repair. One approach the authors outline would be to directly wage loans, open to public services, and capital outflows attributable to SAPs, adjusted for inflation and due interest. Another one would be to calculate losses to national income against a counterfactual in which the adjustments were never imposed. A third would focus specifically on welfare impacts, such as poverty and mortality, to provide compensation that restores people to the social indicators they would have reached had SAPs never existed.

But reparations have precedential character, put in place by design. The IMF and World Bank enjoy sovereign immunity, shielding them from lawsuits through normal channels. Their governance structure compounds the problem. The Global North, with a mere 16% of the world's population, controls nearly 60% of the voting power in both institutions. The U.S. alone holds a veto.

Beyond reparations, the paper calls for a guarantee of non-reversal by abolishing structural adjustment conditions on all future lending. It also calls for deactivating both institutions in that all major powers have a meaningful say in policy, and ending their sovereign immunity status.

If such transformative changes cannot happen from within, these institutions should be replaced entirely. Alternatives are already emerging, including the BRICS New Development Bank and the Asian Infrastructure Investment Bank, established by and for the global South. Better alternatives structural adjustment conditions to finance.

- **Key Terms and Explanations**
- **Structural Adjustment Programmes (SAPs):** Economic policies consisting of "conditionalities" (requirements) for loans provided by the IMF and the World Bank to countries in crisis.
  - *Example:* A country receives a loan but must agree to cut its education budget to ensure it can pay back interest.
- **Global South:** A term used to describe nations typically characterized by lower levels of industrialization, often located in Africa, Latin America, and developing parts of Asia, many with a history of colonialism.
- **Austerity:** A set of political-economic policies that aim to reduce government budget deficits through spending cuts, especially in social sectors.
- **Sovereign Immunity:** A legal doctrine that prevents a state or international organization from being sued without its consent. Currently, the IMF and World Bank are shielded by this.
- **Capital Outflow:** The movement of assets and money out of a country. In this context, it refers to profits being sent back to the Global North rather than being reinvested locally.
- **Conditionalities:** Specific policy changes that a borrowing country must implement to qualify for financial assistance.

### Main Arguments and Substantive Parts

- The core thesis posits that the IMF and World Bank's interventions in the 1980s and 90s were not merely "failed experiments" but active contributors to developmental regression, for which they owe reparations.
- **The Debt Trap Trigger:** The crisis wasn't purely internal. When the US Federal Reserve hiked interest rates in the late 70s, it caused an "exogenous shock." Developing nations saw their dollar-denominated debt interest skyrocket overnight, forcing them into the arms of the IMF.
- **The Triple Threat of SAPs:**
  - **Austerity:** Gutted the very public systems (health/education) needed for long-term growth.
  - **Privatization:** Sold off national assets to private, often foreign, interests at a discount.
  - **Deregulation:** Stripped away labor protections and trade barriers, making local industries vulnerable to global giants.
- **The Human Cost:** The analysis cites "excess mortality"—deaths that wouldn't have occurred if pre-adjustment growth trends in healthcare had continued.
- **Institutional Accountability:** The argument shifts from "aid" to "reparations." It suggests that if a policy causes measurable harm (e.g., loss of GDP or increase in infant mortality), the architect of that policy is liable for damages.

- **Historical Evolution of the Issue**
- **1960s–1970s (The Era of Hope):** Post-independence, many Southern nations adopted "Developmentalism"—using state-led industrialization and social investment to build national identity and economic self-sufficiency.
- **Late 1970s (The Shock):** The "Volcker Shock" (US interest rate hikes) made debt servicing impossible for many developing countries.
- **1980s–1990s (The Lost Decades):** The "Washington Consensus" took hold. SAPs became the standard response to debt. Economic growth in the South plummeted from 3.2% to 0.7%.
- **2000s–Present (The Aftermath):** While some regions recovered, the "scarring effect" on public health infrastructure remained. This led to the current demand for a "New International Economic Order" and the rise of alternative lenders like the BRICS New Development Bank.

- **Way Forward**

- **Democratization of Institutions:** Reforming the voting shares in the IMF/World Bank to reflect current GDP and population realities (e.g., increasing the Voice of the Global South).
- **Debt Jubilee:** Instead of direct cash reparations, a comprehensive cancellation of "odious debts" could serve as a practical form of repair.
- **New Global Tax Standards:** Strengthening capital controls to prevent the \$1 trillion annual outflow that hampers Southern development.
- **Human Rights Impact Assessments:** Mandatory assessments before any loan conditionality is implemented to ensure public health and education are not compromised.

### Previous Years' Questions (PYQs)

- **UPSC Mains 2016 (GS 2):** "The World Bank and the IMF, collectively known as the Bretton Woods Institutions, are currently facing challenges to their relevance. Discuss."
- **UPSC Mains 2019 (GS 2):** "The logjam in the WTO reflects the clash of interests between the developed and the developing world. Examine." (Relevant theme of North-South conflict).
- **UPSC Mains 2022 (GS 2):** "Critically examine the role of the IMF in helping developing countries during a balance of payments crisis."

### I. HISTORICAL EVOLUTION: THE TURNING POINT (1970s-1980s)

Pre-1980

THE ERA OF DEVELOPMENTALISM (1960-1980)



POST-INDEPENDENCE: INVESTMENT IN PUBLIC HEALTH & EDUCATION, PROTECTING INDUSTRIES, NATIONAL DEVELOPMENT, real per capita income grew across Asia, Africa, Latin America.

After (Beginning 1980s)

THE WASHINGTON CONSENSUS ERA



IMF/ WORLD BANK  
SAPs IMPOSED AS CONDITIONALITIES: AUSTERITY, PRIVATIZATION, DEREGULATION.

Gains Reversed.

### III. MULTIDIMENSIONAL ANALYSIS



### II. THE CONDITIONALITIES: STRUCTURAL ADJUSTMENT PROGRAMS (SAPs)

1. AUSTERITY



SLASH PUBLIC SPENDING ON HEALTHCARE, EDUCATION, FOOD SUBSIDIES.

2. PRIVATIZATION



TRANSFER PUBLIC SERVICES & STATE-OWNED INDUSTRIES TO PRIVATE CAPITAL.

3. DEREGULATION

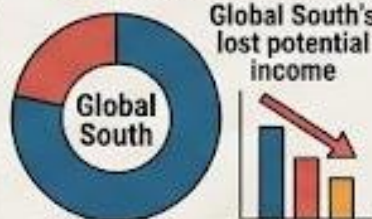


INDUSTRIAL POLICY, TARIFFS, CAPITAL CONTROLS, LABOUR PROTECTIONS stripped.

RE-CHEAPENING SOUTHERN LABOUR

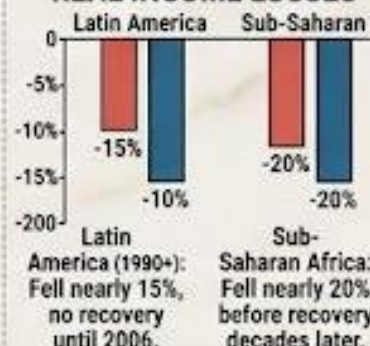
### IV. HUMAN TOLL & KEY FINDINGS

SOCIAL & ECONOMIC SETBACK (1980s-90s)

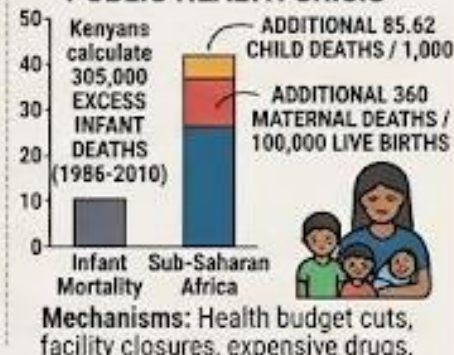


AVERAGE ANNUAL LOSS OF \$480 BILLION.

REAL INCOME LOSSES



PUBLIC HEALTH CRISIS



### V. THE CASE FOR ACCOUNTABILITY & WAY FORWARD

A. RESPONSIBILITY FOR REPAIR: REPARATIONS MECHANISMS

- QUANTIFY WAGE LOSSES & SERVICE CUTS (Inflation & interest adjusted)
- CALCULATE GDP LOSS VS COUNTERFACTUAL
- FOCUS ON WELFARE IMPACTS (Poverty & Mortality mitigation).

A NEW BMJ GLOBAL HEALTH PAPER ARGUES THE TOLL ON THE GLOBAL SOUTH

B. PATHWAYS TO NON-RECURRENCE

- ABOLISH SAP CONDITIONALITIES
- DEMOCRATIZE INSTITUTIONS
- END SOVEREIGN IMMUNITY.



ALTERNATIVES EMERGING (BRICS NDB, AIIB)





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