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EDITORIAL ANALYSIS



AUGUST 22



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COMPREHENSIVE
AND CREDIBLE**



**UNIQUE AND BEST IN
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1. The Long and Winding R&D (THE ECONOMIC TIMES)
2. Makkah Pact and the shifting equations in West Asia (BUSINESS STANDARD)
3. Delhi can't afford to lose Dhaka connect (THE TRIBUNE)
4. Unimpeded trade needs IPMDA as the answer (THE HINDU)



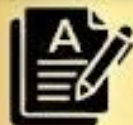
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While India tracks where publicly funded research money goes, it should track what it creates

The Long and Winding R&D



Meenakshi Munshi
& Pragya Chaube

Over ₹1,000 cr. That is a conservative estimate of what India's research funding ecosystem could be losing annually to duplicate grants alone. A 2013 US analysis, "Some work, twice the money?" of nearly 8,00,000 funded grants estimated that duplicate funding could account for up to 1.5% of research expenditure. Applied to India's 2020-21 gross expenditure on R&D (GERD), that amounts to roughly ₹1,175 cr (about \$175 mn). But duplication is only one symptom of a deeper problem. India has no reliable way to see, in one place, what publicly funded research ultimately produces.

Every year, Govt invests thousands of crores in research through national funding agencies, such as SERB (Science and Engineering Research Board), DST (Department of Science and Technology), DBT (Department of Biotechnology), ICMR (Indian Council of Medical Research), and ANRF (Azadi Ka Amrit Mahotsav National Research Foundation). Yet, once a grant is awarded, there is no system that continuously tracks what it produces.

Instead, funding agencies rely largely on information reported by researchers at the end of a project. As a result, they cannot see when different grants are producing similar work, nor can they systematically recognise the full range of outputs a grant generates. What is easiest to report — typically journal publications — becomes the official record.

Funding agencies rely largely on information reported by researchers at the end of a project. What is easiest to report becomes official record — other research outcomes remain fragmented or invisible



Output-oriented

while many other research outcomes remain fragmented or invisible.

The gap lies in how grants are managed. Every project concludes with a financial utilisation report showing how grant money was spent. It answers the question: where did the money go? It cannot answer the more important one: what did the money produce? The result is that funding agencies have no complete, searchable view of what public investment creates. They cannot easily identify overlapping work, understand how research portfolios are evolving, or assess the full return on public investment.

Around the world, research funders are replacing manual reporting with connected digital infrastructure. Instead of asking researchers, they require research outputs to be published or deposited in trusted data repositories. Those outputs extend beyond journal articles to include datasets, software, policy briefs, patents, clinical trial registrations, trained researchers and other social-good products of publicly funded research. The result is a live, searchable record of what public funding produces.

This is made possible through persistent identifiers (PIDs). A PID is a permanent digital identifier, much like an Aadhaar number for research. Every grant receives its identifier, and researchers include it whenever they publish or deposit an output. Open technical infrastructure, such as that operated

by global non-profit Crossref, automatically links every output back to the grant that funded it.

France requires researchers funded by French National Research Agency (ANR) to deposit their research outputs in the national repository HAL, together with their grant reference, creating a searchable public record of taxpayer-funded research.

Wellcome Trust, one of the world's largest biomedical research funders, assigns every grant a PID through Crossref, allowing publications, datasets, reports and other outputs to be linked to the grant that funded them.

In Britain, UK Research and Innovation (UKRI) brings this information together through its 'Gateway to Research' portal, where anyone can explore grants alongside the outputs they have produced.

For India, such an infrastructure could change how publicly funded research is managed. Research outputs become easier to discover, verify, cite and reuse, increasing the value of public investment. Researchers spend less time collecting and verifying information, and the public gains greater visibility into taxpayer-funded research. More importantly, funders gain a complete and continuously updated picture of every grant and its impact. The missing piece is not recognising these broader outputs, but building the infrastructure that captures, connects and recognises them automatically.

India doesn't necessarily need to re-

invest this infrastructure. On NITI Aayog's proposal, MeitY is rolling out the Unified Project Management System (UPMS), a common platform for managing research grants across DST, DBT, ICMR, ICAR, CSIR and ANRF. This is an important first step. But managing grants is not the same as understanding what they produce.

Built on PIDs, trusted repositories, and open, interoperable infrastructure, UPMS could underpin a National Research Output Dashboard. Similar to UKRI's Gateway to Research portal, it could provide a live, publicly searchable view of India's research investment, allowing anyone to explore outputs by grant, institution, discipline, researcher or fun-

India aims to raise R&D spending to 2% of GDP and become a global innovation leader.

Achieving it needs more than larger budgets. It needs knowing, in real time, what public investment produces



ding programmes as they are produced.

A June 2016 ANRF white paper, "What is Impact? Generating Dividends of Economic Growth and Societal Benefits from Research and Innovation", recognises that publicly funded research extends well beyond journal articles to datasets, patents, trained researchers and policy impact. UPMS presents a timely opportunity to embed the infrastructure that makes those broader research outcomes visible, connected and discoverable, rather than leaving them scattered across disconnected systems.

India aims to raise R&D spending to 2% of GDP and become a global innovation leader. Achieving that will require more than larger budgets. It will require knowing, in real time, what public investment produces. India tracks where research money goes. It's time it tracked what that money creates.

Munshi is former adviser, Department of Biotechnology, science & technology ministry. Govt. and Chaube is assistant professor, University of Petroleum and Energy Studies, Dehradun

- **Key Terms and Conceptual Framework**

- **Gross Expenditure on Research and Development (GERD):** The total domestic expenditure on scientific research and experimental development conducted within a nation during a given financial year. In India, GERD hovers around 0.65% to 0.70% of Gross Domestic Product (GDP)—significantly lower than global innovation leaders such as South Korea (approx. 4.9%), Israel (approx. 5.6%), the United States (approx. 3.4%), and China (approx. 2.4%).
- **Duplicate Grants and Redundant Funding:** A structural inefficiency where multiple state funding bodies disburse independent financial grants to the same researcher or overlapping teams for substantially identical research proposals. This occurs primarily due to information asymmetry and lack of inter-agency data integration.
- **Persistent Identifiers (PIDs):** Globally unique, permanent digital alphanumeric codes (such as Digital Object Identifiers or Grant PIDs registered via organizations like Crossref) assigned to research grants, datasets, publications, and contributors. They function as a digital identity record for scientific artifacts, preventing broken links and enabling automated cross-referencing.
- **Financial Utilization Certificate (UC) vs. Output Tracking:**
 - *Utilization Certificate:* A compliance-driven administrative accounting document verifying that allocated funds were spent under approved budgetary heads (equipment, travel, consumables).
 - *Output Tracking:* An impact-oriented monitoring framework that captures the actual scientific, technological, and societal deliverables generated by the expenditure.
- **Unified Project Management System (UPMS):** A centralized digital public infrastructure platform conceptualized by NITI Aayog and deployed via the Ministry of Electronics and Information Technology (MeitY) to integrate grant applications, peer reviews, fund disbursement, and monitoring across major scientific departments.
- **Anusandhan National Research Foundation (ANRF):** Established under the ANRF Act, 2023, as the apex statutory body to provide strategic direction, harmonize scientific research funding across ministries, bridge academia-industry silos, and replace the erstwhile Science and Engineering Research Board (SERB).
- **Open Access Repositories (OARs):** Centralized, interoperable public digital archives (such as HAL in France or UKRI's Gateway to Research) where publicly funded researchers must deposit published papers, underlying datasets, code, and policy deliverables for unhindered public access.

- **Main Arguments and Substantive Issues**

- Traditional Grant Governance vs. Modern Digital Research Infrastructure

- **The Structural Blindspot of Input Accounting:** Indian research administration has historically operated on a rigid compliance architecture. The primary administrative checkpoint is the Utilization Certificate (UC), which strictly verifies *how* public funds were liquidated rather than *what* intellectual, social, or industrial value was produced.
- **The Invisible Fiscal Leakage of Duplication:** Applying global benchmarks on research grant duplication (estimated at ~2.5% of research outlays) to India’s annual GERD indicates a latent loss of several thousand crores. This misallocation occurs not necessarily from scientific dishonesty, but from institutional fragmentation across parallel funding bodies operating in complete isolation.
- **Publication-Centric Reductionism:** Because funding agencies rely on manual, retrospective self-reporting at the conclusion of a project, researchers naturally report what is easiest to catalogue: indexed journal articles. Non-traditional yet vital scientific assets—such as raw clinical datasets, open-source algorithms, negative results, indigenous field data, and policy briefs—remain unindexed, uncredited, and lost to the broader research commons.
- **DPI as an Antidote to Administrative Friction:** The transition from manual compliance reporting to an automated, persistent-identifier-driven network reduces administrative burdens on both researchers and bureaucrats. Automating data linkage via global metadata registries transforms research outputs from fragmented files into searchable, citeable, and verifiable national digital public goods.



- **Historical Evolution of India's R&D Grant Governance**

- **Post-Independence State-Led Model (1940s–1960s):**

- Establishment of the Council of Scientific and Industrial Research (CSIR, 1942) and the Department of Atomic Energy (DAE, 1954).
 - The Scientific Policy Resolution (SPR) of 1958, piloted by Jawaharlal Nehru and Homi Bhabha, conceptualized science as a state-funded public utility aimed at rapid industrialization and self-reliance. Research was concentrated within national laboratories rather than universities.

- **Departmental Proliferation and Siloed Funding (1970s–1980s):**

- Creation of specialized departments: Department of Science and Technology (DST, 1971), Department of Space (1972), Department of Ocean Development (1981), and Department of Biotechnology (DBT, 1986).
 - Each department instituted its own independent grant management rules, project review boards, and accounting formats, cementing operational silos across Indian science.

- **Liberalization, IPR, and Competitive Extramural Funding (1990s–2000s):**

- Adoption of the WTO-TRIPS regime necessitated an institutional focus on patenting and commercialization (Science and Technology Policy, 2003).
 - Enactment of the Science and Engineering Research Board (SERB) Act, 2008, establishing an autonomous extramural funding body to award competitive grants directly to university faculty on a meritocratic basis.

- **Public Financial Digitalization (2010s–2020):**

- Deployment of the Public Financial Management System (PFMS) to track treasury disbursements in real time, curbing fiscal parking of unspent research funds.
 - Drafting of the Science, Technology, and Innovation Policy (STIP 2020), which advocated "Open Science" principles, access to sovereign research databases, and centralized grant management platforms.

- **Harmonization and Apex Governance (2023–Present):**

- Passage of the Anusandhan National Research Foundation (ANRF) Act, 2023, formally subsuming SERB to create a centralized steering wheel for national research priorities.
 - Initiation of the Unified Project Management System (UPMS) across DST, DBT, ICMR, ICAR, CSIR, and ANRF to eliminate redundant funding layers and unify research monitoring.
-



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COMPREHENSIVE ANALYSIS: REFORMING INDIA'S RESEARCH FUNDING ECOSYSTEM

THE PROBLEM: LEAKAGE & INVISIBILITY

CURRENT STATE
(FINANCIAL UTILIZATION)



OVER 3,000 CR
ANNUAL LEAKAGE TO
DUPLICATE GRANTS
(EST. 2.5% OF GERD)

DESIRED STATE
(OUTPUT TRACKING)



MOVING
FOCUS

KEY TERMS

GERD - Annual leaagrmental grants autlirized by GERD

PIDs - Persistent adatures of accentratnory PIDs

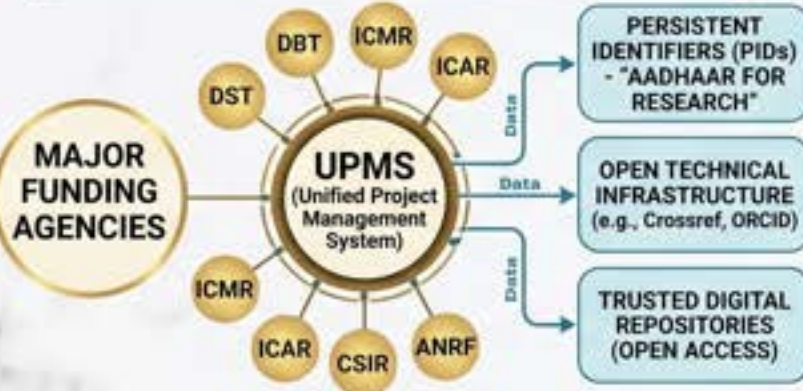
UC vs. Output - Utilization Certificate (Erscoremontilization, Eult, UC)

UPMS - Unified Project Management System (UPMS)

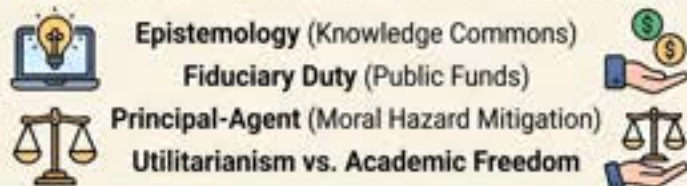
ANRF - ANRF Research Clonagement (ANRF)

Open Access - Academic trained consiente and exclusive access

PROPOSED DIGITAL INFRASTRUCTURE: UNIFIED & OPEN



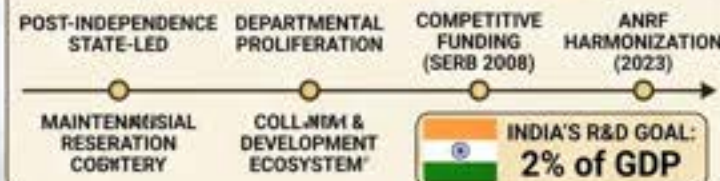
LOGICAL & PHILOSOPHICAL BASE



WAY FORWARD



HISTORICAL EVOLUTION



MULTIDIMENSIONAL ANALYSIS



UPSC CSE SYLLABUS MAP

GS Paper II	GS Paper III	GS Paper IV	ESSAY
- Raleonal Research Management System - Government Topics - Topics Topic - Sumunarity of Topics	- Reverntmental Ropit - Funclins & Reseerli Oevssment Funding - Decoratoin of Conninors	- Relevans & Research topics - Optional Conclutions	- Essay - Optional Subjects
		OPTIONAL SUBJECTS	NCERT LINKAGES
		- Economicislanl Subjects - Securoinary Topics	- Class 11 Eco - Class 12 Pol Sc - Class 11/12 Sci - Class 12 Socio



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- **Logical and Philosophical Base**

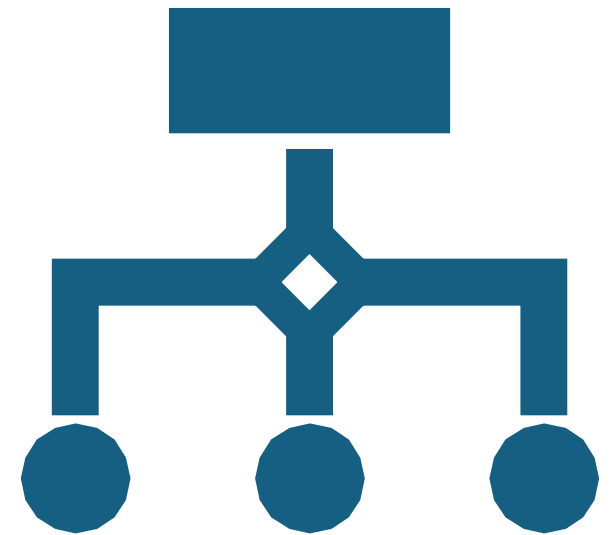
- **Epistemological Basis (Science as an Accumulative Commons):** Science advances incrementally through peer critique, verification, and recombination of prior data. When publicly funded research outputs are confined to closed journals or lost in filing cabinets, the cumulative nature of scientific progress is broken. Negative results and raw data are epistemically valuable because they prevent future researchers from repeating dead-end experiments.
- **Fiduciary Responsibility and Democratic Accountability:** Publicly funded research utilizes taxpayer money. The state has a moral and fiduciary duty to ensure optimal allocation of scarce resources. Accountability cannot end at checking whether receipts match budget heads; it requires proving that public investment generated social, intellectual, or economic utility for the citizenry.
- **Principal-Agent Dynamics in Scientific Bureaucracy:** The funding agency (Principal) delegates funds to the academic researcher (Agent). Due to severe information asymmetry, the Principal cannot monitor the day-to-day execution of the research, creating conditions for adverse selection (funding unoriginal proposals) and moral hazard (submitting the same proposal to multiple agencies). Digital visibility mechanisms restore institutional equilibrium.
- **Utilitarianism vs. Academic Freedom:** A balanced philosophy of research governance recognizes the dual imperative of supporting curiosity-driven basic research (where immediate returns cannot be predicted) while building systematic tracking mechanisms to verify whether applied and mission-mode grants deliver tangible public dividends.

Multidimensional Analysis		
Dimension	Core Analytical Perspective	Critical Governance Implications
Social	Democratization of scientific knowledge and leveling the playing field across academic tiers.	Centralized digital dashboards dismantle the informational monopoly of elite institutions (IITs, IISc, central labs), enabling state university researchers to discover existing grants, avoid duplication, and build regional collaborative networks.
Political & Administrative	Inter-ministerial coordination, administrative burden, and cooperative federalism in science.	Siloed scientific ministries often compete for budgetary outlays rather than harmonizing resources. Unifying systems under UPMS and ANRF reduces bureaucratic overhead, speeds up grant approvals, and bridges central and state university funding disparities.
Legal & Regulatory	Compliance with General Financial Rules (GFR), open data mandates, and IPR frameworks.	Strict reliance on GFR-mandated Utilization Certificates forces scientists into clerical compliance. Legal frameworks must evolve to recognize open data deposition as formal public compliance alongside financial audits.
Ethical	Scientific integrity, deterrence of predatory research practices, and equitable public spending.	PIDs and public dashboards expose duplicate funding, intellectual plagiarism, and redundant data submission. It directs scarce public welfare funds away from unoriginal work and toward high-impact national challenges.
International	Global research interoperability, scientific sovereignty, and technology leadership.	Nations like France (HAL) and the UK (UKRI Gateway) integrate sovereign repositories with global registries (Crossref, ORCID). Adopting open standards elevates the international visibility, citation metrics, and sovereign standing of Indian science.

- **Linkages with NCERT Textbooks**
- **Class 11 Economics: *Indian Economic Development* (Chapter 5: Human Capital Formation in India):**
 - *Linkage:* Highlights R&D and technological education as core drivers of human capital formation. Connects directly with how efficient grant allocation creates a cadre of trained researchers and high-value knowledge goods.
- **Class 12 Political Science: *Politics in India Since Independence* (Chapter 3: Politics of Planned Development):**
 - *Linkage:* Discusses early five-year plans, the institutionalization of the state-led scientific apparatus, and the vision of scientific temper as a foundation for socioeconomic sovereignty.
- **Class 11 Chemistry & Physics: *Units on the Nature of Scientific Inquiry and Measurement*:**
 - *Linkage:* Emphasizes the empirical nature of scientific validation, reproducibility of experimental data, and the role of peer review in building rigorous knowledge systems.
- **Class 12 Sociology: *Social Change and Development in India* (Chapter 4: Change and Development in Rural/Industrial Society):**
 - *Linkage:* Contextualizes how public investments in indigenous technology and scientific modernization directly shape industrial productivity, agricultural green revolutions, and social mobility.



- **Linkages with UPSC CSE Syllabus**
 - **General Studies Paper II (Governance, Polity, and Social Justice):**
 - *E-Governance:* Applications of digital public infrastructure (UPMS) to enhance transparency, minimize bureaucratic discretion, and eliminate systemic leakages.
 - *Institutional Reforms:* Structural role of statutory bodies like ANRF and NITI Aayog in overcoming inter-ministerial administrative friction.
 - *Government Policies and Interventions:* Evaluation of policy design in funding higher educational institutions and public research laboratories.
 - **General Studies Paper III (Science & Technology and Economic Development):**
 - *R&D Ecosystem and GERD:* Addressing the structural bottlenecks hindering India's target of raising scientific expenditure to 2% of GDP.
 - *Indigenization of Technology:* Converting public research grants into tangible industrial patents, indigenous medical technologies, and commercial outputs.
 - *IPR and Open Access:* Reconciling intellectual property protection with open-access public data repositories for wider economic utilization.
 - **General Studies Paper IV (Ethics, Integrity, and Aptitude):**
 - *Ethics in Public Spending:* Stewardship of public resources; balancing procedural audit compliance with substantive outcome delivery.
 - *Scientific and Academic Integrity:* Preventing unethical grant gaming, duplicate billing across multiple funding agencies, and academic self-plagiarism.
- **Essay Paper:**
 - Relevant for themes such as "*Scientific Research: The Linchpin of Viksit Bharat*", "*Data as the New Public Infrastructure*", and "*Reforming State Capacity in the Knowledge Economy*".



- **Way Forward**
 - **Universal Mandatory Integration of Persistent Identifiers (PIDs):**
 - Mandate the automatic issuance of unique, standardized Grant PIDs (via global non-profit systems like Crossref) at the moment of fund sanction.
 - Require all principal investigators, co-investigators, and post-doctoral scholars to maintain updated researcher PIDs (such as ORCID) linked directly to national portals.
 - **Transforming UPMS into an Open National Research Output Dashboard:**
 - Upgrade the Unified Project Management System from a back-end administrative clearinghouse to a publicly accessible, searchable national analytics dashboard (modelled on UKRI Gateway to Research and France's HAL).
 - Provide real-time visualizations of research outputs categorized by grant identifier, funding department, academic institution, scientific discipline, and technological readiness level (TRL).
 - **Modernizing Financial Rules and Performance Evaluation:**
 - Reform the Department of Expenditure's General Financial Rules (GFR) to incorporate "Milestone-Based and Repository-Deposited Deliverables" as an essential criterion for project closure alongside financial Utilization Certificates.
 - Incentivize universities and funding bodies to reward open-science contributions (code repositories, open clinical trial registrations, curated datasets) in faculty promotions and institutional accreditations (NIRF, NAAC).
 - **Automated Cross-Agency Deduplication Algorithms:**
 - Embed automated natural language processing (NLP) and semantic text-matching tools within UPMS to screen submitted grant proposals against past, present, and pipeline grants across all central and state scientific departments.
 - **Catalyzing Industry Co-Funding via ANRF Frameworks:**
 - Utilize ANRF's statutory mandate to create public-private co-investment vehicles where state research datasets and outputs are made discoverable to domestic industrial partners, bridging the translational gap and de-risking private sector R&D investments.

UPSC Civil Services Examination (Mains)

- **Mains 2023 (GS Paper III):**
 - *"The Anusandhan National Research Foundation (ANRF) aims to bridge the gap between academic research and industrial application. Discuss its potential to transform India's R&D landscape and enhance the country's innovation competitiveness."*
- **Mains 2020 (GS Paper III):**
 - *"COVID-19 pandemic has accelerated the application of digital technologies in governance and education. In this context, discuss how Digital Public Infrastructure can be leveraged to enhance scientific productivity and public accountability in India."*
- **Mains 2019 (GS Paper III):**
 - *"How is science intertwined deeply with our lives? What are the key constraints in translating state-funded basic scientific discoveries into commercially viable technologies in India?"*
- **Mains 2017 (GS Paper II):**
 - *"Effectiveness of the government schemes for civil services depends upon active monitoring of public outcomes rather than just physical and financial inputs. Analyze with suitable examples."*

State Public Service Examinations (APSC / Other State PSCs)

- **APSC CCE Mains (GS Paper V - Science, Technology & Environment):**
 - *"Discuss the primary structural challenges hindering scientific research institutions in the North Eastern region of India. How can unified digital grant platforms like UPMS democratize access to national research funding for state universities?"*
- **APSC CCE Mains (GS Paper II - Governance):**
 - *"Critically examine the role of e-governance mechanisms in preventing leakages and duplications in centrally sponsored development and research programs."*

Makkah Pact and the shifting equations in West Asia

The Gulf is also India's western security flank, and changing regional alignments make any response to cross-border terror attacks more challenging



SHYAM SARAN

Saudi Arabia, Türkiye and Pakistan concluded a Joint Defence Agreement in Makkah, the holy Islamic city in Saudi Arabia, on August 7. The text of the agreement has not been made public, so the analysis is based on the joint statement issued after it was signed. The agreement stipulates that an armed attack on any one member country will be regarded as an attack on all three. It also commits the three countries to building joint defence, improving regional security and supporting collective deterrence.

Much of the commentary from the three countries stresses that the pact brings together the military industrial capability of Türkiye, the financial muscle of Saudi Arabia and the nuclear capability of Pakistan in a potent deterrence role. All three countries have declared that the agreement is not directed against any specific country but that it is meant to provide collective deterrence. It is not

clear how they would react if deterrence fails for any partner.

While it has been announced that the headquarters of Makkah Pact will be located at Riyadh in Saudi Arabia, there is no evidence so far of a North Atlantic Treaty Organization (Nato)-type joint operational command with a clear war doctrine. Each country may define its main security threat differently. For Pakistan it is India; for Saudi Arabia, it is Iran and now Israel. For Türkiye, it may be Israel and Israel's efforts to dominate Syria and southern Lebanon. These differing security perceptions make any idea of collective defence problematical. But there is no doubt that the pact represents a significant reordering of security equations in West Asia in the wake of the continuing Iran war and the expanding Israeli military aggression in the region going beyond the war in Gaza. The overarching reality is diminishing United States (US) military capability and the failure to uphold its longstanding security guarantees to its Gulf allies.

It is also reported that Egypt may join the agreement, which will give it added heft.

Türkiye and Pakistan are like two bookends between which Saudi Arabia occupies a strategically critical space, with the Red Sea on one side and the Strait of Hormuz on the other. Its economic prosperity as an oil rich kingdom is dependent upon



ILLUSTRATION: BINAY SINHA

its safe access to these maritime spaces. The Makkah agreement was preceded by a 14-nation maritime coalition, initiated by Saudi Arabia on July 30 to protect commercial shipping, secure energy supply lines and maintain open trade routes in the Red Sea, the Gulf of Aden and the Bab al Mandeb Strait. The Strait of Hormuz was not included. Türkiye and Pakistan are members of the coalition. As far as one is aware, India was not invited to participate.

More importantly, Saudi Arabia and Pakistan made public a bilateral Strategic Mutual Defence Agreement

on September 17, 2025, which also has a clause committing the two countries to treat an attack on one party as an attack against both, the same as in the subsequent trilateral Makkah agreement. The announcement of the bilateral agreement followed the Israeli aerial attack on Qatar, where some Hamas cadres were visiting for the mediation efforts being made by Qatar for a Gaza peace. This came as a rude shock to the Gulf countries, including Saudi Arabia. Here again the text of the agreement has not been made public but the train of events suggests that the threat of

Israeli aggression is as much a driver for these recent agreements as is the Iranian threat.

The US has welcomed the Makkah Pact as a positive example of burden sharing and its allies and partners taking on more responsibility for their own defence. The US will remain an indispensable defence partner for these countries even with its reduced military profile. Türkiye is a Nato ally, Pakistan is a non-Nato ally, and the US has a bilateral security alliance with Saudi Arabia. However, if Israel is a target for these partners, the US

may have a different view.

In its official reaction, Iran has avoided criticising the Makkah Pact but has stressed the importance of Islamic countries collaborating for regional security and not be dependent upon outside powers. This is a shrewd move on the part of Iran, which would welcome a reduced US presence in the Gulf.

Three developments stand behind the Makkah Pact.

One is the diminishing credibility of US security guarantees to its allies in the Gulf and its inability to prevail over Iran.

Two, the traditional rivalry and even antipathy between Saudi Arabia and Türkiye has given way to a military alliance between them and this is the more important political shift in the region.

Three, as a country having long-standing military relationships bilaterally with both Türkiye and Saudi Arabia, Pakistan has played a significant role of a trusted bridge between them. The pact enhances Pakistan's geopolitical profile and its role in the region. Importantly, this has the blessings of the US.

China has not been visible in this reordering of geopolitical equations despite its substantial economic, energy, and security interests in the region. Pakistan's rising profile and influence in the region can be leveraged by China through its dense

security partnership with Pakistan. When a new security architecture begins to emerge in the region, which will necessitate Iran's participation, China could well take up a facilitating role as it did in the past by brokering an understanding between Iran and Saudi Arabia. It is inevitable that China will seek to fill the empty spaces left by the US.

India has every reason to be keenly interested in the developments unfolding on its western flank. The security and welfare of nine million Indians who live and work in the Gulf are of paramount concern. India's energy security is closely tied to the region since a large part of its oil and gas supplies come from there.

The Gulf is also India's western security flank. Recent developments may push India to the margins. The rising influence and military profile of Pakistan in the region cannot but be a matter of concern. At the very least, any military response to a cross-border terror attack from Pakistan will have to take into account the new alignments beginning to take shape in the region. The answer to these challenges lies in not making our relations with countries in the Gulf and Türkiye conditioned by their relations with Pakistan. That hands the initiative to Pakistan.

The writer is a former foreign secretary

Key Terms and Explanations

- **Collective Deterrence and Mutual Defence Pacts:** An institutionalized security arrangement wherein an attack on any single signatory is officially treated as an attack on all member states. Unlike loose strategic partnerships, this model mirrors the principle of collective defense found in frameworks like Article 5 of the North Atlantic Treaty Organization (NATO). For instance, if an adversary initiates an armed conflict against one member, the other signatories are politically and militarily obligated to mobilize resources to assist in collective defense.
- **Western Security Flank:** The strategic maritime and continental expanse encompassing the Arabian Sea, the Persian Gulf, the Gulf of Aden, and the wider West Asian littoral that directly interfaces with India's western borders. Security disruptions in this theater immediately reverberate across India's domestic energy supplies, maritime trade channels, and diaspora safety.
- **Strategic Hedging:** A foreign policy behavior where middle powers and regional actors avoid exclusive alignment with a single superpower (such as the United States) by cultivating multiple, overlapping defense, economic, and diplomatic relationships to mitigate systemic vulnerabilities.
- **Maritime Choke Points:** Constricted, high-traffic navigable passages connecting major bodies of water that are vital for global trade and military transit. Key examples include the Strait of Hormuz (connecting the Persian Gulf to the Gulf of Oman) and the Bab al-Mandeb Strait (connecting the Red Sea to the Gulf of Aden). Blockages or instability in these points immediately destabilize global hydrocarbons and commercial cargo flows.
- **Military-Industrial Synergy:** The integration of distinct national comparative advantages—such as Turkish indigenous defense manufacturing and drone technology, Saudi sovereign capital, and Pakistani military personnel and nuclear capabilities—into a unified deterrence ecosystem.
- **Burden Sharing:** A strategic doctrine where a global hegemon encourages regional allies to assume primary financial, conventional, and operational responsibility for their own regional security architecture, thereby reducing the direct deployment footprint of the external power.

Main Arguments and Substantive Facets

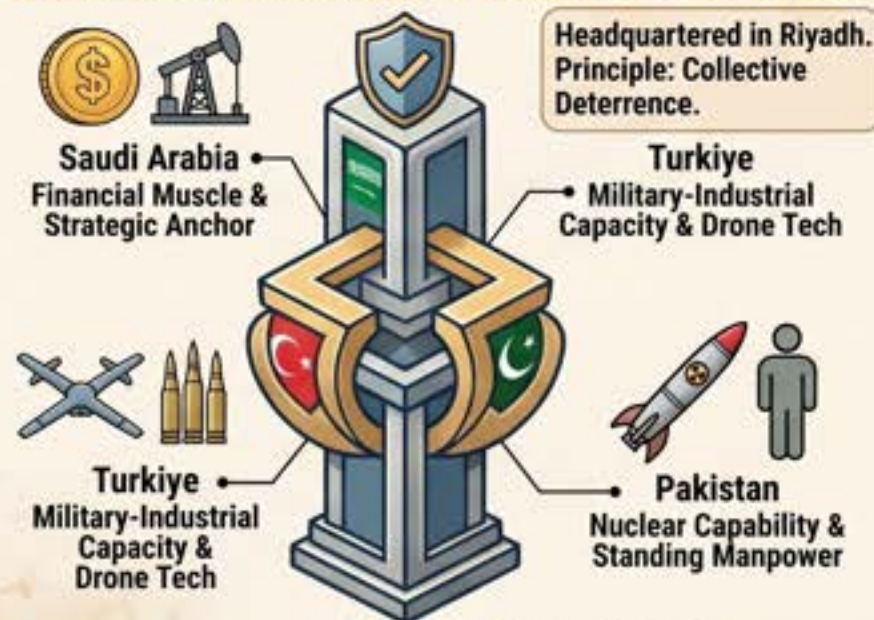
- **Establishment of a Trilateral Defense Axis:** The formation of the Makkah Joint Defence Agreement between Saudi Arabia, Turkiye, and Pakistan marks a structural reconfiguration in West Asian security. Headquartered in Riyadh, the pact introduces a mutual defense commitment wherein an armed attack against one signatory is deemed an attack against all.
- **Complementary Tripartite Capabilities:** The pact leverages distinct state assets:
 - *Turkiye:* Provides advanced defense manufacturing, combat drone systems, and tactical modernization.
 - *Saudi Arabia:* Delivers vast financial capital, energy hegemony, and territorial centrality.
 - *Pakistan:* Contributes a large standing conventional military apparatus and nuclear-armed deterrence capability.
- **Erosion of US Security Guarantees:** A primary catalyst is the perceived decline in the credibility and efficacy of the American security umbrella in the Persian Gulf. The inability of external powers to fully deter regional escalations or halt widening conflicts has driven Gulf monarchies to develop indigenous, autonomous deterrence arrangements.
- **Resolution of Historical Fault Lines:** The alliance bridges longstanding political friction and geopolitical rivalry between Saudi Arabia and Turkiye, using Pakistan's historical military ties with both capitals as a functional conduit.
- **The Dilemma of Divergent Threat Perceptions:** While the pact establishes theoretical collective deterrence, operational coherence remains constrained by fundamentally distinct national threat matrices:
 - *Pakistan's Primary Threat:* India.
 - *Saudi Arabia's Historical Threat:* Iran and wider regional escalation.
 - *Turkiye's Primary Focus:* Israeli regional actions and conflicts across the Levant (Syria and Lebanon).
- **Strategic Consequences for India:**
 - The Gulf acts as India's western security flank.
 - The formalization of a mutual defense clause involving Pakistan creates complex diplomatic and operational calculations for New Delhi in the event of cross-border counter-terror operations.
 - Preserving uninterrupted sea lines of communication and safeguarding a diaspora of over nine million citizens in the Gulf necessitates deep, de-hyphenated bilateral engagements.

- **Historical Evolution of Regional Security Architecture**

- **Pre-Independence and Colonial Era (1850s–1947):** The Persian Gulf and the Arabian Peninsula were treated as an extended maritime security frontier of the British Indian Empire. Administered largely from Bombay and Calcutta, the British maintained the "Trucial System," guaranteeing maritime peace along trade routes connecting India to Europe via the Suez Canal and the Red Sea.
- **Cold War Alliances and CENTO (1950s–1970s):** The Middle East was integrated into Western containment pacts through the Baghdad Pact (1955), later known as the Central Treaty Organization (CENTO), which grouped the United Kingdom, Turkey, Iran, Iraq, and Pakistan. India, pursuing Non-Alignment under Jawaharlal Nehru, rejected these bloc politics, maintaining secular bilateral relations with Arab nationalist regimes such as Egypt.
- **Post-1979 Realignment and Islamic Security Architecture (1979–1990s):** The 1979 Iranian Revolution and the Soviet invasion of Afghanistan radically transformed regional dynamics. The United States formulated the Carter Doctrine to defend Gulf energy supplies, while Saudi Arabia fostered deep military-financial ties with Pakistan, utilizing Pakistani military contingents for kingdom defense and training missions.
- **The Post-Cold War and "Look West" Paradigm (2000s–2019):** Following the Gulf Wars, the US Fifth Fleet anchored Persian Gulf security. Concurrently, India initiated its formal "Look West" policy (2005), transforming transactional hydrocarbon trade into comprehensive strategic partnerships with Saudi Arabia, the United Arab Emirates (UAE), and Oman.
- **The Abraham Accords to the Multipolar Era (2020–Present):** The normalization of ties between Israel and several Arab nations under the Abraham Accords briefly suggested an integrated, US-backed regional security and economic corridor (e.g., I2U2, IMEC). However, escalating West Asian conflicts, expanding maritime threats in the Red Sea, and declining faith in unilateral security guarantees have catalyzed sub-regional coalitions such as the Makkah Pact.

STRATEGIC ASSESSMENT: THE MAKKAH PACT & WEST ASIAN SHIFTS (UPSC CSE PREPARATION)

1. The Core: Makkah Pact Trilateral Defence Axis



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3. Multidimensional Strategic Consequences Matrix

A Economic (Choke Points & Energy Sec.) Strait of Hormuz Bab al-Mandeb 60%+ India Crude via Gulf	B Social (Diaspora Welfare & Remittances) 9 Million+ Indians; \$35B+ Remittances
C Political (Strategic Hedging & Counter-Terror) Counter-Terror Complexities Non-Zero-Sum	D Legal (Article 51 Collective Self-Defense) Ambiguity without formal command structure

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2. Key Strategic Drivers

- Erosion of **Unconditional US Security Guarantees**
- Resolution of Historical **Saudi-Turkiye Rivalries**
- Pakistan Acting as **Bilateral Military Bridge**

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4. Historical Evolution Timeline



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5. Aspirant's Toolkit: Syllabus & NCERTs

Syllabus Map

- ✓ **GS I** - Physical Geography, Entereems - Choke points
- ✓ **GS II** : Bilateral Groupings, Diaspora
- ✓ **GS III** : Maritime Security - Energy Sec - Counter-Terrorism
- ✓ **GS IV** : IR Ethics

NCERT Linkages

- Class 12 Politics** : Contemporary World Politics - Security
- Class 12 Politics** : External Relations
- Class 11 Geography** : Physical Geography
- Class 12 Geography** : International Trade

6. Way Forward for Indian Policy

1. Deepen De-hyphenated Bilateral ties with Riyadh, Abu Dhabi
2. Assertive Maritime Security Footprint (e.g., Operation Sankalp)
3. Reinforce Strategic Petroleum Reserves (SPRs)
4. Accelerate Multilateral Corridors (e.g., IMEC)
5. Institutional Diaspora Protection Mechanisms

Logical and Philosophical Foundations

- **Structural Realism (Neo-Realism) and Balance of Threat:** Under Kenneth Waltz's structural realism, states operate within an anarchic international system where survival depends on self-help. Stephen Walt's "Balance of Threat" theory explains the Makkah Pact: nations ally not merely against raw aggregate power, but against proximate, perceived operational threats. The alliance represents an attempt by regional states to balance against perceived vulnerabilities created by shifting superpower postures.
- **The Philosophy of Strategic Autonomy:** Regional middle powers (Turkiye, Saudi Arabia) increasingly reject rigid binary bloc systems. Their underlying logic is functional multipolarity—engaging external powers (the US, China) for specific technological and trade requirements while building localized, autonomous defense blocs to avoid strategic vulnerability.
- **Pan-Islamic Realism vs. Westphalian Sovereignty:** The pact employs Islamic collective identity as a legitimizing narrative. However, its operational mechanics are strictly grounded in Westphalian realpolitik: protecting regime survival, sovereign territory, trade routes, and domestic military-industrial expansion.
- **Non-Zero-Sum Diplomatic Logic for India:** In philosophical terms, India's foreign policy operates on the premise that strategic engagement with one partner (e.g., Saudi Arabia) must not be treated as an exclusionary zero-sum outcome against another. Maintaining de-hyphenated bilateralism enables India to preserve its core security interests despite complex external alliances.

- **Multidimensional Analysis**
 - **Social and Diaspora Dimension:**
 - *Demographic Protection:* Over nine million Indian citizens live and work across Gulf Cooperation Council (GCC) member countries, representing the largest expatriate community.
 - *Economic Lifeline:* Remittances from West Asia exceed \$35 billion annually, supporting household consumption, balance-of-payments stability, and human development in Indian states like Kerala, Uttar Pradesh, and Bihar.
 - *Welfare in Crises:* Any escalating regional conflict puts civilian lives, property, and repatriation systems under severe operational strain.
 - **Political and Strategic Dimension:**
 - *De-hyphenation Challenges:* Pakistan's inclusion in Gulf defense mechanisms risks attempts to leverage regional partnerships against India during bilateral disputes.
 - *Diplomatic Balancing:* New Delhi must preserve strategic, defense, and high-tech cooperation with Riyadh and Abu Dhabi without allowing regional defense pacts to constrain India's sovereign defense posture.
 - **Legal and Institutional Dimension:**
 - *International Law & Self-Defense:* The mutual defense stipulation aligns formally with Article 51 of the UN Charter, recognizing the inherent right of individual or collective self-defense.
 - *Institutional Ambiguity:* The absence of an integrated command structure or formal common war doctrine leaves legal obligations ambiguous when individual members face asymmetric or state-sponsored conflicts.
 - **Ethical and Humanitarian Dimension:**
 - *Proliferation of Arms:* Channelling advanced military-industrial capabilities into volatile sub-regions increases the risk of broader conventional escalation.
 - *Human Security:* Persistent militarization diverts fiscal resources away from socio-economic transition, climate adaptation, and human development programs in developing nations.
 - **International and Geopolitical Dimension:**
 - *US Retrenchment:* Washington welcomes regional defense burden-sharing while balancing its broader strategic commitments.
 - *Chinese Diplomatic Space:* Beijing's established mediation role (e.g., the Saudi-Iran detente) and deep trade footprints position it to expand its political leverage in the resulting security space.
 - **Economic and Energy Dimension:**
 - *Hydrocarbon Dependencies:* Over 60% of India's crude oil imports and roughly 85% of its Liquefied Natural Gas (LNG) transit via Persian Gulf routes.
 - *Supply Chain Vulnerability:* Maritime coalitions excluding major littoral users (such as India) can impact access to critical Sea Lines of Communication (SLOCs) along the Red Sea and Bab al-Mandeb.

- **Linkages with NCERT Textbooks**

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

- *Chapter: "Security in the Contemporary World"*: Directly explains concepts of external traditional security, military alliances, balance of power, and collective defense vs. non-traditional human security.
- *Chapter: "Contemporary South Asia" & "International Organisations"*: Provides foundational context on interstate conflicts, the limitations of multilateral organizations, and Pakistan's traditional security doctrine vis-à-vis India.

- **Class 12 Political Science: *Politics in India Since Independence***

- *Chapter: "India's External Relations"*: Outlines the foundational principles of Non-Alignment, India's strategic approach to West Asian conflicts, Afro-Asian solidarity, and the balance between national security and moral diplomacy.

- **Class 11 Geography: *Fundamentals of Physical Geography***

- *Chapter: "Water (Oceans)"*: Contextualizes global maritime geography, oceanic passages, and the strategic importance of narrow straits and oceanic waterways.

- **Class 12 Geography: *India: People and Economy***

- *Chapter: "International Trade"*: Details India's trade direction, heavy import dependence on West Asian fossil fuels, sea-route logistics, and the economic contribution of remittances.

- **Linkages with UPSC CSE Syllabus**
 - **General Studies Paper I (Indian and World Geography):**
 - *Critical Geographic Features:* Strategic choke points (Strait of Hormuz, Bab al-Mandeb, Suez Canal, Gulf of Aden) and the spatial distribution of critical energy resources.
 - **General Studies Paper II (Governance, Constitution, Polity, Social Justice, and International Relations):**
 - *Bilateral, Regional, and Global Groupings:* Agreements affecting India's strategic interests (e.g., Makkah Pact, GCC, I2U2).
 - *Effect of Foreign Policies on India:* How security alignments between West Asian nations and neighboring states impact India's regional posture.
 - *Indian Diaspora:* Policy frameworks for protecting nine million expatriates in the Gulf.
 - **General Studies Paper III (Technology, Economic Development, Bio-diversity, Environment, Security & Disaster Management):**
 - *Security Challenges in Maritime Frontiers:* Protecting India's western security flank and coastal borders.
 - *Energy Security & Supply Chains:* Diversification of crude and gas supplies, expansion of Strategic Petroleum Reserves (SPRs).
 - *Linkages of Terrorism with Regional Security:* Strategic constraints in executing counter-terror deterrence operations.
 - **General Studies Paper IV (Ethics, Integrity, and Aptitude):**
 - *Ethical Issues in International Relations:* The moral tensions between realpolitik (state survival, deterrence) and universal humanitarian stability.
 - **Optional Subjects:**
 - *PSIR (Paper II):* Realism, balance of power, regional security complexes, India's foreign policy, and relations with West Asia.
 - *Geography (Paper II):* Geopolitical importance of the Indian Ocean Region (IOR) and international trade patterns.
-

- **Way Forward**

- **Deepening Bilateral Security Cooperation with Gulf States:** India must expand defense and intelligence ties with Saudi Arabia, the UAE, and Oman independently of their third-party defense pacts. Regular institutionalized joint exercises (e.g., *Al-Mohed Al-Hindi* with Saudi Arabia, *Naseem Al Bahr* with Oman, and *Zayed Talwar* with the UAE) strengthen mutual security cooperation.
- **Assertive Maritime Security Footprint:** Expanding the Indian Navy's autonomous mission-based deployments (such as *Operation Sankalp*) ensures direct protection of Indian-flagged commercial vessels through sensitive choke points (Bab al-Mandeb, Gulf of Aden, and Strait of Hormuz) without relying exclusively on foreign coalitions.
- **Reinforcing Strategic Petroleum Reserves (SPRs):** To insulate the economy from West Asian supply disruptions, India should expand its Strategic Petroleum Reserve capacity (beyond current sites at Visakhapatnam, Mangalore, and Padur) and diversify energy imports across North America, Latin America, and Africa.
- **Revitalizing Alternative Connectivity Frameworks:** Accelerating multilateral economic corridors, such as the India-Middle East-Europe Economic Corridor (IMEC) and the I2U2 initiatives, anchors regional states to long-term economic integration, counterbalancing purely military-centric pacts.
- **Institutional Diaspora Protection Mechanisms:** Upgrading standard operating procedures with Gulf partners—including dynamic crisis evacuation protocols and social security frameworks—safeguards the Indian workforce during sudden regional escalations.

- **UPSC Civil Services Examination (Mains)**

- **GS Paper II (2023):** "The I2U2 (India, Israel, UAE, and USA) grouping is transforming India's engagement in West Asia." Analyze its strategic and economic significance for India.
- **GS Paper II (2020):** "The historic Abraham Accords have introduced new dynamics into the Middle Eastern geopolitical landscape." Discuss the implications for India's foreign policy and energy security.
- **GS Paper II (2019):** "India's relations with West Asian countries are no longer merely transactional, but have evolved into a comprehensive strategic partnership." Examine.
- **GS Paper II (2017):** "Indian diaspora in a volatile West Asian region faces unprecedented socio-economic vulnerabilities." Evaluate the institutional mechanisms deployed by the Government of India for their protection.
- **GS Paper II (2015):** "The geopolitics of the Persian Gulf directly influences India's national security." Elaborate on the measures required to secure India's western maritime frontier.

- **Assam Public Service Commission (APSC CCE)**

- **APSC Prelims (2022 / 2020):** Questions assessing the geographical location of the Strait of Hormuz, Persian Gulf littoral nations, and energy supply lines connected to Northeast India.
- **APSC Mains (GS Paper II / GS Paper V):** "Examine the significance of West Asian stability for India's macroeconomic resilience, with special reference to energy import bills and remittance channels."

Delhi can't afford to lose Dhaka connect

PM Modi has done well by absorbing Tarique Rahman's Sheikh Hasina tantrum



THE GREAT GAME

JYOTI MALHOTRA

BANGLADESH's new President, the once Left-leaning Muzibur Rahman, was all of 23 years old back in March 1971, at home in Thakurgaon in northern East Pakistan, when he heard that Pakistani military officers had unleashed Operation Searchlight across the country and were massacring unarmed Bangladeshi nationalists, intellectuals and politicians. Two days later, on March 21, Alamgir and friends heard Major Ziaur Rahman, a serving Major in the Pakistan Army, give the rousing call for an independent Bangladesh over radio, on behalf of Sheikh Mujibur Rahman, from his hideout in Chittagong (then Chittagang) — a message that was picked up by BBC and Radio Australia and relayed across the world.

"Joy Bangla" said Major Zia as he ended his speech, unleashing for the first time a cry that would breathe life into a freedom-fight in the coming weeks and months — admired by celebrities as diverse as Indira Gandhi and George Harrison, and equally disliked by Yehya Khan and Henry Kissinger — rallying the entire nation to join hands with India and forge the Mukti Bahini, which would lead by the end of the year to the India-Pakistan war and the liberation of Bangladesh.

As the situation deteriorated in April 1971 in Thakurgaon — named for a Chakrabarty family with large lands, with a twin town called Thakurgaon only 35 km away, across the border in Kishoreganj district of Bihar — Alamgir and his family crossed the Nagar river into India's West Bengal district, part of a swelling flood of refugees. There, in Idan-



OUTREACH : If the Dhaka elite is to be believed, Bangladesh President Muzibur Rahman (right) has advised PM Tarique Rahman to travel to Delhi for a meeting with PM Modi, much as he did



ly met the Indian ambassador, but continues to suffer threateningly about China, Bhutan, Sri Lanka and Maldives are quiet, but China's shadow looms large. Certainly, India cannot afford to lose Bangladesh. It must find ways to rekindle the old connect.

The one big difference between 1971 and 2026, of course, is that India's hugely improved tie with the US has meant that India works much more closely today with the Americans in all parts of its neighbourhood, not just in Bangladesh — back in 1971, the US and Pakistan were a crumb. The rest of the story doesn't need retelling.

Perhaps, PM Modi should take a leaf out of how big powers like the US and China play the game, both hedging and reaching out to smaller powers at the same time. India's unique civilisational strength, meanwhile,

demands that it punch much above its economic weight, especially in its neighbourhood, where ties are weighted down by language, religion, culture and ethnicity, imparting a continuum to the ends of India.

That's why PM Modi has done well by absorbing Tarique Rahman's Sheikh Hasina tantrum, and for the time being, jutting it on the backburner — where it will be definitely rendered moot, a profitable quid-pro-quo being that when she returns home to Bangladesh in December, which she has publicly promised to do, no harm will be allowed to come to her person and that of her family — and foregrounding the all-important tie between Delhi and Dhaka.

That's why the sky must be the limit between India and all her neighbours, from the Karakoram to Cox's Bazar — India First, yes, on the part of the neighbour, but also Neighbourhood First, on the part of India, signifying both an open wallet and an open heart. Certainly, a neighbourhood as diverse as this one is no child's play. Restoring trust will take time. With the 'Arbudashtis' by his side, the PM has taken the first move with Bangladesh. He must now steer the course.

The sky must be the limit between India and all her neighbours, from the Karakoram to Cox's Bazar.

That the 1971 War of Liberation remained an unlit match between the people of both nations, not just between leaders.

For the time being, though, Tarique's proposed August 23-25 visit has been postponed, as both sides sort out the nitty-gritty. But the significance of PM Modi's conciliatory message, in the wake of Bangladesh hardening its stance last week and making Tarique's visit to India conditional on the extradition of Hasina, has not been lost on Dhaka.

It needed the PM to make that overture — once we will give you an "honourable exception", he said in a message to Tarique, barely aware that Sheikh Hasina's August 1971 entrance had seriously upset him. Modi understood quickly that only he could save the situation. That Bangladesh's daughter,

a VIP who could do no wrong because her father had helped India break up Pakistan, could not be allowed to hijack the relationship. That the world had changed. That Bangladesh was again swimming in a dangerous sea, surrounded by sharks with names like China and Pakistan. That Tarique's first visit as PM had been to Beijing and Kuala Lumpur, not Delhi. That the Bangladeshis, after all these decades, were being wooed by the military establishment in Rawalpindi — that Dhaka was crawling, once again, with ISI spies.

Certainly, the PM knows that India's eastern flank needs protecting — that it remains not just the gateway to South-East Asia, but is key to security in India's right. North East, states, Bangladesh shares common borders with five Indian states; last time there was a BJP government in power, 2005-2006, when Tarique's mother Khushi Zia was PM, a huge arms haul in Chittagong was seized just in time.

There's also the realisation that India's neighbourhood is in a bit of a chaos. Pakistan remains in deep freeze, despite pleas by senior RSS leaders like Mahan Bhagwat and Dattatraya Hosale to repair ties. Nepal's PM has finally

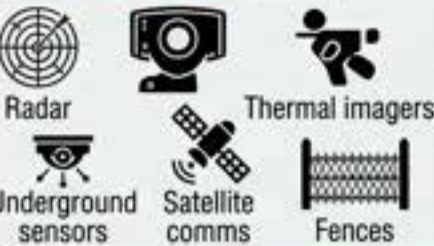
- **Key Terms and Analytical Concepts**
- **Operation Searchlight (1971)**
 - **Definition:** A planned military operation carried out by the Pakistan Armed Forces starting in March 1971 to suppress the Bengali nationalist movement in East Pakistan.
 - **Strategic Impact:** The crackdown resulted in widespread civilian casualties, targeted intellectuals and political leaders, and triggered a massive humanitarian exodus of approximately 10 million refugees into India, ultimately precipitating the 1971 Indo-Pakistani War.
- **The Siliguri Corridor ("Chicken's Neck")**
 - **Definition:** A narrow stretch of land in West Bengal, measuring roughly 20 to 22 kilometers at its narrowest point, connecting mainland India to its eight North-Eastern states.
 - **Geopolitical Relevance:** It serves as a vital strategic chokepoint. Maintaining friendly, stable relations with Bangladesh secures India's eastern flank and provides alternative multimodal transit routes (such as the Chittagong and Mongla ports), mitigating excessive reliance on this vulnerable land bridge.
- **Mandala Theory (*Arthashastra*)**
 - **Definition:** An ancient Indian geopolitical framework articulated by Kautilya, conceptualizing interstate relations as concentric circles of friends, adversaries, and buffer states.
 - **Application:** Kautilya posits that an immediate neighbor is inherently prone to rivalry (*Ari*), while the neighbor's neighbor is a natural ally (*Mitra*). In modern South Asian statecraft, it highlights why external powers often cultivate ties on India's periphery, necessitating proactive, non-dogmatic diplomatic outreach by New Delhi.
- **Comprehensive Integrated Border Management System (CIBMS)**
 - **Definition:** An advanced border security architecture combining physical barriers with thermal imagers, radar, underground sensors, and satellite communications.
 - **Border Context:** India and Bangladesh share a 4,096.7 km border—the longest land border India shares with any neighbor. CIBMS is essential for securing riverine, unfenced, and densely populated border segments across five Indian states.
- **Gujral Doctrine**
 - **Definition:** A set of five foreign policy principles formulated in 1996 by former Prime Minister I.K. Gujral, emphasizing non-reciprocal concessions by India to its smaller South Asian neighbors.
 - **Significance:** It forms the philosophical bedrock of India's "Neighbourhood First" policy, prioritizing mutual trust, non-interference, and shared prosperity over transactional diplomacy.

- **Main Arguments and Strategic Analysis**
- **De-Hyphenating Bilateral Ties from Regime Dependency**
 - A sustainable foreign policy cannot rely exclusively on a single political dispensation or dynasty. While historical alignments have produced significant strategic cooperation, long-term bilateral resilience requires institutionalized state-to-state and people-to-people relations that endure democratic shifts and regime changes.
 - **Institutional Engagement:** Direct communication with diverse political factions prevents bilateral ties from becoming a zero-sum game during domestic political transitions.
 - **Broadening Stakeholders:** Engaging with youth platforms, business chambers, academic institutions, and cross-border civil society balances elite-level diplomacy with grounded public goodwill.
- **Strategic Absorption and Diplomatic Equanimity**
 - Geopolitical transitions often generate volatile domestic rhetoric and populist grandstanding. Effective regional statecraft involves absorbing short-term provocations while maintaining channels for high-level security and economic coordination.
 - **Patience Over Reaction:** Reacting impulsively to heated campaign rhetoric or interim political posturing can alienate emerging leadership and create strategic openings for hostile external actors.
 - **Preserving Core Interests:** Keeping functional channels open protects ongoing security arrangements, cross-border supply chains, and power transmission grids.
- **The North-Eastern Security Imperative**
 - Stability in Bangladesh directly impacts peace, security, and economic development across India's North-Eastern region.
 - **Counter-Insurgency Cooperation:** Historical precedents—such as the 2004 Chittagong arms seizure intended for insurgent groups like the United Liberation Front of Asom (ULFA)—demonstrate the vital necessity of cooperative security protocols with Dhaka.
 - **Transit and Connectivity:** Transshipment access through Bangladeshi territory drastically reduces transport time and freight logistics costs to Tripura, Assam, and Meghalaya.
- **Countering Strategic Encirclement in the Bay of Bengal**
 - A diplomatic estrangement between New Delhi and Dhaka risks pushing Bangladesh into alternative security and economic orbits.
 - **China-Pakistan Convergence:** Increased defense procurement, deep-water port development, and intelligence coordination by external powers in Bangladesh could compromise India's maritime security in the Bay of Bengal.
 - **Indo-Pacific Balance:** Unlike the Cold War alignment of 1971, India and its Western partners now share a convergent interest in ensuring an open, rules-based, and economically integrated Bay of Bengal.

- **Historical Evolution of India-Bangladesh Relations**
- **Pre-Independence and Partition (1947–1970)**
 - **1947:** The Partition of British India creates East Pakistan, separated from West Pakistan by over 1,500 kilometers of Indian territory.
 - **1952–1966:** Rising economic disparity and cultural marginalization trigger the *Bhasha Andolan* (Language Movement) and the Awami League's Six-Point Movement led by Sheikh Mujibur Rahman.
 - **1970:** The Awami League wins a decisive majority in Pakistan's general elections; the military regime in Rawalpindi refuses to transfer power.
- **The 1971 Liberation War and the Founding Era (1971–1975)**
 - **March 1971:** The Pakistani military launches Operation Searchlight. Millions of refugees cross into West Bengal, Assam, Meghalaya, and Tripura, placing severe humanitarian and socio-economic strains on India.
 - **December 1971:** India enters the conflict, leading to the joint surrender of 93,000 Pakistani troops, the signing of the Shimla Agreement, and the birth of sovereign Bangladesh.
 - **1972:** Prime Ministers Indira Gandhi and Sheikh Mujibur Rahman sign the 25-Year Treaty of Friendship, Cooperation, and Peace.
- **Turbulence and Strained Relations (1975–2008)**
 - **1975:** The assassination of Sheikh Mujibur Rahman ushers in military rule under Ziaur Rahman and later H.M. Ershad, leading to diplomatic cooling.
 - **1996:** The landmark 30-Year Ganges Water-Sharing Treaty is signed under the Gujral Doctrine framework, offering a brief period of rapprochement.
 - **2001–2006:** Bilateral ties face renewed friction over border security, safe havens for North-East insurgent groups, and transshipment bottlenecks.
- **The "Shonali Adhyay" (Golden Era: 2009–2024)**
 - **2015:** The historic Land Boundary Agreement (LBA) is operationalized via the 100th Constitutional Amendment Act of India, settling a four-decade border dispute and exchanging 162 enclaves.
 - **2018–2023:** Launch of high-impact connectivity initiatives, including the Maitree Super Thermal Power Plant, the India-Bangladesh Friendship Pipeline, and the operationalization of Chattogram and Mongla ports for Indian transit cargo.
- **Contemporary Phase (Present Day)**
 - **Regime Shift:** Political restructuring in Dhaka creates new diplomatic variables, requiring both sides to balance historical legacies with contemporary realpolitik.
 - **Recalibration:** New Delhi works to sustain functional defense, economic, and energy ties, underscoring that bilateral cooperation rests on long-term structural interdependence.



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NCERT Textbook Linkages

- Class 12 Pol Sc: South Asia conflicts, 1971 War
- Class 11 Geography: Drainage system
- Political Theory: Rights, Citizenship

STRATEGIC ANALYSIS: INDIA-BANGLADESH RELATIONS.

KEY TERMS & CONCEPTS



Alternative multimodal routes through Bangladeshi ports.

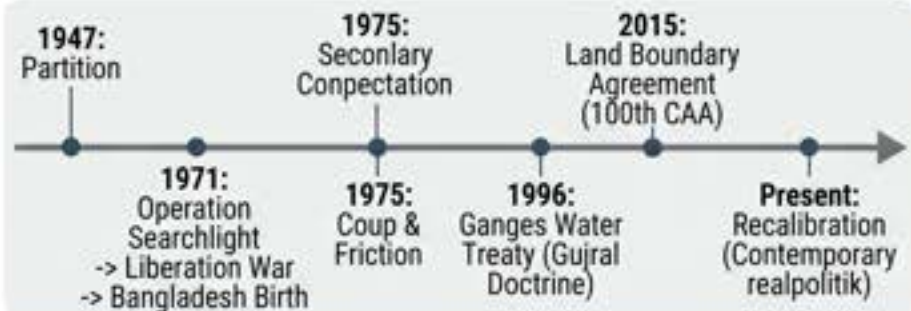


EXAM INTEGRATION PANELS

UPSC & APSC CSE Syllabus Integration

- GS Paper 2: Neighbourhood First
- GS Paper 3: Border Security, CIBMS, internal security challenges
- Ethics/PSIR: Realpolitik, Mandala Th.
- APSC: Border states context, PIWT&T, NE development via Act East Policy

HISTORICAL EVOLUTION TIMELINE



MAIN ARGUMENTS & STRATEGIC ANALYSIS

DE-HYPHENATING BILATERAL TIES FROM REGIME DEPENDENCY

Single-Party Reliance (Awami League Centric) [unsustainable]
OR
Institutional Outreach (State-to-State, Multi-Party & Civil Society) [sustainable model]

STRATEGIC ABSORPTION & DIPLOMATIC EQUANIMITY

Functional channels stay open despite heated rhetoric

THE NORTH-EASTERN SECURITY IMPERATIVE



PYQ HIGHLIGHTS

- Prelims**: Prelims 2015-LBA, 2017-Teesta
- Mains**: Mains GS 2-CPEC, 2020-Neighbourhood First, GS 3-CIBMS, GS 1-Post-Independence, PSC

LOGICAL & PHILOSOPHICAL FOUNDATIONS

Kautilyan Realism (Pragmatic Statecraft) Six-Fold Policy	Constructivist Civilizational Kinship Shared River Basins Ganga-Brahmaputra-Meghna Cultural Heritage Tagore, Nazrul 1971 sacrifices	Ethics of Asylum vs. Sovereign Realpolitik Responsibility to Protect Historical Allies Respecting Sovereign Political Will
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MULTIDIMENSIONAL ANALYSIS

- **Social**: Cross-Border Kinship, Medical Tourism, Communal Sensitivities
- **Political**: Bipartisan Diplomatic Diversification, Domestic Political Overlaps
- **Legal**: Extradition Treaty, LBA, UNCLOS Maritime Verdict, Transboundary River Agreements
- **Ethical**: Protective vs. Sovereign imperatives, Border ethics
- **International**: Indo-Pacific Node, External Power Dynamics
- **Economic**: Bilateral Trade, BBIN MVA, BIMSTEC, Energy Interdependence

STRATEGIC WAY FORWARD

- | | |
|---|---|
| Institutional Multi-Party Ties <ul style="list-style-type: none"> • Broaden political contacts • SAMPRITI exercises | Economic Integration & CEPA <ul style="list-style-type: none"> • Accelerate CEPA, Trade in local currencies INR/BDT |
| River Basin Diplomacy & Shared Resource Management <ul style="list-style-type: none"> • Basin-wide Joint Water Management • Teesta de-escalation solutions | Smart Border Management & People-to-People Connectivity <ul style="list-style-type: none"> • Completing CIBMS • Visa & travel liberalization • Border Haats |

- **Logical and Philosophical Foundations**
- **Kautilyan Realism and Strategic Pragmatism**
- The classical school of Indian strategic thought prioritizes calculated national interest over emotional or ideological dogmatism.
 - **Shadgunya Siddhantha (Six-Fold Diplomatic Policy):** Highlights the necessity of adapting strategy—from accommodation (*Sandhi*) to strategic patience (*Asana*)—depending on shifting power distributions.
 - **Realpolitik:** Foreign policy must navigate the objective political landscape as it exists, not as one wishes it to be. Engaging with whatever legitimate authority holds power in Dhaka is a strategic imperative.
- **Constructivist and Civilizational Continuity**
- The foundational premise of India-Bangladesh ties relies on shared linguistic, cultural, and riverine bonds.
 - **Shared Societal Memory:** Unlike interstate relations built entirely on transactional defense pacts, the shared cultural heritage of Bengal, the legacy of Rabindranath Tagore, Kazi Nazrul Islam, and the sacrifices of 1971 create an underlying societal buffer against temporary diplomatic freezes.
 - **People-Centric Foundations:** Regimes and political coalitions change, but structural geographic and cultural proximities remain permanent.
- **The Ethical Dilemma: Asylum vs. Strategic Statecraft**
- A core philosophical challenge in foreign policy is balancing historical moral duties with immediate geopolitical imperatives.
 - **The Morality of Refuge:** Granting safety to long-standing allies aligns with India's civilizational tradition of *Atithi Devo Bhava* and ethical protection of historical partners.
 - **Sovereign Realpolitik:** Over-identifying with displaced political figures risks alienating the wider population and incoming administrations of partner nations. Resolving this tension demands discreet diplomacy that separates personal humanitarian considerations from official state-to-state policy.

- **Multidimensional Analysis**
- **Social Dimension**
 - **Cross-Border Kinship:** Shared language, family ties, and culinary traditions unite West Bengal, Tripura, and Assam with Bangladesh, creating strong grassroots connections.
 - **Medical and Educational Tourism:** Bangladesh accounts for a major share of international medical tourists visiting Indian hospitals, generating economic activity and fostering goodwill.
 - **Communal and Minority Sensitivities:** Domestic socio-political rhetoric on either side of the border has direct repercussions on border security, minority safety, and cross-border migration patterns.
- **Political Dimension**
 - **Bipartisan Diplomatic Diversification:** Moving away from single-party alignment allows New Delhi to engage pragmatically across Bangladesh's broad political spectrum.
 - **Domestic Political Overlaps:** Border management, illegal immigration, and water-sharing are active political issues in Indian border states (West Bengal, Assam, Meghalaya, Tripura, Mizoram), requiring close coordination between the Union and state governments.
- **Legal Dimension**
 - **Extradition Treaties:** The 2013 Extradition Treaty between India and Bangladesh (amended in 2016) provides a structured legal framework for handling extradition requests while incorporating standard political exception clauses.
 - **Land and Maritime Boundary Delimitation:** The operationalization of the 2015 Land Boundary Agreement and the peaceful acceptance of the 2014 UNCLOS Permanent Court of Arbitration verdict on maritime borders highlight a shared commitment to international law.
 - **Transboundary River Agreements:** While the 1996 Ganges Water Treaty provides a functional blueprint, negotiations over the Teesta River and 53 other shared transboundary rivers require formal, basin-wide legal mechanisms.
- **Ethical Dimension**
 - **Responsibility to Protect Historical Allies:** Balancing the duty of providing sanctuary to long-time strategic partners with the ethical imperative of respecting the domestic political will of a sovereign neighbor.
 - **Border Management Ethics:** Transitioning from lethal to non-lethal border management strategies along the international border to minimize civilian casualties while curtailing smuggling networks.
- **International Dimension**
 - **The Indo-Pacific Maritime Node:** Bangladesh sits at the top of the Bay of Bengal, making it a critical player in the security and trade architecture of the Indian Ocean Region (IOR).
 - **External Power Dynamics:** Counteracting the strategic overtures of the Beijing-Rawalpindi axis in Bangladesh remains a key priority for India and its partners in maintaining a stable regional balance.
- **Economic Dimension**
 - **Bilateral Trade and Connectivity:** Bangladesh is India's largest trading partner in South Asia, while India is Bangladesh's second-largest in Asia.
 - **Sub-Regional Frameworks:** The BBIN (Bangladesh, Bhutan, India, Nepal) Motor Vehicles Agreement and BIMSTEC offer structured mechanisms to bypass South Asian regional gridlock.
 - **Energy and Supply Chain Security:** Cross-border diesel pipelines and regional power grids (e.g., electricity export arrangements from India and Nepal through Indian transmission corridors) demonstrate deep infrastructural interdependence.

• Linkages with NCERT Textbooks			
•	NCERT Textbook	Relevant Chapter & Syllabus Theme	
•	Class 12 Political Science:	Chapter: "South Asia and the	
•	Contemporary World Politics	Contemporary World"	
•		• Bilateral conflicts, river water	
•		disputes, economic cooperation,	
•		and security dynamics in SAARC.	
•	Class 12 Political Science:	Chapter: "India's External	
•	Politics in India Since Independence	Relations"	
•		• The 1971 Bangladesh Liberation	
•		War, refugee influx, and the shift	
•		in South Asian balance of power.	
•	Class 11 Political Science:	Chapters: "Rights", "Citizenship",	
•	Political Theory	and "Peace"	
•		• Ethical dimensions of cross-border	
•		migration, refugee protection, and	
•		sovereignty vs. human rights.	
•	Class 11 Geography:	Chapter: "Drainage System"	
•	India - Physical Environment	• Transboundary river basins	
•		(Ganga-Brahmaputra-Meghna system)	
•		and riparian water management.	
•			



- **Linkages with UPSC CSE and APSC Syllabus**
- **General Studies Paper 2 (Primary Linkage)**
 - **India and its Neighborhood - Relations:** Evolution of diplomatic, trade, and cultural ties between India and Bangladesh; managing regime changes.
 - **Bilateral, Regional, and Global Groupings:** Operational efficiency of BIMSTEC, BBIN, and SAARC; Bay of Bengal geopolitical architecture.
 - **Effect of Policies of Developed/Developing Countries on India's Interests:** Great power competition (China's Belt and Road Initiative, US Indo-Pacific Strategy) influencing domestic politics in South Asia.
- **General Studies Paper 3**
 - **Linkages of Organized Crime with Terrorism & Border Security:** Cross-border cattle smuggling, illicit currency, human trafficking, and small-arms proliferation along the porous 4,096 km border.
 - **Security Challenges and Their Management in Border Areas:** Implementation of the Comprehensive Integrated Border Management System (CIBMS), fencing projects, and Border Security Force (BSF) protocols.
 - **Infrastructure & Energy Connectivity:** Multi-modal transit corridors, inland waterways, and cross-border power transmission grids.
- **General Studies Paper 1 & Paper 4**
 - **GS 1 (Post-Independence Consolidation):** The 1971 war, refugee integration, and geopolitical restructuring of the subcontinent.
 - **GS 4 (Ethics in International Relations):** Balancing moral obligations to political allies against the realpolitik of sovereign state relations.
- **Essay and Optional Subjects**
 - **Essay Topics:** "Geography is destiny in foreign policy", "Neighbourhood First: Challenges and Opportunities", "Strategic patience as an instrument of statecraft."
 - **PSIR (Paper 2):** India's foreign policy, South Asian regional dynamics, Kautilyan Realism, and structural hegemony vs. non-reciprocal diplomacy.

- **Way Forward**
- **Institutionalizing Multi-Party and Bureaucratic Engagement**
 - **Broadening Political Contacts:** Move beyond single-party diplomacy by building formal and informal communication channels with all major political parties, civil society organizations, and youth leadership in Bangladesh.
 - **Military-to-Military Cooperation:** Strengthen regular bilateral defense exercises (*SAMPRITI*), staff talks, and institutional training exchanges at the National Defence College (NDC) level to maintain long-term institutional stability.
- **Deepening Economic Interdependence and CEPA**
 - **Accelerating CEPA Negotiations:** Conclude the Comprehensive Economic Partnership Agreement (CEPA) to maintain duty-free market access and address tariff barriers.
 - **Trade in Local Currencies:** Expand bilateral trade settlement mechanisms in Indian Rupees (INR) and Bangladeshi Taka (BDT) to reduce transaction costs and dependency on third-party reserve currencies.
- **River Basin Diplomacy and Shared Resource Management**
 - **Basin-Wide Joint Water Management:** Move away from seasonal, piecemeal water disputes toward comprehensive, river-basin-level data-sharing and joint flood forecasting for all 54 shared rivers.
 - **Teesta De-escalation:** Work on pragmatic, technical solutions for the Teesta river through water conservation, dredging, and off-season storage reservoirs to address riparian concerns in northern Bangladesh.
- **Smart Border Management and People-to-People Connectivity**
 - **Completing CIBMS and Border Infrastructure:** Accelerate non-lethal, sensor-based surveillance along unfenced and riverine border sectors while expanding Border *Haats* (local markets) to foster peaceful local economies.
 - **Visa and Travel Liberalization:** Streamline visa processing for students, medical patients, and business professionals to sustain grassroots goodwill and build resilient people-to-people connections.

- **UPSC CSE Mains**

- **General Studies Paper 2**

- **2013:** *"The violent protests in Bangladesh against the war crimes trial and the confrontation between the ruling Awami League and the opposition have serious implications for India. Critically evaluate."*
- **2015:** *"The Land Boundary Agreement between India and Bangladesh marks a historic milestone in bilateral relations. Discuss how this agreement addresses long-standing security and humanitarian concerns."*
- **2017:** *"The vital importance of the China-Pakistan Economic Corridor (CPEC) to China is well known. Discuss how China's expanding footprint across other South Asian nations, including Bangladesh and Sri Lanka, impacts India's strategic posture."*
- **2020:** *"India's 'Neighbourhood First' policy has run into rough weather in several neighboring countries. Analyze the key factors responsible for friction and suggest a strategy for sustainable re-engagement."*

- **General Studies Paper 3**

- **2014:** *"Analyze the internal security challenges arising along the Indo-Bangladesh border. Evaluate the effectiveness of the Comprehensive Integrated Border Management System (CIBMS) in addressing cross-border crimes."*
- **2019:** *"Cross-border movement of insurgents, smuggling of arms, and illegal migration remain major security threats in India's North-East. Discuss the measures required for effective border management."*

APSC Prelims

- **2018 / 2020 / 2022:** Questions focusing on the specific Indian states sharing borders with Bangladesh (Assam, Meghalaya, Tripura, Mizoram, West Bengal) and the total length of the international border.
- **2021:** Direct questions on the operationalization of the Protocol on Inland Water Transit and Trade (PIWT&T) connecting Assam ports with Bangladeshi waterways.

- **APSC Mains**

- **GS Paper 2 & 5 (Assam Section):** *"Examine how peace and political stability in Bangladesh are directly linked to the economic growth, security, and success of the Act East Policy for Assam and the wider North-Eastern region."*
- **GS Paper 3 (Internal Security):** *"Discuss the strategic role of riverine border patrolling (Dhubri sector) along the Indo-Bangladesh border in curbing illegal cross-border networks."*

Unimpeded trade needs IPMDA as the answer

Despite the diplomatic difficulties in United States-India relations due to mounting sanctions, it is increasingly clear that Washington needs regional powers such as New Delhi to support common global interests and values. Amid the U.S. visa issues for Indians and the energy crisis stemming from the war in West Asia, Indian and U.S. Foreign and Commerce Ministers have underscored the need for reciprocal trade and energy agreements. While the prime objectives in the present relations are clear, the strategy needs renewed focus on maritime domain awareness (MDA), which is crucial for the 'unimpeded trade' and has been unequivocally agreed to by both sides.

The Indo-Pacific is a trade artery

The West Asia crisis has demonstrated that the Indo-Pacific is not only a crucial geostrategic location for India and the U.S. but also for the rest of the world. Geoeconomically, it is the circulatory system of the global economy, a vast maritime corridor through which nearly \$7 trillion in trade flows annually, connecting energy producers in the Persian Gulf to manufacturing hubs in East Asia and consumer markets across the Americas. Some of the world's busiest maritime chokepoints, the Straits of Malacca, the Lombok, and the Sunda, Hormuz, Bab-al-Mandeb, and Mozambique channels sit squarely within its waters, crucial for both energy and container supplies. Yet, this indispensable artery of global commerce is increasingly being threatened by a convergence of state-sponsored coercion, illegal maritime activity, and a dangerous surveillance gap – geographically, jurisdictionally and institutionally – that even the U.S. is finding challenging to address alone.

The Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA) launched under the Quad framework in 2022, represents the most credible multilateral architecture yet devised to address this problem. It is a practical, technology-based mechanism for sharing near-real-time maritime data across partner nations to detect, deter, and respond to threats to the free flow of trade. And its full



Pooja Bhatt

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Maritime cooperation through the Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA) can strengthen the Indo-Pacific's trading system

operationalisation is anchored in robust U.S.-India cooperation under Quad (India, Australia, Japan, the U.S.), which is now a strategic imperative. At the technological level, in 2025, India has already purchased SeaVision technology from the U.S., which includes software enhancements, training, and logistical support necessary for mutual MDA cooperation.

A surveillance deficit

The Indo-Pacific suffers from a persistent and widening maritime surveillance deficit. As a multilayered technological assimilation, MDA provides an effective understanding of the maritime domain and its impacts on security, safety, the economy, and the environment.

Across the broader waters of the Indian Ocean, which connect to the South China Sea and the Western Pacific, hundreds of vessels routinely disable their Automatic Identification System (AIS) transponders – a phenomenon analysts call "going dark" – likely to evade sanctions, conceal cargo, and cause safety and environmental threats.

Such vessels may also be engaged in smuggling or ship-to-ship transfers of contraband. Many smaller fishing vessels fall outside mandatory AIS transponder carriage requirements, and depending on the applicable national and international regulatory framework, they are also found engaged in illegal fishing practices in other nations' waters or even at high seas. This depletes regional stocks and undermines the food security of littoral states.

Furthermore, as witnessed in recent times, non-state as well as state-affiliated actors are conducting grey-zone operations designed to intimidate and coerce, while escaping any legal or conventional military response. The Quad's Indo-Pacific Maritime Surveillance Collaboration 2026 (IPMSC), under the IPMDA architecture, is as elegant in its pragmatism as in its cooperation, based on a shared understanding that no country can monitor the vast oceans alone. By integrating data from commercial satellite-based radio-frequency monitoring, radar fusion, and existing partner-nation sensor networks, and

sharing it with like-minded partners, it creates a layered, near-continuous picture of maritime activities.

The beneficiaries

For the U.S., regional cooperation in the Indian Ocean is essential if it aims to focus on its immediate neighbourhood in the Pacific and the Atlantic. For India, its Information Fusion Centre-Indian Ocean Region (IFC-IOR), established in Gurugram in 2018, is a natural institutional complement to IPMDA's regional hub architecture. IPMDA is precisely the kind of arrangement that respects India's sovereignty while amplifying its reach. With the basics already in place, U.S.-India cooperation is necessary but not sufficient.

The full potential of IPMDA/IPMSC will be realised only through the active participation of existing Quad partners as well as the Association of Southeast Asian Nations (ASEAN) partner states, the Pacific Island nations that constitute critical maritime corridors. The European Union, which has upheld the importance of free and open trade since the Hormuz crisis, signals an appetite for engagement that Washington and New Delhi must cultivate.

The contributions and benefits of IPMDA/IPMSC for smaller, capacity-constrained partners, such as Bangladesh, the Maldives, the Seychelles, Sri Lanka, and Fiji, are significant. These countries have independent surveillance infrastructure, but their waters are frequently exploited because these systems remain ineffective at addressing maritime crimes beyond their jurisdictions. This provides an opportunity for collaboration.

The strategic environment in the Indo-Pacific has systematically dismantled the assumption that open trade is unilaterally sustainable. The freedom of navigation upon which global supply chains depend is increasingly contested, and such contestation, unrelenting, has become precedent in recent years. In a region where coercion has increasingly become the currency of power, transparency must present itself as a form of deterrence.

- **Key Terms and Explanations**

- **Maritime Domain Awareness (MDA):** The effective understanding of anything associated with the global maritime realm that could impact security, safety, economy, or the marine environment. It integrates vessel traffic management, intelligence, and environmental surveillance.
- **Automatic Identification System (AIS) & "Going Dark":** AIS is an automated tracking transponder system mandated by the International Maritime Organization (IMO) for commercial vessels to broadcast identity, position, course, and speed. "Going dark" refers to deliberately switching off AIS transponders to evade detection, bypass international sanctions, smuggle illicit cargo, or engage in unlawful fishing.
- **Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA):** A multilateral initiative launched at the 2022 Tokyo Quad Summit. It harnesses commercially available satellite data—such as Radio Frequency (RF) telemetry and Synthetic Aperture Radar (SAR)—to provide near-real-time, unclassified maritime tracking to partner nations across the Indian Ocean, Southeast Asia, and the Pacific.
- **Information Fusion Centre – Indian Ocean Region (IFC-IOR):** Established by the Indian Navy in 2018 at Gurugram, this regional hub processes and disseminates real-time maritime security data. It hosts International Liaison Officers (ILOs) from partner nations to tackle non-traditional maritime threats such as piracy, smuggling, and unregulated fishing.
- **SeaVision:** A web-based maritime situational awareness tool developed by the United States that visualizes vessel tracking data from multiple feeds. Its procurement by India enhances interoperability and intelligence sharing without compromising sovereign command structures.
- **Grey-Zone Warfare:** Competitive, coercive interactions between state and non-state actors that deliberately remain below the threshold of conventional military conflict. Examples include utilizing state-subsidized maritime militias or civilian fishing armadas to intimidate neighbors and alter status quo boundaries.
- **Strategic Maritime Chokepoints:** Narrow, congested geographic waterways connecting major seas and oceans. Disruptions at these bottlenecks—including the Strait of Malacca, Bab-el-Mandeb, the Strait of Hormuz, Sunda, and Lombok—threaten global energy flows and container supply chains.

- **Core Concepts and Strategic Dynamics**

- The security architecture of the Indo-Pacific has moved beyond traditional naval competition to focus on securing shared maritime corridors, addressing surveillance gaps, and institutionalizing multilateral data sharing.
 - **The Indo-Pacific as the Global Circulatory System:** The Indo-Pacific functions as the world's primary commercial artery, carrying nearly \$7 trillion in annual maritime trade. It connects the critical hydrocarbon reserves of the Persian Gulf to the industrial powerhouses of East Asia and the consumer markets of the West. Vulnerabilities in key maritime chokepoints expose global markets to severe supply-chain shocks.
 - **The Persistent Maritime Surveillance Deficit:** Vast expanses of open ocean create structural surveillance blind spots. Illicit actors systematically exploit these gaps through transponder manipulation, mid-sea ship-to-ship transfers of contraband, and Illegal, Unreported, and Unregulated (IUU) fishing. These activities deplete fish stocks, harm coastal economies, and undermine regional food security.
 - **Countering Grey-Zone Operations via Public Transparency:** Grey-zone operations rely on plausible deniability and informational opacity. By creating a verifiable, near-continuous record of ocean activities, real-time data fusion strips away deniability. Information transparency serves as a non-escalatory, non-kinetic deterrent against maritime coercion.
 - **Sovereignty-Preserving Multilateralism:** Modern MDA frameworks, including the Quad's IPMDA and India's IFC-IOR, rely on unclassified commercial data rather than sovereign military intelligence. This allows small, non-aligned, and capacity-constrained littoral states to participate and secure their Exclusive Economic Zones (EEZs) without being drawn into great-power military entanglements.

- **Historical Evolution of the Issue**

- The governance and strategic significance of the Indian Ocean and the broader Indo-Pacific have evolved from colonial dominance to multilateral cooperative frameworks:

- **Pre-Independence to the Post-War Era (Pre-1970s):** During the colonial era, the Indian Ocean functioned primarily as a strategic transit lake under *Pax Britannica*. Following World War II and decolonization, the Cold War introduced great-power rivalry, marked by the establishment of the U.S. base at Diego Garcia and Soviet naval deployments. In response, littoral states led the passage of the 1971 UN Declaration of the Indian Ocean as a Zone of Peace (Resolution 2832).
- **Economic Liberalization and Piracy Challenges (1991–2008):** India's 1991 Look East Policy, paired with rapid Asian economic expansion, elevated the commercial importance of the Sea Lines of Communication (SLOCs). Rising piracy off the Horn of Africa during the early 2000s catalyzed multinational counter-piracy patrols, demonstrating the value of coordinated naval cooperation and shared maritime domain awareness.
- **The 26/11 Catalyst and Coastal Integration (2008–2014):** The 2008 Mumbai terrorist attacks exposed severe gaps in coastal and maritime surveillance. India reformed its maritime command structure by establishing the National Command Control Communication and Intelligence (NC3IN) network and the Information Management and Analysis Centre (IMAC) in 2014 to fuse radar and AIS feeds across the coastline.
- **Doctrinal Shifts toward Cooperative Leadership (2015–2020):** In 2015, India articulated the **SAGAR** vision (*Security and Growth for All in the Region*) to emphasize collective capacity building. This led to the launch of the IFC-IOR in 2018. Simultaneously, the revival of the Quadrilateral Security Dialogue (Quad) in 2017 shifted strategic focus from isolated bilateral ties to comprehensive Indo-Pacific architectures.
- **Technological Integration and Plurilateral Frameworks (2021–Present):** The launch of the IPMDA at the 2022 Quad Summit marked a transition toward institutionalized commercial satellite data sharing. Bilateral agreements—including India's procurement of SeaVision and the foundational defense pacts (LEMOA, COMCASA, BECA)—have established an operational maritime tracking grid across the Indo-Pacific.



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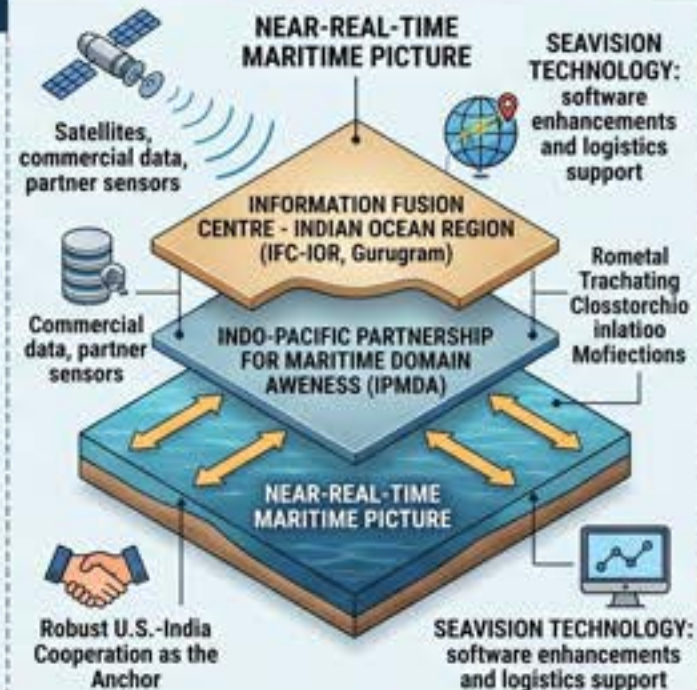
Indo-Pacific Strategic Geography



The Critical Surveillance Gap and Threats



IPMDA & IFC-IOR Architectures



Multidimensional Impact Analysis

Riser	Social		- Protect coastal livelihoods - HADR
	Political		- India as Net Security Provider - U.S.-India Strategic Convergence
	Legal		- UNCLOS Enforcement - Identify Regulatory Gaps
Ireal	Ethical		- Intergenerational Equity - Mitigate Human Trafficking/forced labor
	International		"Quad-Plus" (ASEAN, EU, Pacific Islands) - cooperation with smaller partners
	Economic		- Supply Chain Security - prevents insurance spike - Blue Economy

Strategic Way Forward: 5 Pillars

- 1. EXPAND IFC-IOR with AI and International Liaison Officers.**
- 2. CLOSE REGULATORY GAPS: universal transponder requirement for motorized fishing**
- 3. FOSTER "QUAD-PLUS" DIALOGUE: active ASEAN, EU, Pacific participation**
- 4. ACCELERATE UNDERWATER DOMAIN AWARENESS (UDA)**
- 5. TARGETED CAPACITY BUILDING for smaller partners (e.g., Mauritius, Fiji, Sri Lanka)**

- **Logical and Philosophical Base**

- **Philosophical Balance: *Mare Liberum* versus *Mare Clausum*:** Maritime trade governance reflects the long-standing debate between Hugo Grotius's *Mare Liberum* (the seas are a global commons free to all) and John Selden's *Mare Clausum* (waters can be subject to national sovereignty). Modern MDA defends the Grotian open-commons model against creeping territorialization and excessive baseline claims.
- **The Public Goods Theory of Ocean Governance:** Global oceans represent a common-pool resource vulnerable to the "Tragedy of the Commons." Because individual coastal nations often lack the fiscal or naval capacity to monitor expansive EEZs independently, maritime security must be supplied as a shared regional public good through multilateral burden sharing.
- **Information Asymmetry and Deterrence:** Grounded in microeconomic and strategic game theory, non-kinetic deterrence relies on eliminating information asymmetries. When rogue or state-backed vessels know their movements are tracked via commercial sensors, the geopolitical and economic costs of illicit actions rise sharply.
- **Cooperative Security over Traditional Containment:** MDA networks prioritize functional security—such as disaster relief, anti-smuggling, and fisheries protection—over exclusive collective-defense pacts. This approach respects national strategic autonomy while establishing effective regional monitoring mechanisms.



Multidimensional Analysis	
Dimension	Core Strategic Dynamics & Implications
Social	- Protects coastal fishing livelihoods from large-scale industrial plunder by distant-water fleets. - Accelerates Humanitarian Assistance and Disaster Relief (HADR) missions during extreme weather events and natural disasters. - Safeguards vulnerable marine ecosystems that sustain traditional artisanal coastal communities.
Political	- Elevates India’s regional standing as a reliable Net Security Provider across the Indian Ocean. - Deepens the U.S.-India Comprehensive Global Strategic Partnership while honoring strategic autonomy. - Builds diplomatic trust with smaller island developing states across the Indian Ocean and the South Pacific.
Legal	- Strengthens enforcement of the United Nations Convention on the Law of the Sea (UNCLOS, 1982). - Identifies regulatory gaps, such as AIS carriage exemptions for commercial vessels below 300 gross tonnage. - Establishes verifiable, admissible digital records of maritime violations for international legal tribunals.
Ethical	- Champions intergenerational equity by curbing ocean degradation and the depletion of common marine resources. - Rejects coercive, power-based dominance in the global commons in favor of a rule-based international order. - Mitigates human trafficking, forced labor, and abandonment of crews aboard unregulated commercial vessels.
International	- Fosters operational synergy between the Quad, ASEAN's Outlook on the Indo-Pacific, and the Indian Ocean Rim Association (IORA). - Bridges operational coordination with European naval missions (e.g., Operation ASPIDES, EMASoH) across western chokepoints. - Balances regional security dynamics through non-provocative, transparent surveillance systems.
Economic	- Protects ~\$7 trillion in annual trade against piracy, maritime terrorism, and state-sponsored chokehold threats. - Prevents spike-driven inflation in marine insurance premiums, bunker fuel surcharges, and container freight rates. - Unlocks the sustainable potential of the regional Blue Economy, including legal aquaculture and ocean renewables.

- **Linkages with NCERT Textbooks**
- **Class 11 Geography (*Fundamentals of Physical Geography* – Chapter 13: Oceans):**
 - *Conceptual Link:* Details ocean configurations, bottom topography, temperature-salinity distribution, and strategic oceanic corridors.
 - *Relevance:* Explains how physical choke points (straits and channels) govern modern global shipping routes and resource movements.
- **Class 12 Geography (*India: People and Economy* – Chapter 11: International Trade):**
 - *Conceptual Link:* Examines India's foreign trade composition, dependence on sea-borne commerce, and the role of major ports as trade gateways.
 - *Relevance:* Underlines why unimpeded Sea Lines of Communication (SLOCs) are essential for maintaining India's energy and manufacturing supply chains.
- **Class 12 Political Science (*Contemporary World Politics* – Chapter 6: Environment and Natural Resources):**
 - *Conceptual Link:* Explores the governance of the "Global Commons," common property resources, and international environmental regimes.
 - *Relevance:* Highlights the institutional challenges of managing ocean waters beyond national jurisdiction and preventing the tragedy of the commons.
- **Class 12 Political Science (*Contemporary World Politics* – Chapter 3: Contemporary Centres of Power):**
 - *Conceptual Link:* Covers regional organizations, ASEAN, and the balance of power across the Indo-Pacific.
 - *Relevance:* contextualizes the emergence of plurilateral platforms like the Quad, IPMDA, and Indo-U.S. strategic realignments.



- **Linkages with the UPSC CSE Syllabus**
 - **General Studies Paper 1 (Geography):**
 - *Topics:* Salient features of world physical geography; distribution of key natural resources (energy routes across the Indian Ocean); critical geographical features and water bodies (Malacca, Hormuz, Bab-el-Mandeb).
 - **General Studies Paper 2 (Polity, Governance, & International Relations):**
 - *Topics:* Bilateral, regional, and global groupings and agreements involving India (India-U.S., Quad); effect of policies and politics of developed and developing countries on India's interests; institutional mechanisms for international maritime rule of law (UNCLOS, IMO).
 - **General Studies Paper 3 (Economy, Environment, & Internal Security):**
 - *Topics:* Infrastructure (ports, shipping, maritime corridors); Blue Economy and sustainable fishing; security challenges and their management in border/coastal areas; linkages of organized crime with terrorism (maritime drug trafficking, smuggling, grey-zone threats).
 - **General Studies Paper 4 (Ethics, Integrity, & Aptitude):**
 - *Topics:* Ethical issues in international relations; responsible stewardship of the global commons; transparency as an ethical instrument against intimidation and unilateral coercion.
 - **Essay Paper:**
 - *Themes:* "The 21st Century Will Be Decided on the Oceans"; "Strategic Autonomy versus Multilateral Alignment in a Fragmented World"; "Transparency as the Ultimate Currency of Deterrence."
 - **Optional Subjects:**
 - *Political Science & International Relations (PSIR - Paper 2):* India's foreign policy, changing dynamics of the Indo-Pacific, balance of power, non-traditional security threats.
 - *Geography (Paper 2):* Geopolitics of the Indian Ocean, Coastal Zone Management, marine resources, ports, and trade.

- **Way Forward**

- **Expanding the Footprint of Information Hubs:** India should scale up the operational capacity of the Information Fusion Centre – Indian Ocean Region (IFC-IOR) by integrating more International Liaison Officers (ILOs) from Southeast Asia, East Africa, and the Pacific Islands. Upgrading data fusion engines with artificial intelligence will enhance automated anomaly detection for dark-vessel tracking.
- **Closing Regulatory Gaps in Maritime Law:** The International Maritime Organization (IMO) and national regulators must update vessel safety frameworks to lower the mandatory AIS threshold below 300 gross tonnage. Universal transponder requirements for mechanized fishing vessels would significantly reduce illegal fishing and illicit mid-sea transshipments.
- **Institutionalizing the "Quad-Plus" Dialogue on MDA:** The IPMDA should expand beyond the four Quad nations to interface directly with existing regional platforms, including ASEAN's maritime bodies, the Indian Ocean Rim Association (IORA), the Indian Ocean Naval Symposium (IONS), and the European Union's maritime mechanisms.
- **Accelerating Underwater Domain Awareness (UDA):** While surface monitoring has advanced through radar and commercial RF satellites, underwater surveillance remains a major vulnerability. Partner nations must co-develop seabed sonar networks, autonomous underwater vehicles (AUVs), and oceanographic data sharing to deter submerged grey-zone activities.
- **Targeted Capacity Building for Littoral Partners:** Rather than pushing complex military hardware, focus on delivering accessible public-goods infrastructure—such as coastal radar networks, high-speed patrol craft, and technical training on platforms like SeaVision—to capacity-constrained island nations like Mauritius, the Maldives, Seychelles, and Fiji.

- **UPSC Civil Services Examination (Mains)**

- **GS Paper 2 (2023):** "The 'Quadrilateral Security Dialogue' (Quad) has transformed itself from a purely strategic forum into a multifunctional platform delivering tangible public goods." Elucidate with special reference to maritime domain awareness and supply chain resilience. *(15 Marks, 250 Words)*
- **GS Paper 2 (2022):** "Evaluate the significance of the Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA) in addressing non-traditional maritime security challenges in the region." *(10 Marks, 150 Words)*
- **GS Paper 3 (2021):** "Cross-border maritime security challenges in the Indian Ocean require technological integration and regional intelligence fusion." Discuss the role of the Information Fusion Centre – Indian Ocean Region (IFC-IOR) in this context. *(15 Marks, 250 Words)*
- **GS Paper 2 (2020):** "The resurgence of the Quad and growing Indo-U.S. strategic convergence reflect the changing geoeconomic architecture of the Indo-Pacific." Analyze. *(15 Marks, 250 Words)*
- **GS Paper 3 (2018):** "Analyze the internal and coastal security vulnerabilities arising from 'dark shipping', illegal fishing, and smuggling in India's Exclusive Economic Zone (EEZ). Suggest remedial measures." *(15 Marks, 250 Words)*





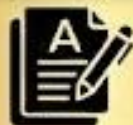
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