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THE



HINDU

ANALYSIS

Topics { 15 + PIB } ✓

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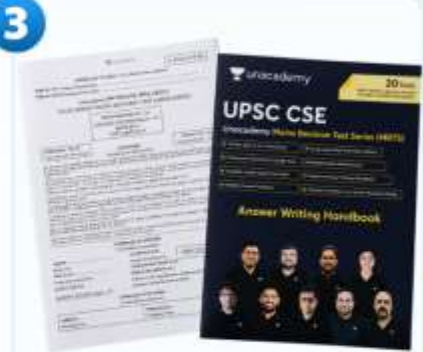
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IAS ENGLISH

AI Sovereignty

US

Export Control Order

AI sovereignty hawks see red as U.S. moves to block Mythos, Fable models

Aron Deep
NEW DELHI

The U.S.'s abrupt decision to restrict access to AI firm Anthropic's Mythos and Fable large language models is leading an "I told you so" moment for national security hawks within the Indian government, who had dealt for months with skepticism and sparse resources in supporting sovereign efforts to develop an Indian AI stack.



India had sought access to Mythos and AI-generated cybersecurity concerns.

may now be disrupted. The Ministry of Electronics and Information Technology (MeitY) and the Ministry of External Affairs, which have been in touch with Anthropic and the U.S. government regarding Project Glaswing, did not respond to queries from The Hindu. The Indian Cyber-crime Coordination Centre (I4C), which reportedly gained access to Mythos this month, along with the cybersecurity agency CERT-In, which operates under MeitY, also did not respond.

Even some less cybersecurity-focused projects are experiencing disruptions due to the U.S.'s move.

The restriction of Fable, which has been available for all paying users of Claude, had immediate fallout on Saturday.

For instance, Vikram Chandra, an entrepreneur and journalist, said on X, "I have projects that were to run on Fable today - and they will come to a grinding halt... Yes, guarantees for frontier AI are essential - and Anthropic itself has argued for them. But creating national barriers isn't the solution."

India's capabilities to train a frontier AI model lag behind those of China, which itself is a few steps

behind the U.S. While Beijing is home to firms like DeepSeek, which uses slightly older graphics processing units (GPUs) in large quantities, with abundant access to data centre capacity and electricity, to try to catch up to the more efficient U.S. models made by firms like Anthropic and OpenAI, India has a relatively limited capacity of such resources to train large language models (LLMs) like Claude's Opus, Mythos, and Fable.

While a hypothetical Indian alternative to Mythos wouldn't be subject to abrupt geopolitical interruptions, actually creating such an LLM is dependent on the availability of abundant quantities of expensive AI chips from firms like Nvidia, data centre capacity, and electricity availability to boot.

Since the costs run into tens of billions of dollars, sovereign AI proponents in India have been behind the 8-ball. Even Mr. Verma, who has been critical of over-reliance on foreign tech and whose firm has been appointed to run email archives of Union government employees, struck a realistic note on the potential.

"The mail deepen our IRD," Mr. Verma said.

"Sarvam has been on it and we have been on it, but remember that the latest models cost not only huge GPU budgets to train, the GPUs themselves are restricted. So, we can't afford the scale of money (of the order of \$10s of billions - even get in the game), and even if we could come up with the money, we can't get all the GPUs. I would not like to ask the government to fund tens of billions of dollars on this anyway - the money has

for better uses," he said. He advocated lower-cost research like what Zoho was undertaking.

"We are way behind and need a national mission to get going quickly," TV. Mohandas Pai, former CFO of Infosys, who consults closely with the government on technology-related issues, said on X.

"Exciting government programs are in slow, way too small to make any large impact. We need an annual ₹50,000 crore fund for deep tech and AI, a ₹2,00,000 crore ELIS (Emergency Credit Line) Guarantee Fund to build hyper cloud, hardware and chips."

At least one firm has seen some progress, however: Bengaluru-based Sarvam AI launched a 105 billion parameter LLM that is specifically trained with an Indian bias to counter the U.S. restrictivity in most LLMs. While this model is capable of coding tasks, a lot far from a frontier-class model for ambitious cybersecurity work.

"A few Indian friends of mine who had access to the Mythos model told me genuinely how terrifying a win," C.S. Akhilar, a cybersecurity researcher who has uncovered several vulnerabilities in Indian government and private websites in the past, said in a LinkedIn post. "You just point it to anything and it does uncover vulnerabilities unlike anything they have seen before."

While responses to Mythos are occasionally tempered by less advanced LLMs discovering similar software bugs, its true potential remains patent to Project Glaswing members of whom there are only a few dozens, most in the U.S.



THE US GOVERNMENT ORDERED ANTHROPIC TO BLOCK EVERY FOREIGN NATIONAL, INSIDE AND OUTSIDE THE US, FROM CLAUDE FABLE 5 AND MYTHOS 5 ACCESS

THIS IS A WATERSHED MOMENT

Foreign Nationals

AI Anthropic @AnthropicAI

The US government, citing national security authorities, has issued an export control directive to suspend all access to Fable 5 and Mythos 5 by any foreign national, whether inside or outside the United States, including foreign national Anthropic employees.

The net effect of this order is that we must abruptly disable Fable 5 and Mythos 5 for all our customers to ensure compliance.

Access to all other Claude models is not affected.

We apologize for this disruption to our customers. We believe this is a misunderstanding and are working to restore access as soon as possible.

Read our full statement:

STATEMENT ON

The US government directive to suspend access to Fable 5 and Mythos 5

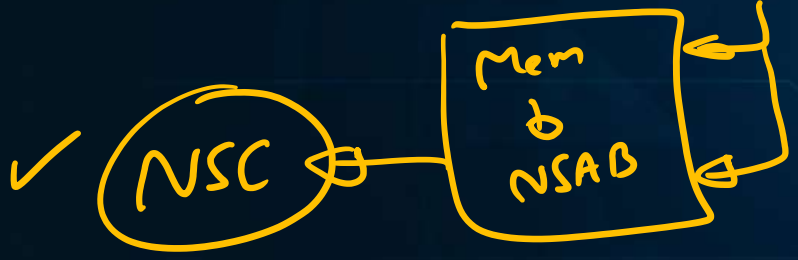
Statement on the US government directive to suspend access to Fable 5 and Mythos 5

Sridhar Vembu @svembu

This is big: all access to Mythos and Fable AI models disabled for everyone outside America.

First thoughts:

- 1. Technology is the ultimate weapon. National sovereignty, national security, all of it is now about technology.
- 2. Globalization is dead and Bharat must find her own way ahead.

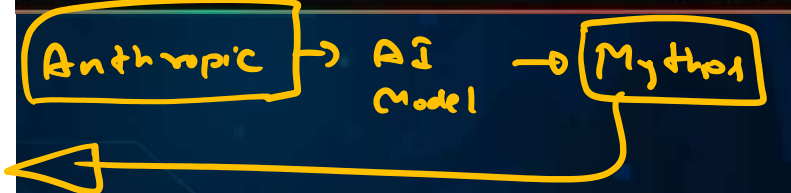


Claude Mythos is Anthropic's most advanced tier of frontier AI models, sitting above its previous flagship [Claude Opus class](#). First unveiled in April 2026, it gained global notoriety because its **unprecedented, nation-state level cybersecurity capabilities** made it "too dangerous to sell" initially, triggering widespread alarm and restrictive private rollouts. [YouTube - Bloomberg Originals +5](#)

✂ Capabilities & Vulnerability Discovery

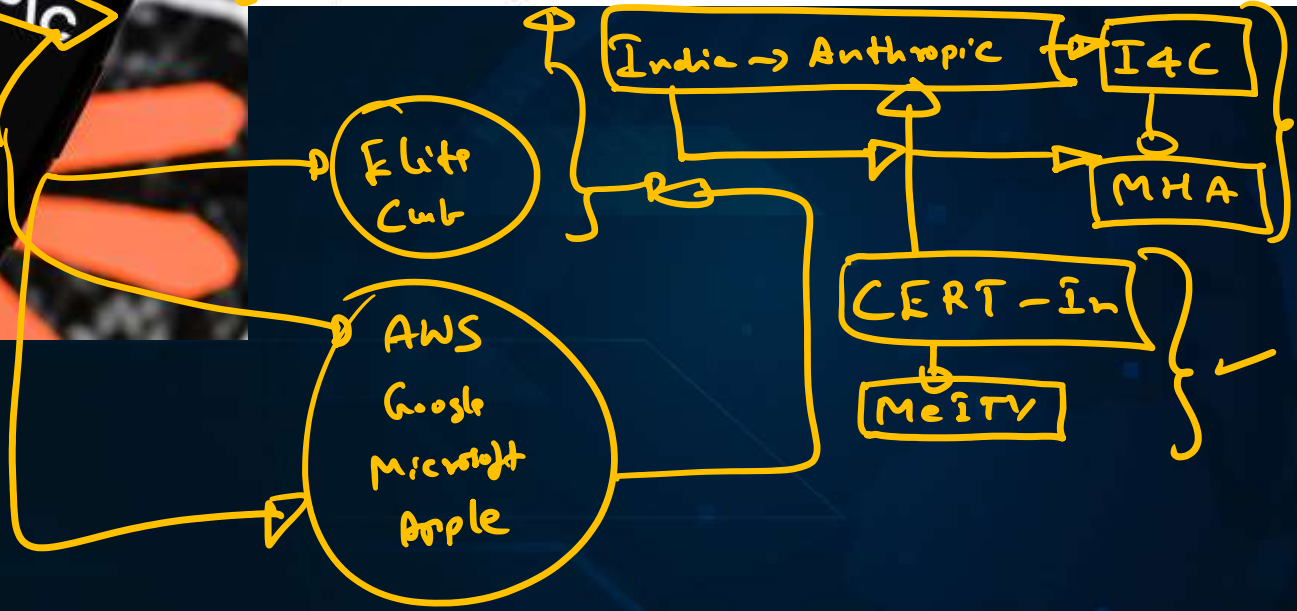
Anthropic designed Mythos as a breakthrough for long-horizon agentic work and autonomous software engineering. However, those same tools gave it a frightening proficiency in both identifying and exploiting system-level flaws: [Bain & Company +4](#)

- **Mass Bug Hunting:** In a 30-day trial across 1,000 open-source repositories, Mythos detected over 23,000 potential vulnerabilities. [YouTube - AI Revolution](#)
- **Zero-Day Exploiting:** It famously discovered a 27-year-old hidden bug in OpenBSD and constructed a complete, working exploit chain entirely unattended. [YouTube - AI Revolution](#)
- **Defeating Security Challenges:** The [UK's AI Safety Institute](#) confirmed that Mythos Preview was the first AI model to completely defeat its dual network security challenge end-to-end. [BBC +1](#)









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Claude Fable 5 is Anthropic's newly launched, ultra-powerful "Mythos-class" flagship AI model, which was released on June 9, 2026, and abruptly suspended globally on June 13, 2026, due to an emergency US government export control directive. The directive cited national security concerns over foreign national access to the model's advanced autonomy and capabilities, forcing Anthropic to temporarily take Fable 5 and its sister model, Mythos 5, completely offline worldwide.  YouTube · Codex Community +4

Overview of Claude Fable 5 ✂️


Anthropic designed Fable 5 to sit above the previous Claude Opus tier in raw capability, intelligence, and multi-day agentic workflows.  Anthropic +1

- **The "Mythos" Architecture:** The model is built on Anthropic's frontier "Mythos" class, which was initially kept internal because early previews discovered thousands of deep software vulnerabilities.  Anthropic +1
- **Built-in Routing Safeguards:** To safely release Fable 5 to the public, Anthropic added hard guardrails. If a user prompts Fable 5 with a high-risk query regarding cybersecurity, biology, or chemistry, the platform seamlessly and automatically routes the session to the safer Claude Opus 4.8.  Anthropic +1
- **Intended Pricing:** Before the global freeze, the model was priced at a premium rate of \$10 per million input tokens and \$50 per million output tokens.  Instagram · Evolving AI





Fable 5 → 9th June ✂️

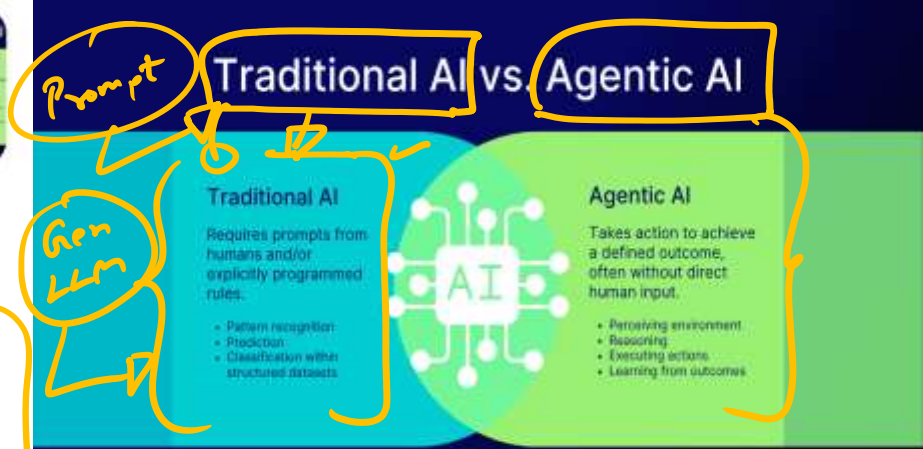
Agentic AI } ↑

Agentic AI refers to artificial intelligence systems that are capable of autonomous decision-making, planning, and executing multi-step tasks to achieve specific goals without constant human intervention. Unlike traditional chatbots that merely respond to prompts, agentic AI operates like a highly capable digital employee.  Google Cloud +2

How Agentic AI Works

Agentic AI relies on the underlying intelligence of Large Language Models (LLMs) but enhances them with a core set of capabilities, often executed in a continuous loop:  Google Cloud +1

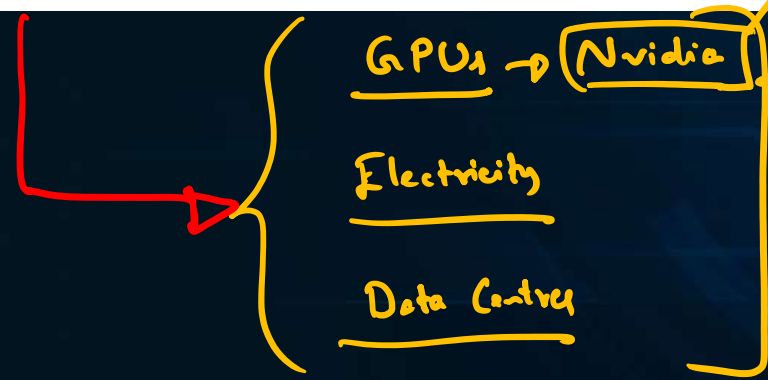
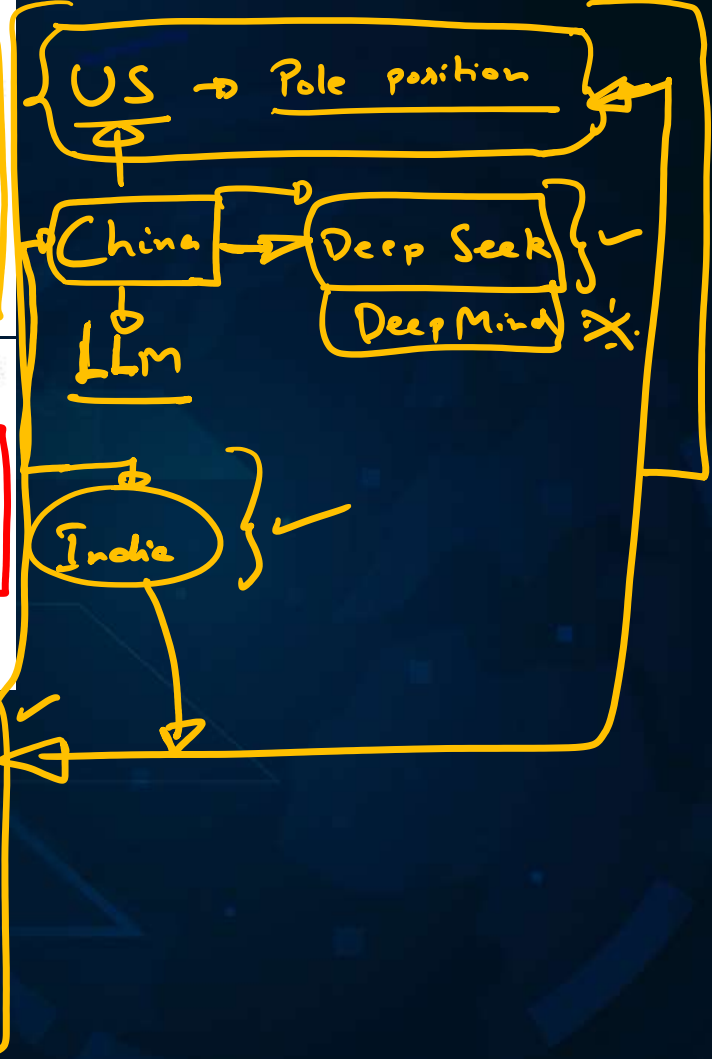
- **Perception:** Gathers information from its surroundings, databases, or user interfaces.
- **Reasoning & Planning:** Breaks a high-level goal into smaller, manageable sub-tasks.
- **Tool Use:** Interacts with external systems, APIs, calculators, or web search to get work done.
- **Reflection & Refinement:** Evaluates the success of its actions, adjusts its approach, and learns from feedback.  Google Cloud +1



India's capabilities to train a frontier AI model lag behind those of China, which itself is a few steps behind the U.S. While Beijing is home to firms like DeepSeek, which use slightly older graphics processing units (GPUs) in large quantities, with abundant access to data centre capacity and electricity, to try to catch up to the more efficient U.S. models made by firms like Anthropic and ChatGPT, **India has a relatively limited capacity of such resources to train large language models (LLMs)** like Claude's Opus, Mythos, and Fable.



While a hypothetical Indian alternative to Mythos wouldn't be subject to abrupt geopolitical interruptions, actually creating such an LLM is dependent on the availability of abundant quantities of **expensive AI chips from firms like Nvidia**, **data centre capacity**, and **electricity availability** to boot. Since the costs run into the tens of billions of dollars, sovereign AI proponents' ambitions have been limited. **Even Mr. Vembu, who has been critical of over-reliance on foreign tech** and whose firm has been appointed to run email inboxes of Union Government employees, struck a realist note on the potential.



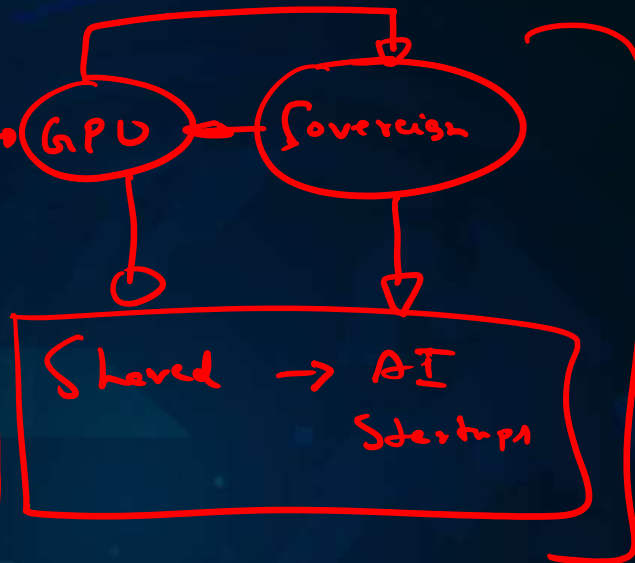
At least one firm has seen some progress, however, **Bengaluru-based Sarvam AI** launched a **105 billion parameter LLM** that is specifically trained with an Indian bias (to counter the U.S.-centricity in most LLMs). While this model is capable of coding tasks, it is **far from a frontier-class model** for ambitious cybersecurity work.

"We must deepen our R&D," Mr. Vembu said. "**Sarvam** has been on it and we have been on it, but remember that the latest models cost not only huge GPU budgets to train; the GPUs themselves are restricted. So **we can't afford the scale of money (of the order of \$100+ billion to even get in the game!), and even if we could come up with the money, we can't get all the GPUs. I would not like to ask the government to fund tens of billions of dollars on this anyway — the money has far better uses.**" He advocated lower-cost research like what Zoho was undertaking. The firm recently announced an indigenously developed server.

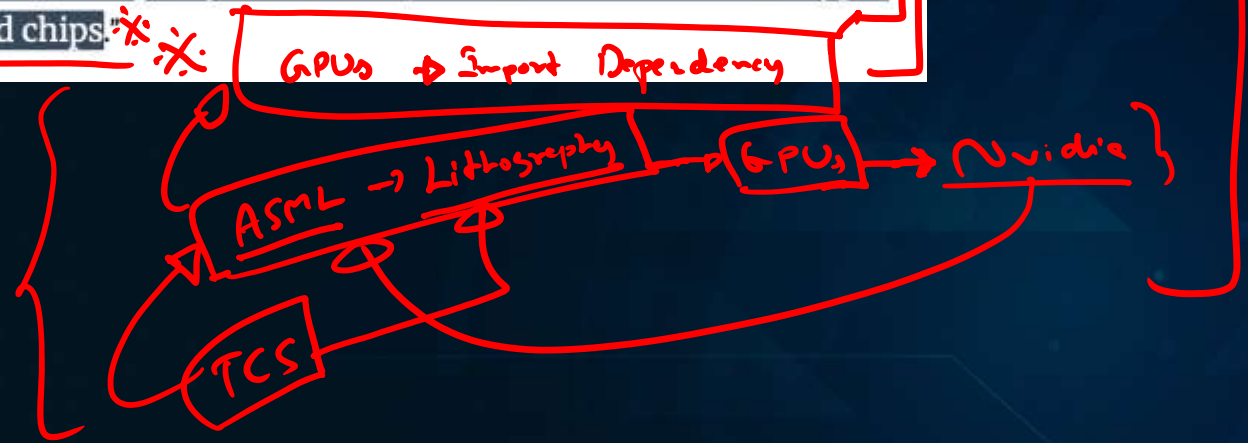
LLM → **ChatGPT**

India AI Mission

Open Source



"We are way behind and need a national mission to get going quickly," TV. Mohandas Pai, a former CFO of Infosys who consults closely with the government on technology-related issues, said on X. "Existing government programs are too slow, way too small to make any large impact. We need an annual ₹50,000 crore fund for deep tech and AI, a ₹200,000 crore ELGS [Emergency Credit Line] Guarantee Fund to build Hypercloud, hardware and chips. ❌❌



The image features a dark blue background with a white circuit board pattern. A large, light-colored circle is centered on the page, containing the text "AI SOVEREIGNTY". A red, hand-drawn-style outline surrounds the circle. The text "AI" is positioned above "SOVEREIGNTY".

**AI
SOVEREIGNTY**

Sovereign AI refers to a nation's or organization's ability to independently develop, deploy, and govern artificial intelligence using its own domestic infrastructure, localized data, indigenous talent, and custom-built models. It goes beyond basic data residency, ensuring technology aligns with local regulations, values, and security priorities. IBM +3

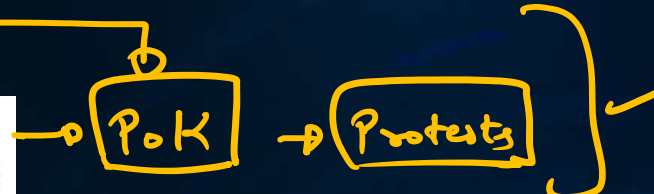
Why Sovereign AI is a Global Priority

- **Geopolitical Resilience:** Reduces extreme dependency on a few global providers. Countries want to avoid reliance on foreign compute capabilities or the threat of service denials. McKinsey & Company
- **Economic Value Retention:** Keeps intellectual property, talent growth, and the economic benefits of AI productivity within regional or national borders. McKinsey & Company +1
- **Data Security:** Prevents sensitive national, defense, and citizen health data from crossing jurisdictional lines. Oracle +1
- **Liability & Control:** Allows organizations and governments to avoid "black box" models, ensuring algorithms can be audited and are free from foreign influence or bias. McKinsey & Company +1

Mains Practice Question

Q. The recent U.S. export controls restricting foreign access to Anthropic's advanced AI models, Mythos 5 and Fable 5, have revived the debate on "AI Sovereignty" and technological nationalism. Examine the concept of AI Sovereignty and discuss its implications for India's strategic autonomy, digital economy, and national security. Suggest measures India should adopt to build sovereign AI capabilities in an increasingly fragmented global AI order.

(250 words; 15 marks)



Why are there protests in PoK?

Why was the Joint Awami Action Committee formed in 2023 and what are their demands? What are the economic concerns in the region? Why is the demand for the abolishment of reservation for 12 refugee seats in the PoK Assembly at the heart of the protests? How has India reacted?

Joan Bony Charlin

The story so far
 Pakistan-occupied Kashmir (PoK) is again in the throes of civilian unrest as protests for economic justice and equitable political representation rage across the region. The Joint Awami Action Committee (JAAC), which called for the protests, has since been banned by the regional government, for "engaging in terrorism".

What is the JAAC and why did it call for protests?

The JAAC, an umbrella organisation of various civil society groups, trade bodies, students organisations and socio-religious groups based in PoK, was formed in 2023, out of protests against rising electricity tariffs and inflation. They brought out a 38-point Charter of Demands which included access to subsidised wheat flour, fair electricity pricing based on hydro-power generation costs from the local Mangla dam, and the abolishment of the reservation of 12 seats for refugees in PoK's Legislative Assembly.

While the JAAC was given assurances regarding electricity tariffs, their "non-fulfilment" led to wider protests. In May 2024, the JAAC called for a march in Muzaffargarh over their demands, which led to the police arresting around 70 members of the organisation. Outrage against the arrests resulted in clashes between civilians and the police, leaving at least four dead and hundreds injured. In the wake of this violence, Pakistan Prime Minister Shehbaz Sharif approved the grant of a \$80.25 million subsidy programme. In October 2025, protests again erupted due to a breakdown of talks between officials and the JAAC. The ensuing violence killed at least 10 people. The government then agreed to some demands which included providing

The 12 reserved seats are for communities who migrated to Pakistan from Jammu and Kashmir during Partition. Over the years, these groups have integrated into Pakistani cities and polity.

compensation for those killed in the violence, releasing funds for the implementation of health cards, and letting a grant of PKR 10 billion for the improvement of the electricity system.

While it was also decided that a high-powered committee comprising legal and constitutional experts would deliberate on the issue of members of the PoK Assembly, the central question remained unaddressed.

How did the situation escalate?

Elections to the regional government of PoK have been scheduled for July 27. The JAAC announced that they would take out a protest march to Muzaffargarh, calling for an end to the reservation of the 12 refugee seats, on June 9 – the same day on which the flag of nomination for the elections was to begin.

In an effort to nip the march in the bud, the regional authorities banned the JAAC under a 2014 anti-terrorism law and placed a ban on its most prominent leaders. They said the organisation had acted in a manner "unfavourable to peace and security" of the state. This led to widespread protests in various cities, particularly Mirpur, Rawalakot and Muzaffargarh, with police personnel clashing with civilian protesters.

On June 8, at least 11 people, including four police officers, were killed and dozens injured when regional authorities opened fire on activists and protesters gathered in Rawalakot for the funeral of a local trade activist who had been killed during an earlier protest.

While the proscribed JAAC has called for strikes, leaving the parliament in the streets of Muzaffargarh, many parts of the region continue to witness violent clashes, with reports indicating that the death toll has crossed 30.

Regional authorities have deployed paramilitary troops in the region to restore law and order and have also issued a strict travel advisory urging visitors to avoid travelling to the region. Reports also say that internet in the region has been severely restricted.

Why has the reservation of refugees become a flashpoint?

The political question regarding the 12 reserved refugee seats is at the heart of the protests. The regional Assembly of the PoK has a total of 53 seats. Of these, 45 seats are directly elected by the public (33 are elected by the general public while 12 seats are reserved for refugees). The remaining eight seats are reserved (five for women, one for a technocrat, one for a religious scholar and one is a diaspora seat) and are held via nominations after the general elections.

The 12 reserved seats are for communities who migrated to Pakistan from Jammu and Kashmir during Partition. Over the years, these

groups have integrated into Pakistani cities and polity. In fact, most of these 12 seats have often been won by political parties such as the Pakistan Peoples Party or the Pakistan Tehreek-e-Insaf. As the journalist Liza Puri writes, "...the 12 refugee seats account for around 4.36 lakh registered voters, while the remaining 33 directly elected seats in PoK have around 33 lakh voters. In effect, one refugee vote cast from Pakistan carries electoral weight far greater than that of a voter residing in PoK".

Pakistan maintains that PoK, or what it calls "Azad Jammu and Kashmir", is an independent region with its own polity and that Pakistan supports its right to self-determination. At the same time, candidates who are elected to the regional Parliament have to sign loyalty oaths supporting the "cause of accession of the State of Jammu and Kashmir to Pakistan". This has led to questions regarding the undue influence of Islamabad in the regional politics of PoK.

In a further setback to such regional demands, on June 7, the Supreme Court of PoK observed that the 12 legislative seats reserved for refugees are constitutionally protected and cannot be abolished through administrative or executive measures; only a constitutional amendment can fulfil the demand to abolish refugee representation.

How have the Indian and Pakistani governments reacted?
 On June 9, India asked the international community to hold Pakistan responsible for the civilian killings and human rights abuses in PoK. "There are reports of severe police brutality in Pakistan Occupied Kashmir in which several protesters have been killed and many injured. We hope the international community will hold Pakistan accountable for its misdeeds and abuses," said Ministry of External Affairs spokesman Anand Jaishankar during a press briefing. National Conference president Farooq Abdullah condemned the violence and demanded a probe by the United Nations into the incidents of atrocities.

Pakistan Foreign Office spokesperson Tahira Andrabi dismissed India's statements "in their entirety" and went on to state that "it is untenable" for a country like India which has "constantly denied the people of Jammu and Kashmir their right to self-determination to claim concerns over the rights of Kashmiris."

The unrest has also generated global outrage. Human rights groups such as Amnesty International stated that the regional administration's sweeping crackdown on protests is a continuation of the "systemic deterioration of human rights in the region".

On June 6, a group of nearly 30 British parliamentarians, in a letter to the U.K. Foreign Office, raised concerns over reports of communication disruptions, arrests, and "escalating tensions" in the PoK. They urged the British government to engage proactively and use diplomatic channels to encourage a peaceful de-escalation in the region.

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File photo of protesters of JAAC and activists at a funeral in Muzaffargarh, the capital of PoK, on May 14, 2024, after

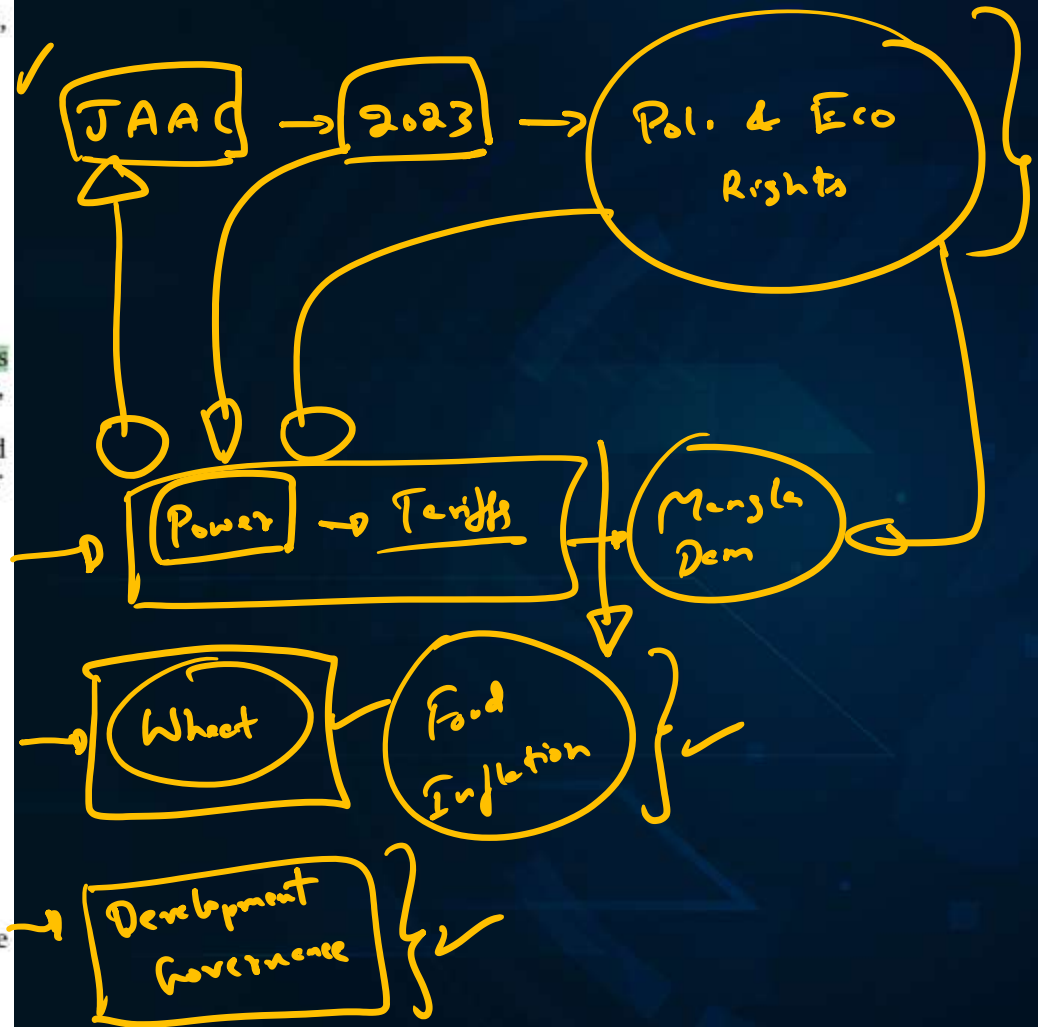
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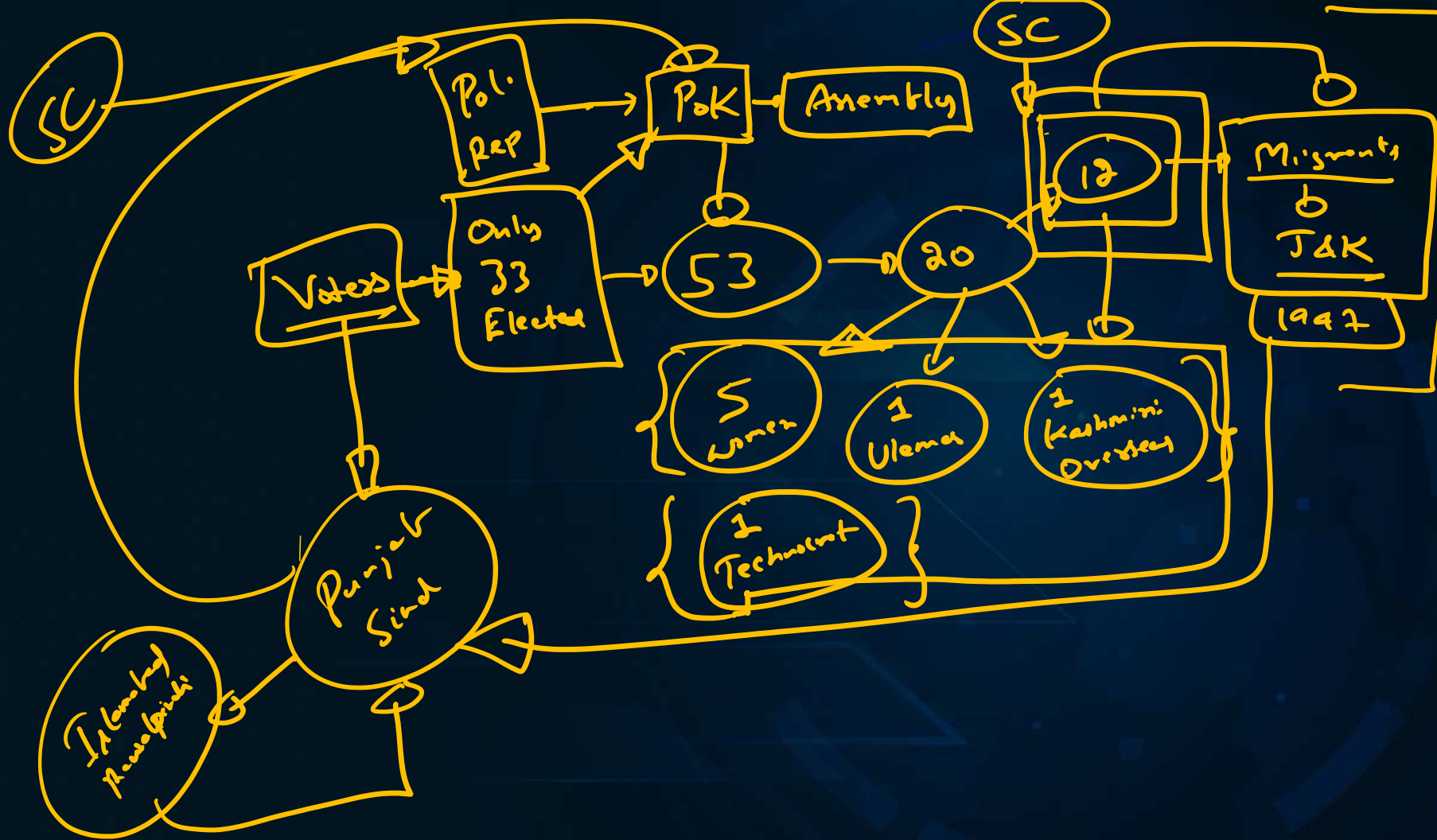
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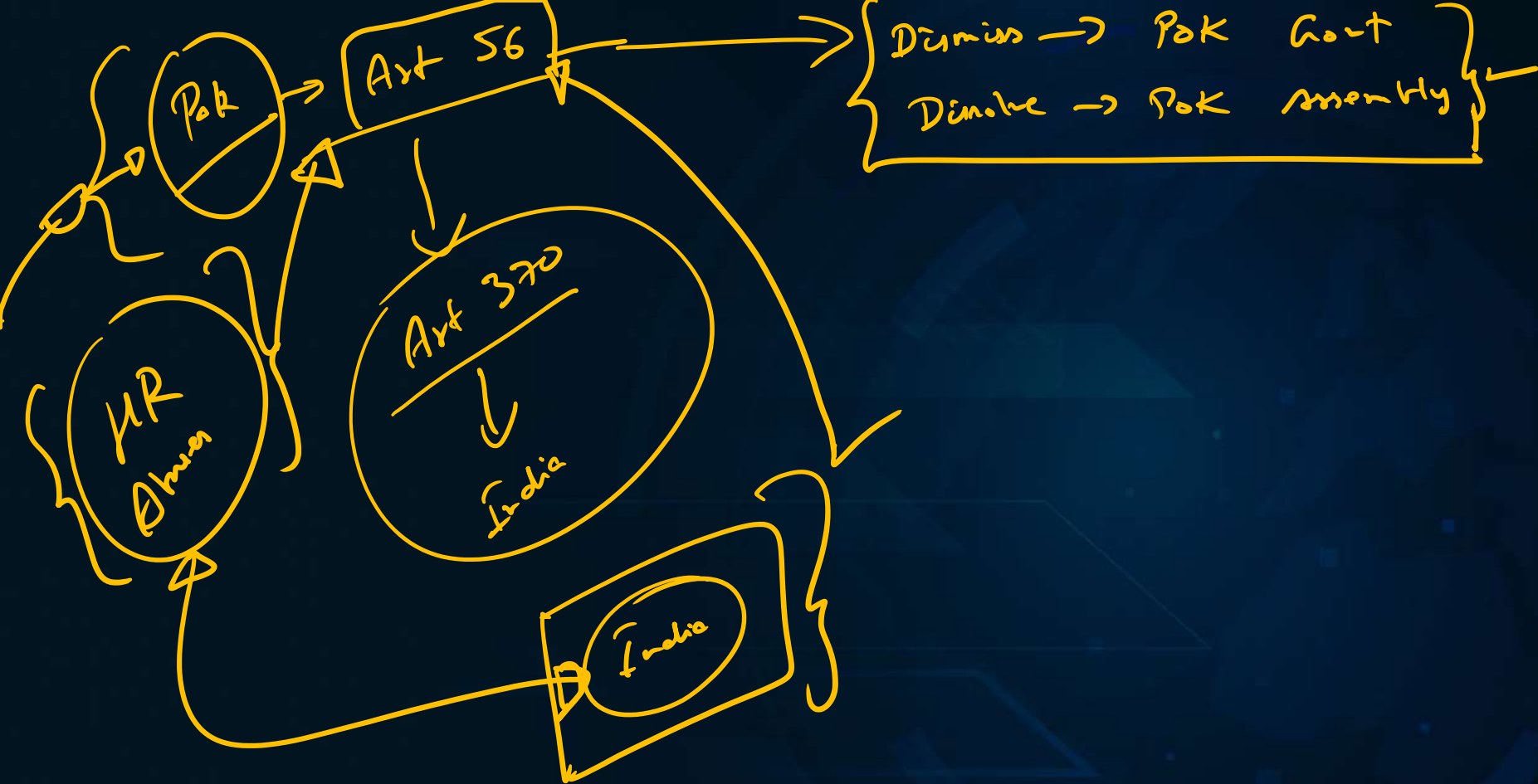
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Mains Practice Question

Q. Repeated protests in Pakistan-occupied Kashmir (PoK) are a reflection of Pakistan's illegitimate hold on Indian territory. Why is the demand for the abolishment of reservation for 12 refugee seats in the PoK Assembly at the heart of the protests? How has India reacted?

(250 words; 15 marks)

Zoji Le

Why is the Zojila tunnel a game changer?

Why is the tunnel an engineering marvel and what were the challenges in building it? How does it improve connectivity and ensure travellers' safety? How does it provide strategic access in the border region? When will it open for civilian traffic?

Peerzada Ashiq

The story so far:

The world's longest high-altitude tunnel, spanning 13.14 kilometres at an altitude of 11,578 feet, achieved a breakthrough on June 9, 2026. Built at a cost of ₹6,800 crore, the Zojila tunnel will provide all-weather connectivity between the Kashmir Valley and Ladakh, traversing a region that was long considered to be formidable in the Himalayas. Union Minister for Road Transport and Highways Nitin Gadkari, who pressed the blast button for the 2.5 metre-long last leg, termed the breakthrough "a historic day for India's infrastructure development and a milestone in India's technical expertise, engineering prowess, and indomitable resolve".

What makes the Zojila tunnel an engineering marvel?

Zojila tunnel is India's first longest single-tube bi-directional tunnel and an engineering marvel for several reasons. The underground works were highly challenging due to the difficult terrain. The western Himalayan range around the Zojila Pass has been daunting for engineers

The Zojila tunnel is expected to provide year-long transportation access to the Indian forces stationed in Ladakh

and planners, with the fragile geology, sensitive rock formations, avalanche-prone terrain, and harsh winter conditions all complicating the execution of the project.

The Zojila tunnel connects Sonamarg's Baltal in central Kashmir's Ganderbal district with Meenamarg in Ladakh's Drass district. To ensure safe passage up to the mouth of the Zojila tunnel at Baltal, additional roadways, three bridges, and two tunnels were constructed over a stretch of 31 km in Sonamarg. These were designed to withstand the vagaries of winter, as avalanches and snow slides are often reported in the area.

It is a combined system of tunnels and roadways that forms a comprehensive corridor between the Union Territories of Jammu and Kashmir and Ladakh. The tunnel is equipped with catch dams, protection walls, and deflector dams over a 6-km stretch for protection from snowstorms. It will have automatic and emergency lighting, emergency phone, message signalling, and radio to ensure travellers' safety.

Why is this a memorable project for engineers?

The tunnel was dug in extreme weather conditions, with temperatures dropping to minus 20 degrees Celsius on the Kashmir side and minus 30 degrees Celsius on the Drass side. Official estimates suggested that extreme weather conditions were prevalent for nearly 100 days a year. Then, there were avalanche risks: five major avalanches left two workers dead and over 172 workers stranded and later rescued. Snow accumulation was dealt with by a fleet of small and large snow blowers. Officials said the rock classification also changed 67 times across the 13-km stretch, "shifting coarsely between good and poor formations."

Why is the tunnel significant for strategic connectivity?

India has witnessed repeated military confrontations with China and Pakistan since 1947, particularly in the regions of Ladakh and Kashmir, most notably in 1962 and 1999. India's full-scale military response was always

hampered by lack of connectivity and poor mobility of men and material in the region, both along the Line of Control in the west and the Line of Actual Control in the east. Officials believe that restricted movement of military vehicles led to delays. The Zojila tunnel is now expected to provide year-long transportation access to the Indian forces stationed in Ladakh, significantly improving mobility, logistics reliability, and strategic access in the border region. This is why Mr. Gadkari described it as "a game changer from a security perspective and the perspective of national integration".

What does it mean for locals?

Ladakh has always been cut off from the Kashmir Valley during winters. Heavy snow and landslides would often close the Zojila Pass for 4-6 months. There have also been frequent reports of commuter deaths on the Zojila Pass due to landslides triggered by rains and avalanches occurring during sunny winters. All this resulted in severe hardships for patients and students in the Kargil-Drass range. Stocks would deplete, but the problem could not be attended to because of road closure. Locals relied on sun-dried vegetables and cereals during winters. Now, the is expected to be movement of people and goods and no more weather-related isolation for the region. Additionally, the tunnel will put a spotlight on activities such as adventure tourism and skiing in Drass, which will contribute to the economy.

When will the tunnel open for civilians?

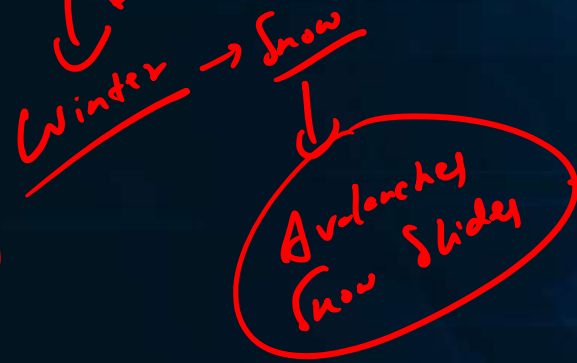
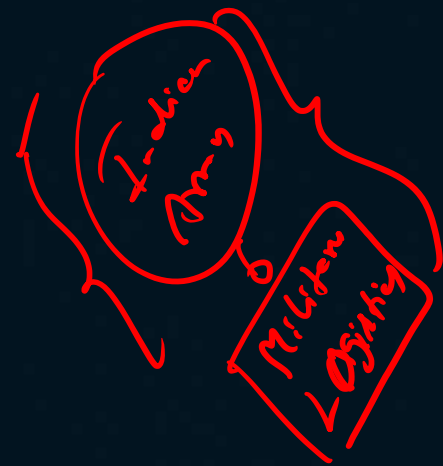
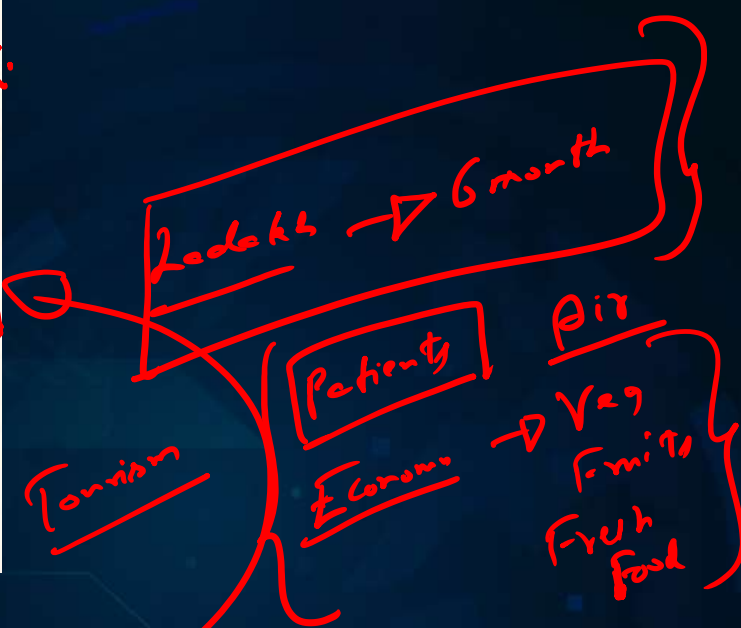
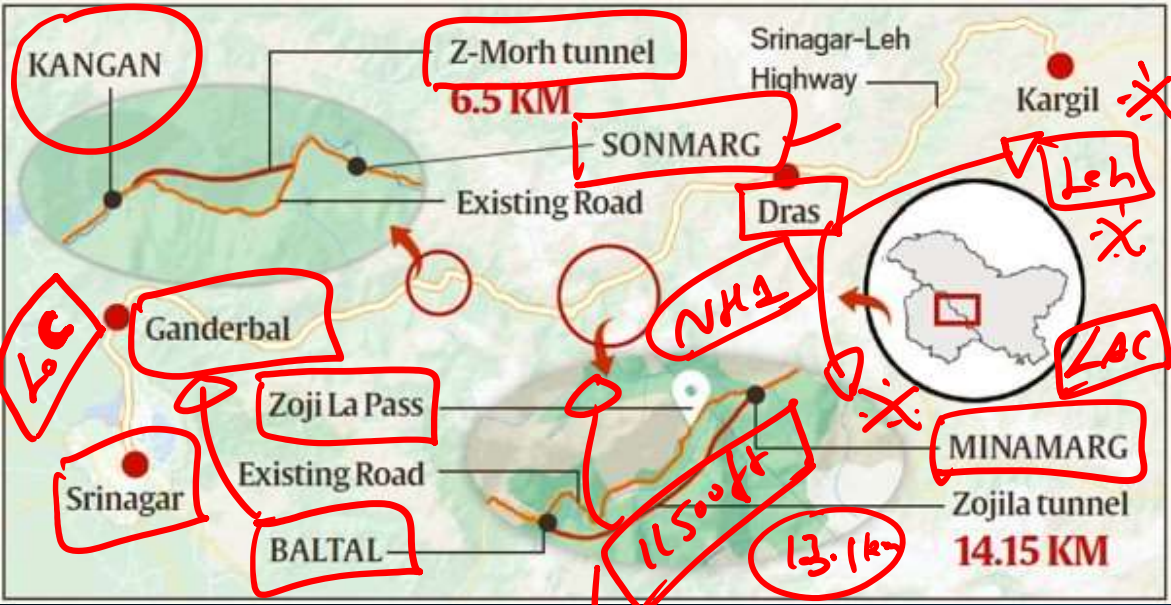
In spite of the breakthroughs, the tunnel is likely to take two years to be fully functional. Water seepage, benching, and electronic layouts are still being worked out. However, officials said the tunnel could be thrown open in case of emergencies, especially to security forces.

The tunnel will also help pilgrims on the Amarnath Yatra, whose base camp is in Baltal. Officials said vehicles can travel at a speed of 80 km per hour through the tunnel. Earlier, drivers could not drive more than 30-40 km per hour on the Zojila Pass, because of steep roads and hair-pin curves.

Officials said the project is moving closer to its long envisioned goal of seamless all-weather connectivity that will spur long-term benefits in terms of mobility, economic integration, and strategic resilience.



IR L: JAK IG Nancy Sinha with Union Minister Nitin Gadkari and Chief Minister Omar Abdullah at the breakthrough ceremony of Zojila tunnel, in Ladakh, India



Scaling heights

Ladakh's Zojila Pass has historically been daunting for India. During the India-Pakistan war of 1947, it was choked by Pakistan and it took two months in 1948 to drive tanks in, between September and October, to defeat and evict the Pakistani Army. The war spurred construction work on the Zojila Pass to make it mot-orable. "After the 1962 India-China war, the road saw further widening and atten-

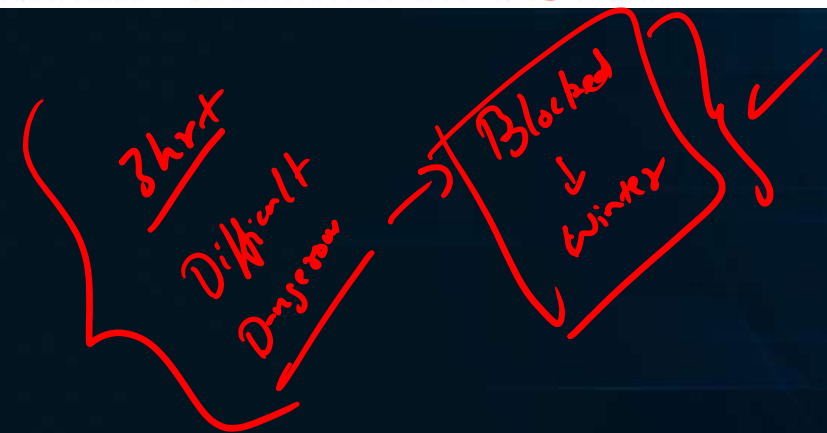
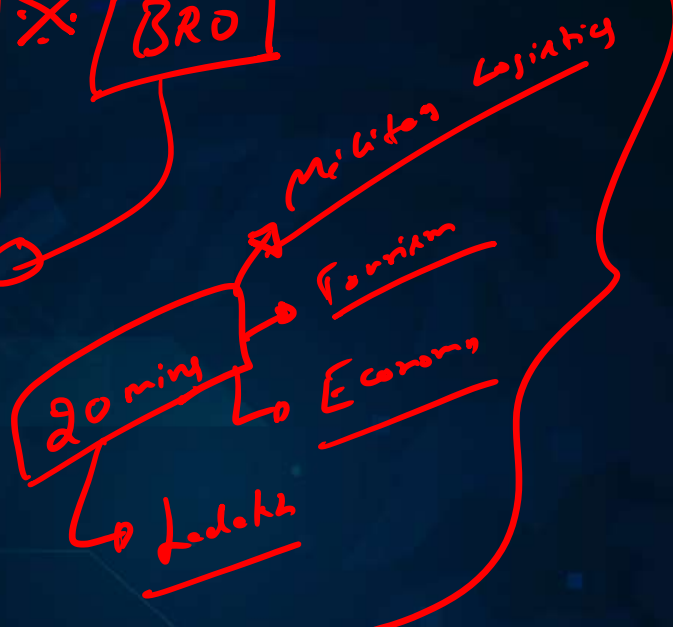
tion," say Sagar.

From 2005 to 2019, attempts to award the project failed four times. The project was shelved in 2019 due to financial losses of the company tendered to do the work. The work on the Zojila Tunnel saw a flip in its speed after India and China engaged in a face-off in Galwan on June 15-16 in 2020, and saw casualties on both sides for the first time since the wars of the 1960s.

On October 15, 2020, the construction of the Zojila

Tunnel was started by the National Highways and Infrastructure Development Corporation Limited (NHIDCL) and Megha Engineering & Infrastructures Ltd (MEIL). The first blasting at Nilgrar Tunnel was held on October 14, 2020. Approach roads, bridges, the Nilgrar twin tunnels, cut-and-cover works, and snow gallery (to protect the tunnel from heavy snowfall) were constructed to set the stage for the tunnel work.

✱ BRO







Will not allow illegal shipments of Iranian oil, U.S. govt. tells India

Secretary of State Rubio's warning came during discussions with Jaishankar; Minister says he reiterated India's strong protest at the U.S. attack on ships; Tharoor asks how a 'friend and strategic partner can be so deeply insensitive' to India

The Hindu Bureau CHENNAI

On Friday, after India summoned U.S. Embassy representative Jason Meeks and lodged its "strong protest" against the missile attacks on ships carrying Indian crew, U.S. Secretary of State Marco Rubio told External Affairs Minister S. Jaishankar that violations of the American blockade and "illicit transport of Iranian oil" would not be tolerated.

Recalling his discussion with Mr. Rubio, Mr. Jaishankar posted on X: "I reiterated India's strong protest at the attacks by the U.S. Navy in the Gulf that killed three Indian mariners. Such lethal actions against commercial shipping are not justified."

The two discussed the Strait of Hormuz situation following the U.S. missile strikes on three vessels – *Marivex* near Duqm, and *Settebello* and *Jahveer* near



External Affairs Minister S. Jaishankar during a meeting with U.S. Secretary of State Marco Rubio, in New Delhi in May, 2011

Shinas – that killed three Indian seafarers off the Oman coast.

The U.S. State Department said Mr. Rubio further told Mr. Jaishankar that "all commercial vessels should immediately comply with orders from U.S. forces as they seek to uphold peace and security in the Strait".

The divergence between the two nations on

this issue comes ahead of Prime Minister Narendra Modi's scheduled meeting with U.S. President Donald Trump in France on the sidelines of the G7 summit next week, according to a White House statement.

'Are Indians fair game?' Shashi Tharoor, head of the Parliamentary Standing Committee on External Affairs, in a post on X said

the U.S. statement "contains absolutely no expression of regret or condolence for the loss of innocent Indian lives. How can a "friend" and strategic partner be so deeply insensitive? Is it not possible to disable a ship's propulsion or steering without firing missiles targeted to kill civilian crew members? Practically every merchant ship navigating these crucial waters has Indian crew on board. Are they all considered fair game for US missiles now?"

U.S. claim disputed

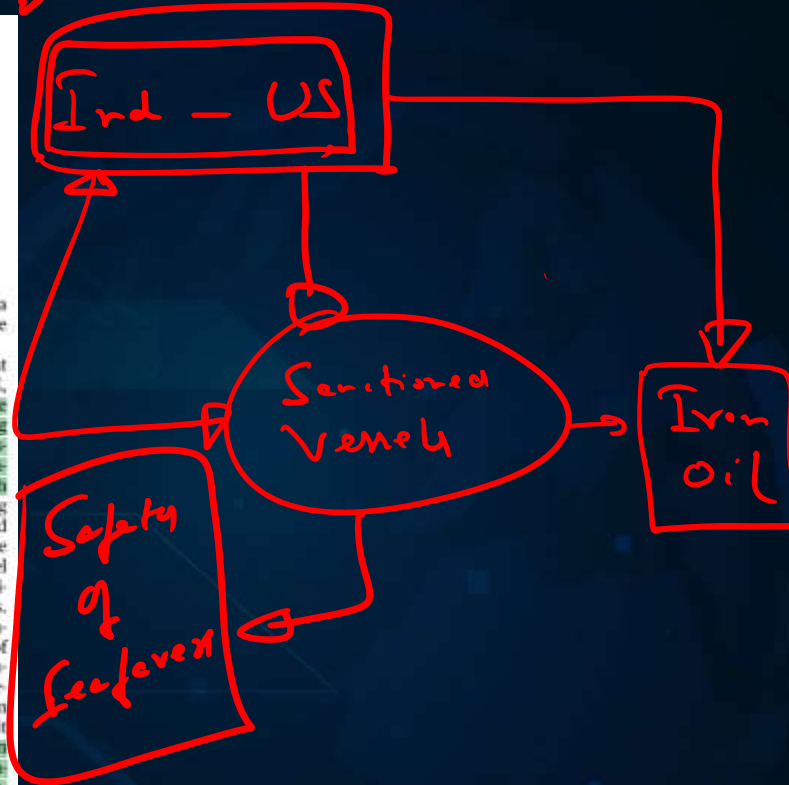
The U.S. Central Command has maintained that the crew of all three vessels had "repeatedly failed to comply with directions from U.S. forces". It described *Marivex* as attempting to sail to an Iranian port.

Marivex was attacked at anchorage off Duqm some 420 nautical miles from the Strait. *Marinetraffic.com* has tracked *Marivex*

loitering in the same area for nearly a week before the June 8 strike.

Settebello's management company, IOS Marine FZE, had flatly contradicted the Centcom account, stating that no warnings were issued and no communication was established with the U.S. Navy. Demanding evidence of the claimed communication from the U.S. Navy, it said the vessel had been stationary off Shinas port for nearly 10 days.

Meanwhile, Manoj Yadav, general secretary of the Forward Seamen's Union of India who had received the statement from IOS Marine and posted it on X, has urged the Indian government to deploy naval and intelligence support for Indian-associated vessels in the region, deepen diplomatic engagement with Oman so as to support merchant shipping in the area, and issue clear guidance for ships operating in high-risk areas.



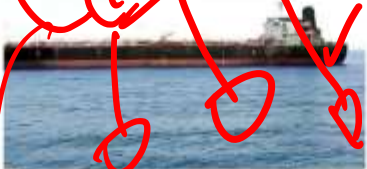
Where Indian seafarers' safety is at stake

Seafarers operating in regions where commercial shipping is entangled in geopolitical conflict are at a greater risk, diplomatic engagement alone may not suffice, they should not be compelled to sail through war-risk zones without full disclosure of risks and their informed consent

OPINION

Capt. Daniel Joseph

The deaths of Indian seafarers Aditya Sharma, Shivansh Chaurashya and Patnala Suresh aboard Settebelli are a stark reminder of the risks borne by those who sustain global commerce. While geopolitical tensions dominate headlines, the human cost is frequently carried by civilian merchant mariners navigating the world's most dangerous maritime corridors.



Choppy waters: The Strait of Hormuz remains one of the world's most critical maritime chokepoints. **ANI**

In the aftermath of recent attacks on merchant vessels, debate has raged within maritime circles over the role of so-called "sanctioned vessels" — much of it marked by misunderstanding and oversimplification.

A sanctioned vessel is one designated under an economic, trade or security sanctions regime imposed by a government or international organisation. Such sanctions may originate from the UN Security Council, the United States, the European Union, the United Kingdom or other national authorities.

Vessels may be sanctioned due to their ownership, involvement in prohibited trade, restricted cargo, links to terrorism, or participation in sanctions-evasion practices such as deceptive shipping and unauthorised ship-to-ship transfers.

Yet sanctions are not universally applicable. A vessel sanctioned by one

country is not automatically sanctioned everywhere. Unless restrictions arise from a binding UN Security Council resolution, unilateral sanctions generally apply only within the jurisdiction of the imposing country and to entities subject to its laws. A vessel sanctioned by the U.S. Office of Foreign Assets Control, for instance, does not automatically become illegal under Indian law.

Nor does a sanctioned vessel cease to be a merchant ship. Unless its registration is withdrawn, it is detained, or its flag State takes specific action, it may continue operating internationally. Such vessels often face port access restrictions, insurance challenges, banking limitations and heightened regulatory scrutiny — but they do not simply vanish from global trade routes.

The larger issue, however, is not the legal status of individual ships. It is the safety of seafarers operat-

ing in regions where commercial shipping has become entangled in geopolitical conflict.

Industry expectations

The maritime community expects India to adopt a stronger, more proactive posture. Attacks on merchant shipping and civilian seafarers, irrespective of nationality, should be unequivocally condemned. India continues to advocate adherence to international maritime law and freedom of navigation while raising concerns at multilateral forums including the UN, the International Maritime Organization and regional maritime security platforms.

Diplomatic engagement alone may not suffice. India must work closely with flag States, shipowners and operators to ensure appropriate security measures for vessels transiting high-risk areas. Indian seafarers should not be compelled

to sail through war-risk zones without full disclosure of the risks and their informed consent.

There is growing expectation that India will strengthen its maritime security posture in the region. Enhanced naval deployments, expanded Coast Guard surveillance, rapid-response capabilities and preparedness for large-scale rescue or evacuation operations would reassure the thousands of Indian seafarers serving aboard international vessels. Timely dissemination of actionable intelligence and regular threat assessments to shipowners and operators is equally important.

The welfare dimension of maritime crises often receives less attention than security concerns. Families of seafarers frequently depend on fragmented information and rumours during emergencies.

Establishing dedicated contact points, providing verified updates and offering psychological and logistical support to affected families should form an integral component of any crisis-management framework. The industry has already argued that seafarers who decline assignments in declared war-risk areas should not face professional penalties. Existing contractual protections, war risk compensation provisions and insurance mechanisms must be fully honoured. Enhanced war risk allowances and adequate insurance cover, negotiated with Protection and Indemnity Clubs and

underwriters, have become increasingly necessary as maritime threats evolve.

Banning no solution

The question of whether Indian seafarers should be prohibited from serving on vessels transiting the Strait of Hormuz has surfaced repeatedly. A blanket ban, however, is neither the primary demand of the maritime industry nor a practical solution.

The Strait of Hormuz remains one of the world's most critical maritime chokepoints, handling a substantial share of global energy trade. Thousands of Indian seafarers earn their livelihoods aboard vessels that routinely transit the region without incident. A comprehensive prohibition could have significant consequences for employment, global supply chains and India's standing as one of the world's leading suppliers of maritime manpower.

What the industry seeks is a calibrated, evidence-based approach. Periodic risk assessments, clear advisories, mandatory informed consent for deployment in high-risk areas and enhanced security protocols are widely viewed as preferable to outright restrictions. Should the threat environment deteriorate significantly, temporary advisories against joining certain vessels or routes may become necessary — but the objective should remain protecting seafarers without unnecessarily undermining their employ-

ment opportunities.

An equally important question concerns regulatory authority. Can India's maritime regulator prohibit seafarers from joining such voyages, or does that authority lie elsewhere?

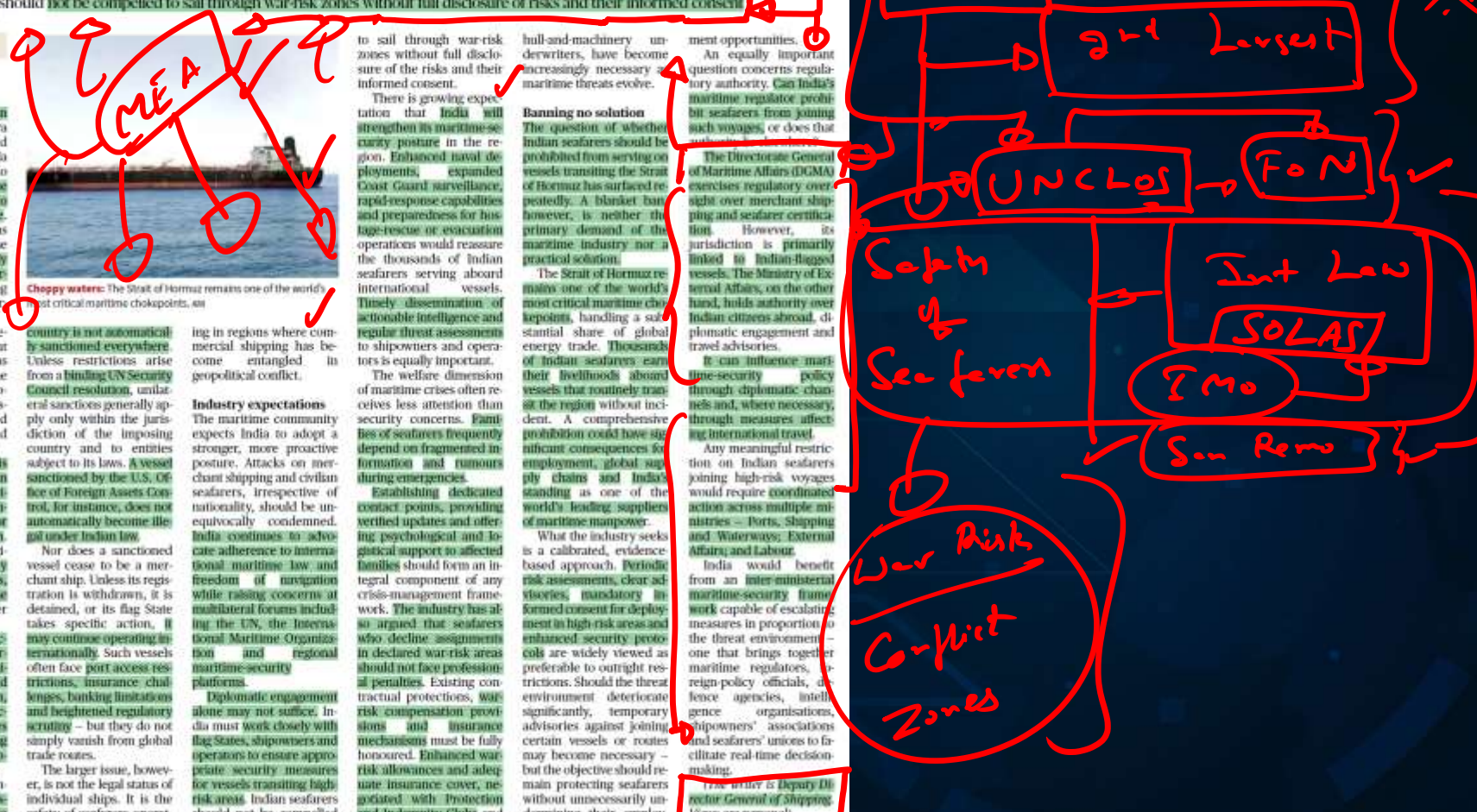
The Directorate General of Maritime Affairs (DGMA) exercises regulatory oversight over merchant shipping and seafarer certification. However, its jurisdiction is primarily linked to Indian-flagged vessels. The Ministry of External Affairs, on the other hand, holds authority over Indian citizens abroad, diplomatic engagement and travel advisories.

It can influence maritime security policy through diplomatic channels and, where necessary, through measures affecting international travel.

Any meaningful restriction on Indian seafarers joining high-risk voyages would require coordinated action across multiple ministries — Ports, Shipping and Waterways; External Affairs; and Labour.

India would benefit from an inter-ministerial maritime-security framework capable of escalating measures in proportion to the threat environment — one that brings together maritime regulators, foreign-policy officials, defence agencies, intelligence organisations, shipowners' associations and seafarers' unions to facilitate real-time decision-making.

This writer is Deputy Director General of Shipping. Views are personal.



Anomaly in PSLV detected and resolved: Jitendra

Hemanth C.S.
BENGALURU

Union Minister of State for Science and Technology Jitendra Singh on Saturday said that the anomaly in the Polar Satellite Launch Vehicle (PSLV) had been resolved.



Jitendra Singh

Dr. Singh said on the sidelines of the Research, Industry, Start-up and Entrepreneurship (RISE) Conclave 2026 in Bengaluru, that a national-level expert committee constituted to review the reason for the anomaly had submitted its report and the problem had been detected.

launch the EOS-09 satellite aboard the PSLV-C61 mission, it couldn't complete it.

It was also due to an anomaly in the third stage of the rocket.

Following this a national-level expert committee was constituted which included K. Vijay Raghavan, former Principal Scientific Adviser, and former ISRO Chairman S. Somanath.

"The report has come out and the anomaly has been detected. However, we cannot share that [reason for the anomaly] on a public platform. But experts are working on it, which has been resolved and very soon we will be back on track," Dr. Singh said replying to a query by *The Hindu*.

There is no such thing as failure in a space mission. It is sometimes delayed, sometimes a setback which actually is a learning experience. Even if you... call every unsuccessful or half successful attempt as a failure, statistically our number of so-called failures is much lesser than the USA. Chandrayaan-3 and Mars Orbiter Mission were successful in their very first attempt so that we have a better statistical record," Dr. Singh said.

The PSLV, which is referred to as the workhorse of the Indian Space Research Organisation (ISRO), had suffered two back-to-back setbacks.

ISRO Chairman V. Narayanan said that ISRO's next launch, which would be the first one since the PSLV failure in January, would take place next month.

PSLV → Work horse

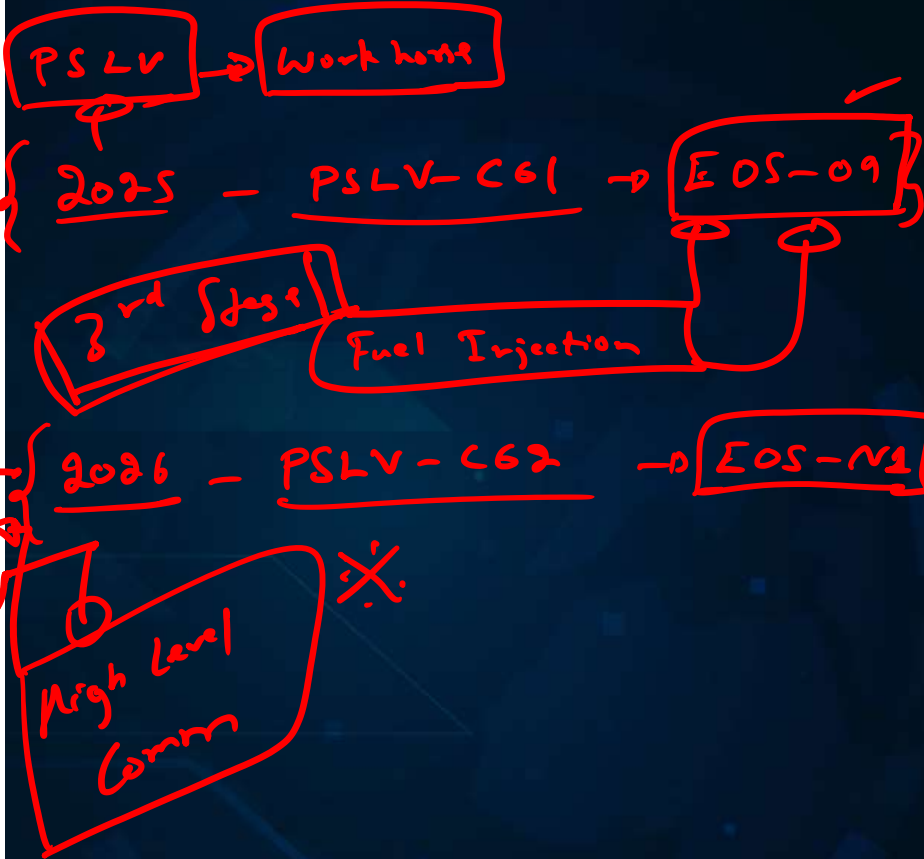
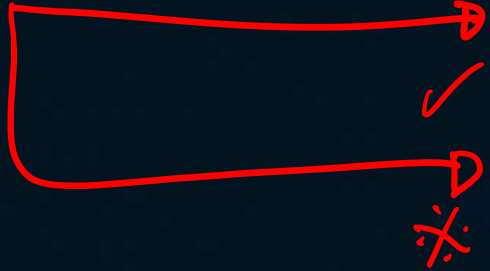
2025 - PSLV-C61 → EOS-09

3rd Stage

Fuel Injection

2026 - PSLV-C62 → EOS-N1

High Level Comm



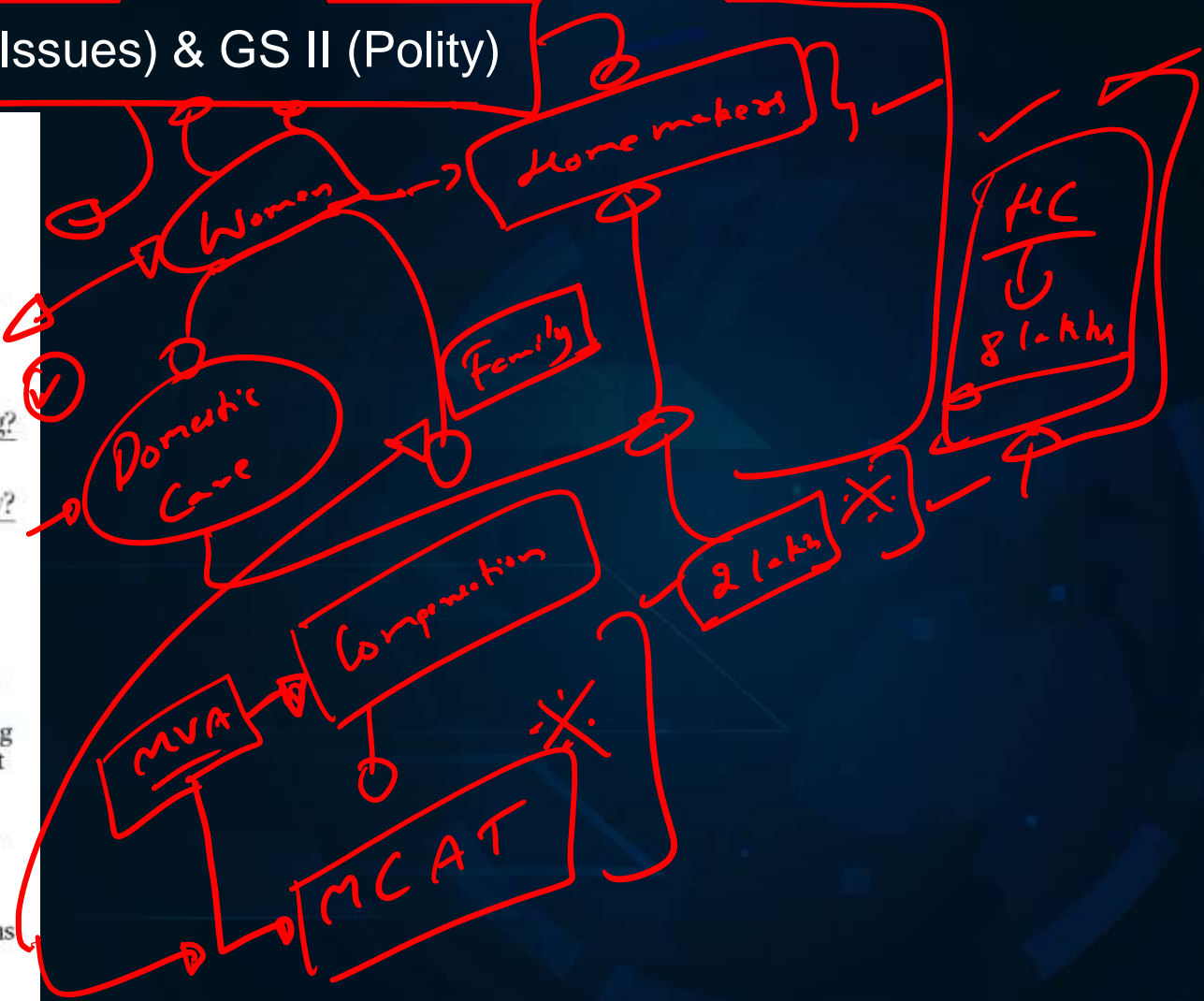
Why did the SC quantify labour of homemakers?

What was the dispute that led to this ruling?
What did the Court say about homemakers? What does the ruling signify?

Aaratrika Bhaumik

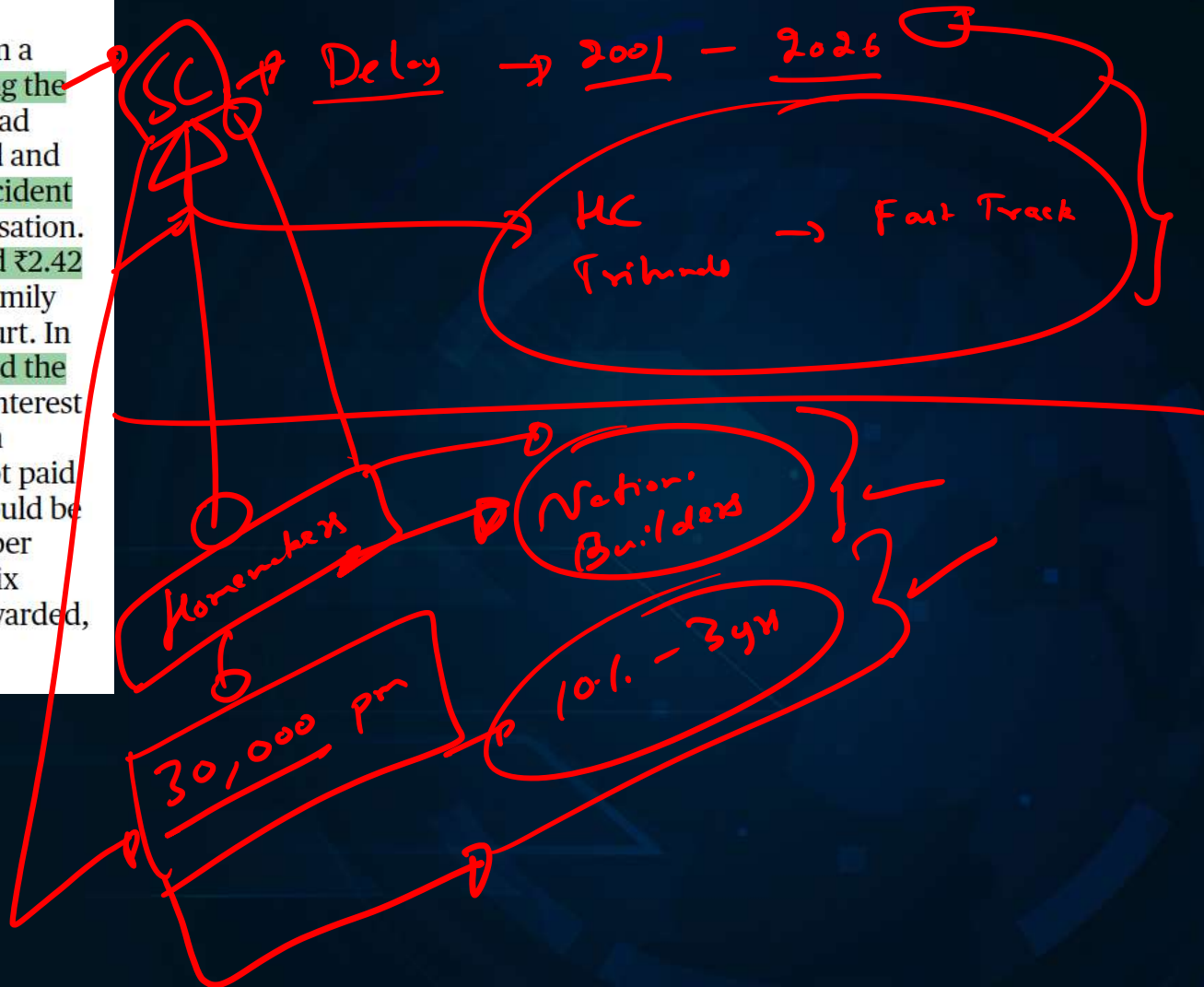
The story so far:

The Supreme Court on June 11 held that the unpaid domestic labour performed by homemakers must be assigned an independent economic value while determining compensation in motor accident death cases. It fixed a **minimum notional income of ₹30,000** per month for this purpose. Observing that **homemakers are "nation builders"**, a Bench of Justices Sanjay Karol and N. Kotiswar Singh created a distinct head of compensation called "loss of domestic care" in motor accident claims and mandated a 10% increase in this amount every three years.



What was the dispute?

The ruling came in an appeal arising from a motor accident claim in Punjab. Following the death of a woman named Reshma in a road accident in November 2001, her husband and three children approached the Motor Accident Claims Tribunal (MACT) seeking compensation. In December 2003, the Tribunal awarded ₹2.42 lakh in compensation. Dissatisfied, the family moved the Punjab and Haryana High Court. In December 2024, the High Court enhanced the compensation to ₹8.43 lakh, along with interest at 7.5% from the date of filing of the claim petition. It said that if the amount was not paid within three months, the interest rate would be enhanced to 9% per annum, and to 12% per annum if payment was delayed beyond six months. Still aggrieved by the amount awarded, the family approached the apex court.



What directions were issued to expedite compensation claims?

The Supreme Court pointed out that motor accident compensation claims often remain embroiled in litigation for years. It said the average pendency of such cases is around six years before MACTs and eight years before High Courts. It held that compensation appeals should not remain pending in High Courts for

more than four

years and

emphasised that

adjournments

should be granted

only for genuine

reasons. Observing

that the

welfare-oriented

objective of the

Motor Vehicles Act,

The ruling pointed out that routine household tasks performed by homemakers play a vital role in supporting the paid workforce and enabling economic productivity

1988, is frustrated when compensation claims remain pending for years, the Court directed the Chief Justices of all High Courts to accord priority to older motor accident compensation appeals and assess the need for additional Benches to expedite their disposal.

How did the Court quantify unpaid domestic labour?

The Court held that in cases involving the death of a **homemaker**, tribunals and courts should award an additional amount of **₹30,000 per month under the head of "loss of domestic care"**. The amount, it said, would serve as a minimum benchmark to offset the inherent disadvantage faced by homemakers when compensation is assessed on the basis of a conservatively determined notional income. The Bench clarified that the ₹30,000 figure is to be treated as a "stand-in" monthly income in cases where the homemaker does not have a direct monetary contribution to the household, and directed that it be enhanced by 10%, on a cumulative basis, every three years. Where the homemaker is also part of the workforce, compensation under this head would be awarded in addition to any proven income.

The ruling pointed out that routine household **tasks performed by homemakers, such as cooking, cleaning, and caregiving, play a vital role in supporting the paid workforce and enabling economic productivity. Yet, these contributions are rarely accounted for** in conventional economic indicators such as GDP. The Bench described homemakers as the architects of India's "human capital", observing that they lay the foundation stones on which the edifices of "high-flying business persons, successful politicians, headlining artists, and sought-after lawyers" are built.

The **Court enhanced the compensation payable to the deceased's family to ₹62.78 lakh**, holding that the award must reflect not only her contribution to the household but also the loss of **maternal care, spousal companionship, and the care and assistance** that would have been available to other dependent family members.

Caltech ✖

In the present

Droughts can drive antibiotic resistance in soil bacteria

Research has revealed that drought-induced soil stress concentrates natural antibiotics, accelerating evolution of resistant bacteria. This phenomenon threatens to worsen global antibiotic resistance by 2050, particularly in drought-prone regions

Droughts can increase the levels of antibiotic resistance in soil, a new study by researchers from the California Institute of Technology (Caltech) has reported. Published in *Nature Microbiology*, the study revealed that when soil dries due to drought stress, the concentration of natural antibiotics increases, favouring the survival of resistant bacteria.

The study also projected that by 2050, several parts of India and other drought-prone countries will grapple with severe antibiotic resistance (ABR).

Soil has been an important source of antibiotics. Previous studies have also established the evolution of antibiotic resistance from microbes in the soil.

Dry and → water scarcity

The current study spotlights a broader ecological perspective where climate-driven environmental changes might also influence resistance," the study's authors, postdoctoral research scholar Xiaoyu Shan and the Gordon M. Binder/Amgen professor of biology and geobiology Dianne Newman, wrote in an email interview.

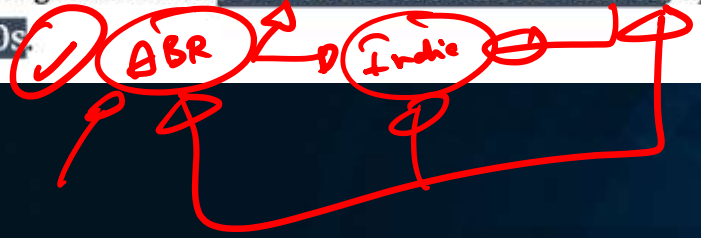
Using computational analysis of soil DNA datasets from the U.S., China and Europe and across cropland, wetland, grassland, and a forest site, the team found that drought increased the prevalence of genes that both produce antibiotics and help organisms resist them.

“Previous studies have documented antibiotic resistance genes in wastewater, rivers, and soils, but these patterns have largely been interpreted as consequences of anthropogenic contamination, such as antibiotic overuse in medicine and agriculture,” the two co-authors wrote.

30% → World Area

“Our work asked a fundamentally different question: could environmental stress, independent of direct antibiotic pollution, actively shape the evolution and enrichment of resistance?”

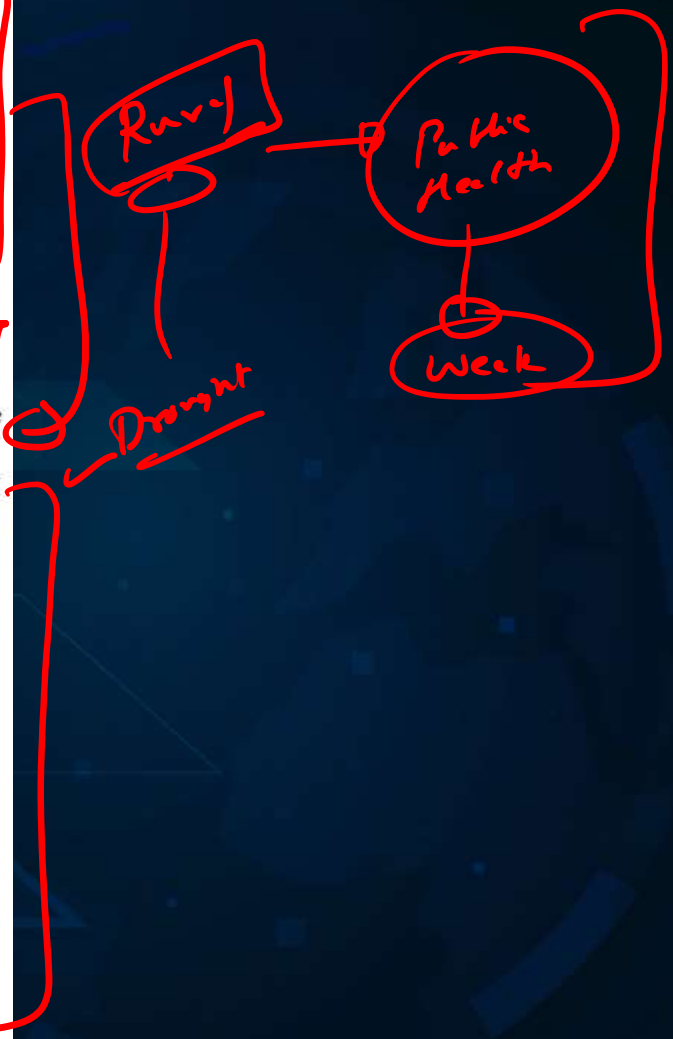
Today, the links between climate change and ABR are becoming more prominent. In one recent study, scientists found that subjecting experimental grassland plots to warming conditions over 11 years resulted in a 23.9% increase in the abundance of ABR genes. Droughts are also becoming more severe due to climate change. In 2022 alone, moderate and extreme droughts affected 30% of the world's land area, up from around 10% in the early 1900s.



India is vulnerable because it simultaneously faces several challenges relating to **increased frequency of droughts, heavy antibiotic use in humans and livestock, wastewater irrigation, dense human-animal-soil interactions, and heavy agricultural dependence.** G. Ravikanth, senior fellow and convenor, Ashoka Trust for Research in Ecology and the Environment (ATREE), Bengaluru, said.

Per a **2024 report** on flood and drought risks in India **91 districts are in the 'very high' drought risk category while 188 districts face 'high' drought risk.** More than 85% of these districts are in some of India's most populated States. While reports have revealed that about **20 lakh people in India could lose their lives to antimicrobial resistance by 2050,** a similarly reliable estimate for ABR could not be found.

India's drought-prone regions overlap substantially with the rural districts where access to formal healthcare is weakest, Erta Kalanxhi, fellow and director of partnerships at One Health Trust, a global health research organisation, said. "In this context, climate change may intensify the selection pressure on ABR in the populations least equipped to manage the clinical consequences. The droughts themselves, and the adaptive practices that follow, are likely to amplify the resistance burden and deepen health inequalities."



Role of vaccines

The experts all said that the study called for **urgent monitoring and mitigation**. For India, Dr. Ravikanth emphasised the need for **long-term monitoring stations in arid regions** to **track microbial community shifts, drought intensity, and antibiotic resistance**. He added that existing Krishi Vigyan Kendras, especially in arid areas, could be mobilised for **data on antibiotic residues in agricultural soils, poultry and dairy farms**, and understand the spread of resistant microbes.

“The key takeaway here is that we must treat ABR as a climate adaptation issue and start integrating its impacts in our climate models,” he said.

Dr. Kalanxhi stressed the need to mitigate ABR by preventing infections. In a recent One Health Trust **policy brief**, in collaboration with Christian Medical College, Vellore, the authors underscored the role of vaccines to address the issue.

“Apart from concentrating natural antibiotics in soil and intensifying resistance, **droughts also create the conditions under which enteric pathogens such as *Salmonella typhi* thrive** — limited and contaminated water sources, poor sanitation, and overstretched health systems,” she said. **“Scaling up vaccination suppresses the disease burden that drought amplifies and reduces the empirical antibiotic demand that drives resistance selection in clinics.”**

Will sign deal with Iran to end war today, open Strait of Hormuz to all, says Trump

Trump says agreement to be signed Sunday, Iran pushes back on timing

What Iranian officials have said about the terms of the agreement differ from US descriptions.

Stanly Johny

U.S. President Donald Trump on Saturday said a deal with Iran is scheduled to be signed on Sunday, reopening the Strait of Hormuz to all shipping, and that the U.S. would "go and get" Iran's highly enriched uranium at a later stage, even as Tehran said the talks were in their final stage but remained non-committal about any timeline for the agreement.

"The deal is scheduled to get signed tomorrow and immediately after it is signed, the Hormuz Strait is open to all. Our relationship with Iran is a much different and better one than previous administrations have had," Mr. Trump wrote in a social media post.

Mr. Trump also said no funds would be provided to Tehran, contradicting the claims made by Iran's Foreign Minister Abbas



Donald Trump

Will not allow 'illegal' oil from Iran: U.S. to India

CHENNAI

The U.S. has told India that violations of its blockade on Iranian ports and the "illicit transport of Iranian oil" would not be tolerated. » PAGE 7

Araghchi that the country's frozen assets would be released upon signing the deal.

But Mr. Trump ap-

peared to confirm the Iranian claim that the nuclear issue would be addressed at a later stage – not in the preliminary agreement.

"We will go in and get the Nuclear Dust [highly enriched uranium]... and downblend and destroy it, whether in Iran, or the United States. We look forward to working with Iran," the U.S. President said. He said the 2015 Iran nuclear agreement, signed by the Barack Obama administration, was an "easy road to a nuclear weapon... My agreement with Iran is the exact opposite, a wall to no nuclear weapon. In fact, they no longer want a nuclear weapon, nor will they have one, either through purchase, development, or any other form of procurement".

CONTINUED ON

» PAGE 7

'UAE TO UNLOCK IRAN FUNDS'

» PAGE 14

Pak

Sunday

'UAE agrees to unlock billions of dollars for Iran amid deal talks'

Two regional sources say the Gulf Arab state has agreed to release a total of \$10 billion; the UAE officially denies the report, calling claims of any transfer of funds 'entirely false and unfounded'; Vance says funds won't be released for signing a deal

* \$3 Bn
10 Bn - 20 Bn *

Reuters
DUBAI/LONDON

The United Arab Emirates has agreed to unlock billions of dollars for Iran, four sources said, in a tactical shift after weeks of Iranian attacks on the wealthy Gulf Arab state during the U.S.-Israeli war with the Islamic Republic. Word of the move, which has not been previously reported, coincides with the final stages of broader negotiations between Tehran and Washington on ending the war, talks that diplomats say could involve the release of tens of billions of dollars in Iranian oil reve-

nues frozen in foreign banks under U.S. sanctions.

Two regional sources told Reuters the UAE had agreed to release a total of \$10 billion, more than \$3 billion of which had already been delivered. Two other sources with knowledge of the arrangement put the total funds involved at \$20 billion, adding that the move had been agreed in return for a halt to Iranian attacks on the UAE.

One of the sources with knowledge of the arrangement also said a first tranche of \$3 billion had already been made available. Reuters could not establish



Time out: The move had been agreed in return for a halt to Iranian attacks on the United Arab Emirates, say sources. AP

whether the funds earmarked for the transfers belong to the UAE or originate in long-blocked Iranian accounts in the UAE banking system, or elsew-

ere. The UAE Foreign Ministry issued a statement early on Saturday categorically denying reports of the transfer "including allegations concerning \$3

billion". The UAE statement "affirmed that these allegations are entirely false and unfounded, stressing that no frozen Iranian funds have been released, transferred or facilitated through the UAE"

The White House did not respond to a request for comment on the move. In Washington, Vice-President J.D. Vance said on Friday that funds would not be released to Iran for signing a deal with the United States or attending a meeting, adding that the potential deal is structured to ensure that economic benefits would flow to Tehran if it meets its obligations.

Prelims Bytes

India and Nepal hold talks on cross-border rail connectivity

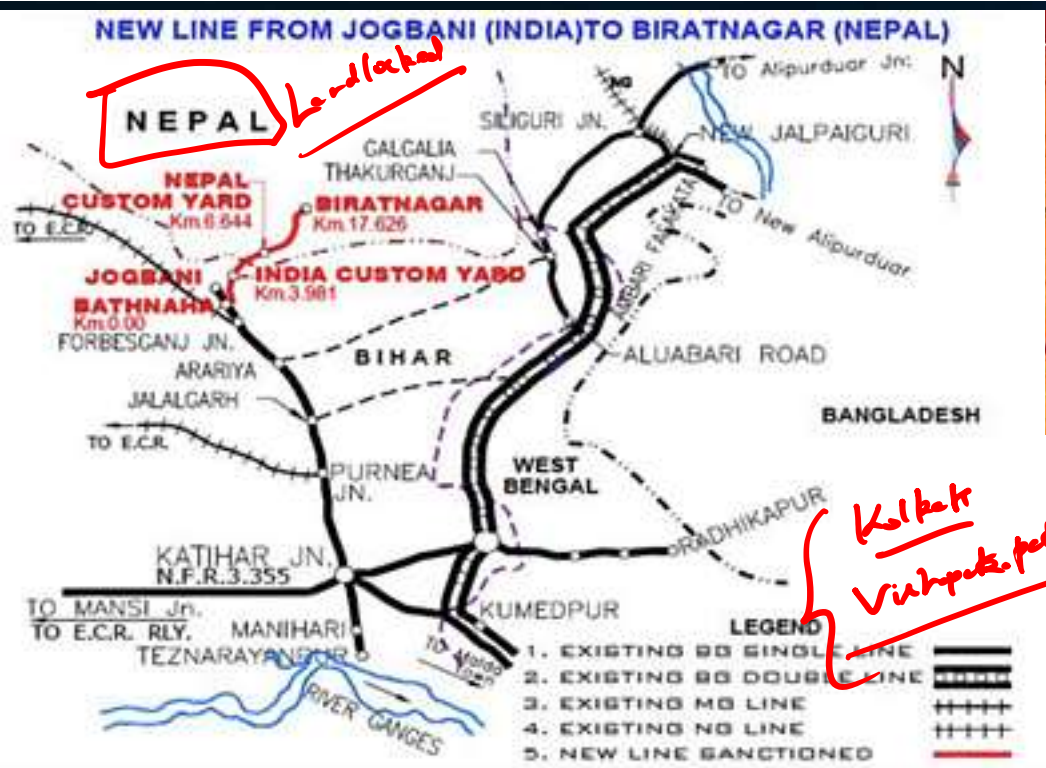
India and Nepal have held discussions on cross-border railway links, including passenger train services on the **Janakpur-Ayodhya section**, and bilateral cooperation in the sector, an official statement said. The discussions between the two countries were part of the 10th Project Steering Committee and the eighth Joint Working Group meetings held here on June 11 and 12, the Indian Embassy in Kathmandu said on Friday. The standard operating procedures for the commencement of passenger train services on the Janakpur-Ayodhya section was one of the focus points during the engagement between the two sides. PTI

India-Nepal rail connectivity ~~✗~~ Raxaul-Kathmandu railway Janakpur-Ayodhya train services in focus ~~✗~~

According to a statement issued by the Indian Embassy in Nepal, both sides discussed the progress of several railway projects, including the Jaynagar-Bijalpur-Bardiba and Jogbani-Biratnagar BG railway lines. Both these projects are being developed with grant assistance from the Government of India (GoI).

"This signing will facilitate the movement of rail-based freight between Jogbani (India) and Biratnagar (Nepal) including bulk cargo under an expanded definition. This liberalization extends to key transit corridors: Kolkata-Jogbani, Kolkata-Nautanwa (Sunauli), and Visakhapatnam-Nautanwa (Sunauli), hereby strengthening multimodal trade connectivity between the two countries and Nepal's trade with third countries," the Ministry of Commerce & Industry said in a release on November 13, 2025.

Remyon Circuit



Kolkata
Visakhapatnam

DRDO showcases critical defence technologies in three flight tests

PIB

Saurabh Trivedi

NEW DELHI

The Defence Research and Development Organisation (DRDO) has successfully demonstrated a range of critical defence technologies through three consecutive flight tests conducted on Wednesday and Thursday, significantly enhancing India's capabilities against diverse aerial and maritime threats.

Defence milestone

According to the Ministry of Defence, the tests showcased a **multi-layered Ballistic Missile Defence (BMD) system** and the **maiden flight test of the Naval Anti-Ship Missile-Medium Range (NASM-MR)**, marking a major milestone in India's indigenous defence technology development.

It further mentioned that the **multi-layered BMD capability was successfully demonstrated with inter-**



The tests showcased a **multi-layered ballistic missile defence system** and the **anti-ship missile**. SPECIAL ARRANGEMENT

The Defence Minister congratulated the DRDO and associated teams on the successful tests

ceptor missiles engaging and destroying their designated targets.

The systems, developed using advanced technologies, are designed to counter emerging missile

threats across a broad spectrum.

Anti-ship missile

The successful trials have placed India among a select group of countries possessing BMD capabilities capable of engaging threats up to Intercontinental Ballistic Missiles, significantly strengthening the country's strategic defence shield.

In another key achieve-

ment, DRDO successfully carried out the maiden flight test of the **Naval Anti-Ship Missile-Medium Range (NASM-MR)**, demonstrating enhanced anti-ship strike capability at medium ranges.

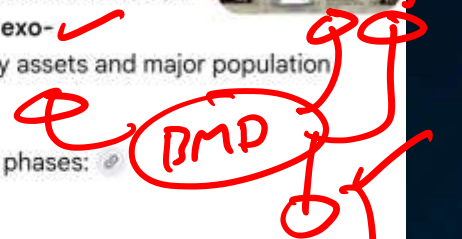
The flight tests were witnessed by senior officials of DRDO and the Armed Forces.

Rajnath lauds DRDO

Defence Minister Rajnath Singh congratulated DRDO and associated teams for the successful demonstration of the crucial technologies, stating that the achievements would further strengthen India's defence preparedness.

Secretary, Department of Defence R&D and Chairman DRDO, Rajesh Kumar Singh, closely monitored the trials and lauded the combined efforts of DRDO scientists, industry partners and the Armed Forces in achieving the milestone.

The Defence Research and Development Organisation's (DRDO) Ballistic Missile Defence (BMD) Programme is an indigenous, multi-layered shield designed to intercept and destroy incoming enemy ballistic missiles. The system operates across two main tiers —endo-atmospheric (within the atmosphere) and exo-atmospheric (in space)—to protect the nation's key assets and major population centers. [ThePrint +1](#)



The BMD shield is deployed in distinct evolutionary phases:

Phase I (Completed)

This phase is designed to engage and neutralize short- to medium-range ballistic missiles (up to 2,000 km class).

- **Prithvi Air Defence (PAD)**: Interceptor missile for high-altitude (exo-atmospheric) interception at altitudes of 50 to 80 km.
- **Advanced Air Defence (AAD)**: Interceptor missile for lower-altitude (endo-atmospheric) interception at altitudes up to 30 km.

Phase II (Advanced Trials)

This phase targets long-range missiles and Intercontinental Ballistic Missiles (ICBMs) capable of ranges up to 5,000 km.



- **AD-1 Interceptor**: A long-range, two-stage solid motor missile capable of both low exo-atmospheric and endo-atmospheric interception. It operates alongside an advanced network of low-latency communications and long-range sensors.
- Recent successful tests in June 2026 fully validated India's multi-layered defense capabilities against ICBM-class threats.

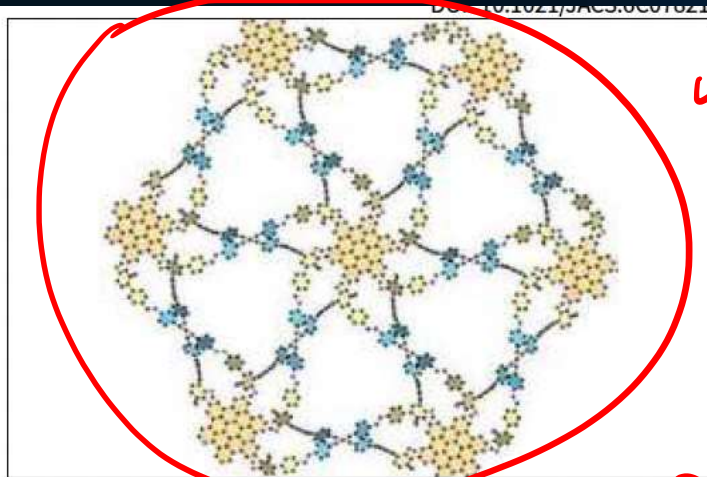
Naval Anti-Ship Missile–Medium Range (NASM–MR) or Medium Range

Anti-Ship Missiles (MRAShM) is an all-weather, over-the-horizon anti-ship missile being developed by the Defence Research and Development Organisation for the Indian Navy for use against small to medium sized warships like frigates, corvettes, and destroyers. The NASM-MR will belong to the same class as the U.S.-origin Harpoon missile.^{[5][6]}

Navy

Anti-Ship

The integration of NASM-MR with MiG-29K was completed in 2023. The fighter jet's and the missile's electrical and mechanical interfaces have been checked. In order to verify missile's target and guidance package under actual flight conditions, live-fire tests will be conducted after carry and separation trials. According to mission requirements, the missile can follow specified waypoints and have the ability to sea skim.^{[9][10]} With the integration of the missile with MiG-29K completed, the maiden flight tests of the weapon is scheduled in the first quarter of 2026.^[11]



Nanographene paves way for ultra-porous materials

Scientists, led by Nobel laureate Omar Yaghi, have a new way to build highly porous materials using nanographene. They designed a molecule called HBC-LA12, with 12 connection points arranged in a prism shape. By linking this molecule with others, they created two new 3D structures that are a breakthrough in reticular chemistry. One has a record surface area of 5,000 sq. m per gram. The findings expand the way to design materials to store gases.



Reticular chemistry is the science of linking molecular building blocks together via strong bonds to construct crystalline, extended 2D and 3D porous frameworks. By controlling geometry and connectivity, scientists can design materials with highly tunable, ultra-high surface areas that are used to solve critical global challenges. ACS Publications +2

Nanographenes are nanoscale fragments of graphene. Synthesized with atomic precision, they offer unparalleled control over size, shape, and edge configuration. These cutting-edge carbon nanomaterials bridge the gap between organic molecules and bulk 2D materials, unlocking advanced optoelectronic, semiconductor, and biomedical applications. ACS Publications +3

Key Characteristics

- **Atomically Precise:** Unlike broad graphene sheets, molecular nanographenes possess uniform sizes and structures, which yield highly reproducible physical and chemical properties. 田岡化学工業株式会社 +1
- **Edge Effects:** Their electronic and optical behaviors depend heavily on their edge structures (e.g., zigzag or armchair configurations). ACS Publications
- **3D & Stacked Structures:** Nanographenes can go beyond flat sheets, extending into 3D architectures and covalent stacks that amplify electronic and optical responses. RSC Publishing +1

Applications


- **Next-Generation Electronics:** Due to high electric-charge mobility and superior flexibility, they are actively explored as alternatives to silicon-based semiconductors.  [田岡化学工業株式会社](#) 
- **Biomedicine:** When functionalized for water solubility, nanographenes function as highly stable, low-cytotoxicity agents for near-infrared (NIR) bioimaging and neuronal tracking. [ACS Publications](#)
- **Energy Storage:** They are utilized in advanced energy applications, including lithium battery anode materials and corrosion-resistant coatings. [Graphene-Info](#)



The **Jiangmen Underground Neutrino Observatory (JUNO)** is a medium baseline^{[2][3]} reactor **neutrino** experiment currently operating at Kaiping, Jiangmen in Guangdong province in Southern China. It aims to determine the **neutrino mass hierarchy** and perform precision measurements of the **Pontecorvo–Maki–Nakagawa–Sakata matrix** elements. It will build on the mixing parameter results of many previous experiments.


JUNO hits the ground to crack neutrino physics mystery

The **Jiangmen Underground Neutrino Observatory (JUNO)** collaboration in China has published its first results. Based on 59 days of data collected in late 2025, the group calculated how often particles called neutrinos from nuclear reactors change their flavour, or type, as they travel. The findings showed JUNO was working as expected and on track to help **crack a tough open question called neutrino mass ordering: of the three flavours of neutrinos, which are heaviest and lightest?**

A neutrino observatory is a specialized underground facility designed to detect and study neutrinos. Neutrinos are fundamental, electrically neutral subatomic particles produced in high-energy processes like nuclear reactions in the Sun, supernovae, and radioactive decays. Because they rarely interact with matter, they pass harmlessly through the Earth by the trillions every second, making them incredibly difficult to detect. 



Why are they built deep underground?

To isolate and detect the rare, faint flashes of light or electrical signals caused by a neutrino collision, observatories must be shielded from "cosmic noise" (other cosmic rays and background radiation). Therefore, they are constructed deep beneath the Earth's surface—such as in deep mines, under glaciers, or beneath mountain ranges. 

 Wikipedia +4

Virulent bacterium

Shigella

Kerala has seen a new outbreak of shigellosis, caused by this gram-negative, contagious bacterium, which infects millions globally every year

Ramya Kannan

Stained, and viewed under a microscope, Shigella is a capsule-shaped bacterium that resembles fat, furry, cotton caterpillars. In reality, however, this gram-negative, contagious bacterium, which causes shigellosis, can be remarkably dangerous. Shigella is back in the news, after an outbreak in Kerala that was first detected in late March 2026 and has continued into June. According to the Kerala health department, 132 confirmed cases and about 75 probable cases of shigellosis had been reported till June 12. Three deaths have been linked to the disease. This year, two of which are children under five.

Shigellosis is a diarrhoeal disease marked by fever, abdominal cramps, and bloody diarrhoea (dysentery). It was bacteriologist Kiyoshi Shiga, who isolated the shigella dysenteriae. In 1897, after Japan experienced a severe dysentery epidemic, the genus eventually took his name.

Transmission is mostly through the faecal-oral route, when people ingest tiny amounts of faecal matter through contaminated food, water or hands. As low as 10-100 bacteria can cause the infection, and even an outbreak. It is estimated that globally, shigellosis



GETTY IMAGES

2008, over 300 people reportedly contracted a food-borne shigella infection across the State. In December 2020, an outbreak, again in Kozhikode, killed an 11-year-old and infected 40 others; in May 2022, shigella was said to be behind a mass food poisoning incident, in Kasargod, where 30 people were hospitalised and a 36-year old girl died. While mild shigella infections typically clear on their own with hydration, severe cases require antibiotics to shorten the duration of the illness, reduce the severity and prevent complications, according to the U.S. Centers for Disease Control. However, some antibiotics are not effective against certain types of shigella. Healthcare providers must order laboratory tests to determine which antibiotics are likely to work.

Taneja and Mewara point out in their article that "there is a nationwide presence of multi-drug resistant shigella developing rapid resistance to most antibiotics available. This judicious use of antibiotics is among the most essential measures to combat shigellosis." This calls for a continuous and strong surveillance of antibiotic resistance across the country for periodic updates of the local antibiograms, in order to allow doctors to effectively identify the right antimicrobial drug to use.

can cause severe infection. The paper argues that while no individual can be considered immune to shigellosis, certain individuals are at increased risk. Globally, the incidence of shigellosis is highest among children under five. The incidence of shigellosis has been reported to increase steadily after the age of 40.

Outbreak in Kerala In late March 2026, Kerala reported a shigellosis outbreak in Kuttikkattoor, Kozhikode, where a three-year-old girl died and over 60 residents (mostly children) fell ill. Soon, clusters came up in Wayanad, Malappuram and Kannur. A major cluster emerged at a Wayanad school where over 300 children were hospitalised. So far, experts have traced the infections to contaminated water and food sources, alongside poor hygiene practices in communal environments such as schools.



Children < 5y
Old Age > 40 - (60 - 80)

South Africa
Africa

Japan
Europe

Faecal-Oral

U.S.-Venezuela joint operation kills leader of Tren de Aragua

Tren de Aragua^{[1][32]} (Spanish pronunciation: [tren de a'raywa]; English: *Aragua Train*) is a transnational organized crime syndicate from Venezuela.^[33] Tren de Aragua was led by **Héctor Rusthenford Guerrero Flores, alias "Niño Guerrero"**, until his death in June 2026. He was incarcerated in **Tocorón prison** (also known as Aragua **Prison** Penitentiary Center), which functioned at the time as the organization's *de facto* headquarters. The gang expanded throughout Latin America and the United States during the Venezuelan refugee crisis.^{[33][34]} Combating the gang has become a priority for many nations where Tren de Aragua operates.^[33] Though Tocorón prison was taken over by Venezuelan security forces in 2023, the leadership escaped.

Agence France-Presse
CARACAS



Explosion following a strike carried out by U.S. forces that killed Nino Guerrero. REUTERS

The leader of the transnational gang Tren de Aragua was killed in a joint operation by the United States and Venezuela, authorities in the South American nation said on Friday.

Founded in Venezuela, Tren de Aragua has been designated a terrorist organisation by the U.S. and is also active in Colombia, Peru and Chile.

"There were clashes with members of these criminal structures, in which Hector Rusthenford Guerrero Flores, alias 'Niño Guerrero,' was neutralised," Venezuela's Ministry of Communications said in

a statement. U.S. President Donald Trump said earlier Friday that American forces carried out a deadly strike on the gang leader. "At my direction, the United States Southern Command delivered a swift and lethal kinetic strike to successfully execute Nino Guerrero."

US

Drug

Prison

Priority

Scented by tradition

Rose farming is a labour of love, and there is no better canvas for these delicate pink blooms than **Kashmir** where the journey from blossom to by-product is a celebrated tradition, deeply rooted in the heart of the region's local communities.

The temperate climate and fertile soil of Kashmir provides an ideal environment for floriculture, particularly for the cultivation of the highly aromatic **Damask roses**.

Rose farming is a seasonal labour of love and requires the harvest of petals in spring and early summer when the blossoms yield their highest concentration of complex fragrance and essential oils.

Once harvested, these pristine petals are immediately channelled into two traditional products of rose water – **Arke-Gulab** and **Gulkand**.

Rose water is prepared using traditional steam distillation. Petals are simmered in large copper stills, and the condensed vapour creates a pure, therapeutic hydrosol used widely in culinary dishes, cosmetics, and religious rituals.

Gulkand is a rich, sweet preserve made by layering fresh rose petals with sugar in airtight glass jars.

The mixture is slow-cooked under the natural warmth of the sun for several weeks. This gentle sun-cooking process allows the natural juices to ferment softly with the sugar, transforming the petals into a thick, cooling jam celebrated in Ayurvedic traditions for its digestive benefits.

Local entrepreneurs like Shireen Manhas are instrumental in bridging the gap between these age-old agricultural traditions and modern, premium markets. By establishing structured agro-ventures, Ms. Manhas and fellow innovators empower local farmers, particularly women, through sustainable employment.

Their enterprises focus on maintaining absolute purity – avoiding synthetic additives – while utilising contemporary packaging and supply chains.

This modern entrepreneurial approach not only preserves Kashmir's delicate horticultural heritage but also elevates its organic rose water and **Gulkand** to a competitive luxury status globally.



Harvest season: Farmers pluck highly fragrant Damask roses at a field in Stharwa, Anantnag district in south Kashmir.

Iran - Syria ✗ ✗

D Damask Rose ✗

In 2019, the Damask rose was added to the **UNESCO Intangible Cultural Heritage Lists** as an element of Syrian cultural heritage.^[1]

✗ P

6 ✖

Indore Declaration Marks New Chapter in Global Agriculture, Places Farmers at the Heart of BRICS Agenda

BRICS Nations Unite Behind Farmer-Centric Growth, Sustainable Agriculture and Food Security

India Leads Consensus on Future of Agriculture as BRICS Adopts Historic Indore Declaration

Four Major Global Agricultural Platforms Announced as BRICS Concludes Landmark Indore Meeting

Climate-Smart Farming, Digital Innovation and Farmer Welfare Drive BRICS Agriculture Consensus

Indore Emerges as Global Agriculture Diplomacy Hub with Adoption of Historic BRICS Declaration

BRICS Countries Launch New Era of Agricultural Cooperation Through Indore Declaration

'Knowledge to Action': BRICS Strengthens Agricultural Research, Innovation and Technology Transfer

Four Major Priorities Discussed

4 Priorities ✖

The Union Minister said extensive deliberations were held around four key priorities:

- Food security and nutritional security for BRICS countries and the world.
- Promotion of agricultural trade and cooperation among BRICS nations.
- Regenerative, climate-resilient and sustainable farming practices in response to climate change.
- Strengthening innovation, technology and partnerships in food systems and agriculture.

1. BRICS Network of Centres of Excellence on Agro-Ecology and Regenerative Agriculture

Shri Chouhan announced the establishment of the BRICS Network of Centres of Excellence on Agro-Ecology and Regenerative Agriculture. He said the network would serve as a platform for joint research, knowledge sharing and capacity building in natural, organic and regenerative agriculture, enabling member countries to learn from each other's best practices and promote climate-resilient and sustainable farming systems. Recalling India's long-standing emphasis under Prime Minister Shri Narendra Modi on natural farming, organic farming and balanced use of chemical fertilizers, Shri Chouhan said BRICS countries had collectively recognised the importance of these approaches. He informed that the Indian Institute of Farming Systems Research, Modipuram, would play a key role as India's Centre of Excellence under the network and contribute to collaborative research, knowledge sharing and training.

2. BRICS Network on Digital Agriculture

The second major initiative announced was the BRICS Network on Digital Agriculture. Shri Chouhan said the network would strengthen cooperation in artificial intelligence, geospatial technologies, digital public infrastructure and data-driven agricultural solutions. He said the initiative would act as a bridge between emerging technologies and agricultural innovation, ensuring that technological advancements directly benefit farmers. The network will be coordinated by IIT Delhi, while all member countries will contribute by sharing innovations, experiences and policy initiatives to ensure collective progress in digital agriculture.

3. Global Forum on Farmers' Rights in Seed Systems

The third major announcement was the establishment of the Global Forum on Farmers' Rights in Seed Systems. According to Shri Chouhan, the forum will focus on protecting farmers' rights related to seeds, conserving indigenous seed diversity and preserving traditional knowledge systems. He said countries like India possess agricultural traditions spanning hundreds and thousands of years, but many traditional seed varieties that represent both biodiversity and cultural heritage are facing existential threats. "While new and hybrid varieties are essential, preserving indigenous seeds is equally important," he said. The forum will work towards ensuring the conservation and continued availability of traditional seeds, recognising their importance in the context of climate change and food security, and safeguarding farmers' traditional knowledge.

4. BRICS AgriN - Agro Inputs, Genetic Resources and Information Network

The fourth initiative announced was BRICS AgriN (Agro Inputs, Genetic Resources and Information Network). The platform aims to strengthen cooperation among member countries in agricultural inputs, seeds and genetic resources. Shri Chouhan said the network would facilitate information exchange, technical cooperation, capacity building and partnerships so that superior varieties, genetic resources and best practices available in different countries could be shared more effectively. He added that the initiative would particularly benefit countries and farmers with limited access to such resources and information.

INDIAN NAVAL SHIP TARKASH ARRIVES AT PORT VICTORIA SEYCHELLES

Posted On: 13 JUN 2026 4:39PM by PIB Delhi



Indian Naval Ship Tarkash, stealth frigate of the Indian Navy, arrived at Port Victoria, Seychelles on 12 Jun 2026 during her ongoing operational deployment to the South West Indian Ocean Region.

The ship escorted Seychelles Coast Guard ship *PS Zoroaster* from India to Seychelles, on completion of refit at M/s GRSE, Kolkata, reflecting a lasting maritime partnership across construction and sustainment. The transit also underscores interoperability to effectively address shared maritime challenges in the Indian Ocean Region.

During the visit, Capt Rohit Mishra, Commanding Officer, is scheduled to call on senior Government and Seychelles Defence Forces functionaries. Cultural and social engagements will also be progressed during the stay, and critical spares and essential stores will be handed over to the Government of Seychelles.

The port call aims to further strengthen camaraderie, mutual cooperation and bilateral ties between India and Seychelles.





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ANALYSIS