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# Industrial output growth hits 5-month low of 4.1%

Slowdown in construction and consumer-centric sectors pull down Industrial Production growth in the first month of data since the war began in West Asia, with construction growth almost halving

**T.C.A. Sharad Raghavan**  
NEW DELHI

**G**rowth in the Index of Industrial Production (IIP) slowed to a five-month low of 4.1% in March 2026, the first month of data after the West Asia crisis began, pulled down by a near-halving in construction sector growth rates and low growth in consumer-centric sectors.

Data released by the Ministry of Statistics and Programme Implementation on Tuesday showed that growth in the IIP has been slowing since January, even before the West Asia crisis broke out on February 28.

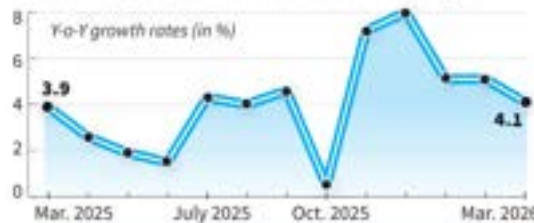
Economists point out that the full economic impact of the crisis will play out over the next few months.

For the full financial year 2025-26, growth in the IIP stood at 4.1%, marginally faster than the 4.07% recorded in 2024-25.

According to Madan Sabnavis, chief economist at

## Slippery slope

Latest official data showed that IIP growth has been slowing since January 2026, even before the West Asia war began



SOURCE: MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION

growth of 4.1% in March is "impressive given that the core sector growth was negative for the month".

Data released earlier this month had shown the eight core sectors, which make up about 40% of the IIP, had contracted 0.4% in March.

### Manufacturing hit

Within the IIP, the manufacturing sector slowed to a five-month low of 4.3% in March, although this was faster than the 4% recorded last March.

"Domestic manufactur-

ing is brunt of costlier and tighter supplies of petroleum products and natural gas," Dipati Deshpande, principal economist at Crisil, said.

Growth in the capital goods sector, notably, accelerated to a 29-month high 14.6% in March from an already-robust 12.4% in February. While growth in the infrastructure and construction sector slowed to a nine-month low of 6.7%, economists still felt it highlighted strength in the economy. "Importantly, the strength in capital goods and infrastructure goods

investment-led demand remains intact, even as consumer non-durables posted a muted 1.1% rise," Vikrant Chaturvedi, associate director of research at Brickwork Ratings said. The 1.1% rise in consumer non-durables came on a low base as the sector had contracted 4% in March last year.

According to Ms. Deshpande, this is not the first data point showing the stress in the manufacturing sector.

"The Purchasing Managers' Index also slipped in March from February but remained in the expansion zone, indicating the likely uneven impact of the conflict across sectors and time based on their ability to absorb the shock."

"The March data captures only a part of the shock as uncertainty and weak producer sentiment have yet to fully manifest in production data," she added.

"The deeper impact is expected to show up down the road, particularly in the

- **Key Terms and Explanations**

- **Index of Industrial Production (IIP):** A composite indicator that measures the short-term changes in the volume of production of a basket of industrial products during a given period with respect to a chosen base year. It is published monthly by the **National Statistical Office (NSO)**.
- **Base Year:** The benchmark year against which current production is compared. Currently, for India, it is 2011-12.
- **Core Industries:** A group of eight sectors (**Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement, and Electricity**) that comprise roughly **40.27%** of the weight of items included in the IIP.
- **Consumer Non-Durables:** Goods that are consumed quickly or have a short lifespan (e.g., food items, toiletries). Growth here reflects the health of rural and urban mass consumption.
- **Capital Goods:** Physical assets that a company uses in the production process to manufacture products and services (e.g., heavy machinery). High growth here signals strong **Investment Demand**.
- **Purchasing Managers' Index (PMI):** An indicator of the economic health of the manufacturing sector. A reading above 50 indicates expansion, while below 50 indicates contraction.

- **Main Arguments and Substantive Parts**

- The current economic landscape is defined by a dichotomy between resilient investment and cooling consumption, exacerbated by geopolitical shocks.
- **The "West Asia Shock":** The crisis beginning February 28, 2026, has spiked energy costs. Since manufacturing relies on petroleum products and natural gas, the "input cost" inflation is beginning to squeeze production margins.
- **Investment vs. Consumption:** A major highlight is the **14.6% growth in capital goods**. This suggests that while individual consumers are cautious, the government and private corporations are still betting on long-term infrastructure.
- **The "Core" Paradox:** Interestingly, while the overall IIP grew by 4.1%, the eight core sectors actually contracted by 0.4%. This indicates that non-core manufacturing (specialized goods) is currently carrying the weight of industrial growth.
- **Lagged Impact:** Economists argue that March data only shows the "tip of the iceberg." The full disruption of supply chains and shipping routes in West Asia will likely manifest in the Q1 (April-June) data of the next fiscal year.

- **Historical Evolution of the Issue**

- **Pre-Independence:** Indian industry was largely extractive and subservient to British colonial needs. Post-1947, the focus shifted to **Import Substitution Industrialization (ISI)**.
- **The 1956 Industrial Policy Resolution:** This "Economic Constitution" of India prioritized heavy industries and the public sector (Mahalanobis Model).
- **1991 Reforms:** Liberalization, Privatization, and Globalization (LPG) shifted the focus to market-led industrial growth, making the IIP a vital pulse-check for investors.
- **Transition to NSO:** The merger of the CSO and NSSO into the National Statistical Office (NSO) streamlined data collection under MoSPI.
- **Post-Pandemic Era:** Since 2020, industrial data has been characterized by "K-shaped" recoveries and vulnerability to global "black swan" events like the Ukraine conflict and now the West Asia crisis.

- **Way Forward**

- **Energy Diversification:** Reduce industrial reliance on West Asian gas by incentivizing bio-fuels and rooftop solar for MSMEs.
- **Boost Rural Demand:** Targeted fiscal interventions or MGNREGA wage revisions to revive the consumer non-durables sector.
- **Strategic Petroleum Reserves:** Aggressively fill and expand reserves during any price dips to insulate the manufacturing sector from sudden shocks.
- **Strengthening Logistics:** Full implementation of the National Logistics Policy to reduce the "hidden costs" of manufacturing.

- **Previous Years' Questions (UPSC/APSC)**

- **UPSC 2020 (Prelims):** "In the Index of Eight Core Industries, which one of the following is given the highest weight?" (Answer: Refinery Products).
- **UPSC 2015 (Mains, GS3):** "The "Make in India" program has been introduced by the Government of India. Elaborate the problems of the manufacturing sector and its impact on GDP."
- **UPSC 2022 (Mains, GS3):** "Is inclusive growth possible under market economy? State the significance of financial inclusion in achieving economic growth in India."



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## AXIA COMPETITIVE EXAM CENTRE

### INDIA'S IIP (MARCH 2026) ANALYSIS: A BIFURCATED RECOVERY

#### KEY FINDINGS

-  Overall IIP at 4.1% (Five-Month Low)
-  West Asia Crisis Impact on Cost Structure
-  Construction Slowdown (Near-Halving)
-  Core Sectors Contract (-0.4%)

#### SECTORAL PERFORMANCE (MARCH '26)



#### EXPERT INSIGHTS



Dipti Deshpande

"Capital goods strength underscores investment-led demand intact."



Madan Sabnovis

"Domestic manufacturing bears brunt of costlier petroleum supplies."



Vikrant Chaturvedi

"Deeper impact expected in Q1, first part of the shock only partially manifested."

#### ROADMAP FOR INDIA'S RESILIENT RECOVERY



Gati Shakti  
**Gati Shakti**  
project and infrastructure

- Energy Diversification (Green Hydrogen)
- Targeted Fiscal Interventions (Boost Rural Demand)
- Expanded Strategic Petroleum Reserves

# UAE announces exit from OPEC group weakening cartel's bargaining power

Associated Press  
DUBAI

The United Arab Emirates said Tuesday it will leave the Organization of the Petroleum Exporting Countries (OPEC) effective May 1, stripping the oil of cartel of its third-largest producer and further weakening its leverage over global oil supplies and prices.

The UAE's decision had been rumored as a possibility for some time, as it pushed back in recent years against OPEC production quotas it felt had been too low — meaning it wasn't able to sell as much oil to the world as it had wanted. "Having invested heavily in expanding energy production capacity in recent years, the bigger picture is that the UAE has been itching to pump more oil," Capital Economics wrote in an analysis.

"The ties binding OPEC members together have loosened," it said, particularly after Qatar withdrew from the cartel in 2019.

Regional politics are also likely at play. The UAE has had increasingly frosty relations with Saudi Arabia, OPEC's largest producer, over political and economic matters in the Middle East, even after both came under attack by fellow OPEC member Iran during the war.

The UAE's withdrawal from OPEC won't necessarily have any immediate effects in markets because oil supplies are sharply constrained by the war in Iran, which has closed off the Strait of Hormuz, a waterway through which one-fifth of global oil supplies — including much of the UAE's — is transported. On Tuesday, Brent crude, the international benchmark, traded above \$81 a barrel, or more than 50% above its prewar price.

OPEC accounts for roughly 40% of the world's oil output, but its market



The move had been rumored as a possibility for some time with the UAE pushing back against production quotas in recent years, AP

## President Trump 'unhappy' with Iran's peace proposal

Reuters

DUBAI/WASHINGTON

U.S. President Donald Trump is unhappy with the latest Iranian proposal on resolving the two-month war, a U.S. official said.

Iran's latest proposal

would set aside discussion on its nuclear programme until the war, on hold following a ceasefire is ended and disputes over shipping from the Gulf are resolved.

FULL REPORT ON

► PAGE 14

power had been waning in recent years as the United States ramped up production. While Saudi Arabia had been producing more than 10 million barrels of oil a day before the war, the U.S. pumps more than 11 million barrels a day.

U.S. President Donald Trump has been a steady critic of the cartel during his two terms.

The UAE, which joined OPEC through its emirate of Abu Dhabi in 1967, had been producing around 3.4 million barrels of crude a day just before the U.S. started war with Iran began on Feb. 28. Analysts say it has capacity to produce 5 million barrels a day.

In its announcement on Tuesday, made via its state-run WAM news agency, the UAE said it also would leave the wider OPEC group, which Russia had led to try to stabilize oil prices.

"This decision reflects the UAE's long-term strategic and economic vision and evolving energy pro-

file, including accelerated investment in domestic energy production," the UAE said, adding that it would bring "additional production to market in a gradual and measured manner, aligned with demand and market conditions."

The UAE's exit removes one of OPEC's few members with the ability to quickly raise production, said Jorge Leon, head of geopolitical analysis at Rystad Energy.

"A structurally weaker OPEC, with less spare capacity concentrated within the group, will find it increasingly difficult to calibrate supply and stabilize prices," he said.

While Saudi Arabia and OPEC had no immediate reaction, Emirati Energy Minister Suhail al-Masraoui insisted his country's decision did not stem from any dispute with its Gulf neighbour.

CRUDE OIL REPORTS SLIP

► PAGE 12



- **Key Terms and Explanations**

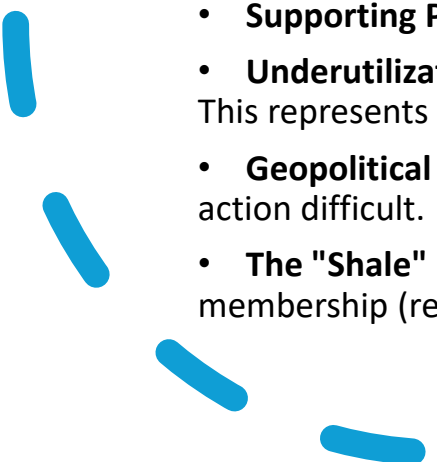
- **OPEC (Organization of the Petroleum Exporting Countries):** An intergovernmental organization of 12-13 oil-exporting nations. Its primary goal is to coordinate petroleum policies to ensure price stability. *Example: If prices drop too low, OPEC members agree to cut production to reduce supply and push prices back up.*
- **OPEC+:** A larger group that includes OPEC members plus non-OPEC producers like Russia and Kazakhstan. This group was formed to have a greater impact on global supply.
- **Production Quotas:** Limits set by OPEC on how much oil each member can produce. This is the primary tool for price control.
- **Spare Capacity:** The ability of an oil producer to increase production within a short timeframe. The UAE and Saudi Arabia hold the majority of the world's spare capacity.
- **Brent Crude:** A major trading classification of sweet light crude oil that serves as a benchmark price for purchases of oil worldwide.
- **Strait of Hormuz:** A narrow waterway between the Persian Gulf and the Gulf of Oman. It is the world's most important oil transit chokepoint.

- **Main Arguments and Substantive Parts**

- **Core Thesis**

- The UAE's exit is driven by a "National Interests First" policy, seeking to monetize its massive infrastructure investments before the global "Green Transition" reduces the long-term value of oil.

- **Supporting Points**

- **Underutilization of Capacity:** The UAE has a capacity of 5 million barrels per day (bpd) but was restricted to roughly 3.4 million bpd by OPEC. This represents significant lost revenue.
  - **Geopolitical Friction:** A growing divergence in foreign policy and economic competition between Abu Dhabi and Riyadh has made collective action difficult.
  - **The "Shale" Factor:** The rise of U.S. shale oil (pumping 13 million bpd) has eroded OPEC's ability to "set" prices, making the costs of membership (restricted production) outweigh the benefits (market stability).
- 

- **Historical Evolution of the Issue**
- **1960:** Formation of OPEC to counter the "Seven Sisters" (Western oil companies).
- **1967:** Abu Dhabi (later UAE) joins, marking the beginning of its role as a core pillar.
- **1973/1979:** Oil Shocks demonstrate OPEC's absolute power over the global economy.
- **2014-2016:** The price crash caused by the U.S. Shale Revolution leads to the formation of **OPEC+** in 2016.
- **2019:** Qatar leaves OPEC, signaling the first major crack in Gulf unity.
- **2020-2024:** UAE repeatedly clashes with Saudi Arabia over production baselines during the pandemic and subsequent recovery.
- **2026 (Present Context):** Regional conflict in Iran and the closure of the Strait of Hormuz create a high-price environment (\$111+), incentivizing the UAE to maximize exports while prices are high.
  
- **Way Forward**
- **For the UAE:** Focus on pipelines that bypass the Strait of Hormuz (e.g., Habshan–Fujairah pipeline) to ensure the extra oil can actually reach the market.
- **For OPEC:** Move toward a "consultative" rather than "regulatory" body to prevent further exits.
- **For India:** Diversify energy imports and accelerate the National Green Hydrogen Mission to reduce vulnerability to the expected volatility in the Middle East.
  
- **Previous Years' Questions (PYQs)**
- **UPSC 2021 (GS2):** "The critical determinants of the regional politics in the Middle East have changed from 'oil and religion' to 'economic pragmatism and security'." Discuss.
- **UPSC 2019 (GS3):** "It is a strategy of India to mix its energy security with its foreign policy." Elaborate.
- **UPSC 2017 (GS2):** "The USA is facing an internal policy crisis in the Middle East." (Context of Shale and OPEC).



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# STRATEGIC DECOUPLING: AXIA IAS ACADEMY ANALYZES THE UAE'S OPEC EXIT



## THE STRATEGIC SHIFT

A move for national sovereignty over collective action, emphasizing front-loading revenue.

## AXIA EXPERT ANALYSIS

A rational-actor realist policy in a post-shale market, changing natural epistemology to 'perishing asset'.

AXIA

## MULTI-DIMENSIONAL IMPACTS



2010 Capanited milestones

2026 Exit



### GEOPOLITICAL

Friction with Saudi Arabia, loosening of regional ties, a shift to a multipolar Mideast.



### ECONOMIC

Capitalizing on capacity (5M bpd), long-term price deflation, global inflationary effects.



### INDIAN ECONOMY

Lower CAD, manageable inflation, potential strategic supply contracts.

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## CHALLENGES & SUSTAINABILITY

Logistical risks (Strait of Hormuz closure), potential price wars, environmental contradictions.



## THE WAY FORWARD

Bilateral deals, infrastructure diversification, NCERT linking Geog.), GS Papers 2&3 linkages.



## MODEL ANSWER STRUCTURE

Structure a sample 250-word on global energy security and and India's interest.



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# Google's AI data hub project kicks off in Andhra Pradesh

Chief Minister Chandrababu Naidu laid foundation for the 1-Gigawatt centre in Tarluvada, one of India's largest FDI projects with data storage, AI cloud, and an investment of ₹1.35 lakh crore

**V. Kamalakara Rao**  
VISAKHAPATNAM

Chief Minister N. Chandrababu Naidu on Tuesday laid the foundation stone for the Google Data Centre at Tarluvada, on the outskirts of Visakhapatnam, Andhra Pradesh, one of the largest single Foreign Direct Investment projects in India.

The 1-Gigawatt hyper-scale AI data centre is coming up on 601.4 acres at an investment of ₹1.35 lakh crore. It will be managed by Google's subsidiary Raiden Infotech in partnership with Adani Infra. AdaniConneX and Airtel Nxta are also partners in the wider Google-Adani-



The project will be managed by Google's subsidiary Raiden Infotech in partnership with Adani Infra. SPECIAL ARRANGEMENT

Airtel venture, which forms part of Google's announced \$15 billion investment. The facility would offer large-scale data storage along with AI cloud infrastructure and an upcoming subsea cable

system would give Visakhapatnam direct digital links with several countries. Union Minister for Electronics and Information Technology Ashwini Vaishnaw said that the port city was set to become the country's next

technology landmark. "Visakhapatnam will become AI-patnam," he said.

Adani Digital Labs Director Jeet Adani said India currently had about 1.3 Gigawatts of total data centre capacity, and that the Visakhapatnam project alone would add nearly 1 Gigawatt at a single location.

Laura Williams, Consul General at the U.S. Consulate General in Hyderabad, said the Google project embodies the strength of the U.S.-India partnership. She emphasised that the project aligns with strategic initiatives to build secure, trusted technological systems and create new opportunities.

- **Key Terms and Explanations**

- **Hyperscale Data Centre:** These are massive facilities designed to support robust, scalable applications. Unlike traditional data centres, they can house millions of servers.
  - *Example:* Think of a small office server room as a local grocery store, while a hyperscale centre is a massive global distribution hub like Amazon's warehouse.
- **Foreign Direct Investment (FDI):** An investment made by a firm or individual in one country into business interests located in another country.
- **Gigawatt (GW):** A unit of power equal to one billion watts. In the context of data centres, it refers to the massive power capacity required to run and cool the servers.
- **Subsea Cable System:** Fiber optic cables laid on the ocean floor to transmit data between countries. This reduces "latency" (delay) and increases internet speed.
- **AI Cloud Infrastructure:** A specialized cloud environment optimized for training Artificial Intelligence models, which require significantly more computational "muscle" than standard web hosting.

- **Main Arguments and Substantive Parts**

- The core thesis of this development is the transformation of India into a **Global AI Hub** through massive infrastructure scaling.
- **Massive Capacity Leap:** India currently has ~1.3 GW of total capacity. This single project adds 1 GW, effectively nearly doubling the nation's data footprint in one go.
- **The "AI-patnam" Vision:** The argument is that Visakhapatnam's geography (coastal access for subsea cables) makes it the ideal "Silicon Coast" of India.
- **Strategic Partnerships:** The collaboration between Google (tech), Adani (infrastructure/power), and Airtel (connectivity) represents a "Triple Play" model necessary for high-tech success.
- **Economic Multiplier:** Beyond the ₹1.35 lakh crore investment, the project is expected to catalyze a secondary ecosystem of AI startups, hardware maintenance, and cybersecurity firms.

- **Historical Evolution of the Issue**

- **Pre-2000s:** India was largely a consumer of digital services, with negligible domestic data storage.
- **2000-2010:** Rise of the IT-BPM sector. Data was stored mostly on-premise or in small server farms in Bangalore and Hyderabad.
- **2015 (Digital India):** The launch of the Digital India mission acted as a catalyst, emphasizing "Data Sovereignty"—the idea that Indian data should stay in India.
- **2020-Present:** The "Infrastructure Status" was granted to data centres in the 2022 Union Budget, easing credit flow. We are now in the "Hyperscale Era," driven by 5G and Generative AI.

- **Way Forward**

- **Green Energy Mandate:** The government should incentivize the use of "Green Hydrogen" or "Solar-Battery" systems to power the facility.
- **Local Ecosystem Development:** Create "AI Special Economic Zones" around the data centre to encourage startups.
- **Cybersecurity Command Centre:** Given the strategic importance of 1 GW of data, a dedicated cybersecurity wing should be co-located.

- **Previous Years' UPSC Questions**

- **Prelims (2018):** Question on "Data Localization" and its implications.
- **Mains (GS3, 2020):** "Internal security challenges through communication networks... role of media and social networking sites."
- **Mains (GS3, 2023):** "What is the main task of India's Third World Network in the field of IT?" (Context of global digital governance).

# AXIA IAS ACADEMY: Visakhapatnam's Digital Leap - A Comprehensive UPSC Analysis



**Digital India**

**STRATEGIC ANALYSIS**

## KEY TERMS & ECONOMIC CORE



- Hyperscale: (massive data center)
- FDI: ₹1.35 lakh crore, (gigawatt crore)
- GW (gigawatt power)

## PARTNERSHIP & INFRASTRUCTURE

- Subsidiary roles of corporate network
- Co-location of low corporate markets
- Energy hunger, energy inflammation



## THE "AI-PATNAM" VISION

- Subsea link directness
- Direct data link (low latency)
- Technology landmark



## BEST SYLLABUS LINK'AGEES



- Cooperative federalism
- Digital divide
- AI ethics
- DPDP compliance
- iCET strengthening

## UPSC MULTIDIMENSIONAL IMPACT



- GS Paper 2 - Policies - US relation
- GS Paper 3 - Infra - AI, FDI - Security
- Essay - Tech impact

## BEST SYLLABUS LINKAGES



**Connept Industry**

- Green Energy mandate
- Localized AI ecosystems
- Cybersecurity



## WAY FORWARD & SUSTAINABILITY



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# Prehistoric rock painting site found in Nilgiris district

The Hindu Bureau  
UDHAGAMANDALAM

The Yaakai Heritage Trust has reported the re-discovery of a prehistoric rock painting site in the Nilgiris district.

The site, situated near the famous rock art site of Vellarikkombai village in Kotagiri, is sacred to Irula and Kurumba indigenous communities, and was reportedly rediscovered by Sadhakar Nalliyappan and Kumaravel Ramasamy during a recent field survey.

"The newly identified site, known locally among tribal communities as 'Oor Pare', lies northwest of Vellarikkombai. The region is already known for important rock art locations such as Euthuparai and Thodikkiparai, which have previously drawn scholarly attention," the Yaakai Heritage Site said in a statement. The researchers added that they located the site after traversing highly challenging terrain.

"It can be reached only after climbing nearly 450 metres along a steep rocky slope. During the monsoon, water flows across the rock surface like a waterfall, making access close to impossible. The site is accessible only during the summer months, and even then, it requires the use of vine ladders, traditionally employed by tribal communities for honey collection. The rock shelter also serves as a resting place for these communities during such activities. It is approximately 1,100 metres above



A newly discovered rock painting at Vellarikkombai near Kotagiri. SPECIAL ARRANGEMENT

sea level, with paintings spread over an area about 638 cm in length and 540 cm in height," they added.

## 30 identifiable figures

They stated that around 30 identifiable figures had been recorded, along with several faint and unclear forms. "All the paintings are executed in red ochre," they said.

The figures include anthropomorphic (human-like) figures with conical headdress, human forms, "elongated-limbed figures, ladder-like body structures and ritual symbols consisting of dot-filled rectangular patterns".

"These visual elements suggest strong associations with supernatural beliefs and ritual practices of prehistoric communities," the statement said.

Stating that water seepage, moss growth, and insects had damaged the site, the Yaakai Heritage Trust appealed for its protection.

---

- **Key Terms and Explanations**

- **Rock Art:** Human-made markings placed on natural stone surfaces. It serves as a primary source for reconstructing the socio-cultural lives of non-literate prehistoric societies.
- **Red Ochre:** A natural clay earth pigment, a mixture of ferric oxide and varying amounts of clay and sand. It ranges in color from yellow to deep orange or brown. In prehistory, it was often mixed with animal fat or resin to create permanent paint.
- **Anthropomorphic:** A term used to describe non-human objects, gods, or animals that are given human characteristics or forms.
  - *Example:* A figure with a human body but a conical, supernatural headdress.
- **Ethno-archaeology:** The study of contemporary societies (like the Irulas and Kurumbas) to interpret the archaeological record. The fact that these tribes still use the site for honey collection bridges the gap between the past and present.
- **Pictographs:** Paintings or drawings on a rock face (as opposed to petroglyphs, which are carved into the rock).

- **Main Arguments and Substantive Parts**

- **The Discovery of "Oor Pare":** Located at 1,100 meters above sea level in the Nilgiris, this site represents a significant addition to the rock art map of Tamil Nadu, specifically the Kotagiri region.
- **Geographic Isolation as Protection and Barrier:** The site's extreme location—requiring a 450-meter climb and the use of traditional vine ladders—has acted as a natural preservative against human vandalism but makes scholarly study and conservation difficult.
- **Thematic Significance:** The presence of 30 identifiable figures, including ladder-like structures and ritual symbols (dot-filled rectangles), suggests that prehistoric art was not merely "doodling" but a sophisticated medium for expressing supernatural beliefs.
- **Indigenous Continuity:** The site is not an "abandoned" relic; it remains sacred to the Irula and Kurumba tribes, serving as a resting point during honey-gathering expeditions.

- **Historical Evolution of the Issue**

- **Prehistoric Era:** Creation of the art, likely during the Mesolithic or Neolithic-Chalcolithic transition, representing early human efforts to document rituals.
- **Colonial Period:** Early British officers in the Nilgiris (like John Sullivan) documented the tribes but often overlooked the deeper archaeological significance of remote rock shelters.
- **Post-Independence (1960s–80s):** Major sites like Bhimbetka (MP) gained global fame, sparking interest in South Indian rock art sites like Ezuthu Parai.
- **21st Century:** The shift toward "Community-based Conservation," where organizations like the Yaakai Heritage Trust work with indigenous knowledge to "re-discover" sites known to locals but hidden from academia.

- **Way Forward**

- **Digital Preservation:** Use of LiDAR and photogrammetry to create a "Digital Twin" of the site before further natural degradation occurs.
- **Community Stewardship:** Training Irula and Kurumba youth as "Heritage Wardens" to monitor the site, acknowledging that they are its natural guardians.
- **In-situ Conservation:** Minor structural interventions to divert monsoon water flow away from the painted surfaces without altering the rock's natural appearance.

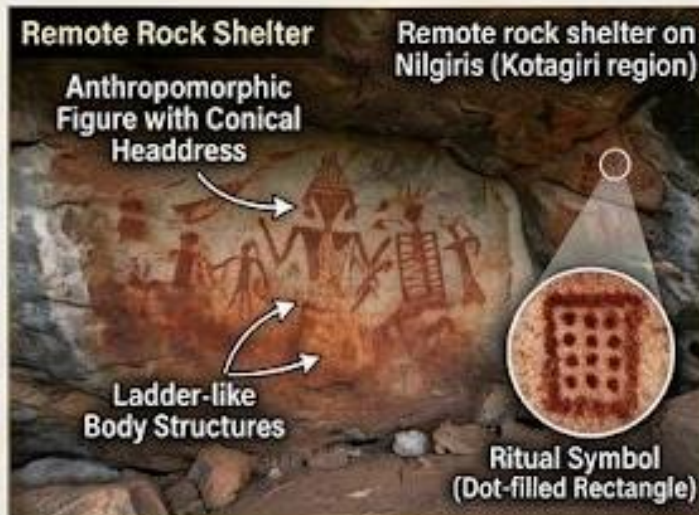
- **Previous Years' UPSC Questions**

- **Prelims (2015):** Regarding the paintings of Ajanta and Mahabalipuram... (Conceptual similarity: Rock-cut/Rock-art traditions).
- **Mains (2017, GS1):** "The Mesolithic rock art-publications indicate the social life and socio-economic set-up of the then society."
- **Mains (2023, GS1):** "What are the main features of the Vedic society and religion? Do you think some of the features are still prevailing in Indian society?" (Can be adapted for Tribal/Prehistoric continuity).

# UPSC CSE: PREHISTORIC ROCK ART IN NILGIRIS - COMPREHENSIVE ANALYSIS

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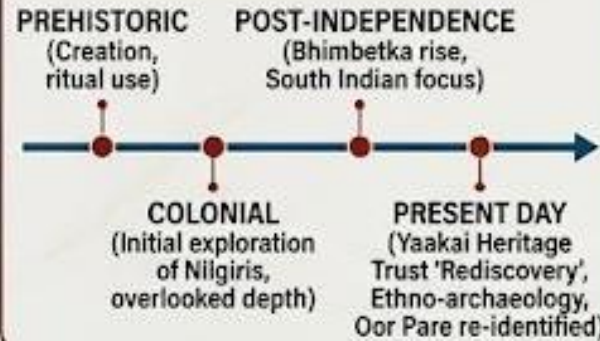
## KEY FINDINGS (Oor Pare Site)



- 30 Identifiable Figures Recorded
- Executed in Red Ochre
- Sacred to Irula and Kurumba Indigenous Communities
- Rediscovered by Sudhakar Nalliyappan & Kumaravel Ramasamy (Yaakai Heritage Trust)



## HISTORICAL EVOLUTION (Timeline)



## LOGICAL & PHILOSOPHICAL BASE

- Sacred Geography: Landscape as 'lived space', spiritual anchor
- Epistemological Diversity: Respecting indigenous knowledge & oral tradition (Oor Pare)



## MULTIDIMENSIONAL ANALYSIS

**SOCIAL:** Tribal identity, preserving knowledge  
**POLITICAL:** State duty to protect (Art. 49)  
**LEGAL:** AMASR Act, Forest Rights Act 2006  
**ETHICAL:** Sanctity vs. tourism, dignity of tribal culture  
**INTERNATIONAL:** UNESCO-level potential, universal heritage value  
**ECONOMIC:** Sustainable community tourism opportunities

## SUSTAINABILITY & CHALLENGES

- Physical: Logistical (450m steep slope), water seepage, insect damage
- Societal: Community access rights vs. preservation



## UPSC CSE LINKAGES & WAY FORWARD

- GS1: Indian Art, Culture, & Architecture (Salient features)
- GS1: Geography (Western Ghats ecology, tribal distribution)
- GS2: Vulnerable sections policies (PVTGs)
- GS4: Environmental Ethics & heritage preservation
- ESSAY

## WAY FORWARD

- Digital Preservation (LiDAR, 3D modeling)
- Community Stewardship (Tribal 'Heritage Wardens')
- In-situ Conservation (Water diversion, natural state preservation)

# Rajnath Singh calls for unified SCO approach to eliminate terrorism

The Minister says the real test for SCO members lies in maintaining consistency and rejecting double standard, particularly in addressing state-sponsored cross-border terrorism; he calls for a more 'orderly world' rather than a 'new world order'

Saurabh Trivedi  
NEW DELHI

**T**errorism remains the most serious threat to global peace and the emerging world order, Defence Minister Rajnath Singh said while addressing the Shanghai Cooperation Organisation (SCO) Defence Ministers' meeting in Bishkek.

Emphasising zero tolerance, he called for a unified and consistent approach to eliminate terrorism, extremism, and radicalism in all forms.

Mr. Singh underscored that terrorism cannot be justified under any circumstances, asserting that it has no nationality and no theology. He stressed that no grievance, real or perceived, can excuse violence against innocent people.

Highlighting the importance of credibility, he said the real test for SCO member states lies in maintaining consistency and rejecting double standard, particularly in addressing state-sponsored cross-border



Defence Minister Rajnath Singh addressing the SCO Defence Ministers' meet in Bishkek on Tuesday. AM

der terrorism and safe havens.

Referring to the Pahalgam terror attack, Mr. Singh said the carnage had shaken the conscience of humanity and reaffirmed India's resolve to hold perpetrators accountable. He noted that through Operation Sindoor, India demonstrated that terrorism epicentres were no longer immune from response.

He also recalled the Tianjin Declaration, which reflects

the collective commitment of SCO nations to combat terrorism decisively.

#### 'Three evils'

The Defence Minister highlighted the role of SCO's Regional Anti-Terrorist Structure in countering radicalisation and extremism.

He said tackling the "three evils" – terrorism, separatism and extremism – required a unified front, stronger cooperation, and

decisive action against those who supported or sheltered terror networks.

Beyond security concerns, Mr. Singh pointed to the broader global context marked by increasing unilateralism, conflicts, and a fractured world order. He noted that nations were becoming more inward-looking, weakening global consensus, and cooperation. In such a scenario, he said, the SCO has a pivotal role to play in promoting stabil-

ity, dialogue and mutual respect.

Describing the SCO region as home to some of the world's most ancient civilisations, Mr. Singh said it reflected a shared heritage of cultural exchange, trade and cooperation. He emphasised that this legacy should guide member nations in addressing present-day challenges collectively.

Calling for a more "orderly world" rather than a new world order, Mr. Singh stressed the need for dignity, respect, and peaceful coexistence among nations. He urged SCO members to prioritise diplomacy over conflict and ensure that the current era was defined by peace and prosperity, not war.

Reaffirming India's commitment, Mr. Singh invoked the philosophy of 'Vasudhaiva Kutumbakam' – the world is one family – and expressed confidence that stronger cooperation within the SCO could transform regional security challenges into opportunities for lasting peace and stability.

- **Key Terms and Explanations**

- **Shanghai Cooperation Organisation (SCO):** A permanent intergovernmental international organization created in 2001. It focuses on regional security, counter-terrorism, and economic cooperation. Often called the "Alliance of the East."
- **Regional Anti-Terrorist Structure (RATS):** A permanent organ of the SCO based in Tashkent. It facilitates coordination and information sharing between member states to combat terrorism, separatism, and extremism.
- **State-Sponsored Cross-Border Terrorism:** When a sovereign state uses proxies or non-state actors to carry out terrorist activities in another country to achieve political or strategic goals.
- **The "Three Evils":** A core SCO concept referring to **Terrorism** (violence for political ends), **Separatism** (movements seeking secession), and **Extremism** (radical ideologies that lead to violence).
- **Double Standards in Counter-Terrorism:** The practice of condemning terrorism in one context while ignoring or supporting it in another for geopolitical gain.
- **Vasudhaiva Kutumbakam:** A Sanskrit phrase meaning "The World is One Family." It forms the bedrock of India's civilization-led foreign policy.
- **Unilateralism:** An approach where a state acts without regard for the interests of other states or international agreements.

- **Main Arguments and Substantive Parts**

- **A. The Inviolability of Counter-Terrorism**

- The central thesis is that terrorism is an absolute evil with no justification. It possesses "no nationality and no theology," meaning it should not be associated with any specific religion or ethnic group. This rebuts the "good terrorist vs. bad terrorist" narrative.

- **B. Accountability and Response**

- India's stance has shifted from strategic restraint to proactive accountability. The mention of **Operation Sindoor** (a conceptual reference to retaliatory measures) serves as evidence that "terror epicenters" are no longer safe from consequences.

- **C. Consistency and Credibility**

- A major argument is that the SCO's success depends on the honesty of its members. If member states provide "safe havens," the organization's credibility is undermined. The call is for a "unified and consistent approach" rather than selective outrage.

- **D. Global Order vs. New World Order**

- The discourse distinguishes between a "New World Order" (which often implies a power shift) and an "Orderly World" (which implies a world governed by rules, dignity, and respect).

- **Historical Evolution of the Issue**

- **Pre-Independence to 1947:** India's history of non-violence and the struggle against colonial oppression.
- **Cold War Era:** Rise of cross-border insurgencies in the Northeast and the 1947–48/1965 conflicts. Terrorism was largely seen as an internal law-and-order issue.
- **1990s:** The peak of militancy in Jammu & Kashmir. India began highlighting "State-Sponsored Terrorism" on global platforms like the UN.
- **2001 (Post 9/11):** Global shift in perception. India proposed the **Comprehensive Convention on International Terrorism (CCIT)** at the UN (still pending).
- **2017:** India and Pakistan became full members of the SCO, bringing the bilateral tension of cross-border terror into the regional forum.
- **2019-Present:** Post-Uri and Balakot, India adopted a "proactive" defense posture, emphasizing that response to terror will be "at a time and place of our choosing."

- **Way Forward**

- **Adoption of CCIT:** Global pressure must be maintained for a universal definition of terrorism.
- **Strengthening RATS:** Move beyond data sharing to joint intelligence-led operations within the SCO framework.
- **Counter-Radicalization:** Focus on the "Battle of Narratives" through education and shared civilizational values.
- **De-linking Trade from Terror:** While trade is vital, India must maintain the "Terror and Talks cannot go together" stance until safe havens are dismantled.

- **Previous Years' UPSC Questions**

- **GS 3 (2023):** "The dynamic nature of overground workers (OGWs) in assisting terrorist organizations."
- **GS 2 (2021):** "Critically examine the aims and objectives of SCO. What importance does it hold for India?"
- **GS 3 (2018):** "The China-Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's One Belt One Road. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same."

# UPSC COMPREHENSIVE ANALYSIS:

India's Stance of a Premium Antist: Counter-Terrorism & SCO



**AXIA**  
IAS ACADEMY

AXIA COMPETITIVE EXAM CENTRE

# COUNTER-TERRORISM & SCO

Civilizational links of Itsignoterorbitets and Cooperatedlinks

## Key Terms



### Terrorism

Terrorism, untonotated  
Inttpots



### RATS

Map, connecteds  
comnetatre and sored  
tencorisms



### CCIT

Legal Document of  
legal state continyency  
and segragation



### State-Sponsored Terror

Terror onomia

## Core Arguments

(Defence Minister's Address)

- Terrorism is entance by pardoitions
- Defenced fora and stoirerisms
- Separatism is alivd in ourniam
- Separatism is extremism
- Extremism is easily, governments
- State-Sponsored Terror entindgling

### A. The Three Evils



### B. Global Order vs Orderly World



Shifting poles



Stable rules

### C. Consistency & Credibility



Rejection of  
Double Standards

VASUDHAIVA KUTUMBAKAM



VASUDHAIVA KUTUMBAKAM

*The World is One Family*



## Evolution of India's Stance



1947  
partition  
map



1990s  
J&K  
focus

2001  
CCIT  
Proposal



2017  
SCO  
Membership



2019+  
Proactive  
Posture



OPERATION  
SINDOOR

## UPSC Syllabus Linkages

### GS2

GS2 -  
parliament of  
government,  
and coopratities



### GS3

Defense  
of Isaues and  
preveconational  
defense



### GS4

Balance  
baionce of  
pontovational  
defence



### Essay

Essay a  
parlament  
a pen andGfBb



## Future Outlook

- Future majors cham rates and comporation of greas future
- GGS - CCIT impementtion of narratives
- Stopressing RATS to nonatoratines to the Indias
- Briliticalt opening aspecting: approach
- Strengthening RATS asuaes
- Battle of competitive and Narratives

### WAY FORWARD

CCIT  
Strengthening RATS  
Battle of Narratives

FOR MORE DETAILS, VISIT:

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# 9,400 accounts banned for being linked to digital arrests

In documents before Supreme Court, WhatsApp says its probe began from the initial input from govt. sources to identify and run down the creators or administrators behind scam operations

Krishnadas Rajagopal  
NEW DELHI

**D**ocuments placed on record in the Supreme Court show WhatsApp asserting to the Home Ministry that it detected and banned up to 9,400 accounts linked to "digital arrests" and "law enforcement impersonations" after independent investigations.

The platform said it had focused on bringing down the entire network of scamsters, mostly active in Cambodia.

## Not isolated

Warning signals sent from probe agencies and the Union government are not treated as isolated or one-off reports, but as a "seed" to map and disrupt the entire criminal network, the platform said.

The platform said its probe fanned out from the initial "seed" input from government sources to identify and run down the creators or administrators behind scam operations such as digital arrests or accounts actively promoting scam activity within groups and channels.

The communication between WhatsApp and the Home Ministry was annexed to a status report filed on behalf of the In-

## Curbing virtual fraud

The government and industry stakeholders are taking coordinated measures to fight digital scams

- WhatsApp is working on SIM binding — linking the account with physical SIM card — to detect SIM swapping and cloning

- Artificial Intelligence and Machine Learning systems being used to detect impersonation of law enforcement agencies, misuse of official logos and synthetic content



- Impersonation patterns are systematically tracked to send warnings to users

dian Cybercrime Coordination Centre (I4C) by the Ministry. Attorney-General R. Venkataramani appears for the Ministry in the Supreme Court.

The report said several steps were discussed in a meeting convened by the Inter-Departmental Committee under the chairmanship of the Special Secretary (Internal Security) in March. WhatsApp, along with major telecom service providers (TSPs) such as Airtel, Vodafone-Idea, Reliance Jio, and BSNL, were invited.

WhatsApp said its work on SIM binding — linking the account with the physical SIM card — was on and the platform would comply with the provisions of the Information Technology (Intermediary Guidelines and Digital Media Eth-

ics Code) Rules, 2021. These include the provisions related to identification and labelling of 'Synthetically Generated Information' (SGI) commonly used in video calls made for 'digital arrests'.

The Ministry and other stakeholders also agreed on introducing mechanisms for identifying and blocking device IDs used in digital arrest scams. WhatsApp said it would continue to strengthen Artificial Intelligence/Machine Learning-based systems to detect impersonation of law enforcement agencies, misuse of official logos and synthetic content.

## Detection models

The report said the online platform has introduced detection models and warning mechanisms to

identify impersonation patterns and alert users. It had further agreed to retain data of deleted accounts for a minimum period of 180 days to assist law enforcement investigations.

Recently, Chief Justice of India Surya Kant had flagged digital arrest scams the "most disturbing" and lethal among cybercrimes, which not only result in merely financial loss to victims but also a "blistering sense of violation". The CJ had said that such crimes must not be seen as mere economic offences, but an offence against human dignity.

The Home Ministry had clocked over 2.41 lakh complaints related to digital arrests scams alone, involving losses of approximately ₹30,000 crore.

The CJ's Bench had taken suo motu cognisance of digital arrests scams in January this year, saying that victims were psychologically coerced by fraudsters dressed up convincingly as police officers and judicial officers to cough up huge sums of their savings to avert fictional arrests or punitive action. One of the cases before the Supreme Court was that of a 78-year-old woman lawyer, who was duped by fraudsters in a digital arrest scam.

- **Key Terms and Explanations**

- **Digital Arrest:** A cyber-deception technique where fraudsters pose as law enforcement or judicial officers via video calls. They "arrest" the victim virtually, claiming involvement in illegal activities (like drugs or money laundering) to extort money.
- **Indian Cybercrime Coordination Centre (I4C):** A nodal agency under the Ministry of Home Affairs (MHA) designed to provide a framework for Law Enforcement Agencies (LEAs) to deal with cybercrimes in a coordinated manner.
- **SIM Binding:** A security feature that links a digital account (like WhatsApp) to the specific physical SIM card and device, preventing account takeover or unauthorized access from secondary devices.
- **Synthetically Generated Information (SGI):** Content created using AI, including Deepfakes or voice cloning, used by scammers to mimic high-ranking officials or police environments.
- **Seed Input:** An initial piece of data (like a flagged phone number or IP address) used as a starting point for investigative algorithms to map out an entire criminal network.
- **Information Technology Rules, 2021:** A set of regulations that mandate due diligence by social media intermediaries, including the identification of the "first originator" of information and the removal of unlawful content.

- **Main Arguments and Substantive Parts**

- **Network-Centric Disruption:** The core strategy has shifted from blocking individual accounts to "mapping and disrupting" entire syndicates. By using "seed" data, platforms identify administrators and creators, often operating from offshore hubs like Cambodia.
- **The Psychological "Sense of Violation":** The judiciary argues that digital arrests are not mere financial crimes. They are "crimes against human dignity" because they involve extreme psychological coercion and a sense of personal intrusion.
- **Inter-Departmental Collaboration:** The response involves a synergy between the MHA, I4C, and Telecom Service Providers (TSPs) like Jio, Airtel, and BSNL to block device IDs and track the flow of illicit funds.
- **Technological Safeguards:** The implementation of AI/ML detection models is meant to flag official logos and synthetic content automatically, moving from a reactive to a proactive defense posture.

- **Historical Evolution of the Issue**

- **Phase 1 (Pre-2000s):** Cybercrime was limited to simple hacking or data theft. The **IT Act, 2000** was the first major legislative step.
- **Phase 2 (2010s):** Rise of phishing and financial fraud (OTP scams). Law enforcement focused on localized "Jamtara-style" modules.
- **Phase 3 (2020-Present):** Post-pandemic digital acceleration led to sophisticated "Social Engineering" crimes. The emergence of "Digital Arrests" marked the shift toward cross-border, AI-enabled organized crime.
- **Present Day:** Suo motu cognisance by the Supreme Court and the involvement of the Attorney-General signify that cyber-safety is now a matter of national internal security and fundamental rights.

- **Way Forward**

- **Digital Literacy Campaigns:** Moving beyond technical fixes to "Behavioral Interventions"—teaching citizens that no Indian law enforcement agency "arrests" people over a video call.
- **International Treaties:** India should lead a "Global Cyber-Security Protocol" specifically targeting scam hubs in Southeast Asia.
- **Financial Gatekeeping:** Banks should implement a "cooling-off period" for large transfers initiated during suspected digital arrest scenarios.
- **Unified Command:** Strengthening the I4C to have real-time integration with WhatsApp and TSPs for "Instant Block" protocols.

- **Previous Years' Questions (PYQs)**

- **UPSC Mains (GS 3, 2022):** "What are the different elements of cyber security? Keeping in view the challenges in cyber security, examine the extent to which India has successfully developed a comprehensive National Cyber Security Strategy."
- **UPSC Mains (GS 3, 2021):** "Internal security challenges being faced by India are as much from across the border as from within the country. Critically evaluate."
- **UPSC Mains (GS 4, 2021):** Case study on the ethical dilemma of a technology manager dealing with user privacy versus state security.



**AXIA**  
IAS ACADEMY  
RISE ABOVE THE REST

# AXIA IAS ACADEMY PRESENTS: A COMPREHENSIVE ANALYSIS OF DIGITAL ARRESTS



## 1. WHAT IS A DIGITAL ARREST?

- CYBER-DECEPTION
- PSYCHOLOGICAL COERCION
- EXTORTION VIA IMPOSTER VIDEO CALLS



## 2. KEY TRENDS & STATS

- ₹30,000 CR LOSSES (MHA)
- OVER 2.41 LAKH COMPLAINTS
- OFFSHORE 'SCAM FACTORIES' (e.g., Cambodia)

## 3. NATIONAL COLLABORATION MODEL

Telecom Service Providers



- NETWORK MAPPING
- AI/ML DETECTION MODELS
- DATA RETENTION (180 DAYS)
- SGI/DEEPFAKE LABELLING

## 4. JUDICIAL PERSPECTIVE & 'WAY FORWARD'



- OFFENCE AGAINST HUMAN DIGNITY (CJI quote against human dignity and holds in negative scenes)
- BEYOND ECONOMIC OFFENCE
- BEHAVIORAL INTERVENTIONS (Digital Literacy)
- INTERNATIONAL CYBER-SECURITY PROTOCOL

# Why science and scientists must learn to celebrate failures

Narratives that present scientific experiments as a smooth story of success are counter-effective, to ensure science remains dynamic, innovative, and honest. It is necessary to foster a culture of appreciating and learning from failure rather than hiding it

Biju Dharmapalan

**F**ailure is part and parcel of research but many scientists consider discussing it in a scientific forum to be taboo. Laboratories are littered with unfinished experiments and inconclusive facts and theories that failed to stand the test of study. However, when science is being communicated – whether to funding bodies, professional journals, or audiences – it comes across as a smooth story of success, but narratives are counter-effective.

To ensure science is dynamic, innovative, and honest, we have to foster a culture of appreciating and learning from failure rather than hiding it.

In its essence, science progresses by trial and error. A scientist postulates hypotheses while anticipating that many of them will be discarded. Every unsuccessful experiment sharpens the edges of knowledge and guides further investigation.

However, systems of science such as funding, publication, and career progression are skewed towards success alone. Grants are generally awarded on the basis of promising results and a large volume of papers, and in favour of those with positive results. Unsuccessful or negative outcomes are often overlooked, leading to a biased ecosystem in which only success is allowed to be seen.

## Not to be stigmatised

In the early 1980s, Australian scientists Barry Marshall and Robin Warren claimed that a bacterium called *Helicobacter pylori* caused peptic ulcers. Papers on the idea were however rejected by journals and dismissed by the gastroenterological establishment; the latter had long held that the stomach was too acidic for microbes. Of course, there was also reasoned scepticism in pockets of the research community, which did not think that the duo had provided sufficient evidence for their hypothesis.

They were unable to get their findings published and were also not taken seriously, but they had reasons to believe they were right. Then, in 1984, Sir Marshall famously drank a broth containing *H. pylori* bacteria, expecting he would develop ulcers in around a year and thus prove to the research community that their idea had merit. Rather than a year, he developed symptoms of gastritis within a few days.

The duo won a Nobel Prize in 2005 for their work on identifying *H. pylori* as a cause of gastritis and peptic ulcers. It was a testament to how publication bias allowed a remarkable condition to go unnoticed for years because the system had no process or culture to deal with what it perceived to be a failure.

To really embrace failure, science may need to draw inspiration from domains



**Knowledge gained** Science progresses by trial and error and every unsuccessful experiment guides further investigation. [www.shutterstock.com](https://www.shutterstock.com)

beyond academia. The technology sector, particularly in entrepreneurial ecosystems, has long embraced a ‘fail fast, fail often’ philosophy. Here, failure is not to be stigmatised but treated as a stepping stone, an essential part of iterative learning.

## Psychological aspect

While academic science cannot replicate this model entirely, given its different stakes and responsibilities, it can certainly adopt its underlying mindset: that failure is informative rather than shameful. Another valuable analogy is in sports. Athletes incorporate replays and coaching sessions to analyse their failures and convert them into learning opportunities. However, failures in science do not tend to include well-orchestrated reflection.

Some changes are commendable. New publication formats like ‘registered reports’ – where scientists commit to publishing the results of an experiment even before they begin it, whether they are positive or negative – are shifting the focus from results to research design and thus to methodological rigour. Nevertheless, these efforts are still spreading their wings. The major transformation the enterprise as a whole requires is mainstream practice is pending.

There is always the possibility that experiments do not pay off without a clear explanation, and researchers internalise failure as personal rather than as a natural occurrence in the process of iterative enquiry. This psychological

**There is always the possibility that experiments do not pay off without a clear explanation, and researchers internalise failure as personal rather than as a natural occurrence**

aspect is especially important to novice researchers.

In a highly competitive environment where not everyone feels safe at work, the fear of failure may lower the incentive to take risks. This makes researchers more inclined towards safer, incremental projects rather than risky, innovative ideas. Such a fear of risk can eventually impede the pace of scientific development.

## Communicating science

A culture change is thus much needed. Younger scientists would like to see their senior counterparts and principal investigators set good examples by talking openly about their failures and uncertainties. Mentorship should also not be limited to success; it should also openly deal with setbacks. People can become more resilient and honest in their intellectual practices by acknowledging that doubt and failure are parts of science.

Funding bodies and institutions can also play a role. The criteria of evaluation need to shift from the success of specific research outcomes to the quality of the

research questions, research methods, and the lessons learnt. Grant proposals and academic CVs can include sections that document and articulate failures as part of the research experience. Establishing platforms to share negative findings and failed experiments could also contribute to a richer scientific ledger. Through open science projects and online archives, novel possibilities are available to share such knowledge, minimise repetition, and foster collaboration.

Notably, the public communication of science needs to change as well. The representation of science as a succession of discoveries creates unrealistic expectations and diminishes confidence in the face of failure. Scientists can raise a more informed and appreciative population by showing that science is a messy, iterative, and sometimes uncertain process. This is necessary, especially in the case of developing drugs or going to space, where errors are bound to happen, and it could be the most important lesson to go through.

Science in practice is a long journey characterised by perseverance, failure, and slow success. Science should not conceal these features but accept them. That is when every failure can serve as a stepping stone to significant and hopefully sustainable breakthroughs.

Biju Dharmapalan is Dean (Academic Affairs), Garden City University and an adjunct faculty member at the National Institute of Advanced Studies, Bangalore. [bjudharmapalan@gmail.com](mailto:bjudharmapalan@gmail.com)

## THE GIST

Science in practice is a long journey characterised by perseverance, failure, and slow success.

In a highly competitive environment where not everyone feels safe at work, the fear of failure may lower the incentive to take risks which can eventually impede the pace of scientific development.

A culture change is thus much needed where mentorship is not limited to success with criteria of evaluation focused on quality of the research.

- **Key Terms and Explanations**

- **Publication Bias (The "File Drawer" Effect):** The tendency of researchers, editors, and pharmaceutical companies to handle the reporting of experimental results that are positive (i.e., showing a significant finding) differently from those that are negative or inconclusive.

- *Example:* A drug trial showing no improvement in patients is often shelved, while one showing a 5% improvement is rushed to a top-tier journal.

- **Registered Reports:** A publishing format where the peer-review process happens *before* the data is collected. If the research question and methodology are sound, the journal commits to publishing the results regardless of the outcome.

- **H. pylori & Gastritis:** *Helicobacter pylori* is a bacterium that infects the stomach. For decades, the medical consensus was that stress and spicy food caused ulcers; the "failure" of the establishment to accept the bacterial theory delayed life-saving antibiotic treatments.

- **Incrementalism:** A research approach that focuses on small, safe, and "guaranteed" progress rather than high-risk, high-reward breakthroughs.

- **Fail Fast, Fail Often:** An entrepreneurial philosophy (common in Silicon Valley) that encourages rapid experimentation. The goal is to identify unviable paths quickly to save resources and pivot toward success.

- **Main Arguments and Substantive Parts**

- **The "Smooth Story" Fallacy**

- Science is often presented as a linear progression of "Eureka!" moments. This narrative is counter-effective because it hides the messy, iterative reality of the laboratory, creating a false standard for new researchers.

- **The Feedback Loop of Failure**

- In its purest form, science progresses via **trial and error**. A discarded hypothesis is not a waste; it "sharpens the edges of knowledge" by narrowing down the possibilities.

- **Systemic Skewness**

- The current "Scientific Ecosystem" (Grants → Publications → Career Tenure) is built on success. Funding bodies demand promising results, and journals demand "impactful" findings, forcing scientists to bury negative data to survive professionally.

- **The Psychological Barrier**

- When failure is stigmatized, researchers (especially novices) internalize it as personal incompetence. This leads to "risk aversion," where scientists avoid bold, innovative questions because the fear of a negative result—and the subsequent loss of funding—is too high.

- **Historical Evolution of the Issue**
- **Pre-20th Century (The Individual Polymath):** Science was often driven by wealthy amateurs or university-backed individuals (e.g., Darwin, Mendel). Failure was seen as part of natural philosophy, though still frustrated by peer skepticism.
- **Post-WWII (The "Big Science" Era):** The Manhattan Project and the Space Race shifted science toward massive state-funded projects. The pressure for "delivery" and "return on investment" (ROI) began to marginalize negative results.
- **The 1980s (The H. pylori Turning Point):** Barry Marshall's struggle illustrated the "dogma trap." It highlighted how the scientific community can become an echo chamber that ignores evidence contradicting established theories.
- **Present Day (The Replication Crisis):** In the last decade, many landmark studies (especially in psychology and medicine) have failed to be replicated. This has sparked a modern movement toward **Open Science** and the demand for sharing raw, even "failed," data.
  
- **Way Forward**
- **Metric Reform:** Funding agencies should evaluate the **methodological rigor** of a proposal rather than the "expected positive outcome."
- **Open Data Platforms:** Creation of a "Global Repository of Negative Results" where scientists can upload inconclusive data.
- **Mentorship Evolution:** Senior scientists must lead by example, discussing "failed" grants and rejected papers in lab meetings to build resilience in juniors.
- **Registered Reports:** Wide-scale adoption of pre-study peer review to decouple "quality of science" from "excitement of results."
  
- **Previous Years' Questions (PYQs)**
- **GS 3 (2020):** "How is the S&T policy of India conducive to the 'Self-reliant India' (Atmanirbhar Bharat)?" (Relevant regarding the need for innovative risk-taking).
- **Ethics (2018):** "Inquiry is the foundation of scientific temper. Discuss."
- **Essay (2021):** "Philosophy of wantlessness is Utopian, while materialism is a chimera." (Indirectly links to the "success-at-all-costs" materialist culture in science).
- **Essay (2014):** "With greater power comes greater responsibility." (Ethical reporting in science).

# DE-STIGMATIZING FAILURE IN SCIENTIFIC RESEARCH: A PATH TO INNOVATION & ACADEMIC RESILIENCE

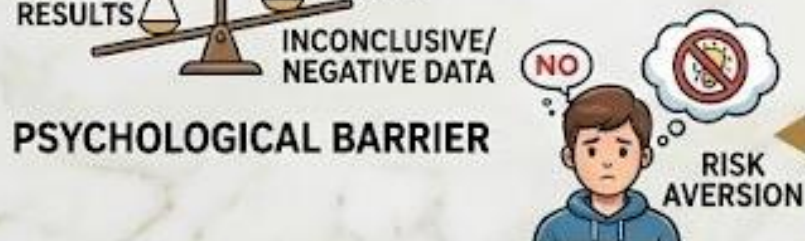
## THE PROBLEM: "SUCCESS-ONLY" MYTH



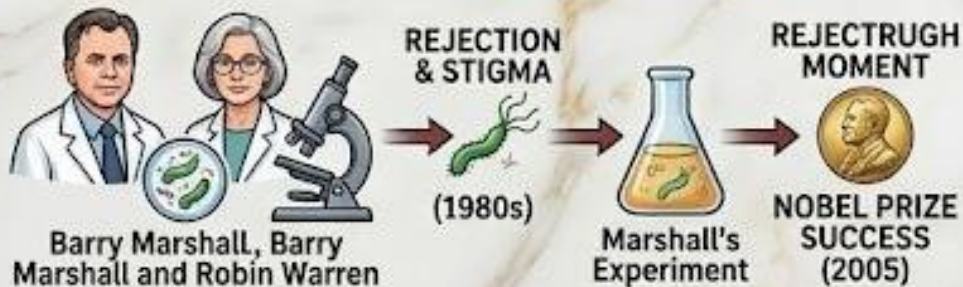
## SYSTEMIC SKEWNESS



## PSYCHOLOGICAL BARRIER



## H. PYLORI CASE STUDY



## AXIA'S MENTORSHIP



## THE SOLUTION: CULTURE SHIFT



SENIOR SCIENTISTS & JUNIOR RESEARCHERS

## ADOPTING "FAIL-FAST" (TECH SECTOR)



## REGISTERED REPORTS



## MULTI-DIMENSIONAL BENEFITS



WAY FORWARD: INSTITUTIONAL REFORMS, OPEN SCIENCE PROJECTS, NOVEL COMMUNICATION

# On TCS harassment and conversion case

Concerns have been raised about the Tata Consultancy Services sexual exploitation and alleged forcible conversions case that involves nine FIRs, related to complaints of alleged sexual exploitation, rape and forcible conversion at the company's office in Nashik, Maharashtra, between 2022 and 2026.

## EXPLAINER

Vinaya Deshpande Pandit

### The story so far

Last month, Nashik Police claimed that they had busted a racket of alleged forced conversions and sexual exploitation at a multi-national company's office in the city. Nine FIRs were registered and eight persons were arrested. Police said they were looking for one more accused, who they claimed is on the run. A Nashik court has heard her anticipatory bail plea and will give an order on May 2. TCS has ordered an internal probe, suspending all the persons named in the FIRs, adding that no formal complaint has been registered with it yet.

### Overview of the sexual harassment and forcible conversions case

The TCS case involves nine FIRs. They are related to complaints of alleged sexual exploitation, rape and forcible conversion at Tata Consultancy Services in Nashik, Maharashtra, between 2022 and 2026.

### Timeline of the complaints

On March 26, 2026, the first FIR was registered at Deolali Camp Police station. It was filed by a 23-year-old woman employee of TCS, claiming that since 2022, an accused had tried to convince her into a relationship with him. She said that the accused had asked her to apply to TCS, where he was already working. She claimed that after she got selected, she was allegedly forced into physical relations by the accused, on the pretext of marriage. She further alleged that another co-accused, on learning of their relations, also sought physical favours from her.

She has claimed that three accused – Danish Sheikh, Tausif Akhtar and Nida Khan, used to allegedly speak ill about Hinduism, trying to dissuade her from following Hinduism. She claimed that she learnt in February 2026, that the main accused was already married with two



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children. She further alleged that the three accused hurt her religious sentiments, that Danish Sheikh kept physical relations with her on the promise of marriage, and that Tausif Akhtar sexually harassed her multiple times.

Police have claimed that the three accused taught her Islamic practices, and convinced her to follow them. The original FIR accessed by *The Hindu* does not mention it, and supplementary statements, if any, could not be accessed.

After the first FIR was registered, till April 3, 2026, eight more FIRs were registered in quick succession, at Mumbai Naka Police station. While seven FIRs were registered by women, one was filed by a man who alleged that he was forced to convert, Nashik Police said. The complainant claimed that he was allegedly forced to eat beef, offer namaz and recite kalma. He has told the police that the efforts allegedly started in 2023-24. When the victim's father suffered from paralysis, the accused allegedly said he would only recover if the victim accepted Islam, he told the police.

The other cases pertain to rape, obscene comments, insult of modesty, and hurting religious sentiments by

making fun of Hindu gods and goddesses to impress on the victims that they should accept Islam. Police say that the cases pertain to incidents in the last four years, starting 2022. The police have claimed that the accused held senior or influential positions, and allegedly misused their position to take advantage of vulnerable men and women, influencing them or attempting to forcibly convert them.

### Steps taken by the police

Nashik Police have formed a 12-member Special Investigation Team led by an Assistant Police Commissioner to investigate the matter. Several stringent sections of the Bharatiya Nyaya Sanhita (BNS) and the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989, have been invoked for sexual intercourse through deceitful means, sexual harassment, stalking, insulting the modesty of a woman, abetment, criminal defamation, intentional or malicious acts to outrage religion, intentionally wounding religious sentiments, common intent, etc. The sections include Sections 69, 75, 78, 79, 49, 356, 302, 299, 315 of BNS. In the first FIR, Sections 300(w)(i), 303(w)(i), 302(v)

and 304(s) of the SC, ST Prevention of Atrocities Act, 1989, have been invoked.

According to the police, they were alerted by a local social-political activist after the parents of the first complainant allegedly expressed apprehensions about her changed behaviour pattern. The police thereafter conducted a covert operation in the concerned TCS office, where police teams went disguised as housekeeping staff to gather intelligence. The FIRs were registered after the police spoke with several complainants and asked them to register formal complaints. A woman officer played a key role in gathering information from women survivors of alleged sexual harassment, police said.

### Concerns raised in the issue

Civil rights activists have raised concerns about the process, narrative, and impartiality of the probe. They have claimed that cases of sexual harassment are allegedly being portrayed as 'corporate jihad' or 'love jihad'. They have sought an impartial probe into the alleged sexual harassment faced by the women, and about the structural lapses in addressing them. They have also raised concerns about an alleged 'media trial', where a woman accused was allegedly termed an HR professional. TCS later clarified that she was neither an HR manager nor responsible for recruitment, but that she was employed as a process associate without any leadership responsibilities. Civil rights groups have raised concerns about the lack of evidence for any externally funded religious conversion network or organised conspiracy.

### Arguments by the defence

The lawyers of the accused have primarily argued on two issues: There is no law against conversions in Maharashtra. They have questioned the legal basis for booking the accused for alleged forcible conversions. They also contend that acts of voluntary choice are being incriminated.

## THE GIST

Nashik Police have formed a Special Investigation Team to probe the sexual harassment and forcible conversions case. Several sections of the Bharatiya Nyaya Sanhita and the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989, have been invoked.

Civil rights activists have questioned the process, narrative and impartiality of the probe, calling for an independent inquiry into the alleged harassment faced by the women, and the structural lapses in addressing it.

- **Key Terms and Explanations**

- **Anticipatory Bail:** Under Section 438 of the CrPC (now integrated into the Bharatiya Nagarik Suraksha Sanhita), this is a legal provision that allows a person to seek bail in anticipation of an arrest on accusation of having committed a non-bailable offense.
- **Bharatiya Nyaya Sanhita (BNS):** The new criminal code of India that replaced the Indian Penal Code (IPC). For example, Section 69 of the BNS deals with sexual intercourse by "deceitful means" (like a false promise of marriage).
- **SC/ST Prevention of Atrocities Act (1989):** A special law enacted to prevent crimes against members of Scheduled Castes and Scheduled Tribes. It has stringent bail provisions and focuses on protecting marginalized identities.
- **Forced Conversion:** The act of using coercion, threat, or inducement to make a person adopt a different religion. In India, this is a state-level subject; while some states have "Freedom of Religion" Acts, Maharashtra currently does not have a specific anti-conversion law.
- **Cognizable Offense:** An offense in which the police can arrest the accused without a warrant and start an investigation without the permission of a court.

- **Main Arguments and Substantive Parts**

- **The Prosecution's Case**

- The core thesis of the police is that senior employees at a multinational firm created a predatory environment where professional influence was leveraged to facilitate sexual exploitation and religious proselytization.
- **Evidence Cited:** Multiple FIRs (9 in total), statements regarding "deceitful" relationships, and a covert operation conducted by police in disguise.
- **Mechanism of Coercion:** Using emotional vulnerability (e.g., a family member's illness) or professional hierarchy to push religious change.

- **The Defence's Rebuttal**

- The defense argues that the charges are a criminalization of consensual adult behavior and private religious choices.
- **Legal Lacuna:** They emphasize that Maharashtra lacks a specific statute against conversion, making those specific charges legally shaky.
- **Nature of Charges:** They argue that "voluntary choice" is being misconstrued as "force" due to external socio-political pressure.

- **Civil Society Concerns**

- Activists argue that the narrative is being "communalized." They point to a "media trial" that exaggerated the roles of the accused (e.g., labeling a process associate as an HR head) to suggest a systemic "corporate conspiracy" without sufficient empirical backing.

- **Historical Evolution of the Issue**

- The tension between religious freedom and anti-conversion efforts has a long history in India:
- **Pre-Independence:** Several Princely States (like Raigarh and Udaipur) enacted anti-conversion laws in the 1930s and 40s to preserve Hindu social structures against missionary activities.
- **Post-Independence (1954):** The Indian Conversion (Regulation and Registration) Bill was introduced but failed to pass in Parliament.
- **The "Freedom of Religion" Acts (1960s-Present):** States like Odisha (1967) and Madhya Pradesh (1968) pioneered state-level laws.
- **Judicial Milestone (1977):** In *Rev. Stainislaus vs. State of Madhya Pradesh*, the Supreme Court ruled that the "Right to Propagate" (Article 25) does not include the right to convert another person, as it would infringe on the other's freedom of conscience.
- **Modern Era:** A wave of new "Anti-Conversion" laws in states like UP and Karnataka focusing on "marriage for conversion" (often colloquially termed "Love Jihad").

- **Way Forward**

- **Strengthening Internal Committees (IC):** MNCs must ensure that POSH (Prevention of Sexual Harassment) committees are robust so that victims don't feel the need to wait years before reporting.
- **Sensitization Programs:** Secularism in the workplace needs to be active, not just passive. Clear guidelines on discussing religion at work are needed.
- **Judicial Oversight:** The courts must ensure that the SIT (Special Investigation Team) adheres to evidence-based investigation to prevent the case from becoming a "media circus."
- **Legislative Clarity:** Maharashtra may need to debate whether it requires a formal legal framework for conversions to avoid the misuse of general criminal sections.

- **Previous Years' Questions (PYQs)**

- **UPSC Mains (2017, GS 1):** "How do the Indian debates on secularism differ from the debates in the West?"
- **UPSC Mains (2023, GS 2):** "The local state government's power to make laws on subjects in the Concurrent List..." (Context: State anti-conversion laws).
- **UPSC Mains (2019, GS 4):** "What is meant by the term 'constitutional morality'? How does one uphold it?"

# ANALYSIS OF NASHIK FORCED CONVERSION & EXPLOITATION ALLEGATIONS



## 1. CASE TIMELINE & POLICE ACTION

- 9 FIRs registered at Deolali & Mumbai Naka (March-April '26).
- Allegations of relationships leading to conversion and harassment.
- A 12-member SIT formed.
- Covers covert operations in the TCS office.



## 2. CORE ALLEGATIONS

- Sexual Exploitation & Rape on pretext of marriage.
- Forcible Conversions using influence & emotional coercion.
- Inter-religion relationships (e.g., Danish, Tausif, Nida).
- Denigration of Hindu sentiments and specific conversion requests.



## 3. KEY LEGAL SECTIONS

- Bharatiya Nyaya Sanhita (BNS):  
Sect. 69 (deceitful sexual relations)  
Sect. 75, 78, 79 (harassment/stalking)  
Sect. 356 (insult modesty)  
Sect. 299/302 (wounding religious sentiments).
- SC/ST Prevention of Atrocities Act applied.
- Note on lack of Maharashtra-specific conversion law.



## 4. UPSC RELEVANCE & CONCERNS

- Social Empowerment & Secularism challenges.
- Internal Security and communal issues.
- Media Trials vs. Due Process (e.g., mislabeling an HR role).
- Questioning corporate conspiracy narratives and a need for evidence.
- Conflict between voluntary choice & criminalization.



## 5. ETHICAL & MULTI-DIMENSIONAL ANALYSIS

- Socio-Political tensions and narrative battles.
- Corporate Governance: TCS's internal probe and responsibility for employee safety.
- International MNC perception.
- Economic impact on Nashik's IT growth.
- Legal questions of "consent" vs. "influence".

# The tragedy of recurring Rohingya refugee deaths

The capsizing of a fishing trawler carrying refugees draws attention to the cost of protracted displacement

**Saeed Pande**

## Story so far:

**A** fishing trawler carrying around 250-280 people, including Rohingya refugees and Bangladeshi nationals, capsized in the Andaman Sea in mid-April 2026 while attempting to reach Malaysia. According to UNHCR - the UN Refugee Agency and the International Organization for Migration (IOM), around 250 people are feared dead or missing, based on preliminary estimates. The vessel departed from Teknaf in Cox's Bazar, Bangladesh, and was reportedly overcrowded and overwhelmed by rough seas.

Only around 9-10 survivors were rescued. Survivors reported that the boat travelled for about four days before capsizing, with some people floating for over 36 hours before being rescued by passing vessels.

## Life-threatening sea journeys

Since the 2017 Rohingya crisis in Rakhine State, over 7,00,000 Rohingya have fled to Cox's Bazar, in Bangladesh. Myanmar's 1982 Citizenship Law rendered them effectively stateless, denying basic rights. In Bangladesh, more than one million refugees live in congested camps with limited or no access to education and formal work. According to the UNHCR, funding cuts since 2023 have sharply reduced food rations. Smuggling networks exploit this vulnerability, charging high fees for passage to Malaysia, where informal labour opportunities and diaspora links exist.

The 1,500-nautical-mile Bangladesh-Malaysia route relies on unseaworthy boats, often carrying over 200 people with minimal supplies, for a journey that could take 5-7 days. Reports by humanitarian agencies indicate that vessels are sometimes denied disembarkation or allegedly pushed back,

leaving migrants stranded at sea.

According to a UNHCR report released on April 17 this year, 2025 was the deadliest year on record for Rohingya sea crossings, with nearly 900 dead or missing. The report observes that 6,500 attempted the journey, with about one in seven perishing. The trend has continued into 2026, with over 2,800 departures recorded between January and mid-April.

A comparison with the Mediterranean Sea highlights both parallels and contrasts. The IOM estimates nearly 28,000 deaths there since 2014, as migrants fled conflicts in Syria, Eritrea, and Afghanistan.

Europe's response, though contested, is relatively structured. Following the 2013 Lampedusa shipwreck, Italy launched Operation Mare Nostrum, rescuing around 1,50,000 people. It was followed by EU-led missions such as Operation Sophia, beginning in 2015, which targeted smuggling networks while also supporting

rescue efforts. The Frontex coordinates joint operations, while the Common European Asylum System sets standards for asylum processing.

Legal accountability also plays a role. In *Hirsi Jamaa v. Italy* (2012), the European Court of Human Rights ruled that pushbacks violated international law. NGOs such as Médecins Sans Frontières and SOS Méditerranée have also rescued thousands. In contrast, Southeast Asia lacks binding frameworks. During the 2015 Andaman crisis, thousands were stranded at sea amid delayed responses. Without legal obligations or coordination, responses remain ad hoc.

## The governance vacuum

The Rohingya maritime crisis exposes a governance vacuum in South and Southeast Asia. Conflict has strengthened the Arakan Army (a local Buddhist armed group), which by 2024 controlled large parts of Myanmar's Rakhine State, driving displacement in the region. Countries such as India, Bangladesh, Thailand, and Malaysia are not signatories to the 1951 Refugee Convention, limiting formal protections. The ASEAN's 2021 Five-Point Consensus has been constrained by the non-interference principle and internal divisions between Indonesia and Malaysia versus Thailand and Myanmar, reinforcing policy paralysis. *(Saeed Pande is a freelance writer with a focus on current affairs and geopolitics.)*

## THE GIST

According to a UNHCR report, 2025 was the deadliest year on record for Rohingya sea crossings, with nearly 900 dead or missing. The report observes that 6,500 attempted the journey, with about one in seven perishing.

The Rohingya maritime crisis exposes a governance vacuum in South and Southeast Asia.

- **Key Terms and Explanations**

- **Statelessness:** A situation where an individual is not considered a national by any state under the operation of its law. **Example:** The Rohingya, denied citizenship under Myanmar's 1982 law, lack passports or legal protection.
- **Principle of Non-Refoulement:** A fundamental principle of international law that forbids a country from returning asylum seekers to a country where they would likely face persecution.
- **Pushbacks:** State measures aimed at forcing groups of migrants and refugees back across a border—often immediately after they have crossed—without an individual assessment of their needs.
- **1951 Refugee Convention:** The key legal document that defines who a refugee is, their rights, and the legal obligations of states to protect them.
- **ASEAN Five-Point Consensus:** A 2021 agreement by Southeast Asian leaders intended to end violence in Myanmar, facilitate humanitarian aid, and encourage dialogue.
- **Arakan Army (AA):** A powerful ethnic armed organization in Myanmar seeking self-determination for the Rakhine people, currently a major player in the internal conflict.

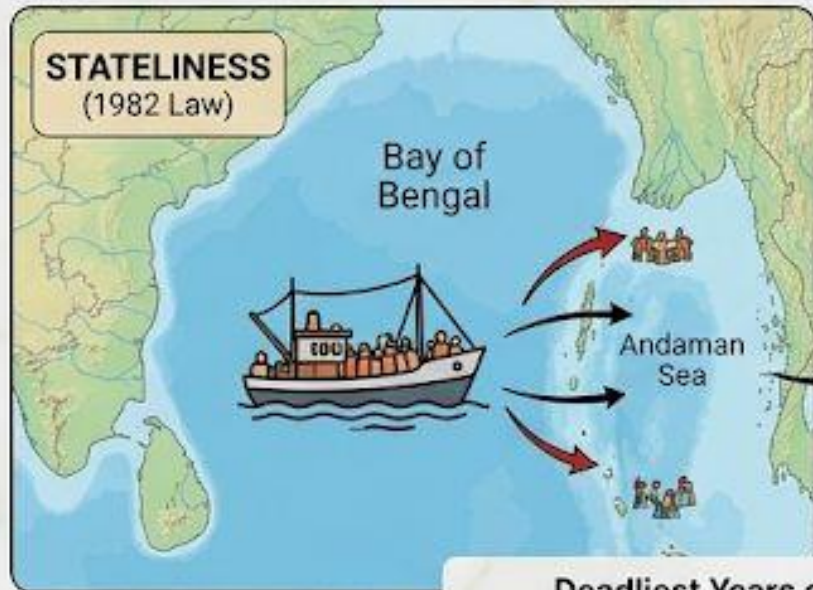
- **Main Arguments and Substantive Parts**

- The core thesis posits that a **governance vacuum** in Southeast Asia, combined with systemic persecution in Myanmar and deteriorating conditions in refugee camps, has created a "death trap" in the Andaman Sea.
- **The "Push" Factors:** Systematic disenfranchisement via the 1982 Citizenship Law and recent food ration cuts in Cox's Bazar camps (due to funding shortfalls) are forcing desperate choices.
- **The "Pull" Factors:** Malaysia's informal labor market and existing diaspora networks offer a glimmer of economic survival that the camps cannot provide.
- **The Accountability Gap:** Unlike the Mediterranean, where legal rulings (like *Hirsi Jamaa v. Italy*) and structured missions (Operation Sophia) provide a semblance of a safety net, the Andaman Sea operates in a legal "black hole" where ad hoc responses prevail.
- **Structural Paralysis:** The ASEAN principle of "non-interference" prevents member states from taking decisive collective action against the root cause in Myanmar.

- **Historical Evolution of the Issue**
- **1982:** Myanmar passes the **Citizenship Law**, stripping the Rohingya of their nationality and classifying them as "resident foreigners."
- **1990s–2012:** Waves of communal violence lead to sporadic displacement into Bangladesh.
- **2015 "Andaman Sea Crisis":** Thousands of migrants were abandoned by smugglers at sea; several Southeast Asian nations initially refused to let them land, leading to global outcry.
- **2017 Military Crackdown:** A "clearance operation" by Myanmar's military forces over 700,000 Rohingya into Bangladesh, creating the world's largest refugee camp.
- **2021 Military Coup:** The junta takes power in Myanmar, intensifying internal conflict and stalling repatriation efforts.
- **2023–2026:** Funding fatigue leads to aid cuts; 2025 becomes the deadliest year on record, a trend continuing into 2026.
  
- **Way Forward**
- **Regional Search and Rescue (SAR):** Establish a dedicated ASEAN-led maritime coordination center to prevent "pushbacks."
- **Bali Process Revitalization:** Use the existing Bali Process on People Smuggling to move from talk to "binding protocols."
- **Humanitarian Corridor:** Negotiate safe disembarkation points and "temporary protection" status for arrivals.
- **Engaging the Arakan Army:** Realize that the ground reality in Rakhine has shifted; humanitarian diplomacy must include all territorial controllers.
- **Global Burden Sharing:** The UN must prioritize the "funding gap" to prevent camp conditions from becoming a "push factor."
  
- **Previous Years' Questions (PYQs)**
- **UPSC Mains 2017 (GS-2):** "The critical determination of any nation's foreign policy is its national interest." Discuss in the context of the Rohingya crisis.
- **UPSC Mains 2014 (GS-3):** How does illegal trans-border migration pose a threat to India's security?
- **UPSC Mains 2023 (GS-2):** "The element of 'non-interference' in ASEAN has limited its role in the Myanmar crisis." Examine.



## AXIA COMPETITIVE EXAM CENTRE

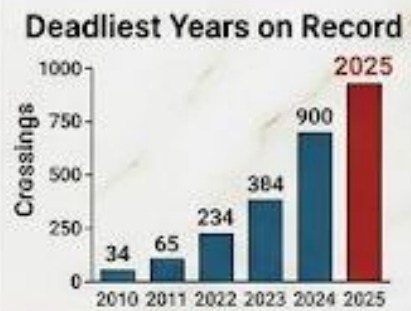


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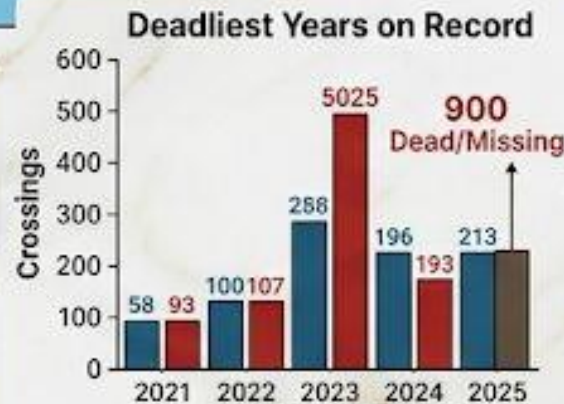
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### The Governance Vacuum: Maritime Migration Crisis

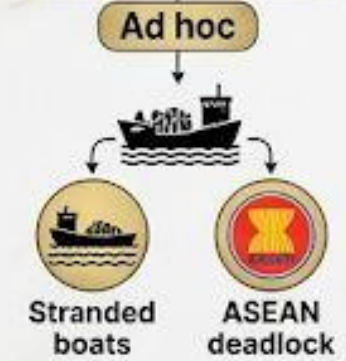


- GS Paper Linkages**
- GS-1 → Population, Development
  - GS-2 → IR, Human Rights
  - GS-3 → Border Management
  - GS-4 → Ethical Concerns

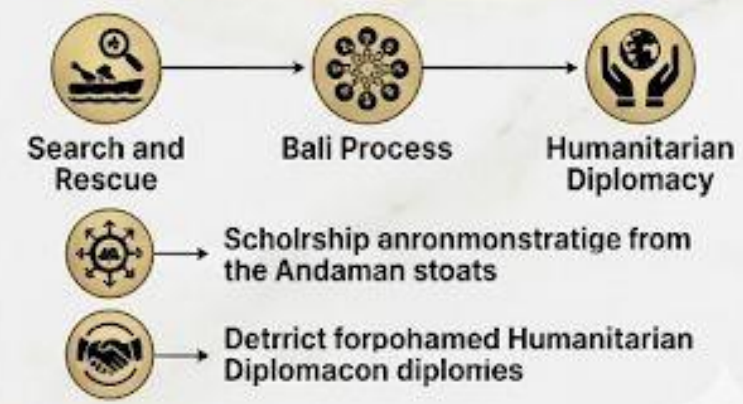
### Mediterranean Response



### Southeast Asia Response



### Way Forward





## Everyone is busy building intelligence, but no one can define what it is

In their books, Karen Hao, Max Fisher, and Dwarakesh Patel explore the AI industry that has become a juggernaut even as it still struggles to define intelligence, measure its costs, or agree on its end goal.

### ARENA NEWS

American journalist and author Karen Hao opens every reporting piece with a lead and a hook, and what she found was less a portrait of a company and more an anatomy of the larger idea of artificial general intelligence (AGI).

OpenAI was founded on the premise that if AI was coming regardless, it was better to have safety and ethics-conscious researchers at the frontier than to build it in those with fewer constraints. The CEO, Sam Altman, once went as far as to design the company's board such that it could be hit two if the other came to the top of its own mission. That board, heavily tilted to the left, has reversed the decision quickly. But that's not an act as a model, but as something inevitable, as an extension of the ideas that come from Silicon Valley founders who have read researchers and the founders to push boundaries. OpenAI is described in the early chapters of her book, *Empire of AI*, as "a rare intellectual playground without strings attached, a haven for fringe ideas" by the time she finished reporting. It had become one of the most powerful and best-protected corporations on earth.

### No clear definition

What is artificial intelligence? Hao's thorough 300-page paper is widely considered the leading document of AI. In it, she begins with the question, "Can you be there?" and quickly refutes it as the machine gains. He proposes that any machine with the ability to construct a machine of its own takes more than 20% of the time, passes the test. He never defined what intelligence really is. By the end, most agree AI needs to be "aware," "think," but what thinking actually is, remains unexplained, even among those

who have asked billions on exploring it. She spends a chapter of her book trying to pin down a definition of intelligence with impressive intensity. The AI industry's working answer, for now, borrows from the "jargon language" hypothesis: the idea that all human knowledge is encoded in language, and that AGI might therefore emerge from language alone. The cost for training a generative AI model is already approaching a billion dollars, and projections for the coming years are only shooting up. All this money is being spent on a purpose whose foundation and end goal both remain largely unarticulated.

### The consequences

Max Fisher, in *The Glass Machine*, shows us that this pattern is not new, but that its consequences have grown insidious. While Fisher's book is ostensibly about social media algorithms and socialization, it also builds up a clear picture of what happens when a technology that shapes human behavior is deployed before anyone has asked what it is shaping us towards.

The early commercial machines about platforms such as Facebook, he argues, rarely understood their goals. Their algorithms simply tried to, compare companies like that. Algorithms connected, with small doses of digital dopamine, and made performance not a lag but an immediate, even-instant, output.

By the time machine language is acknowledged, the architecture was global and deeply embedded. Facebook's founding products, says Fisher, eventually admitted the goal was to maximize as much of internet human time and attention as possible. By then, a billion people were already inside the words.

Max Fisher wrote about a previous

technological wave, but there are parallels in the internet's trajectory. The same incentives—engagement maximization, attention as commodity, and uncontrolled growth as the only metric of success—now underlie the operations of AI. Fisher's book, read alongside that of reporting, gives readers both a long view and a more immediate story that pattern has played out before, and in building disruptive technologies, their readers can often avoid of the very real human cost of progress—and continue anyway. To be clear, neither author expects scientific progress, but both hold up an important mirror to what is soon to get there.

### The God complex

Dwarakesh Patel's *The Turing Test* is an old history stretched together with conversations with researchers, engineers, and thinkers who made the best of their AI possible. Unlike Hao and Fisher, Patel and his interviewees are not cynical of it. They go, for the most part, people who believe they are doing something necessary and sacred even as they do acknowledge its shortcomings. For instance, Augustine's criticism. Asked by the book why that it spends all time to become super powerful and learn basic, "we'd have basically no ability to stop it."

The God complex here is not dogmatism or the conventional answer, it is more subtle. It is the conviction that because the intelligence being built is unprecedented, the ordinary human frameworks of accountability, consent, and user distribution can be changed too.

Patel's book is highly technical, diving into the capabilities of AI models and what intelligence is. Curious, both this and he touch on the question and seek to conclude that there is still no unified

### definition of "intelligence" or "thinking."

Admittedly, in particular, who is the primary subject of their book, has agreed up the business, a starting whose premise is that the brain can be essentially preserved as data to be digitally uploaded to a server later. This is where the jargon language hypothesis and the God complex finally converge. If all human knowledge is in language, and language can be extracted and replicated, then perhaps consciousness too can be preserved, transferred, and ultimately easily evoked. The question Turing asked was intelligence is distinct but because the brain of an able-bodied human. The answer to see in the addition, well, it is in the certainty that whatever the "backbone" of silicon valley and up building will be the answer.

### Paying a price

In the meantime, as this sharply points out, companies in South America's countries are paying a hefty price right now, with their water and food resources. The AI we have has already reshaped medicine, science, and daily life in world ways. But the industry is not focused on refinement or their environment through improvements to what already exists, it is aiming at something much bigger.

What these three books produce, read together, is less a verdict on AI and more a map of its current state of knowledge shortcomings. She calls these companies an empire—colossal in their conquest for the next stages of the future etc. building, discussed as great techs at hand in Patel's book, asks an important question: what happens when we harvest data to train models over billions of dollars are being spent per model, land and water are being taken to explore millions of years of evolutionary biology, but to what end? That remains unclear.

- **Key Terms and Explanations**

- **Artificial General Intelligence (AGI):** A theoretical form of AI that possesses the ability to understand, learn, and apply knowledge across a wide range of tasks at a human or supra-human level. Unlike "Narrow AI" (e.g., a chess program), AGI would exhibit cross-domain versatility.
- **The Turing Test / Imitation Game:** Proposed by Alan Turing in 1950, it suggests that if a human evaluator cannot reliably distinguish between a machine and another human based on linguistic interaction, the machine has passed the test of "thinking."
- **Pure Language Hypothesis:** The philosophical assumption that all human knowledge and reasoning are encoded within language. Therefore, training a model on the totality of human text should, in theory, result in the emergence of intelligence.
- **Scaling Laws:** The observation in AI development that increasing the amount of data, computing power (compute), and model size leads to predictable improvements in performance.
- **Agentic AI:** AI systems that do not just process information but can take independent actions to achieve a goal, such as navigating a computer interface or managing a supply chain without step-by-step human intervention.
- **The God Complex:** In this context, the belief among tech visionaries that they are exempt from traditional societal, legal, or ethical oversight because they are building something of "transcendental" importance.

- **Main Arguments and Substantive Parts**

- **The Paradox of Governance**

- The transition of OpenAI from a non-profit "intellectual playground" to a powerful, less accountable corporation highlights a central tension: the difficulty of maintaining ethical guardrails when faced with massive capital requirements and the competitive pressure of a "tech arms race."

- **The Definition Crisis**

- There is a fundamental lack of consensus on what "intelligence" actually is. While industry leaders spend billions on the "pure language hypothesis," critics argue that statistical prediction of the next word is not equivalent to true sentience or understanding.

- **The Mirror of Social Media**

- Drawing parallels to the social media era, the argument is made that algorithms designed for "engagement" often lead to radicalization and polarization. AI development currently follows these same metrics—growth and speed—often ignoring the long-term societal "shaping" until the architecture is too deeply embedded to change.

- **The Externalization of Costs**

- While the benefits of AI are often discussed in abstract or futuristic terms, the costs are immediate and physical. This includes the massive consumption of water for cooling data centers and the extraction of mineral resources in the Global South.

- **Historical Evolution of the Issue**

- **1950:** Alan Turing publishes "Computing Machinery and Intelligence," shifting the focus from "what is thinking" to "can a machine simulate thinking."
- **1956:** The Dartmouth Conference officially coins the term "Artificial Intelligence."
- **2010s (The Deep Learning Revolution):** Advances in Neural Networks and GPU computing allow AI to outperform humans in specific tasks like image recognition.
- **2015:** OpenAI is founded as a non-profit to ensure AGI benefits all of humanity.
- **2022-Present (The Generative Era):** The release of Large Language Models (LLMs) moves AI from the lab to the public, sparking global debates on safety, copyright, and existential risk.
- **2026 (Current State):** Focus shifts toward "Agentic AI" and the "Scaling Era," where the limits of data and energy resources become the primary bottlenecks.

- **Way Forward**

- **Democratizing AI Governance:** Moving beyond corporate boards to international bodies that include voices from the Global South.
- **Resource Accounting:** Mandating strict transparency regarding the water and carbon footprint of every major model training run.
- **Human-Centric Design:** Shifting the goal from "replacing human intelligence" to "augmenting human capability," focusing on refinement rather than raw scaling.
- **Legal Frameworks for Accountability:** Establishing "Strict Liability" for AI developers, ensuring they are legally responsible for the outputs of their autonomous agents.

- **All Previous Years' UPSC Questions**

- **2023 (GS 3):** "Introduce the concept of Artificial Intelligence (AI). How does AI help clinical diagnosis? Do you perceive any threat to privacy of the individual in the use of AI in healthcare?"
- **2020 (GS 3):** "What are the main socio-economic implications arising out of the development of IT in India?"
- **2019 (Essay):** "The rise of Artificial Intelligence: the threat of jobless growth or the better opportunities through reskilling and upskilling?"
- **2017 (GS 4):** "Conflict of interest in the public sector... (Relevant to the debate on Sam Altman's board dismissal and corporate vs. public interest)."

# KNOWLEDGE-MAP OF AGI ANALYSIS

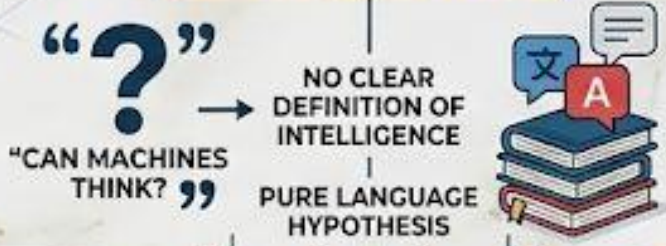


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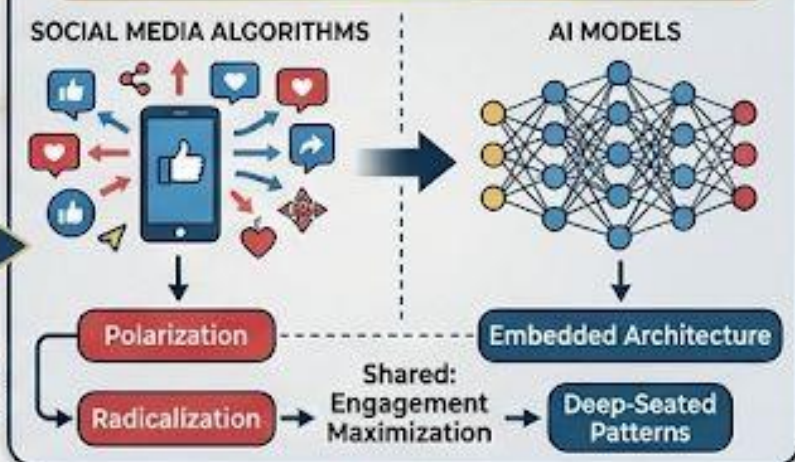
IAS ACADEMY

RISE ABOVE THE REST

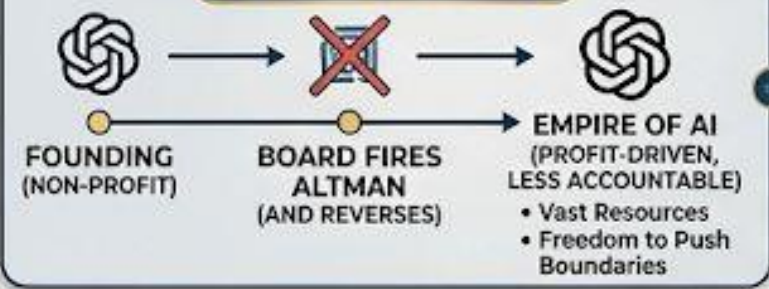
## THE DEFINITION GAP



## THE SHAPING EFFECT: A SOCIAL MIRROR



## THE PATH OF AI CORPORATIONS: OPENAI CASE STUDY



## THE GOD COMPLEX & FUTURE TRAJECTORIES



## GOVERNANCE VS. INNOVATION



## KEY INSIGHTS FROM LEADERS

DARIO AMODEI: “BASICALLY NO ABILITY TO STOP IT” (for powerful super-agent AI)

Shared Fear of Loss of Control

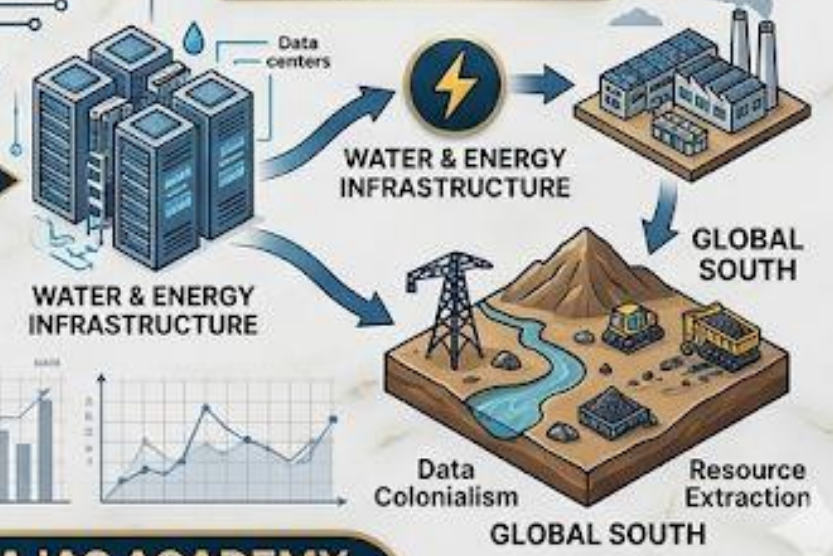
# AGI: THE TURING AMBITION

## SUMMARY OF AGI'S UNACKNOWLEDGED SHORTCOMINGS

Mapping of Shortcomings



## EXTERNALIZED COSTS



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# 'Just peace' can't be achieved through organisations seeking 'fees': Baerbock

**Kallol Bhattacharjee**  
NEW DELHI

"Just peace" cannot be achieved by seeking membership in organisations that charge a joining "fee", said Annalena Baerbock, President of the 80th Session of the UN General Assembly on Tuesday in response to a question on the Board of Peace for Gaza Strip established by U.S. President Donald Trump.

Speaking to journalists here, Ms. Baerbock cautioned against "unilateral use of force" while arguing that member states of the UN can mobilise themselves for an institutional action against a state that is



Annalena Baerbock

accused of genocide by bringing the matter to the UN Security Council.

"Because every country, no matter how big or small, how powerful or rich has a seat at the table, because you will not find just peace for anybody in the world if you have to

pay the fee to join it. We are witnessing growing geopolitical tensions, increasing fragmentation, and pressure on the three pillars of the UN – peace and security, development, and human rights".

The Board of Peace has 28 countries as the 'founding members' of the group that is tasked with stopping the war in Gaza where Israel has been carrying out a military campaign following the October 7, 2023 attack by Hamas. A draft concept note of the board had mentioned that members would have to pay \$1 billion to be part of the group.

Responding to a question from *The Hindu* on the

U.S. targeting and kidnapping President Nicolas Maduro of Venezuela, Ms. Baerbock said "use of force is prohibited by the Charter." She said that every person is supposed to enjoy human rights and if those rights are endangered then member states are supposed to follow the process mentioned in the Charter.

"Unilateral action is a violation of the UN Charter. Because the Charter is not optional. It is an obligation for every member state to protect peace and security around the world and protect sovereignty of every member," said Ms. Baerbock.

- **Key Terms and Explanations**
- **UN General Assembly (UNGA):** The main deliberative, policymaking, and representative organ of the UN. It is the only UN body with universal representation (193 Member States).
- **UN Charter:** The foundational treaty of the United Nations. It establishes the rights and obligations of Member States and the overarching goal of maintaining international peace.
- **Just Peace:** A concept of peace that is not merely the absence of war but is rooted in justice, equity, and the rule of law, rather than financial or military power.
- **Unilateralism:** An approach in foreign policy where a state acts independently or with minimal consultation, often disregarding international treaties or collective institutions.
- **Genocide:** Acts committed with intent to destroy, in whole or in part, a national, ethnical, racial, or religious group.
- **Board of Peace (BoP):** A newly proposed extra-institutional body (outside the UN framework) led by the U.S. to oversee Gaza's reconstruction and security, notably featuring a "membership fee" for permanent influence.
- **Sovereignty:** The supreme authority of a state to govern itself and its people without external interference.
  
- **Main Arguments and Substantive Parts**
  
- **Core Thesis**
- The central argument is that **peace and international law are not "pay-to-play" commodities.** True global stability can only be achieved through inclusive, institutionalized multilateralism where the rule of law (the UN Charter) applies equally to all states, regardless of their wealth or power.
- **Supporting Points**
- **Equality at the Table:** Baerbock emphasizes that the UN's strength lies in giving every country a seat, ensuring that peace is not bought by the highest bidder.
- **Obligatory Nature of the Charter:** The UN Charter is presented as a mandatory set of rules, not an optional menu. Violation of sovereignty or "unilateral use of force" (e.g., the targeting of a state leader) is a direct breach of this obligation.
- **Institutional Recourse:** Rather than unilateral action, member states should use established pathways, such as the UN Security Council (UNSC), to address allegations of genocide or human rights abuses.

- **Historical Evolution of the Issue**

- **1945 – The Birth of Multilateralism:** Following WWII, the UN was established to replace the failed League of Nations, with the UN Charter as the primary legal framework for preventing conflict.
- **1960s-1990s – Cold War Bipolarity:** The UN often faced paralysis due to the veto power of the P5 (Permanent Five) members, leading to various unilateral "police actions" by superpowers.
- **2003 – The Iraq Precedent:** The U.S.-led invasion of Iraq without explicit UNSC authorization marked a significant modern challenge to the UN Charter's prohibitions on the use of force.
- **2023-Present – The Gaza Crisis:** The conflict in Gaza has tested the UN's ability to enforce humanitarian law, leading to the creation of alternative, non-UN bodies like the "Board of Peace," which introduces a transactional element to diplomacy.

- **Way Forward**

- **Strengthening UNGA:** Empowering the General Assembly through mechanisms like the "Uniting for Peace" resolution to bypass Security Council deadlocks.
- **Democratic Funding:** Moving away from "voluntary" or "transactional" funding toward a more equitable, assessment-based model for global peace initiatives.
- **Universal Compliance:** Ensuring that powerful nations are held to the same standard as smaller ones regarding the "unilateral use of force."
- **Inclusion of the Global South:** Ensuring that peace boards or councils represent the diversity of the world, not just the "Founding Members" with \$1 billion to spare.

- **Previous Years' UPSC Questions**

- **2022 (GS II):** "The United Nations is a flawed organization but it is better than no organization at all." Critically examine.
- **2020 (GS II):** "The long-sustained image of the UN as a representative of the world has been tarnished by its inability to solve global conflicts." Discuss.
- **2015 (GS II):** Discuss the impediments India is facing in its pursuit of a permanent seat in the UN Security Council.



### MULTILATERALISM VS TRANSACTIONALISM

UN-Led Just Peace:  
Equitable Seat

Board of  
Pay-to-Play



- UN Charter as Obligation
- Geopolitical Fragmentation

### GLOBAL GEOPOLITICAL TENSIONS

Growing Fragmentation  
Pressure on UN Pillars



### KEY LEGAL CONCEPTS

**Present**  
UNGA Focus on  
Genocide Recourse

**2003**  
Iraq  
Precedent

**Present**  
Board of Peace  
'Fee' Proposal

**1945**  
UN Charter:  
Non-use of Force

**2003**  
Iraq  
Precedent

**2024**  
Board of Peace  
'Fee' Proposal



Institutional Action  
vs. Genocide

### MULTIDIMENSIONAL IMPACTS



**SOCIAL**  
Inclusive agency for  
smaller nations



**POLITICAL**  
Preservation of  
sovereignty



**ECONOMIC**  
Plutocratic vs  
Democratic funding



**LEGAL**  
Universal compliance  
vs. optionality





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