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THE HINDU NEWSPAPER

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PCS Special:	06 May
06M	'Gen Z entrepreneurs are quick, should focus on deep learning' 'Gen Z उद्यमी तेज हैं, उन्हें गहन सीख पर ध्यान देना चाहिए'
06M	Silver for Khandagale in World junior weightlifting विश्व जूनियर वेटलिफ्टिंग में खंडागले को रजत पदक
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'Gen Z entrepreneurs are quick, should focus on deep learning'

Career Counselling

The Hindu Bureau
CHENNAI

While Gen Z and Gen Alpha are often blamed for their lack of patience, playing to their strengths could provide them with a purpose to pursue their careers and objectives,



speakers at a panel discussion said on Tuesday. The discussion was part of Future Career Conversations series organised jointly by the SRM Institute of Science and Technology (SRMIST) and The Hindu under the title The Future Reimagined - Discover, Decide, Define Your Career.

Puru Gupta, Co-founder and CEO, True Elements,



Panelists at the session titled 'The Learning Entrepreneur', organised in Chennai on Tuesday. B. JOTHI RAMALINGAM

and Founder, Proteus Partners, said, "They are more rational; their left brain works better." However, he said, in his experience, members of these generations resigned from his organisation for 'not having enough me time'.

Balaji Sampath, Founder of AhaGuru, said, "If you give them reasonably good purpose, they can spend time to do it. You have to focus on making it

meaningful and purposeful." N. Bhalaji, Additional Director, Innovation, Incubation & Entrepreneurship - Medicine, Science, and Law, SRMIST, said members of these generations were adept at information acquisition and felt that there was an opportunity to synthesise the knowledge. "Their strength is speed; they can improve in acquiring deeper knowledge," he added.

06M. 'Gen Z entrepreneurs are quick, should focus on deep learning'

'Gen Z उद्यमी तेज हैं, उन्हें गहन सीख पर ध्यान देना चाहिए'

- While Gen Z and Gen Alpha are often blamed for their lack of patience, playing to their strengths could provide them with a purpose to pursue their careers and objectives, speakers at a panel discussion said on Tuesday.

जहां Gen Z और Gen Alpha को अक्सर उनकी धैर्य की कमी के लिए दोषी ठहराया जाता है, वहीं उनकी ताकतों का उपयोग उन्हें अपने करियर और उद्देश्यों को आगे बढ़ाने के लिए उद्देश्य दे सकता है, वक्ताओं ने मंगलवार को एक पैनल चर्चा में कहा।

- The discussion was part of Future Career Conversations series organised jointly by the SRM Institute of Science and Technology (SRMIST) and The Hindu under the title The Future Reimagined - Discover, Decide, Define Your Career.

यह चर्चा फ्यूचर करियर कन्वर्सेशन्स श्रृंखला का हिस्सा थी, जिसे संयुक्त रूप से SRM इंस्टीट्यूट ऑफ साइंस एंड टेक्नोलॉजी (SRMIST) और द हिंदू द्वारा The Future Reimagined - Discover, Decide, Define Your Career शीर्षक के तहत आयोजित किया गया था।

- Puru Gupta, Co-founder and CEO, True Elements, and Founder, Proteus Partners, said, "They are more rational; their left brain works better."

पुरु गुप्ता, को-फाउंडर और CEO, True Elements, तथा फाउंडर, Proteus Partners ने कहा, "वे अधिक तर्कसंगत हैं; उनका बायां मस्तिष्क बेहतर काम करता है।"

- However, he said, in his experience, members of these generations resigned from his organisation for 'not having enough me time'.

हालांकि उन्होंने कहा कि उनके अनुभव में इन पीढ़ियों के सदस्य उनकी संस्था से 'पर्याप्त व्यक्तिगत समय न मिलने' के कारण नौकरी छोड़ देते थे।



- **Balaji Sampath**, Founder of AhaGuru, said, "If you give them reasonably good purpose, they can spend time to do it. You have to focus on making it meaningful and purposeful."
बालाजी संपत, AhaGuru के संस्थापक ने कहा, "यदि आप उन्हें एक उचित उद्देश्य देते हैं, तो वे उस पर समय दे सकते हैं। आपको इसे सार्थक और उद्देश्यपूर्ण बनाने पर ध्यान देना होगा।"
- **N. Bhalaji**, Additional Director, Innovation, Incubation & Entrepreneurship – Medicine, Science, and Law, SRMIST, said **members of these generations were adept at information acquisition and felt that there was an opportunity to synthesise the knowledge.**
एन. भालाजी, अतिरिक्त निदेशक, इनोवेशन, इन्क्यूबेशन एवं उद्यमिता – मेडिसिन, साइंस और लॉ, SRMIST ने कहा कि इन पीढ़ियों के सदस्य जानकारी प्राप्त करने में कुशल हैं और उन्हें लगता है कि ज्ञान को संयोजित करने का अवसर है।
- "Their strength is speed; they can improve in acquiring deeper knowledge," he added.
"उनकी ताकत गति है; वे गहन ज्ञान प्राप्त करने में सुधार कर सकते हैं," उन्होंने जोड़ा।



Silver for Khandagale in World junior weightlifting

Yash Khandagale totalled 309kg to finish overall second and take the men's 71kg category silver at the World junior weightlifting championships in Ismailia, Egypt. Competing in Group 'B,' Khandagale lifted 140kg in snatch and 169kg in clean and jerk to secure a silver and a bronze in the respective segments. His aggregate placed him behind gold medal winner Albert Ian Delos Santos (326kg) of the Philippines. Ecuador's Jimmy Lopez (301kg) bagged the bronze.

उनका कुल स्कोर उन्हें स्वर्ण पदक विजेता अल्बर्ट इयान डेलोस सैंटोस (326 किग्रा) (फिलीपींस) के पीछे रखता है।

- Ecuador's Jimmy Lopez (301kg) bagged the bronze.
इक्वाडोर के जिमी लोपेज (301 किग्रा) ने कांस्य पदक जीता

06M. Silver for Khandagale in World junior weightlifting

विश्व जूनियर वेटलिफ्टिंग में खंडागले को रजत पदक

- **Yash Khandagale** totalled **309kg** to finish overall second and take the men's **71kg category silver** at the World junior weightlifting championships in **Ismailia, Egypt.**

यश खंडागले ने कुल 309 किग्रा उठाकर कुल मिलाकर दूसरा स्थान हासिल किया और **इज्माइलिया, मिस्र** में आयोजित विश्व जूनियर वेटलिफ्टिंग चैंपियनशिप में पुरुषों के **71 किग्रा वर्ग में रजत पदक** जीता।

- Competing in **Group 'B'**, Khandagale lifted **140kg in snatch** and **169kg in clean and jerk** to secure a silver and a bronze in the respective segments.

ग्रुप 'B' में प्रतिस्पर्धा करते हुए खंडागले ने स्नेच में 140 किग्रा और क्लीन एंड जर्क में 169 किग्रा उठाकर क्रमशः एक रजत और एक कांस्य पदक हासिल किया।

- His aggregate placed him behind gold medal winner **Albert Ian Delos Santos (326kg)** of the **Philippines.**



China's Wu Yize wins World snooker championship

PCS

China's Wu Yize won the World snooker championship for the first time with an 18-17 victory over Shaun Murphy in the final at Sheffield's Crucible Theatre on Monday. The 22-year-old is the second Chinese, and second youngest after Stephen Hendry, who was 21 while claiming his maiden title at 21 in 1990, to win the world crown after Zhao Xintong made history as the first Asian to lift the trophy last year.

जीतकर पहले एशियाई के रूप में इतिहास बनाया था।

06M. China's Wu Yize wins World snooker championship

चीन के वू यीज़े ने विश्व स्नूकर चैम्पियनशिप जीती

• China's **Wu Yize** won the **World snooker championship** for the first time with an **18-17 victory** over **Shaun Murphy** in the final at **Sheffield's Crucible Theatre** on Monday.

चीन के वू यीज़े ने सोमवार को शेफील्ड के क्रूसिबल थिएटर में फाइनल में शॉन मर्फी को 18-17 से हराकर पहली बार विश्व स्नूकर चैम्पियनशिप जीती।

• The **22-year-old** is the **second Chinese**, and second youngest after **Stephen Hendry**, who was 21 while claiming his maiden title in 1990, to win the world crown after **Zhao Xintong** made history as the first Asian to lift the trophy last year.

यह 22 वर्षीय खिलाड़ी दूसरे चीनी और स्टीफन हेंड्री के बाद दूसरे सबसे युवा हैं, जिन्होंने 1990 में 21 वर्ष की उम्र में अपना पहला खिताब जीता था, और झाओ शिनटोंग के बाद विश्व खिताब जीतने वाले हैं, जिन्होंने पिछले साल ट्रॉफी

GS Paper 1: Geography		06 May 2026
TOPICS COVERED		
06M	PM 'strongly' condemns attacks on oil hub in UAE प्रधानमंत्री ने UAE के तेल केंद्र पर हमलों की 'कड़ी' निंदा की	
06M	Ethiopia, Sudan trade barbs over territorial integrity, insurgency इथियोपिया और सूडान ने क्षेत्रीय अखंडता और विद्रोह को लेकर एक-दूसरे पर आरोप-प्रत्यारोप किए	
06M	Consider Teesta water sharing agreement under 'current circumstances', says Bangladesh Minister बांग्लादेश मंत्री ने कहा: 'वर्तमान परिस्थितियों' में तीस्ता जल बंटवारा समझौते पर विचार करें	
06M	Separatists calling for Alberta's exit from Canada demand referendum अल्बर्टा के कनाडा से अलग होने की मांग करने वाले अलगाववादियों ने जनमत संग्रह की मांग की	
06M	Circassians living in Israel rely on food and language to sustain ancient heritage इज़राइल में रहने वाले सर्कैसियन लोग अपनी प्राचीन विरासत को बनाए रखने के लिए भोजन और भाषा पर निर्भर हैं	



PM 'strongly' condemns attacks on oil hub in UAE

External Affairs Ministry calls Iran's strikes 'unacceptable', says 'targeting of civilian infrastructure and innocent civilians' must end; three Indians injured in the attacks; Modi to visit UAE on May 15

GS I: Geography, IR

Suhasini Haidar
NEW DELHI

In one of his toughest statements amidst the war in West Asia, Prime Minister Narendra Modi "strongly condemned" the drone and missile attacks by Iran on oil installations in Fujairah where three Indians were injured, and affirmed "solidarity" with the UAE.

Mr. Modi's words, issued in a social media post, come days ahead of his visit to Abu Dhabi, where he is expected to strengthen ties with the UAE in talks with President Mohamed bin Zayed Al Nahyan.

Earlier on Tuesday, the External Affairs Ministry issued a statement calling the attack "unacceptable", and said the "targeting of civilian infrastructure and innocent civilians" must end. Both statements demanded an end to the blockade of the Strait of Hormuz, where the U.S. attempted on Monday to forcibly open up shipping channels by sinking a number of Iranian boats, action that is believed to have triggered the Iranian attack.



A screen grab from a video shows smoke billowing from Fujairah oil industry zone following a drone attack on May 4. REUTERS

"[I] strongly condemn the attacks on the UAE that resulted in injuries to three Indian nationals. Targeting civilians and infrastructure is unacceptable," Mr. Modi said in his post. "India stands in firm solidarity with the UAE and reiterates its support for the peaceful resolution of all issues through dialogue and diplomacy."

The Ministry statement called for "free and unimpeded navigation and commerce through the Strait of Hormuz in keeping with international law". "India stands ready to support all efforts for a peaceful resolution of issues," it added.

The attacks by the U.S. and Iran on Monday were the first serious outbreak of violence since the April 8 ceasefire that was agreed to in talks in Pakistan between the two countries. The incidents on Monday led to fears of resumption of the war in West Asia that has already caused widespread losses across the world.

The government's response is believed to be aimed at sending a message of support to the UAE that has borne the brunt of Iran's attacks in an 'asymmetric' response to the strikes initiated by the U.S. and Israel on February 28

this year. Thus far, India has not named either the U.S. and Israel or Iran directly in criticising attacks during the war in West Asia. However, the government has sent envoys to the Gulf, including External Affairs Minister S. Jaishankar and National Security Adviser Ajit Doval who visited the UAE separately in April, and Prime Minister Modi's visit to Abu Dhabi, expected on May 15 on his way to a four-nation European tour, is expected to reinforce that message.

The Ministry has repeatedly expressed its concerns for Indians, estimated to be 10 million, living in the worst-hit areas of the Gulf region, especially the UAE, where Iranian drones and missiles set fire to oil facilities. The largest number of Indians, about 4.3 million, live and work in the UAE, making them about a third of the total population, as well as the biggest expatriate community. Remittances from the Gulf to India amount to more than \$40 billion a year, with the UAE the top earner, accounting for more than half.

06M. PM 'strongly' condemns attacks on oil hub in UAE

प्रधानमंत्री ने UAE के तेल केंद्र पर हमलों की 'कड़ी' निंदा की

- External Affairs Ministry calls Iran's strikes 'unacceptable', says 'targeting of civilian infrastructure and innocent civilians' must end; three Indians injured in the attacks; Modi to visit UAE on May 15
विदेश मंत्रालय ने ईरान के हमलों को 'अस्वीकार्य' बताया, कहा कि 'नागरिक ढांचे और निर्दोष नागरिकों को निशाना बनाना' बंद होना चाहिए; हमलों में तीन भारतीय घायल; मोदी 15 मई को UAE का दौरा करेंगे
- In one of his toughest statements amidst the war in West Asia, Prime Minister **Narendra Modi** "strongly condemned" the drone and missile attacks by Iran on oil installations in **Fujairah** where three Indians were injured, and affirmed "solidarity" with the UAE.
पश्चिम एशिया के युद्ध के बीच अपने सबसे कड़े बयानों में से एक में प्रधानमंत्री **नरेंद्र मोदी** ने ईरान द्वारा



फुजैरा में तेल प्रतिष्ठानों पर किए गए ड्रोन और मिसाइल हमलों की “कड़ी निंदा” की, जहां तीन भारतीय घायल हुए, और UAE के साथ “एकजुटता” व्यक्त की।

- Mr. Modi's words, issued in a social media post, come days ahead of his visit to Abu Dhabi, where he is expected to strengthen ties with the UAE in talks with President Mohamed bin Zayed Al Nahyan.

श्री मोदी के ये शब्द सोशल मीडिया पोस्ट में आए, जो उनके अबू धाबी दौर से कुछ दिन पहले हैं, जहां वे राष्ट्रपति मोहम्मद बिन जायद अल नाहयान के साथ वार्ता में UAE के साथ संबंध मजबूत करने की उम्मीद है।

- Earlier on Tuesday, the External Affairs Ministry issued a statement calling the attack “unacceptable”, and said the “targeting of civilian infrastructure and innocent civilians” must end.
मंगलवार को इससे पहले विदेश मंत्रालय ने एक बयान जारी कर इस हमले को “अस्वीकार्य” बताया और कहा कि “नागरिक ढांचे और निर्दोष नागरिकों को निशाना बनाना” बंद होना चाहिए।
- Both statements demanded an end to the blockade of the Strait of Hormuz, where the U.S. attempted on Monday to forcibly open up shipping channels by sinking a number of Iranian boats, action that is believed to have triggered the Iranian attack.
दोनों बयानों में हॉर्मुज जलडमरूमध्य की नाकाबंदी समाप्त करने की मांग की गई, जहां सोमवार को अमेरिका ने कई ईरानी नौकाओं को डुबोकर जबरन शिपिंग चैनल खोलने की कोशिश की, जिसे ईरानी हमले का कारण माना जा रहा है।
- “I strongly condemn the attacks on the UAE that resulted in injuries to three Indian nationals. Targeting civilians and infrastructure is unacceptable,” Mr. Modi said in his post.
“मैं UAE पर हुए उन हमलों की कड़ी निंदा करता हूँ जिनमें तीन भारतीय नागरिक घायल हुए। नागरिकों और ढांचे को निशाना बनाना अस्वीकार्य है,” श्री मोदी ने अपने पोस्ट में कहा।
- “India stands in firm solidarity with the UAE and reiterates its support for the peaceful resolution of all issues through dialogue and diplomacy.”
“भारत UAE के साथ दृढ़ एकजुटता में खड़ा है और बातचीत तथा कूटनीति के माध्यम से सभी मुद्दों के शांतिपूर्ण समाधान के समर्थन को दोहराता है।”
- The Ministry statement called for “free and unimpeded navigation and commerce through the Strait of Hormuz in keeping with international law”.
मंत्रालय के बयान में “अंतरराष्ट्रीय कानून के अनुरूप हॉर्मुज जलडमरूमध्य में स्वतंत्र और निर्बाध नौवहन और व्यापार” की मांग की गई।
- “India stands ready to support all efforts for a peaceful resolution of issues,” it added.
“भारत मुद्दों के शांतिपूर्ण समाधान के सभी प्रयासों का समर्थन करने के लिए तैयार है,” इसमें जोड़ा गया।
- The attacks by the U.S. and Iran on Monday were the first serious outbreak of violence since the April 8 ceasefire that was agreed to in talks in Pakistan between the two countries.
सोमवार को अमेरिका और ईरान के हमले 8 अप्रैल के उस युद्धविराम के बाद हिंसा का पहला बड़ा विस्फोट थे, जो दोनों देशों के बीच पाकिस्तान में हुई वार्ता में सहमति से हुआ था।
- The incidents on Monday led to fears of resumption of the war in West Asia that has already caused widespread losses across the world.
सोमवार की घटनाओं ने पश्चिम एशिया में युद्ध फिर शुरू होने की आशंका बढ़ा दी है, जिससे पहले ही दुनिया भर में व्यापक नुकसान हुआ है।
- The government's response is believed to be aimed at sending a message of support to the UAE that has borne the brunt of Iran's attacks in an 'asymmetric' response to the strikes initiated by the U.S. and Israel on February 28 this year.
माना जा रहा है कि सरकार की प्रतिक्रिया UAE को समर्थन का संदेश देने के लिए है, जिसने अमेरिका और इज़राइल द्वारा 28 फरवरी को शुरू किए गए हमलों के जवाब में ईरान के 'असममित' हमलों का सबसे अधिक सामना किया है।
- Thus far, India has not named either the U.S. and Israel or Iran directly in criticising attacks during the war in West Asia.



अब तक भारत ने पश्चिम एशिया के युद्ध में हमलों की आलोचना करते हुए न तो अमेरिका और इज़राइल और न ही ईरान का सीधे नाम लिया है।

- However, the government has sent envoys to the Gulf, including External Affairs Minister **S. Jaishankar** and National Security Adviser **Ajit Doval** who visited the UAE separately in April, and Prime Minister Modi's visit to Abu Dhabi, expected on May 15 on his way to a four-nation European tour, is expected to reinforce that message.
हालांकि सरकार ने खाड़ी देशों में दूत भेजे हैं, जिनमें विदेश मंत्री **एस. जयशंकर** और राष्ट्रीय सुरक्षा सलाहकार **अजीत डोभाल** शामिल हैं, जिन्होंने अप्रैल में अलग-अलग UAE का दौरा किया, और 15 मई को चार देशों के यूरोपीय दौरों से पहले प्रधानमंत्री मोदी की अबू धाबी यात्रा से इस संदेश को और मजबूत करने की उम्मीद है।
- The Ministry has repeatedly expressed its concerns for Indians, estimated to be 10 million, living in the worst-hit areas of the Gulf region, especially the UAE, where Iranian drones and missiles set fire to oil facilities.
मंत्रालय ने बार-बार खाड़ी क्षेत्र के सबसे प्रभावित इलाकों में रहने वाले लगभग 1 करोड़ भारतीयों की चिंता जताई है, विशेषकर UAE में, जहां ईरानी ड्रोन और मिसाइलों ने तेल सुविधाओं में आग लगा दी।
- The **largest number of Indians, about 4.3 million, live and work in the UAE, making them about a third of the total population**, as well as the **biggest expatriate community**.
सबसे बड़ी संख्या में लगभग 4.3 मिलियन भारतीय UAE में रहते और काम करते हैं, जो वहां की कुल आबादी का लगभग एक-तिहाई है और सबसे बड़ा प्रवासी समुदाय भी है।
- Remittances from the Gulf to India amount to more than \$40 billion a year, with the UAE the top earner, accounting for more than half.
खाड़ी देशों से भारत को भेजी जाने वाली धनराशि सालाना 40 अरब डॉलर से अधिक है, जिसमें UAE सबसे बड़ा योगदानकर्ता है और आधे से अधिक हिस्सा देता है।

Ethiopia, Sudan trade barbs over territorial integrity, insurgency



AFP

CS I: Geography

Ethiopia and Sudan traded accusations on Tuesday that each had violated the other's territory. Sudan said it would recall its envoy following drone strikes launched from Ethiopia in collaboration with the UAE. Ethiopia accused Sudan's Army of supporting "mercenaries" with the Tigray People's Liberation Front. AFP

06M. Ethiopia, Sudan trade barbs over territorial integrity, insurgency

इथियोपिया और सूडान ने क्षेत्रीय अखंडता और विद्रोह को लेकर एक-दूसरे पर आरोप-प्रत्यारोप किए

- Ethiopia and Sudan traded accusations on Tuesday that each had violated the other's territory.
इथियोपिया और सूडान ने मंगलवार को एक-दूसरे पर यह आरोप लगाया कि दोनों ने एक-दूसरे की **क्षेत्रीय सीमाओं** का उल्लंघन किया है।
- Sudan said it would recall its envoy **following drone strikes launched from Ethiopia in collaboration with the UAE**.
सूडान ने कहा कि वह अपने राजदूत को वापस बुलाएगा, क्योंकि संयुक्त अरब अमीरात (UAE) के सहयोग से इथियोपिया से ड्रोन हमले किए गए थे।

• Ethiopia accused Sudan's Army of supporting "mercenaries" with the **Tigray People's Liberation Front**.

इथियोपिया ने सूडान की सेना पर आरोप लगाया कि वह **टिग्रे पीपल्स लिबरेशन फ्रंट** के साथ "भाड़े के सैनिकों" का समर्थन कर रही है।



Consider Teesta water sharing agreement under 'current circumstances', says Bangladesh Minister

KS I: Geography

NEW DELHI

In the wake of the Bharatiya Janata Party's victory in the West Bengal Assembly election, Bangladesh has issued an urgent call to consider the long-pending Teesta water sharing agreement under the "current circumstances."

Outgoing Chief Minister Mamata Banerjee has long been seen as a hurdle in efforts to resolve the dispute between India and Bangladesh.

In Dhaka's first-high level response to the poll results, Foreign Minister Khalilur Rahman on Tuesday reiterated Bangladesh's demand for a greater



Khalilur Rahman

ter share of the Teesta's waters.

In case of any further "push in" from the Indian side, he said, Bangladesh will take "whatever measures are necessary".

India and Bangladesh had reached an in-principle

agreement to seal the deal on the Teesta's waters in 2011 during the Manmohan Singh-era, but the matter remained unresolved for several reasons including an alleged lack of coordination between the Central government and the Trinamool government in West Bengal led by Ms. Banerjee.

Referring to the 2011 agreement, Mr. Rahman said, "We hope that the agreement reached at that time can be 'considered' again under the current circumstances."

Talks with Beijing

Mr. Rahman was speaking to journalists in Dhaka before leaving for Beijing,

where he is expected to meet his counterpart Wang Yi. He indicated that, during his meetings there, he would discuss the Teesta River Comprehensive Management and Restoration Project that China has been campaigning for.

"Of course, Teesta will be discussed, absolutely. This is a matter of life and death for the people of that region."

Earlier on Monday, Minister of State for Foreign Affairs Shama Obaid had described the election in West Bengal as a "domestic development" of India. This was followed by Bangladesh Nationalist Party's Media Cell member Syrul Kabir Khan, who had expressed

hope for positive developments in Dhaka-Delhi relations as both the Central and State governments will now be headed by the BJP.

Concerns remain

Meanwhile, commentators in Dhaka have expressed concern about the role played by the BJP's Suwendu Adhikari, who has complained about illegal immigrants from Bangladesh in West Bengal.

Mr. Adhikari had earlier supported ousted Bangladesh Prime Minister Sheikh Hasina, saying she had received a death sentence in October 2025 due to influence of Pakistan in Bangladesh.

06M. Consider Teesta water sharing agreement under 'current circumstances', says Bangladesh Minister

बांग्लादेश मंत्री ने कहा: 'वर्तमान परिस्थितियों' में तीस्ता जल बंटवारा समझौते पर विचार करें

- In the wake of the Bharatiya Janata Party's (BJP) victory in the West Bengal Assembly election, Bangladesh has issued an urgent call to consider the long-pending **Teesta water sharing agreement** under the "current circumstances."
पश्चिम बंगाल विधानसभा चुनाव में भारतीय जनता पार्टी (BJP) की जीत के बाद बांग्लादेश ने लंबे समय से लंबित **तीस्ता जल बंटवारा समझौते** पर "वर्तमान परिस्थितियों" में विचार करने का तत्काल आह्वान किया है।
- Outgoing Chief Minister **Mamata Banerjee** has long been seen as a hurdle in efforts to resolve the dispute between India and Bangladesh.
निर्वर्तमान मुख्यमंत्री **ममता बनर्जी** को लंबे समय से भारत और बांग्लादेश के बीच विवाद सुलझाने के प्रयासों में एक बाधा के रूप में देखा जाता रहा है।
- In Dhaka's first high-level response to the poll results, Foreign Minister **Khalilur Rahman** on Tuesday reiterated Bangladesh's demand for a greater share of the Teesta's waters.
ढाका की चुनाव परिणामों पर पहली उच्च-स्तरीय प्रतिक्रिया में, विदेश मंत्री **खालिलुर रहमान** ने मंगलवार को तीस्ता नदी के पानी में अधिक हिस्से की बांग्लादेश की मांग दोहराई।
- In case of any further "push in" from the Indian side, he said, Bangladesh will take "whatever measures are necessary".
उन्होंने कहा कि यदि भारतीय पक्ष से कोई और "दबाव" आता है, तो बांग्लादेश "जो भी आवश्यक कदम होंगे" उठाएगा।
- India and Bangladesh had reached an in-principle agreement to seal the deal on the Teesta's waters in 2011 during the **Manmohan Singh-era**, but the matter remained unresolved for several reasons including an alleged lack of coordination between the Central government and the Trinamool government in West Bengal led by Ms. Banerjee.
भारत और बांग्लादेश ने 2011 में **मनमोहन सिंह** के कार्यकाल के दौरान तीस्ता जल समझौते पर सिद्धांत रूप में सहमति बनाई थी, लेकिन यह मुद्दा कई कारणों से अनसुलझा रह गया, जिनमें केंद्र सरकार और पश्चिम बंगाल की तृणमूल सरकार, जिसका नेतृत्व सुश्री बनर्जी कर रही थीं, के बीच कथित समन्वय की कमी भी शामिल थी।



- Referring to the 2011 agreement, Mr. Rahman said, "We hope that the agreement reached at that time can be 'considered' again under the current circumstances."
2011 के समझौते का उल्लेख करते हुए, श्री रहमान ने कहा, "हमें उम्मीद है कि उस समय हुई सहमति पर वर्तमान परिस्थितियों में फिर से 'विचार' किया जा सकता है।"

Talks with Beijing बीजिंग के साथ वार्ता

- Mr. Rahman was speaking to journalists in Dhaka before leaving for Beijing, where he is expected to meet his counterpart **Wang Yi**.
श्री रहमान ढाका में पत्रकारों से बात कर रहे थे, जब वे बीजिंग के लिए रवाना होने वाले थे, जहां उनके अपने समकक्ष **वांग यी** से मिलने की संभावना है।
- He indicated that, during his meetings there, he would discuss the **Teesta River Comprehensive Management and Restoration Project** that China has been campaigning for.
उन्होंने संकेत दिया कि वहां बैठकों के दौरान वे चीन द्वारा समर्थित **तीस्ता नदी समग्र प्रबंधन और पुनर्स्थापन परियोजना** पर चर्चा करेंगे।
- "Of course, Teesta will be discussed, absolutely. This is a matter of life and death for the people of that region."
"बिल्कुल, तीस्ता पर चर्चा होगी। यह उस क्षेत्र के लोगों के लिए जीवन और मृत्यु का प्रश्न है।"
- Earlier on Monday, Minister of State for Foreign Affairs **Shama Obaid** had described the election in West Bengal as a "domestic development" of India.
सोमवार को विदेश राज्य मंत्री **शमा ओबाइद** ने पश्चिम बंगाल के चुनाव को भारत का "आंतरिक विकास" बताया था।
- This was followed by Bangladesh Nationalist Party's Media Cell member **Syruul Kabir Khan**, who had expressed hope for positive developments in Dhaka-Delhi relations as both the Central and State governments will now be headed by the BJP.
इसके बाद बांग्लादेश नेशनलिस्ट पार्टी के मीडिया सेल सदस्य **सिरुल कबीर खान** ने ढाका-दिल्ली संबंधों में सकारात्मक प्रगति की उम्मीद जताई, क्योंकि अब केंद्र और राज्य दोनों सरकारों का नेतृत्व BJP करेगी।

Concerns remain चिंताएँ बनी हुई हैं

- Meanwhile, commentators in Dhaka have expressed concern about the role played by the BJP's **Suwendu Adhikari**, who has complained about illegal immigrants from Bangladesh in West Bengal.
इस बीच, ढाका के टिप्पणीकारों ने BJP के **सुवेदु अधिकारी** की भूमिका पर चिंता जताई है, जिन्होंने पश्चिम बंगाल में बांग्लादेश से अवैध प्रवासियों की शिकायत की है।
- Mr. Adhikari had earlier supported ousted Bangladesh Prime Minister **Sheikh Hasina**, saying she had received a death sentence in October 2025 due to influence of Pakistan in Bangladesh.
श्री अधिकारी ने पहले अपदस्थ बांग्लादेश प्रधानमंत्री **शेख हसीना** का समर्थन किया था, और कहा था कि उन्हें अक्टूबर 2025 में पाकिस्तान के प्रभाव के कारण मृत्यु दंड दिया गया था।

TEESTA

- The **Teesta River** is one of the major Himalayan rivers of eastern India and Bangladesh.
- It is an important tributary of the **Brahmaputra River system**.



- The river originates in the **Eastern Himalayas** and plays a major role in the geography, economy, hydropower generation, irrigation and geopolitics of the region.
- The Teesta is particularly significant for the Indian states of **Sikkim** and **West Bengal**, and for northern Bangladesh.
- In recent years, the river has become important in discussions related to **India-Bangladesh water sharing agreements** and climate change impacts on Himalayan rivers.
- **The Teesta River originates from the Tso Lhamo Lake in North Sikkim.**
- **The source region lies near the Pauhunri Glacier in the Eastern Himalayas.**
- **The river originates at an altitude of approximately 5,300 metres above sea level.**
- **In its upper course, the river is fed by snowmelt and glaciers.**

Course of the River

- **The Teesta flows through Sikkim from north to south.**
- **It then enters West Bengal near Sevoke.**
- **The river cuts through deep Himalayan gorges and valleys.**
- **After entering the plains, it flows into Bangladesh.**
- **In Bangladesh, the Teesta finally joins the Jamuna River, which is the main distributary of the Brahmaputra.**

Length

- **Total length of the Teesta River is approximately 414 kilometres.**
- **Around 315 kilometres of the river flows through India.**
- **About 99 kilometres flows through Bangladesh.**

Important Tributaries

- **Rangit River.**
- **Lachung Chu.**
- **Lachen Chu.**
- **Great Rangit is the largest tributary of the Teesta.**

Confluence

- **Lachen Chu and Lachung Chu meet at Chungthang in Sikkim to form the Teesta River.**

States and Regions Covered

Country	Regions/States
India	Sikkim, West Bengal
Bangladesh	Rangpur Division



Separatists calling for Alberta's exit from Canada demand referendum

GS I: Geography

Associated Press

EDMONTON

Alberta separatists said on Monday they have formally submitted almost 3,02,000 signatures to try to trigger a referendum on the province leaving Canada.

The group needed 1,78,000 signatures to force the province to consider such a vote.

The question of separation could go on a province-wide ballot as early as October, as Alberta Premier Danielle Smith has said she would move forward if enough names are gathered and verified. Ms. Smith has said she personally does not support the oil-rich province leaving Canada.

A "yes" vote would not trigger independence au-



An Alberta separatist at a rally on Monday where signatures were submitted for an independence referendum. AFP

tomatically as negotiations with the federal government would have to take place.

Mitch Sylvestre, the head of Stay Free Alberta, arrived at the Elections Alberta office in Edmonton on Monday leading a convoy of seven trucks to de-

liver the names.

"This day is historic in Alberta history," Mr. Sylvestre said adding that most papers were handled five times to verify the signatures.

However, the petition could face another hurdle this week as a ruling is ex-

pected on a court challenge launched by a group of Alberta First Nations who say Alberta separation would violate treaty rights.

Ms. Smith has accused previous federal Liberal governments of introducing legislation that hamstring Alberta's ability to produce and export oil, which she said has cost the province billions of dollars. She also said she does not want the federal government meddling in provincial issues.

Some indigenous groups, who are already using the courts to prevent the referendum, would try to stop independence from happening, Daniel Béland, a political science professor at McGill University in Montreal, said while adding that a referendum is likely to lose.

06M. Separatists calling for Alberta's exit from Canada demand referendum

अल्बर्टा के कनाडा से अलग होने की मांग करने वाले अलगाववादियों ने जनमत संग्रह की मांग की

- **Alberta separatists** said on Monday they have formally submitted almost **3,02,000 signatures** to try to trigger a **referendum** on the province leaving **Canada**.

अल्बर्टा के अलगाववादियों ने सोमवार को कहा कि उन्होंने लगभग **3,02,000 हस्ताक्षर** औपचारिक रूप से जमा किए हैं ताकि प्रांत के **कनाडा** से अलग होने पर जनमत संग्रह कराया जा सके।

- The group needed **1,78,000 signatures** to force the province to consider such a vote. इस समूह को ऐसे मतदान पर विचार कराने के लिए **1,78,000 हस्ताक्षरों** की आवश्यकता थी।
- The question of separation could go on a province-wide ballot as early as October, as Alberta Premier **Danielle Smith** has said she would move forward if enough names are gathered and verified. अलगाव का प्रश्न अक्टूबर तक पूरे प्रांत में मतदान के लिए रखा जा सकता है, क्योंकि अल्बर्टा की प्रीमियर **डेनिएल स्मिथ** ने कहा है कि यदि पर्याप्त नाम एकत्र और सत्यापित हो जाते हैं तो वह आगे बढ़ेगी।
- Ms. Smith has said she personally does not support the oil-rich province leaving Canada. सुश्री स्मिथ ने कहा है कि वह व्यक्तिगत रूप से इस तेल-समृद्ध प्रांत के कनाडा से अलग होने का समर्थन नहीं करती हैं।



- A “yes” vote would not trigger independence automatically as negotiations with the federal government would have to take place.
“हाँ” वोट अपने आप स्वतंत्रता नहीं देगा, क्योंकि संघीय सरकार के साथ बातचीत करनी होगी।
- **Mitch Sylvestre**, the head of **Stay Free Alberta**, arrived at the Elections Alberta office in Edmonton on Monday leading a convoy of seven trucks to deliver the names.
मिच सिल्वेस्ट्रे, स्टे फ्री अल्बर्टा के प्रमुख, सोमवार को एडमोंटन स्थित इलेक्शंस अल्बर्टा कार्यालय पहुंचे, जहाँ वे सात ट्रकों के काफिले के साथ हस्ताक्षर सौंपने आए।
- “This day is historic in Alberta history,” Mr. Sylvestre said adding that most papers were handled five times to verify the signatures.
“यह दिन अल्बर्टा के इतिहास में ऐतिहासिक है,” श्री सिल्वेस्ट्रे ने कहा और जोड़ा कि हस्ताक्षरों की पुष्टि के लिए अधिकांश दस्तावेजों को पांच बार जांचा गया।
- However, the petition could face another hurdle this week as a ruling is expected on a court challenge launched by a group of Alberta First Nations who say Alberta separation would violate treaty rights.
हालांकि, इस याचिका को इस सप्ताह एक और बाधा का सामना करना पड़ सकता है, क्योंकि अल्बर्टा के फर्स्ट नेशन्स के एक समूह द्वारा दायर अदालत की चुनौती पर फैसला आने की उम्मीद है, जो कहते हैं कि अलगाव संधि अधिकारों का उल्लंघन करेगा।
- Ms. Smith has accused previous federal Liberal governments of introducing legislation that hamstrings Alberta’s ability to produce and export oil, which she said has cost the province billions of dollars.
सुश्री स्मिथ ने पूर्व संघीय लिबरल सरकारों पर आरोप लगाया कि उन्होंने ऐसे कानून बनाए जिससे अल्बर्टा की तेल उत्पादन और निर्यात क्षमता बाधित हुई, जिससे प्रांत को अरबों डॉलर का नुकसान हुआ।
- She also said she does not want the federal government meddling in provincial issues.
उन्होंने यह भी कहा कि वह संघीय सरकार का प्रांतीय मामलों में हस्तक्षेप नहीं चाहती हैं।
- Some indigenous groups, who are already using the courts to prevent the referendum, would try to stop independence from happening, **Daniel Béland**, a political science professor at **McGill University** in Montreal, said while adding that a referendum is likely to lose.
कुछ आदिवासी समूह, जो पहले से ही जनमत संग्रह को रोकने के लिए अदालत का सहारा ले रहे हैं, स्वतंत्रता को होने से रोकने की कोशिश करेंगे, मॉन्ट्रियल के मैकगिल यूनिवर्सिटी के राजनीति विज्ञान के प्रोफेसर **डैनियल बेलां** ने कहा और जोड़ा कि जनमत संग्रह के हारने की संभावना है।

Circassians living in Israel rely on food and language to sustain ancient heritage

ISRAEL Geography
Agence France Presse
REHANIYA

On a sunny afternoon, Shina Shabso was busy making traditional cheese pastries for a wedding on Israel’s border with Lebanon, the celebration in the Circassian village of Rehaniya a much-needed break from weeks of war.

Known as *halyuj*, the fried semi-circular pastries are a staple of life in this tiny community of Circassians spread across two villages in northern Israel and are served up to honour guests at a celebration or to comfort those who mourn.

“Preserving traditional food, especially Circassian cheese, is very important

because in Israel we are a minority of around 5,000,” said Ms. Shabso, who filled the pastries with her own freshly-made cheese, a tradition passed down through families for generations.

“It is important for the next generation to know where we came from, what people used to eat and how they used to produce it,” said the 32-year-old artisan cheesemaker who runs Gvinot Shabso with her husband Itzik.

It is an explanation she often gave tour groups who would visit before the northern border started coming under heavy Hezbollah fire with the start of the 2023 Gaza war.

Like their Jewish and

Arab neighbours, the Circassians – Sunni Muslims who serve in the Israeli Army – have had their lives disrupted by the latest fighting between Hezbollah and Israel that began in March.

For now, though, the skies were clear with only a few distant booms echoing over the border some 4.5 kilometres away.

Long history

The Circassians are an ethnic group indigenous to the North Caucasus, a mountainous region between the Black and Caspian seas, in what is today primarily southern Russia.

They were massacred and forcibly expelled from their homeland by Russian



People take part in a Circassian wedding ceremony in the northern Israeli town of Rehaniya, by the border with Lebanon. AFP

troops between 1860 and 1864 in what their descendants want recognised as genocide, its anniversary marked every May 21.

Known for their resilience to harsh conditions, fighting skills, and loyalty

ye, 1,20,000 in Syria and 1,00,000 in Jordan, while the rest are scattered across Russia, Europe, and the United States.

“When the rulers changed, the Circassians stuck with it, they are people of their word. Loyalty means you are loyal to your surroundings,” said Zuhar Tchaicho, 52, director of the Circassian museum in Kfar Kama, another Circassian village.

Although he speaks Hebrew, his native tongue is Circassian – a phonetically-rich language based on 64 letters written in Cyrillic that graces the street signs, alongside Hebrew and Arabic.

“This is the only place in the world where children

are taught Circassian as part of the education system,” Mr. Tchaicho said.

The everyday use of Circassian is what sets the community apart, according to Riyad Gosh, 80, former head of Circassian heritage at Israel’s Education Ministry.

“We have retained our Circassian identity 100 per cent. We preserve our community in language, culture, customs, and behaviour,” he said, wearing a green baseball cap with the 12 gold stars and three crossed arrows of the Circassian flag.

Although the recent conflicts have been hard on everyone in the community, no one would consider leaving, least of all

Ms. Shabso. “We feel connected to the state of Israel, we are really attached to the Israelis here. It is like an inseparable part of my life,” she said.

Her cheese business survived thanks to loyal customers spreading the word, with orders now coming from across the country, she said.

“I do not really know the history of the Circassian people but I drive 45 minutes just to buy these delicious things,” Zeev Dragobetsky, 52, a veteran customer from Kfar Vradim, said with a grin.

“Whether there is a war or not, whenever Shina starts to fry (her cheese pastries), I would come – rockets or no rockets.”

06M. Circassians living in Israel rely on food and language to sustain ancient heritage



इज़राइल में रहने वाले सर्कैसियन लोग अपनी प्राचीन विरासत को बनाए रखने के लिए भोजन और भाषा पर निर्भर हैं

- On a sunny afternoon, **Shina Shabso** was busy making traditional cheese pastries for a wedding on Israel's border with Lebanon, the celebration in the Circassian village of **Rehaniya, a much-needed** break from weeks of war.
एक धूप भरी दोपहर में **शिना शाबसो** लेबनान सीमा पर इज़राइल में एक शादी के लिए पारंपरिक चीज़ पेस्ट्री बना रही थीं, सर्कैसियन गांव **रेहानिया** में यह समारोह हफ्तों के युद्ध से एक जरूरी राहत था।
- Known as **halyuj**, the fried semi-circular pastries are a staple of life in this tiny community of Circassians spread across two villages in northern Israel and are served up to honour guests at a celebration or to comfort those who mourn.
हल्युज के नाम से जानी जाने वाली ये तली हुई अर्ध-गोल पेस्ट्री उत्तरी इज़राइल के दो गांवों में फैले इस छोटे सर्कैसियन समुदाय के जीवन का महत्वपूर्ण हिस्सा हैं और इन्हें समारोह में मेहमानों के सम्मान या शोक संतप्त लोगों को सांत्वना देने के लिए परोसा जाता है।
- "Preserving traditional food, especially Circassian cheese, is very important because in Israel we are a minority of around 5,000," said Ms. Shabso, who filled the pastries with her own freshly-made cheese, a tradition passed down through families for generations.
"पारंपरिक भोजन, खासकर सर्कैसियन चीज़ को संरक्षित करना बहुत महत्वपूर्ण है क्योंकि इज़राइल में हम लगभग 5,000 की अल्पसंख्या हैं," सुश्री शाबसो ने कहा, जो इन पेस्ट्री को अपने बनाए ताजे चीज़ से भरती हैं, यह परंपरा पीढ़ियों से चली आ रही है।
- "It is important for the next generation to know where we came from, what people used to eat and how they used to produce it," said the 32-year-old artisan cheesemaker who runs **Gvinot Shabso** with her husband **Itzik**.
"अगली पीढ़ी के लिए यह जानना जरूरी है कि हम कहां से आए, लोग क्या खाते थे और उसे कैसे बनाते थे," 32 वर्षीय कारीगर चीज़ निर्माता ने कहा, जो अपने पति **इटज़िक** के साथ **ग्विनोट शाबसो** चलाती हैं।
- It is an explanation she often gave tour groups who would visit before the northern border started coming under heavy **Hezbollah** fire with the start of the 2023 Gaza war.
यह वह बात है जो वह अक्सर टूर समूहों को बताती थीं, जब 2023 गाज़ा युद्ध की शुरुआत के साथ उत्तरी सीमा पर **हिज़्बुल्लाह** की भारी गोलीबारी शुरू होने से पहले लोग वहां आते थे।
- Like their Jewish and Arab neighbours, the Circassians — **Sunni Muslims** who serve in the Israeli Army — have had their lives disrupted by the latest fighting between Hezbollah and Israel that began in March.
अपने यहूदी और अरब पड़ोसियों की तरह, सर्कैसियन — जो **सुन्नी मुस्लिम** हैं और इज़राइली सेना में सेवा करते हैं — मार्च में शुरू हुई हिज़्बुल्लाह और इज़राइल के बीच लड़ाई से प्रभावित हुए हैं।
- For now, though, the skies were clear with only a few distant booms echoing over the border some 4.5 kilometres away.
फिलहाल, आसमान साफ था और लगभग 4.5 किलोमीटर दूर सीमा के पार केवल कुछ दूर की धमाकों की आवाज़ें सुनाई दे रही थीं।

Long history

लंबा इतिहास

- The Circassians are an ethnic group indigenous to the **North Caucasus**, a mountainous region between the Black and Caspian seas, in what is today primarily southern Russia.
सर्कैसियन एक जातीय समूह हैं जो **नॉर्थ काकेशस** के मूल निवासी हैं, जो काला सागर और कैस्पियन सागर के बीच स्थित पहाड़ी क्षेत्र है, जो आज मुख्यतः दक्षिणी रूस में है।
- They were massacred and forcibly expelled from their homeland by Russian troops between 1860 and 1864 in what their descendants want recognised as genocide, its anniversary marked every May 21.



1860 से 1864 के बीच रूसी सैनिकों द्वारा उनका नरसंहार किया गया और उन्हें जबरन अपने देश से निकाला गया, जिसे उनके वंशज नरसंहार के रूप में मान्यता दिलाना चाहते हैं, जिसकी वर्षगांठ हर 21 मई को मनाई जाती है।

- Known for their resilience to harsh conditions, fighting skills, and loyalty. वे कठोर परिस्थितियों में सहनशीलता, युद्ध कौशल और निष्ठा के लिए जाने जाते हैं।
- Ms. Shabso. "We feel connected to the state of Israel, we are really attached to the Israelis here. It is like an inseparable part of my life," she said.
सुश्री शाबसो ने कहा, "हम इज़राइल राज्य से जुड़े हुए महसूस करते हैं, हम यहां के लोगों से बहुत जुड़े हैं। यह मेरे जीवन का अविभाज्य हिस्सा है।"
- Her cheese business survived thanks to loyal customers spreading the word, with orders now coming from across the country, she said.
उन्होंने कहा कि उनके चीज़ व्यवसाय को वफादार ग्राहकों के प्रचार के कारण बचाया जा सका और अब पूरे देश से ऑर्डर आ रहे हैं।
- "I do not really know the history of the Circassian people but I drive 45 minutes just to buy these delicious things," Zeev Dragobetsky, 52, a veteran customer from Kfar Vradim, said with a grin.
"मैं सर्कैसियन लोगों का इतिहास नहीं जानता, लेकिन मैं इन स्वादिष्ट चीज़ों को खरीदने के लिए 45 मिनट ड्राइव करता हूँ," ज़ीव ड्रेगोबेट्स्की, 52, कफर वरादिम के एक ग्राहक ने मुस्कराते हुए कहा।
- "Whether there is a war or not, whenever Shina starts to fry (her cheese pastries), I would come — rockets or no rockets."
"चाहे युद्ध हो या न हो, जब भी शिना पेस्ट्री तलना शुरू करती हैं, मैं आऊंगा — रॉकेट हों या न हों।"
- are taught Circassian as part of the education system," Mr. Tchaocho said.
"शिक्षा प्रणाली के हिस्से के रूप में बच्चों को सर्कैसियन सिखाई जाती है," श्री तचाओचो ने कहा।
- The everyday use of Circassian is what sets the community apart, according to Riyad Gosh, 80, former head of Circassian heritage at Israel's Education Ministry.
दैनिक जीवन में सर्कैसियन भाषा का उपयोग ही इस समुदाय को अलग बनाता है, यह इज़राइल के शिक्षा मंत्रालय में सर्कैसियन विरासत के पूर्व प्रमुख रियाद गोश (80) ने कहा।
- "We have retained our Circassian identity 100 per cent. We preserve our community in language, culture, customs, and behaviour," he said, wearing a green baseball cap with the 12 gold stars and three crossed arrows of the Circassian flag.
उन्होंने कहा, "हमने अपनी सर्कैसियन पहचान को 100 प्रतिशत बनाए रखा है। हम अपनी भाषा, संस्कृति, परंपराओं और व्यवहार में अपने समुदाय को संरक्षित करते हैं," उन्होंने सर्कैसियन झंडे के 12 सुनहरे सितारों और तीन क्रॉस तीरों वाली हरी टोपी पहन रखी थी।
- Although the recent conflicts have been hard on everyone in the community, no one would consider leaving, least of all Ms. Shabso.
हालांकि हाल के संघर्षों ने समुदाय के सभी लोगों को प्रभावित किया है, फिर भी कोई भी जाने के बारे में नहीं सोचता, खासकर सुश्री शाबसो।
- "we, 1,20,000 in Syria and 1,00,000 in Jordan, while the rest are scattered across Russia, Europe, and the United States."
"हममें से 1,20,000 सीरिया में और 1,00,000 जॉर्डन में हैं, जबकि बाकी रूस, यूरोप और अमेरिका में फैले हुए हैं।"
- "When the rulers changed, the Circassians stuck with it, they are people of their word. Loyalty means you are loyal to your surroundings," said Zuher Tchaocho, 52, director of the Circassian museum in Kfar Kama, another Circassian village.
"जब शासक बदलते रहे, तब भी सर्कैसियन अपने स्थान पर डटे रहे, वे अपने शब्द के पक्के लोग हैं। निष्ठा का मतलब है अपने परिवेश के प्रति वफादार होना," जुहर तचाओचो, 52, कफर कामा के सर्कैसियन संग्रहालय के निदेशक ने कहा।



TELEGRAM CHANNEL: <https://t.me/patrioticIAS>

YOUTUBE CHANNEL: <https://www.youtube.com/@PatrioticIAS>

CONTACT: 9971932488



- Although he speaks Hebrew, his native tongue is Circassian — a phonetically-rich language based on 64 letters written in Cyrillic that graces the street signs, alongside Hebrew and Arabic.
हालांकि वे हिब्रू बोलते हैं, उनकी मातृभाषा सर्कैसियन है — यह 64 अक्षरों पर आधारित ध्वन्यात्मक रूप से समृद्ध भाषा है, जो सिरिलिक लिपि में लिखी जाती है और सड़कों के संकेतों पर हिब्रू और अरबी के साथ दिखाई देती है।
- “This is the only place in the world where children are taught Circassian as part of the education system,” Mr. Tchaocho said.
श्री तचाओचो ने कहा, “यह दुनिया का एकमात्र स्थान है जहां बच्चों को शिक्षा प्रणाली के हिस्से के रूप में सर्कैसियन सिखाई जाती है।”
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रियाद गोश के अनुसार, सर्कैसियन भाषा का दैनिक उपयोग ही इस समुदाय को अलग बनाता है।
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- “We feel connected to the state of Israel, we are really attached to the Israelis here. It is like an inseparable part of my life,” she said.
उन्होंने कहा, “हम इज़राइल से जुड़े हुए महसूस करते हैं, यहां के लोगों से हमारा गहरा संबंध है। यह मेरे जीवन का अविभाज्य हिस्सा है।”
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- “Whether there is a war or not, whenever Shina starts to fry (her cheese pastries), I would come — rockets or no rockets.”
“चाहे युद्ध हो या न हो, जब भी शिना पेस्ट्री तलती हैं, मैं आऊंगा — रॉकेट हों या न हों।”

Circassians

- The **Circassians** are an indigenous ethnic group originally belonging to the **Northwestern Caucasus region near the eastern coast of the Black Sea**.
- They are also known as the **Adyghe people**.
- The historical homeland of the Circassians lies mainly in present-day **Russia’s North Caucasus region**, especially in the republics of **Adygea, Kabardino-Balkaria, and Karachay-Cherkessia**.
- Circassians are famous for their warrior culture, horse-riding traditions, music, dance, and strong community identity.
- Today, a large proportion of Circassians live outside their original homeland because of historical displacement during the **19th century Russian-Circassian War**.

Geographical Location of Circassians

Core Homeland

- The **Circassian homeland is located in the North Caucasus Mountains between the Black Sea and the Caspian Sea**.
- The region has rugged mountains, dense forests, river valleys, and coastal plains.
- Important rivers include the **Kuban River and its tributaries**.
- The region experiences a mix of **humid subtropical climate** near the Black Sea coast and **continental climate** in interior mountain regions.



Present-Day Distribution

- Today, Circassians are spread across several countries due to forced migration and diaspora movements.
- Major Circassian populations are found in:
 - Russia
 - Turkey
 - Jordan
 - Syria
 - Israel
 - Europe
 - United States

- Turkey hosts the world's largest Circassian diaspora population.
- In Israel, Circassians mainly live in the villages of **Kfar Kama** and **Rehaniya** in northern Israel.

Ethnic and Linguistic Identity

- Circassians belong to the **Northwest Caucasian ethnic group**.
- Their language belongs to the **Northwest Caucasian language family**.
- Major dialects include:
 - Adyghe
 - Kabardian
- Circassian languages are known for highly complex consonant systems.
- Traditionally, the language was oral, but written scripts later developed using **Arabic, Latin**, and eventually **Cyrillic alphabets**.

Religion

- Most Circassians today follow **Sunni Islam**.
- Islam spread widely among Circassians between the **16th and 19th centuries**.
- Before Islam, Circassians practiced indigenous beliefs and some elements of Christianity.
- Traditional Circassian customs are governed by a cultural code known as **Adyghe Xabze**.

Adyghe Xabze

- It is the traditional ethical and social system of Circassian society.
- It emphasizes:
 - Respect for elders
 - Hospitality
 - Honor
 - Community responsibility
 - Courage and discipline

Historical Background

Russian-Circassian War

- The most important event in Circassian history was the prolonged conflict with the **Russian Empire** during the **18th and 19th centuries**.
- The war officially ended in **1864**.
- Following Russian victory, large numbers of Circassians were expelled from their homeland.
- Historians describe this event as one of the major forced migrations of the 19th century.
- Many Circassians migrated to territories of the **Ottoman Empire**.





Circassian Diaspora

- The Circassian diaspora emerged mainly after 1864.
- Millions of descendants today live outside the Caucasus region.
- Diaspora communities maintained cultural identity through language, dance, cuisine, and social institutions.

Circassians in Israel

Settlement

- Circassians settled in Ottoman-controlled Palestine in the late 19th century.
- Two major villages are:
- **Kfar Kama**
- **Rehaniya**
- These villages are located in northern Israel near the Lebanese border region.

GS Paper II: Polity		06 May 2026
TOPICS COVERED		
06M	Won't resign as we did not lose, it is a forcible attempt to defeat us, says Mamata नहीं देंगी इस्तीफा क्योंकि हम नहीं हारे हैं, हमें हराने की यह एक बलपूर्वक कोशिश है, कहती हैं ममता	
06M	Assam Assembly may not have a Leader of Opposition असम विधानसभा में संभवतः विपक्ष का नेता नहीं होगा	
06M	How Vijay formed a grassroots base even before launching TVK विजय ने TVK लॉन्च करने से पहले ही कैसे एक जमीनी आधार बनाया	
06M	Draft strict rules to deny parole to persons convicted of sexual offences, says Fadnavis यौन अपराधों में दोषी व्यक्तियों को पैरोल देने से इनकार करने के लिए सख्त नियम बनाने का मसौदा तैयार करें, कहते हैं फडणवीस	
06M	Top court judge says PIL has become 'paise interest litigation' शीर्ष अदालत की न्यायाधीश ने कहा PIL बन गया है 'पैसा हित याचिका'	
06M	Cabinet approves four more judges for Supreme Court कैबिनेट ने सुप्रीम कोर्ट में चार और न्यायाधीशों की मंजूरी दी	
06M	Cabinet gives nod to make insult to Vande Mataram an offence कैबिनेट ने वंदे मातरम् का अपमान को अपराध बनाने को मंजूरी दी	
06M	30 banks integrated with UDGM portal to help legal heirs trace funds कानूनी उत्तराधिकारियों को धन खोजने में मदद के लिए 30 बैंक UDGM पोर्टल से जोड़े गए	



06M	How 'bulldozer justice' undermines the law 'बुलडोज़र न्याय' किस प्रकार कानून को कमजोर करता है
06M	Supreme Court defines life imprisonment सुप्रीम कोर्ट ने आजीवन कारावास को परिभाषित किया

Won't resign as we did not lose, it is a forcible attempt to defeat us, says Mamata

ES II: Polity

Shiv Sahay Singh,
Shrabana Chatterjee
KOLKATA

A day after her party suffered a massive setback in the Assembly election in West Bengal, Trinamool Congress chairperson Mamata Banerjee said on Tuesday she would not resign as Chief Minister as "we did not lose the election".

"The question does not arise. We did not lose the election. It is their forcible attempt to defeat us. Officially, through the Election Commission, they may defeat us. But morally, I am telling you, we won the election," she said.

Addressing a press conference at her residence, her first media interaction after the electoral setback, Ms. Banerjee repeatedly targeted the Election Commission, saying the real contest was not with the BJP but with the poll body. "They have forcibly captured the State," she said.

The BJP won 207 of the 293 Assembly seats counted on Monday, while the Trinamool was reduced to 80 seats. Ms. Banerjee lost the Bhabanipur constituency to BJP leader Suwendu Adhikari.

Ms. Banerjee was sworn in as Chief Minister for a third term on May 5, 2021, and her five-year term expired on Tuesday night. Sources at the Lok Bhavan in Kolkata said there was no hindrance to the formation of a government and that it was just a custom for the outgoing Chief Minister to tender resignation.

Experts say it makes little difference whether a Chief Minister formally resigns or not. "Once the government and this term expire, everything is null and void. None of these positions, including the CM or the Ministers, holds any value even if they don't resign," Jawhar Sircar, former Chief Electoral Officer of West Bengal, said.

RELATED REPORTS ON
» PAGE 5



Trinamool Congress chairperson Mamata Banerjee addresses a press conference in Kolkata on Tuesday. AP

BJP gears up to pick Bengal CM; Suwendu Adhikari front runner

Shiv Sahay Singh
Shrabana Chatterjee
KOLKATA

A day after scripting a historic victory in West Bengal, the BJP on Tuesday appointed Union Home Minister Amit Shah as the central observer for the election of the leader of the Legislature Party. Odisha Chief Minister Mohan Charan Majhi has been named the co-observer.

Mr. Shah and Mr. Majhi are likely to arrive in the State in the coming days. The BJP is set to form a government in the State for the first time after ending the 15-year rule of the Trinamool Congress. The party won 207 seats, reducing the Trinamool to just 80. BJP leader Suwendu Adhikari, who defeated Chief Minister Mamata Banerjee from Bhabanipur, is considered the front runner for the post of Chief Minister.

Mr. Adhikari defected from the Trinamool to the BJP in December 2020 and has since risen to prominence within the party.

On Tuesday, BJP supporters surrounded his vehicle at several places, as he travelled to Kolkata, raising slogans in his support.



Suwendu Adhikari is considered the front runner for CM post.

Vandalism and violence reported

KOLKATA
Post-poll violence and vandalism have been reported from multiple parts of West Bengal even as the top leadership of the BJP asked its workers not to engage in any form of violence. » PAGE 5

Sources in the West Bengal BJP said the swearing-in of the new Cabinet is likely to take place on May 9, the birth anniversary of Rabin-drath Tagore. The ceremony is likely to be held at the Brigade Parade Grounds, with Prime Minister Narendra Modi expected to attend.

06M. Won't resign as we did not lose, it is a forcible attempt to defeat us, says Mamata

नहीं देंगी इस्तीफा क्योंकि हम नहीं हारे हैं, हमें हराने की यह एक बलपूर्वक कोशिश है, कहती हैं ममता

• A day after her party suffered a massive setback in the **Assembly election in West Bengal**, Trinamool Congress chairperson **Mamata Banerjee** said on Tuesday she would not resign as **Chief Minister** as "we did not lose the election".

एक दिन बाद जब उनकी पार्टी को **पश्चिम बंगाल के विधानसभा चुनाव** में भारी झटका लगा, तृणमूल कांग्रेस की अध्यक्ष **ममता बनर्जी** ने मंगलवार को कहा कि वह **मुख्यमंत्री** पद से इस्तीफा नहीं देंगी क्योंकि "हम चुनाव नहीं हारे हैं"।

• "The question does not arise. We did not lose the election. It is their forcible attempt to defeat us. Officially, through the **Election Commission**, they may defeat us. But morally, I am telling you, we won the election," she said.

"यह सवाल ही नहीं उठता। हम चुनाव नहीं हारे हैं। हमें हराने की यह उनकी बलपूर्वक कोशिश है। आधिकारिक रूप से, **निर्वाचन आयोग** के माध्यम से वे हमें हरा सकते हैं। लेकिन नैतिक रूप से मैं आपको बता रही हूँ, हम चुनाव जीत गए हैं," उन्होंने कहा।

• Addressing a press conference at her residence, her first media interaction after the electoral setback, Ms. Banerjee repeatedly targeted the **Election Commission**, saying the real contest was not with the **BJP** but with the poll body.

अपने आवास पर आयोजित प्रेस कॉन्फ्रेंस को संबोधित करते हुए, चुनावी झटके के बाद अपनी पहली मीडिया बातचीत में, सुश्री बनर्जी ने बार-बार **निर्वाचन आयोग** पर निशाना साधा और कहा कि असली मुकाबला **बीजेपी** से नहीं बल्कि चुनाव आयोग से था।

• "They have forcibly captured the State," she said.

"उन्होंने राज्य पर बलपूर्वक कब्जा कर लिया है," उन्होंने कहा।



- The **BJP** won 207 of the 293 **Assembly seats** counted on Monday, while the **Trinamool** was reduced to 80 seats.
सोमवार को गिने गए 293 **विधानसभा सीटों** में से **बीजेपी** ने 207 सीटें जीतीं, जबकि **तृणमूल** घटकर 80 सीटों पर आ गई।
- Ms. Banerjee lost the **Bhabanipur** constituency to **BJP** leader **Suvendu Adhikari**.
सुश्री बनर्जी **भवानीपुर** विधानसभा क्षेत्र से **बीजेपी** नेता **सुवेंदु अधिकारी** से हार गई।
- Ms. Banerjee was sworn in as **Chief Minister** for a third term on May 5, 2021, and her five-year term expired on Tuesday night.
सुश्री बनर्जी ने 5 मई 2021 को तीसरी बार **मुख्यमंत्री** पद की शपथ ली थी, और उनका पाँच वर्षीय कार्यकाल मंगलवार रात समाप्त हो गया।
- Sources at the Lok Bhavan in Kolkata said there was no hindrance to the formation of a government and that it was just a custom for the outgoing **Chief Minister** to tender resignation.
कोलकाता के **लोक भवन** में सूत्रों ने कहा कि सरकार गठन में कोई बाधा नहीं है और यह केवल एक परंपरा है कि निवर्तमान **मुख्यमंत्री** इस्तीफा देते हैं।
- **Experts say it makes little difference whether a Chief Minister formally resigns or not.**
विशेषज्ञों का कहना है कि यह ज्यादा मायने नहीं रखता कि **मुख्यमंत्री** औपचारिक रूप से इस्तीफा देते हैं या नहीं।
- **“Once the government and this term expire, everything is null and void. None of these positions, including the CM or the Ministers, holds any value even if they don’t resign,”** **Jawhar Sircar**, former Chief Electoral Officer of West Bengal, said.
“एक बार सरकार और यह कार्यकाल समाप्त हो जाने के बाद सब कुछ शून्य और अमान्य हो जाता है। इन पदों में से कोई भी, जिसमें **मुख्यमंत्री** या मंत्री शामिल हैं, कोई महत्व नहीं रखता, भले ही वे इस्तीफा न दें,” पश्चिम बंगाल के पूर्व मुख्य निर्वाचन अधिकारी **जवाहर सरकार** ने कहा।

Assam Assembly may not have a Leader of Opposition

GS II: Polity

The Hindu Bureau
GUWAHATI

The 126-member Assam Assembly may not have an officially recognised Leader of the Opposition.

The Bharatiya Janata Party (BJP) and its two regional allies bagged 102 seats, while the Opposition alliance managed 21. The Congress won 19 of these and the Rajior Dal two.

Of the remaining three seats, the minority-based All India United Democratic Front (AIUDF) and the Trinamool Congress won two and one, respectively. They are not part of the



Himanta Biswa Sarma with party supporters, in Guwahati, on Monday. ANI

Congress-led front.

On February 26, Chief Minister Himanta Biswa Sarma claimed that for a party to seek the Leader of the Opposition post, it must secure at least 24

seats on its own symbol.

However, according to the rules, an Opposition party must possess at least one-sixth of the total strength of the House for one of its MLAs to be formally recognised as the Leader of the Opposition. The minimum number in the Assam Assembly, thus, works out to 21.

“The rules are very clear,” Mr. Sarma said after the BJP-led National Democratic Alliance swept the polls with an unprecedented tally.

‘BLUE BLOOD REJECTED’

» PAGE 5



06M. Assam Assembly may not have a Leader of Opposition

असम विधानसभा में संभवतः विपक्ष का नेता नहीं होगा

- The **126-member Assam Assembly** may not have an officially recognised **Leader of the Opposition**.
126 सदस्यीय असम विधानसभा में संभवतः आधिकारिक रूप से मान्यता प्राप्त विपक्ष का नेता नहीं होगा।
- The **Bharatiya Janata Party (BJP)** and its two regional allies bagged **102 seats**, while the Opposition alliance managed **21**.
भारतीय जनता पार्टी (बीजेपी) और उसके दो क्षेत्रीय सहयोगियों ने **102 सीटें** जीतीं, जबकि विपक्षी गठबंधन ने **21 सीटें** हासिल कीं।
- The **Congress** won **19** of these and the **Raijor Dal** two.
इनमें से कांग्रेस ने **19 सीटें** जीतीं और **राइजोर दल** ने दो सीटें जीतीं।
- Of the remaining three seats, the minority-based **All India United Democratic Front (AIUDF)** and the **Trinamool Congress** won two and one, respectively.
बाकी तीन सीटों में से अल्पसंख्यक आधारित **ऑल इंडिया यूनाइटेड डेमोक्रेटिक फ्रंट (AIUDF)** और **तृणमूल कांग्रेस** ने क्रमशः दो और एक सीट जीतीं।
- They are not part of the **Congress-led front**.
वे कांग्रेस-नेतृत्व वाले गठबंधन का हिस्सा नहीं हैं।
- On February 26, **Chief Minister Himanta Biswa Sarma** claimed that for a party to seek the **Leader of the Opposition** post, it must secure at least **24 seats** on its own symbol.
26 फरवरी को मुख्यमंत्री **हिमंता बिस्वा सरमा** ने दावा किया कि किसी पार्टी को विपक्ष के नेता का पद पाने के लिए अपने चुनाव चिन्ह पर कम से कम **24 सीटें** जीतनी होंगी।
- However, according to the rules, an Opposition party must possess at least **one-sixth of the total strength of the House** for one of its MLAs to be formally recognised as the **Leader of the Opposition**.
हालांकि नियमों के अनुसार, किसी विपक्षी पार्टी के पास सदन की कुल सदस्य संख्या का कम से कम **एक-छठा हिस्सा** होना चाहिए ताकि उसके किसी विधायक को औपचारिक रूप से **विपक्ष का नेता** मान्यता मिल सके।
- The **minimum number in the Assam Assembly**, thus, works out to **21**.
इस प्रकार **असम विधानसभा** में न्यूनतम संख्या **21** निकलती है।
- "The rules are very clear," Mr. Sarma said after the **BJP-led National Democratic Alliance** swept the polls with an unprecedented tally.
"नियम बहुत स्पष्ट हैं," श्री सरमा ने कहा, जब **बीजेपी-नेतृत्व वाले राष्ट्रीय जनतांत्रिक गठबंधन** ने अभूतपूर्व बहुमत के साथ चुनाव में जीत दर्ज की।



How Vijay formed a grassroots base even before launching TVK

Actor-turned-politician implemented several welfare measures in Tamil Nadu, including free canteens, distribution of computers, study centres, blood donation camps, and extended support to regional, national political causes over the years

GS II: Polity

N. Sai Charan
CHENNAI

The transition from a celebrated cinematic star to the top contender in Tamil Nadu politics was not an overnight phenomenon for actor-turned-politician and Tamilaga Vettri Kazhagam president C. Joseph Vijay.

Rather, it is a result of years of calibrated public outreach that blended cinema-driven popularity with carefully structured social and political interventions. Before officially launching the TVK in February 2024, Mr. Vijay, a top hero in Kollywood, had engaged in extensive grassroots outreach and intervention over a span of 15 years.

Mr. Vijay, who was introduced to the world of cinema by his director-father S.A. Chandrasekhar, gradually cultivated his fan base by acting in commercial entertainer movies with a focus on family subjects. His father played an instrumental role in carefully cultivating an image



Building a profile: Before launching the TVK, Vijay had engaged in extensive grassroots outreach over a span of 15 years. R. RAGU

for Mr. Vijay.

As his fan base swelled, Mr. Vijay formally launched Vijay Makkal Iyakkam (VMI) in 2009 to engage with them and to carry out welfare initiatives. More than 80,000 fan club units were set up under VMI.

Over the years, Mr. Vijay, through VMI, has implemented several welfare measures, including free canteens, study centres, distribution of computers,

and blood donation camps. Apart from welfare initiatives, Mr. Vijay extended support to regional and national political causes. In 2009, Mr. Vijay, along with his fans, observed a fast in Chennai to express solidarity with Sri Lankan Tamils.

In 2011, he organised a massive hunger strike in Nagapattinam, demanding the Centre's intervention against repeated mid-sea arrests of, and attacks on, Tamil Nadu fishermen by the Sri Lankan Navy.

In January 2017, Mr. Vijay extended support to massive protests against the ban on Jallikattu, the traditional bull-taming sport of the State. He visited the protest site at Marina beach in Chennai, incognito at night, with his face covered by a handkerchief, to sit in silent solidarity.

Later that year, Mr. Vijay met the family members of S. Anitha, a topper in the Class XII examination, who ended her life after she failed to clear the National Eligibility-cum-Entrance Test (NEET). He met them at their doorstep

in Ariyalur, and consoled the grieving family.

In 2018, following the police firing during the anti-Sterlite protests in Thoothukudi that killed 14 people, Mr. Vijay visited the family members of some of the victims at their doorstep. He rode pillion on a two-wheeler to avoid the media limelight.

On various occasions, Mr. Vijay had met national political leaders and activists. He met Congress leader Rahul Gandhi in 2009, social activist Anna Hazare in 2011, and BJP leader and then Gujarat Chief Minister Narendra Modi before the 2014 Lok Sabha polls.

Felicitation events

Mr. Vijay has also hosted felicitation events for Class X and Class XII toppers from across Tamil Nadu in recent years.

VMI was the launchpad for Mr. Vijay in electoral politics.

Many members of VMI contested as independents in the 2021 local body polls, and over 100 of them emerged victorious.

06M. How Vijay formed a grassroots base even before launching TVK

विजय ने TVK लॉन्च करने से पहले ही कैसे एक जमीनी आधार बनाया

- The actor-turned-politician implemented several welfare measures in Tamil Nadu, including free canteens, distribution of computers, study centres, blood donation camps, and extended support to regional, national political causes over the years.
अभिनेता से नेता बने व्यक्ति ने तमिलनाडु में कई कल्याणकारी उपाय लागू किए, जिनमें मुफ्त कैंटीन, कंप्यूटर वितरण, अध्ययन केंद्र, रक्तदान शिविर, और वर्षों से क्षेत्रीय व राष्ट्रीय राजनीतिक कारणों को समर्थन देना शामिल था।
- The transition from a celebrated cinematic star to the top contender in Tamil Nadu politics was not an overnight phenomenon for actor-turned-politician and Tamilaga Vettri Kazhagam president C. Joseph Vijay.
एक प्रसिद्ध फिल्मी सितारे से तमिलनाडु राजनीति के शीर्ष दावेदार बनने का यह परिवर्तन अभिनेता से नेता बने और तमिलगा वेत्री कझगम के अध्यक्ष सी. जोसेफ विजय के लिए अचानक होने वाली घटना नहीं थी।
- Rather, it is a result of years of calibrated public outreach that blended cinema-driven popularity with carefully structured social and political interventions.
बल्कि यह वर्षों तक किए गए योजनाबद्ध जनसंपर्क का परिणाम है, जिसमें सिनेमा आधारित लोकप्रियता को सावधानीपूर्वक संरचित सामाजिक और राजनीतिक हस्तक्षेपों के साथ जोड़ा गया।
- Before officially launching the TVK in February 2024, Mr. Vijay, a top hero in Kollywood, had engaged in extensive grassroots outreach and intervention over a span of 15 years.



फरवरी 2024 में आधिकारिक रूप से TVK लॉन्च करने से पहले, कोलिवुड के शीर्ष अभिनेता श्री विजय ने 15 वर्षों तक व्यापक जमीनी स्तर पर जनसंपर्क और हस्तक्षेप किए थे।

- Mr. Vijay, who was introduced to the world of cinema by his director-father **S.A. Chandrasekhar gradually** cultivated his fan base by acting in commercial entertainer movies with a focus on family subjects.
श्री विजय, जिन्हें उनके निर्देशक-पिता **एस.ए. चंद्रशेखर** ने फिल्मी दुनिया में परिचित कराया था, ने पारिवारिक विषयों पर आधारित व्यावसायिक मनोरंजन फिल्मों में अभिनय करके धीरे-धीरे अपना फैन बेस विकसित किया।
- His father played an instrumental role in carefully cultivating an image for Mr. Vijay.
उनके पिता ने श्री विजय की छवि को सावधानीपूर्वक विकसित करने में महत्वपूर्ण भूमिका निभाई।
- As his fan base swelled, Mr. Vijay formally launched **Vijay Makkal Iyakkam (VMI)** in 2009 to engage with them and to carry out welfare initiatives.
जैसे-जैसे उनका फैन बेस बढ़ता गया, श्री विजय ने 2009 में अपने प्रशंसकों से जुड़ने और कल्याणकारी कार्य करने के लिए औपचारिक रूप से **विजय मक्कल इयक्कम (VMI)** लॉन्च किया।
- More than **80,000 fan club units** were set up under VMI.
VMI के तहत **80,000 से अधिक फैन क्लब इकाइयाँ** स्थापित की गईं।
- Over the years, Mr. Vijay, through VMI, has implemented several welfare measures, including free canteens, study centres, distribution of computers, and blood donation camps.
वर्षों से श्री विजय ने VMI के माध्यम से कई कल्याणकारी उपाय लागू किए, जिनमें मुफ्त कैंटीन, अध्ययन केंद्र, कंप्यूटर वितरण और रक्तदान शिविर शामिल हैं।
- The organisation also carried out disaster relief operations during **Cyclone Thane** in 2011, the **Chennai floods** in 2015, and **Cyclone Gaja** in 2018.
इस संगठन ने 2011 में **चक्रवात थाने**, 2015 में **चेन्नई बाढ़**, और 2018 में **चक्रवात गाजा** के दौरान आपदा राहत कार्य भी किए।
- Apart from welfare initiatives, Mr. Vijay extended support to regional and national political causes.
कल्याणकारी पहलों के अलावा, श्री विजय ने क्षेत्रीय और राष्ट्रीय राजनीतिक मुद्दों को भी समर्थन दिया।
- In 2009, Mr. Vijay, along with his fans, observed a fast in Chennai to express solidarity with **Sri Lankan Tamils**.
2009 में श्री विजय ने अपने प्रशंसकों के साथ मिलकर चेन्नई में **श्रीलंकाई तमिलों** के प्रति एकजुटता व्यक्त करने के लिए उपवास किया।
- In 2011, he organised a massive hunger strike in **Nagapattinam**, demanding the Centre's intervention against repeated mid-sea arrests of, and attacks on, Tamil Nadu fishermen by the **Sri Lankan Navy**.
2011 में उन्होंने **नागपट्टिनम** में एक विशाल भूख हड़ताल आयोजित की, जिसमें उन्होंने केंद्र से तमिलनाडु के मछुआरों की बार-बार समुद्र में गिरफ्तारी और **श्रीलंकाई नौसेना** द्वारा हमलों के खिलाफ हस्तक्षेप की मांग की।
- In January 2017, Mr. Vijay extended support to massive protests against the ban on **Jallikattu**, the traditional bull-taming sport of the State.
जनवरी 2017 में श्री विजय ने राज्य के पारंपरिक बैल-खेल **जल्लीकट्टू** पर लगे प्रतिबंध के खिलाफ बड़े प्रदर्शनों का समर्थन किया।
- He visited the protest site at Marina beach in Chennai, incognito at night, with his face covered by a handkerchief, to sit in silent solidarity.
उन्होंने चेन्नई के **मरीना बीच** पर विरोध स्थल का रात में गुप्त रूप से दौरा किया, चेहरे को रुमाल से ढककर मौन समर्थन में बैठे।
- Later that year, Mr. Vijay met the family members of **S. Anitha**, a topper in the Class XII examination, who ended her life after she failed to clear the **National Eligibility-cum-Entrance Test (NEET)**.



उसी वर्ष बाद में श्री विजय ने कक्षा 12 की टॉपर एस. अनिता के परिवार से मुलाकात की, जिन्होंने **NEET (राष्ट्रीय पात्रता सह प्रवेश परीक्षा)** पास न कर पाने के बाद आत्महत्या कर ली थी।

- He met them at their doorstep in **Ariyalur**, and consoled the grieving family. उन्होंने **अरियालुर** में उनके घर जाकर शोकाकुल परिवार को सांत्वना दी।
- In 2018, following the police firing during the anti-**Sterlite** protests in **Thoothukudi** that killed 14 people, Mr. Vijay visited the family members of some of the victims at their doorstep. 2018 में **तूतीकोरिन** में **स्टरलाइट** विरोध प्रदर्शनों के दौरान पुलिस फायरिंग में 14 लोगों की मौत के बाद, श्री विजय ने कुछ पीड़ित परिवारों से उनके घर जाकर मुलाकात की।
- He rode pillion on a two-wheeler to avoid the media limelight. उन्होंने मीडिया की सुर्खियों से बचने के लिए दोपहिया वाहन पर पीछे बैठकर यात्रा की।
- On various occasions, Mr. Vijay had met national political leaders and activists. विभिन्न अवसरों पर श्री विजय ने राष्ट्रीय राजनीतिक नेताओं और कार्यकर्ताओं से मुलाकात की।
- He met Congress leader **Rahul Gandhi** in 2009, social activist **Anna Hazare** in 2011, and BJP leader and then Gujarat Chief Minister **Narendra Modi** before the 2014 Lok Sabha polls. उन्होंने 2009 में कांग्रेस नेता **राहुल गांधी**, 2011 में सामाजिक कार्यकर्ता **अन्ना हजारे**, और 2014 लोकसभा चुनाव से पहले भाजपा नेता एवं तत्कालीन गुजरात मुख्यमंत्री **नरेंद्र मोदी** से मुलाकात की।

Felicitation events

सम्मान समारोह

- Mr. Vijay has also hosted felicitation events for Class X and Class XII toppers from across Tamil Nadu in recent years. श्री विजय ने हाल के वर्षों में तमिलनाडु भर के कक्षा 10 और कक्षा 12 के टॉपर्स के लिए सम्मान समारोह भी आयोजित किए हैं।
- VMI was the launchpad for Mr. Vijay in electoral politics. VMI श्री विजय के लिए चुनावी राजनीति में प्रवेश का लॉन्चपैड बना।
- Many members of VMI contested as independents in the 2021 local body polls, and over 100 of them emerged victorious. VMI के कई सदस्यों ने 2021 स्थानीय निकाय चुनावों में निर्दलीय उम्मीदवार के रूप में चुनाव लड़ा और उनमें से 100 से अधिक विजयी हुए।



Draft strict rules to deny parole to persons convicted of sexual offences, says Fadnavis

CS II: Polity

The Hindu Bureau

MUMBAI

Maharashtra Chief Minister Devendra Fadnavis on Tuesday sought the drafting of stringent rules to ensure that parole is not granted to persons convicted of sexual offences.

The directive, which was given during a Cabinet meeting held in Mumbai during the day, comes amid the case of a 65-year-old man with a criminal record who allegedly sexually assaulted and murdered a four-year-old girl at Narsapur in Bhore tehsil of Pune district on May 1.

Mr. Fadnavis noted that the accused in the case had committed similar offences twice earlier and highlighted the need to prevent repeat offenders from mis-



Police at the spot where a four-year-old girl was allegedly sexually assaulted and murdered in Pune district. ANI

using parole. The accused was booked on charges of sexual harassment in 1998 and 2015 and later acquitted in both cases, according to the police.

The Chief Minister directed officials in the Law and Judiciary Department to make changes to the jail

manual to include rules to deny parole to persons convicted of sexual offences. "A similar rule was brought by our government in 2017-18, but was struck down by the court. It has been seen that 80% of such crimes are committed by repeat offenders.

This accused too was a repeat sexual offender," a senior official in the Chief Minister's Office said.

Autopsy report

The findings of the post-mortem report indicate 'asphyxia' as the cause of death of the four-year-old victim, the police said on Tuesday. The accused gagged the victim by stuffing a cloth in her mouth, which led to suffocation. The report also indicated injuries on the child's body, the police said.

Earlier in the day, NCP (SP) leader Supriya Sule met Mr. Fadnavis and sought effective implementation of the Shakti Act enacted by the Maha Vikas Aghadi government to enhance women's safety.

(With inputs from PTI)

06M. Draft strict rules to deny parole to persons convicted of sexual offences, says Fadnavis

यौन अपराधों में दोषी व्यक्तियों को पैरोल देने से इनकार करने के लिए सख्त नियम बनाने का मसौदा तैयार करें, कहते हैं फडणवीस

- Maharashtra **Chief Minister Devendra Fadnavis** on Tuesday sought the drafting of stringent rules to ensure that **parole is not granted to persons convicted of sexual offences**.
महाराष्ट्र के मुख्यमंत्री देवेन्द्र फडणवीस ने मंगलवार को ऐसे सख्त नियमों का मसौदा तैयार करने की मांग की ताकि यौन अपराधों में दोषी व्यक्तियों को पैरोल न दिया जाए।
- The directive, which was given during a **Cabinet meeting** held in Mumbai during the day, comes amid the case of a 65-year-old man with a criminal record who allegedly sexually assaulted and murdered a four-year-old girl at Narsapur in Bhore tehsil of Pune district on May 1.
यह निर्देश दिन में मुंबई में हुई एक कैबिनेट बैठक के दौरान दिया गया, जो उस 65 वर्षीय आपराधिक रिकॉर्ड वाले व्यक्ति के मामले के बीच आया है, जिस पर 1 मई को पुणे जिले के भोर तहसील के नरसापुर में चार वर्षीय बच्ची के साथ कथित रूप से यौन हमला और हत्या का आरोप है।
- Mr. Fadnavis noted that the **accused in the case had committed similar offences twice earlier and highlighted the need to prevent repeat offenders from misusing parole**.
श्री फडणवीस ने कहा कि इस मामले के आरोपी ने पहले भी दो बार समान अपराध किए थे और उन्होंने पैरोल के दुरुपयोग को रोकने के लिए बार-बार अपराध करने वालों को रोकने की आवश्यकता पर जोर दिया।
- The **accused was booked on charges of sexual harassment in 1998 and 2015 and later acquitted in both cases**, according to the police.



पुलिस के अनुसार, आरोपी पर 1998 और 2015 में यौन उत्पीड़न के आरोप में मामला दर्ज किया गया था और बाद में दोनों मामलों में उसे बरी कर दिया गया था।

- The **Chief Minister** directed officials in the **Law and Judiciary Department** to make changes to the jail manual to include rules to deny parole to persons convicted of **sexual offences**.
मुख्यमंत्री ने कानून एवं न्याय विभाग के अधिकारियों को जेल मैनुअल में बदलाव करने और यौन अपराधों में दोषी व्यक्तियों को पैरोल देने से इनकार करने के नियम शामिल करने का निर्देश दिया।
- “A similar rule was brought by our government in 2017-18, but was struck down by the court. It has been seen that 80% of such crimes are committed by repeat offenders. This accused too was a repeat sexual offender,” a senior official in the Chief Minister’s Office said.
“हमारी सरकार ने 2017-18 में भी ऐसा ही नियम लाया था, लेकिन उसे अदालत ने खारिज कर दिया था। यह देखा गया है कि ऐसे 80% अपराध बार-बार अपराध करने वालों द्वारा किए जाते हैं। यह आरोपी भी एक बार-बार यौन अपराध करने वाला था,” मुख्यमंत्री कार्यालय के एक वरिष्ठ अधिकारी ने कहा।

Autopsy report पोस्टमार्टम रिपोर्ट

- The findings of the **postmortem report** indicate ‘asphyxia’ as the cause of death of the four-year-old victim, the police said on Tuesday.
पुलिस ने मंगलवार को बताया कि **पोस्टमार्टम रिपोर्ट** के निष्कर्षों में चार वर्षीय पीड़िता की मौत का कारण ‘**दम घुटना (asphyxia)**’ बताया गया है।
- The accused gagged the victim by stuffing a cloth in her mouth, which led to suffocation.
आरोपी ने पीड़िता के मुंह में कपड़ा ठूसकर उसे चुप कराया, जिससे उसका दम घुट गया।
- The report also indicated injuries on the child’s body, the police said.
रिपोर्ट में बच्चे के शरीर पर चोटों का भी उल्लेख किया गया है, पुलिस ने कहा।
- Earlier in the day, **NCP (SP)** leader **Supriya Sule** met Mr. Fadnavis and sought effective implementation of the **Shakti Act** enacted by the Maha Vikas Aghadi government to enhance women’s safety.
दिन में पहले, **NCP (SP)** नेता **सुप्रिया सुले** ने श्री फडणवीस से मुलाकात की और महिलाओं की सुरक्षा बढ़ाने के लिए महा विकास आघाड़ी सरकार द्वारा बनाए गए **शक्ति अधिनियम** के प्रभावी कार्यान्वयन की मांग की।

Furlough (फर्लो)

- **Furlough** is a short-term, conditional release granted to prisoners as a **reward for good behavior** and to help them maintain **familial and social ties**.
- Furlough is considered a **matter of right** for eligible prisoners, subject to certain conditions.
- **Purpose of Furlough:** The main aim is to enable prisoners to remain **connected with society and their families**, aiding in their **reintegration** after release.
- **Eligibility for Furlough**
- Generally granted to prisoners who have served a **minimum portion** of their sentence and maintained **good conduct** during incarceration.
- **Eligibility criteria** can vary across **different states and union territories**.
- **Duration of Furlough:** The period is usually **fixed** and ranges from a **few days to a few weeks**, depending on state **prison rules**.
- **Legal Framework for Furlough:** Under the **Delhi Prison Act, 2000**, furlough is granted to convicted prisoners sentenced to **rigorous imprisonment for five years or more** and who have served at least **three years**.



Parole (पैरोल)

- **Parole** is a temporary release granted for a **specific purpose**, like a **family emergency** or **personal issue**.
- It is not a **right**, but a **privilege** given at the **discretion of authorities**.
- **Purpose of Parole:** Meant to address **urgent personal or family matters**, allowing the prisoner to fulfill obligations or handle **emergencies**.
- **Eligibility for Parole**
 - Considered on a **case-by-case basis**, requiring prisoners to have served a **minimum portion of sentence**.
 - Factors include **nature of the offense, conduct in prison, and reason cited for parole**.
- **Duration of Parole:** Generally shorter than furlough, ranging from **a few days to a month**, based on urgency.
- **Legal Framework for Parole:** The **Model Prisons and Correctional Services Act, 2023** provides guidelines for parole, stressing its role in **reformation and rehabilitation**.

Key Differences Between Furlough and Parole

- **Purpose:** Furlough is for **social reintegration** and **reward**, while parole is for **emergencies**.
- **Right vs. Privilege:** Furlough is a **right** (if eligible), parole is a **privilege**.
- **Duration and Frequency:** Furlough is granted for a **fixed period and periodically**, whereas parole is **occasion-specific and shorter**.
- **Conditions and Violations:** Both involve conditions. **Violating parole** may lead to **immediate revocation and legal action**. Furlough violations impact **future eligibility**.
- The **Model Prisons and Correctional Services Act, 2023** seeks **uniformity** in implementation of furlough and parole provisions, focusing on **reform and rehabilitation**.

Top court judge says PIL has become 'paisa interest litigation'

GS II: Polity
Krishnadas Rajagopal
NEW DELHI

The Supreme Court judge Justice B.V. Nagarathna on Tuesday said public interest litigation (PIL), a unique mechanism initiated by the Indian judiciary post-Emergency to "bring social justice within the reach of the common man", has lately metamorphosed into 'private interest litigation', 'publicity interest litigation' and even 'paisa' and 'political' interest litigation.

The judge, who is part of a nine-judge Bench hearing the Sabarimala review petitions, said articles are being published in newspapers merely for the sake of filing PIL pleas.

Justice Nagarathna's observations follow

submissions made by the Centre in the Sabarimala case to do away with PIL jurisdiction. "The time has come not merely to recalibrate PIL, but to remove it," the Centre had submitted through Solicitor-General Tushar Mehta.

One of the arguments raised by the Centre was about the locus standi of the original writ petitioner, Indian Young Lawyers Association. The NGO was the first to challenge the prohibition on women aged 10 to 50 from entering the Sabarimala temple.

The legal challenge, which dated back to 2006, culminated in a five-judge Bench upholding the right of women of all ages to enter and worship at the tem-



The Indian Young Lawyers Association first challenged the ban on women aged 10 to 50 from entering the temple. FILE PHOTO

ple. The September 2018 judgment, delivered by a Bench headed by then Chief Justice Dipak Misra (now retired), had compared the bar on women to the practice of untouchability.

However, on Tuesday, Chief Justice of India Surya Kant asked the NGO's lawyer, advocate Ravi Pra-

kash Gupta, what "business" his client had to question the temple prohibition.

Mr. Gupta submitted that the petition was triggered by news articles on a sex scandal involving a priest of the Sabarimala temple.

Chief Justice Kant asked how the question

of the prohibition on women of a certain age at the temple was in any way connected to the scandal involving the priest. The CJ said the apex court could instead have done better by taking *suo motu* cognisance of the allegations against the priest, ordering a day-to-day trial and ensuring that he was brought to justice if found guilty. The CJ said the Supreme Court should have thrown the association's writ petition into the "dustbin".

At one point, Chief Justice Kant asked whether the NGO had considered itself "the chief priest of the country". The CJ said there was a real difference between a meddler and a bona fide PIL petitioner. Mr. Gupta submitted

that PILs were not considered adversarial.

Rejecting the need for a review of the 2018 judgment, Mr. Gupta questioned the very reason given for the existence of the prohibition - that the presence of young women was anathema to the Sabarimala deity.

"They say the deity does not like the presence of young ladies... Is that said as an expression of regard towards the deity, or is it meant as an insult to the deity? Are they putting words in the mouth of Lord Ayyappa?" Mr. Gupta asked.

Justice B.V. Nagarathna interjected sharply, querying, "How are you concerned with all this, tell us? Is it in any way your business?"



06M. Top court judge says PIL has become 'paisa interest litigation'

शीर्ष अदालत की न्यायाधीश ने कहा PIL बन गया है 'पैसा हित याचिका'

- The **Supreme Court** judge **Justice B.V. Nagarathna** on Tuesday said **public interest litigation (PIL)**, a unique mechanism initiated by the Indian judiciary post-Emergency to "bring social justice within the reach of the common man", has lately metamorphosed into '**private interest litigation**', '**publicity interest litigation**' and even '**paisa**' and '**political interest litigation**.
सुप्रीम कोर्ट की न्यायाधीश जस्टिस बी.वी. नागरत्ना ने मंगलवार को कहा कि जनहित याचिका (PIL), जिसे आपातकाल के बाद भारतीय न्यायपालिका द्वारा "सामान्य नागरिक तक सामाजिक न्याय पहुँचाने" के लिए शुरू किया गया था, हाल ही में 'निजी हित याचिका', 'प्रचार हित याचिका' और यहां तक कि 'पैसा' और 'राजनीतिक' हित याचिका में बदल गई है।
- The judge, who is part of a nine-judge Bench hearing the **Sabarimala review petitions**, said articles are being published in newspapers merely for the sake of filing **PIL pleas**.
यह न्यायाधीश, जो सबरीमाला पुनर्विचार याचिकाओं पर सुनवाई कर रही नौ-न्यायाधीशों की पीठ का हिस्सा हैं, ने कहा कि अखबारों में लेख केवल PIL याचिकाएँ दाखिल करने के लिए ही प्रकाशित किए जा रहे हैं।
- **Justice Nagarathna's** oral observations follow submissions made by the Centre in the **Sabarimala case** to do away with **PIL jurisdiction**.
जस्टिस नागरत्ना की मौखिक टिप्पणियाँ केंद्र सरकार द्वारा सबरीमाला मामले में PIL क्षेत्राधिकार समाप्त करने की दलीलों के बाद आईं।
- "The time has come not merely to recalibrate **PIL**, but to remove it," the Centre had submitted through Solicitor-General **Tushar Mehta**.
"अब समय आ गया है कि केवल PIL को पुनः संतुलित करने का नहीं, बल्कि इसे हटाने का भी," केंद्र ने सॉलिसिटर जनरल तुषार मेहता के माध्यम से कहा था।
- One of the arguments raised by the Centre was about the **locus standi** of the original writ petitioner, **Indian Young Lawyers Association**.
केंद्र द्वारा उठाए गए तर्कों में से एक मूल याचिकाकर्ता की लोकस स्टैंडी (अधिकार) से संबंधित था, जो इंडियन यंग लॉयर्स एसोसिएशन है।
- The **NGO was the first to challenge the prohibition on women aged 10 to 50 from entering the Sabarimala temple**.
यह NGO सबसे पहले 10 से 50 वर्ष की महिलाओं के सबरीमाला मंदिर में प्रवेश पर प्रतिबंध को चुनौती देने वाला था।
- The **legal challenge, which dated back to 2006, culminated in a five-judge Bench upholding the right of women of all ages to enter and worship at the temple**.
यह कानूनी चुनौती 2006 से शुरू होकर एक पांच-न्यायाधीशों की पीठ द्वारा सभी उम्र की महिलाओं को मंदिर में प्रवेश और पूजा के अधिकार को बनाए रखने के साथ समाप्त हुई।
- The **September 2018 judgment, delivered by a Bench headed by then Chief Justice Dipak Misra (now retired), had compared the bar on women to the practice of untouchability**.
सितंबर 2018 का निर्णय, जो तत्कालीन मुख्य न्यायाधीश दीपक मिश्रा (अब सेवानिवृत्त) की अध्यक्षता वाली पीठ ने दिया था, में महिलाओं पर प्रतिबंध की तुलना अस्पृश्यता प्रथा से की गई थी।
- However, on Tuesday, Chief Justice of India **Surya Kant** asked the NGO's lawyer, advocate **Ravi Prakash Gupta**, what "business" his client had to question the temple prohibition.
हालांकि, मंगलवार को भारत के मुख्य न्यायाधीश सूर्य कांत ने NGO के वकील रवि प्रकाश गुप्ता से पूछा कि उनके मुवक्किल का मंदिर प्रतिबंध को चुनौती देने में क्या "संबंध" है।
- Mr. Gupta submitted that the petition was triggered by news articles on a sex scandal involving a priest of the **Sabarimala temple**.
श्री गुप्ता ने कहा कि यह याचिका सबरीमाला मंदिर के एक पुजारी से जुड़े यौन कांड की खबरों से प्रेरित थी।



- Chief Justice Kant asked how the question that PILs were not considered adversarial. मुख्य न्यायाधीश कांत ने पूछा कि कैसे यह प्रश्न कि PIL को प्रतिकूल नहीं माना जाता था।
- Rejecting the need for a review of the 2018 judgment, Mr. Gupta questioned the very reason given for the existence of the prohibition - that the presence of young women was anathema to the **Sabarimala deity**.
2018 के फैसले के पुनर्विचार की आवश्यकता को खारिज करते हुए श्री गुप्ता ने प्रतिबंध के कारण पर ही सवाल उठाया कि युवा महिलाओं की उपस्थिति **सबरीमाला देवता** को अस्वीकार्य है।
- “They say the deity does not like the presence of young ladies... Is that said as an expression of regard towards the deity, or is it meant as an insult to the deity? Are they putting words in the mouth of Lord **Ayyappa**?” Mr. Gupta asked.
“वे कहते हैं कि देवता युवा महिलाओं की उपस्थिति पसंद नहीं करते... क्या यह देवता के प्रति सम्मान है या अपमान? क्या वे भगवान **अय्यप्पा** के मुंह में शब्द डाल रहे हैं?” श्री गुप्ता ने पूछा।
- Justice B.V. Nagarathna interjected sharply, querying, “How are you concerned with all this, tell us? Is it in any way your business?”
जस्टिस बी.वी. नागरत्ना ने तीखे रूप से हस्तक्षेप करते हुए पूछा, “आपको इससे क्या मतलब है, बताइए? क्या यह किसी भी तरह आपका विषय है?”
- of the prohibition on women of a certain age at the temple was in any way connected to the scandal involving the priest.

Cabinet approves four more judges for Supreme Court

GS II: Polity

The Hindu Bureau
NEW DELHI

The Union Cabinet on Tuesday approved an increase in the number of judges of the Supreme Court from 34, which includes the Chief Justice of India, to a total of 38.

Union Minister Ashwini Vaishnaw said the top court currently has a sanctioned strength of 33 judges and the Chief Justice of India (CJI). A Bill would be brought in the next session of Parliament to raise this strength by four.

The Cabinet approval is a step towards tiding over the continuing crisis of pendency plaguing the court for years now, especially after the pandemic, when the facility of e-filing increased the inflow. The current backlog is 92,385 cases, and threatening to reach six figures even as the court is going into summer recess or “partial working days” in June.

The government’s approval for more judges on the Supreme Court is after a six-year hiatus. Parliament last amended Section 2 of the Supreme Court (Number of Judges) Act, 1956 in 2019, raising the sanctioned strength from

The move is a step towards tiding over the continuing crisis of pendency plaguing the court for years

31 to 33 (excluding the Chief Justice of India).

The Cabinet approval would be followed by an amendment to the 1956 Act. Article 124(1) gives Parliament the sole authority of increasing the sanctioned strength of the Supreme Court. Once the amended law comes into force, the Supreme Court Collegium would recommend judges to the government for appointment to the top court.

At present, there are two judicial vacancies in the Supreme Court. These are of the current Chief Justice of India Surya Kant’s immediate predecessor, Justice B.R. Gavai, who retired in November 2025, and Justice Rajesh Bindal, who completed office in April 2026. Three more judges are scheduled to retire in 2026.

Justices J.K. Maheshwari and Pankaj Mithal will complete their tenure in June, and Justice Sanjay Karol in August 2026.

मंदिर में एक निश्चित आयु की महिलाओं पर प्रतिबंध का पुजारी से जुड़े घोटाले से किसी भी तरह संबंध था।

- The CJI said the apex court could instead have done better by taking **suo motu cognisance** of the allegations against the priest, ordering a day-to-day trial and ensuring that he was brought to justice if found guilty.

मुख्य न्यायाधीश ने कहा कि सर्वोच्च न्यायालय बेहतर यह कर सकता था कि वह पुजारी के खिलाफ आरोपों पर **स्वतः संज्ञान (suo motu)** लेता, रोजाना सुनवाई का आदेश देता और दोषी पाए जाने पर उसे न्याय के कटघरे में लाता।

- The CJI said the Supreme Court should have thrown the association’s writ petition into the “dustbin”.
मुख्य न्यायाधीश ने कहा कि सुप्रीम कोर्ट को इस संघ की याचिका को “कूड़ेदान” में डाल देना चाहिए था।

- At one point, Chief Justice Kant asked whether the NGO had considered itself “the chief priest of the country”.

एक समय पर मुख्य न्यायाधीश कांत ने पूछा कि क्या NGO खुद को “देश का मुख्य पुजारी” मानता है।

- The CJI said there was a real difference between a meddler and a bona fide **PIL petitioner**.

मुख्य न्यायाधीश ने कहा कि एक दखलअंदाज और एक वास्तविक **PIL याचिकाकर्ता** में बड़ा अंतर होता है।

- Mr. Gupta submitted that PILs were not considered adversarial.

श्री गुप्ता ने कहा कि PIL को प्रतिकूल याचिका नहीं माना जाता।

06M. Cabinet approves four more judges for Supreme Court



कैबिनेट ने सुप्रीम कोर्ट में चार और न्यायाधीशों की मंजूरी दी

- The **Union Cabinet** on Tuesday approved an increase in the number of judges of the **Supreme Court** from 34, which includes the Chief Justice of India, to a total of 38.
केंद्रीय कैबिनेट ने मंगलवार को सुप्रीम कोर्ट के न्यायाधीशों की संख्या 34 से बढ़ाकर 38 करने को मंजूरी दी, जिसमें भारत के मुख्य न्यायाधीश भी शामिल हैं।
- Union Minister **Ashwini Vaishnaw** said the top court currently has a sanctioned strength of 33 judges and the Chief Justice of India (CJI).
केंद्रीय मंत्री **अश्विनी वैष्णव** ने कहा कि सर्वोच्च न्यायालय में वर्तमान में 33 न्यायाधीशों की स्वीकृत संख्या है और भारत के मुख्य न्यायाधीश (CJI) शामिल हैं।
- A **Bill** would be brought in the next session of **Parliament** to raise this strength by four.
इस संख्या को चार बढ़ाने के लिए अगले सत्र में संसद में एक विधेयक लाया जाएगा।
- The Cabinet approval is a step towards tiding over the continuing crisis of **pendency** plaguing the court for years now, especially after the pandemic, when the facility of **e-filing** increased the inflow.
कैबिनेट की मंजूरी अदालत में वर्षों से चल रही **लंबित मामलों की समस्या (pendency)** को दूर करने की दिशा में एक कदम है, खासकर महामारी के बाद जब **ई-फाइलिंग** की सुविधा से मामलों की संख्या बढ़ गई।
- The current backlog is **92,385 cases**, and threatening to reach six figures even as the court is going into summer recess or “partial working days” in June.
वर्तमान लंबित मामलों की संख्या **92,385** है और यह जून में अदालत के ग्रीष्मकालीन अवकाश या “आंशिक कार्य दिवसों” में जाने के बावजूद छह अंकों तक पहुँचने की आशंका है।
- The government’s approval for more judges on the Supreme Court is after a six-year hiatus.
सुप्रीम कोर्ट में अधिक न्यायाधीशों की सरकार की मंजूरी छह वर्षों के अंतराल के बाद आई है।
- **Parliament last amended Section 2 of the Supreme Court (Number of Judges) Act, 1956 in 2019, raising the sanctioned strength from 31 to 33 (excluding the Chief Justice of India).**
संसद ने आखिरी बार 2019 में **सुप्रीम कोर्ट (न्यायाधीशों की संख्या) अधिनियम, 1956** की धारा 2 में संशोधन किया था, जिसमें स्वीकृत संख्या 31 से बढ़ाकर 33 की गई थी (मुख्य न्यायाधीश को छोड़कर)।
- The Cabinet approval would be followed by an amendment to the 1956 Act.
कैबिनेट की मंजूरी के बाद 1956 के अधिनियम में संशोधन किया जाएगा।
- **Article 124(1) gives Parliament the sole authority of increasing the sanctioned strength of the Supreme Court.**
अनुच्छेद 124(1) **सुप्रीम कोर्ट** की स्वीकृत संख्या बढ़ाने का एकमात्र अधिकार संसद को देता है।
- Once the amended law comes into force, the Supreme Court Collegium would recommend judges to the government for appointment to the top court.
संशोधित कानून लागू होने के बाद सुप्रीम कोर्ट **कॉलेजियम** सरकार को शीर्ष अदालत में नियुक्ति के लिए न्यायाधीशों की सिफारिश करेगा।
- At present, there are two judicial vacancies in the **Supreme Court**.
वर्तमान में **सुप्रीम कोर्ट** में दो न्यायिक पद रिक्त हैं।
- These are of the current Chief Justice of India **Surya Kant’s** immediate predecessor, Justice **B.R. Gavai**, who retired in November 2025, and Justice **Rajesh Bindal**, who completed office in April 2026.
ये वर्तमान मुख्य न्यायाधीश **सूर्य कांत** के तत्काल पूर्ववर्ती न्यायाधीश **बी.आर. गवई**, जो नवंबर 2025 में सेवानिवृत्त हुए, और न्यायाधीश **राजेश बिंदल**, जिन्होंने अप्रैल 2026 में कार्यकाल पूरा किया, के पद हैं।
- Three more judges are scheduled to retire in 2026.
2026 में तीन और न्यायाधीश सेवानिवृत्त होने वाले हैं।
- **Justices J.K. Maheshwari and Pankaj Mithal will complete their tenure in June, and Justice Sanjay Karol in August 2026.**



न्यायाधीश जे.के. माहेश्वरी और पंकज मित्तल जून में अपना कार्यकाल पूरा करेंगे, और न्यायाधीश संजय

करोल अगस्त 2026 में सेवानिवृत्त होंगे।

Cabinet gives nod to make insult to *Vande Mataram* an offence

The Prevention of Insults to National Honour Act, 1971 will have to be amended to bring the move into effect and add clauses on punishment

GS II: Polity

Vijaita Singh
NEW DELHI

The Union Cabinet on Tuesday gave the go-ahead to amend the Prevention of Insults to National Honour Act, 1971 to make any insult or obstruction to the singing of National Song *Vande Mataram* a punishable offence, a government source told *The Hindu*.

At present, insults to the National Anthem *Jana Gana Mana*, the National Flag and the Constitution is mentioned in the 1971 Act and is punishable by imprisonment of up to three years or a fine or both.

The Cabinet decision comes a day after the Bharatiya Janata Party (BJP) secured a landslide victory in West Bengal winning 207 out of 293 contested Assembly seats and was all set to form the government for the first time in the State.

Vande Mataram, the salutation of India imagined as a mother, was written by Bankim Chandra Chattopadhyay and published with his novel *Anandamath* in the early 1880s.

In 1937, leaders of the Congress, which was lead-



On February 6, the Union Home Ministry directed the States to play *Vande Mataram* at all official events. FILE PHOTO

ing the national movement, decided to use the first two stanzas at its gatherings, and the Constitution of the modern Republic of India accorded it the status of the National Song.

Prime Minister Narendra Modi has accused the Congress of truncating the song to appease the Muslim League during the British rule.

Set of instructions

On February 6, the Union Home Ministry, in a set of instructions to States and government bodies, said that all the six stanzas of *Vande Mataram*, that

comes to a little over three minutes long, should be sung or played at official events. It said that the National Song should be given precedence before the National Anthem, written and composed by Rabindranath Tagore, when both the songs are played at an event.

The Ministry guidelines on *Vande Mataram* are advisory in nature and did not have a statutory backing.

The Cabinet's decision to amend the 1971 Act would make any insult to the national song a punishable offence.

06M. Cabinet gives nod to make insult to *Vande Mataram* an offence

कैबिनेट ने वंदे मातरम् का अपमान को अपराध बनाने को मंजूरी दी

- The **Prevention of Insults to National Honour Act, 1971** will have to be amended to bring the move into effect and add clauses on punishment.

राष्ट्रीय सम्मान अपमान निवारण अधिनियम, 1971 में संशोधन करना होगा ताकि इस कदम को लागू किया जा सके और सजा से संबंधित प्रावधान जोड़े जा सकें।

- The **Union Cabinet** on Tuesday gave the go-ahead to amend the **Prevention of Insults to National Honour Act, 1971** to make any insult or obstruction to the singing of National Song ***Vande Mataram*** a punishable offence, a government source told *The Hindu*.

मंगलवार को **केंद्रीय कैबिनेट ने राष्ट्रीय सम्मान अपमान निवारण अधिनियम, 1971** में संशोधन को मंजूरी दी ताकि राष्ट्रीय गीत **वंदे मातरम्** के गायन में किसी भी अपमान या बाधा को दंडनीय अपराध बनाया जा सके, एक सरकारी सूत्र ने द हिंदू को बताया।

- At present, insults to the National Anthem ***Jana Gana Mana***, the National Flag and the Constitution is mentioned in the 1971 Act and is punishable by

imprisonment of up to three years or a fine or both.

वर्तमान में 1971 अधिनियम में राष्ट्रीय गान **जन गण मन**, राष्ट्रीय ध्वज और संविधान के अपमान का उल्लेख है और इसके लिए तीन साल तक की कैद या जुर्माना या दोनों की सजा का प्रावधान है।

- The Cabinet decision comes a day after the Bharatiya Janata Party (**BJP**) secured a landslide victory in West Bengal winning 207 out of 293 contested Assembly seats and was all set to form the government for the first time in the State.

यह कैबिनेट निर्णय उस दिन के बाद आया जब भारतीय जनता पार्टी (**बीजेपी**) ने पश्चिम बंगाल में 293 में से 207 विधानसभा सीटें जीतकर भारी बहुमत हासिल किया और पहली बार राज्य में सरकार बनाने की तैयारी कर ली।



- **Vande Mataram**, the salutation of India imagined as a mother, was written by **Bankim Chandra Chattopadhyay** and published with his novel **Anandamath** in the early 1880s. भारत को माँ के रूप में कल्पित अभिवादन **वंदे मातरम्** को **बंकिम चंद्र चट्टोपाध्याय** ने लिखा था और इसे उनके उपन्यास **आनंदमठ** के साथ 1880 के दशक की शुरुआत में प्रकाशित किया गया था।
- In 1937, leaders of the **Congress**, which was leading the national movement, decided to use the first two stanzas at its gatherings, and the Constitution of the modern Republic of India accorded it the status of the National Song. 1937 में राष्ट्रीय आंदोलन का नेतृत्व कर रही **कांग्रेस** के नेताओं ने इसके पहले दो पदों को अपने कार्यक्रमों में उपयोग करने का निर्णय लिया और आधुनिक भारतीय गणराज्य के संविधान ने इसे राष्ट्रीय गीत का दर्जा दिया।
- Prime Minister **Narendra Modi** has accused the Congress of truncating the song to appease the Muslim League during British rule. प्रधानमंत्री **नरेंद्र मोदी** ने कांग्रेस पर ब्रिटिश शासन के दौरान मुस्लिम लीग को खुश करने के लिए इस गीत को छोटा करने का आरोप लगाया है।

Set of instructions

निर्देशों का सेट

- On February 6, the Union Home Ministry, in a set of instructions to States and government bodies, said that all the six stanzas of **Vande Mataram**, that comes to a little over three minutes long, should be sung or played at official events. 6 फरवरी को केंद्रीय गृह मंत्रालय ने राज्यों और सरकारी निकायों को दिए निर्देशों में कहा कि लगभग तीन मिनट लंबे **वंदे मातरम्** के सभी छह पदों को आधिकारिक कार्यक्रमों में गाया या बजाया जाना चाहिए।
- It said that the National Song should be given precedence before the National Anthem, written and composed by **Rabindranath Tagore**, when both the songs are played at an event. मंत्रालय ने कहा कि जब दोनों गीत किसी कार्यक्रम में बजाए जाएं तो राष्ट्रीय गीत को राष्ट्रीय गान, जिसे **रवींद्रनाथ टैगोर** ने लिखा और संगीतबद्ध किया है, से पहले प्राथमिकता दी जानी चाहिए।
- The Ministry guidelines on **Vande Mataram** are advisory in nature and did not have a statutory backing. **वंदे मातरम्** पर मंत्रालय के दिशा-निर्देश सलाहकारी प्रकृति के हैं और उनका कोई कानूनी आधार नहीं है।
- The Cabinet's decision to amend the 1971 Act would make any insult to the national song a punishable offence. 1971 अधिनियम में संशोधन का कैबिनेट निर्णय राष्ट्रीय गीत के किसी भी अपमान को दंडनीय अपराध बना देगा।



30 banks integrated with UDGAM portal to help legal heirs trace funds

GS II: Polity

Aaratrika Bhaumik

NEW DELHI

The Reserve Bank of India (RBI) told the Supreme Court on Tuesday that 30 banks have been integrated into its centralised web portal, UDGAM (Unclaimed Deposits - Gateway to Access InforMation), to enable legal heirs to trace funds belonging to deceased account holders.

A three-judge Bench headed by Justice Vikram Nath was hearing a public interest litigation (PIL) petition filed by journalist Sucheta Dalal, contending that funds lying in dormant or inoperative accounts were increasingly being transferred to government-managed pools.

The petitioner sought directions for the creation of a centralised platform to

provide information on financial assets held by deceased persons.

Senior advocate Ranjit Kumar, appearing for the RBI, submitted that the UDGAM portal had already been operationalised to address the petitioner's concerns. "The UDGAM portal is an interactive platform. There are around 20 lakh registered users who have carried out around 44 lakh searches on the portal as of April 1," he said.

Mr. Kumar added that the 30 banks integrated into the portal account for nearly 90% of the funds held in the Depositors' Education and Awareness Fund (DEAF), a corpus set up by the RBI in 2014 to house unclaimed deposits from commercial and co-operative banks.

The RBI clarified that



30 banks integrated into the portal account for nearly 90% of the funds held in DEAF.

the UDGAM portal that enables individuals to look up unclaimed deposits and accounts, but does not function as a claims settlement mechanism. "The object of the portal is to facilitate the identification and tracing of unclaimed deposits, so that the concerned depositor or claimant may approach the respective bank for settlement of the claim

in accordance with the applicable procedure," it said.

Challenges for heirs

Advocate Prashant Bhushan, appearing for the petitioner pointed out that deposits held in post offices, provident funds, and insurance schemes had not yet been integrated into the portal, thereby posing challenges for legal heirs seeking to claim such assets.

Taking note of the submissions, the Bench granted one week to the Centre and the Securities and Exchange Board of India (SEBI) to place on record the relevant circulars and outline the steps taken to enable the return of unclaimed funds of deceased persons held with banks and financial institutions.

06M. 30 banks integrated with UDGAM portal to help legal heirs trace funds

कानूनी उत्तराधिकारियों को धन खोजने में मदद के लिए 30 बैंक UDGAM पोर्टल से जोड़े गए

- The Reserve Bank of India (RBI) told the Supreme Court on Tuesday that 30 banks have been integrated into its centralised web portal, UDGAM (Unclaimed Deposits - Gateway to Access InforMation), to enable legal heirs to trace funds belonging to deceased account holders.

भारतीय रिजर्व बैंक (RBI) ने मंगलवार को सुप्रीम कोर्ट को बताया कि 30 बैंकों को उसके केंद्रीकृत वेब पोर्टल UDGAM (Unclaimed Deposits - Gateway to Access InforMation) में शामिल किया गया है, ताकि कानूनी उत्तराधिकारी मृत खाताधारकों के धन का पता लगा सकें।

- A three-judge Bench headed by Justice Vikram Nath was hearing a public interest litigation (PIL) petition filed by journalist Sucheta Dalal, contending that funds lying in dormant or inoperative accounts were increasingly being transferred to government-managed pools.

न्यायमूर्ति विक्रम नाथ की अध्यक्षता वाली तीन न्यायाधीशों की पीठ पत्रकार सुचेता दलाल द्वारा दायर एक जनहित याचिका (PIL) पर सुनवाई कर रही थी, जिसमें कहा गया था कि निष्क्रिय खातों में पड़े धन को बढ़ते हुए सरकारी प्रबंधित फंडों में स्थानांतरित किया जा रहा है।

- The petitioner sought directions for the creation of a centralised platform to provide information on financial assets held by deceased persons. याचिकाकर्ता ने मृत व्यक्तियों की वित्तीय संपत्तियों की जानकारी देने के लिए एक केंद्रीकृत प्लेटफॉर्म बनाने के निर्देशों की मांग की।



- Senior advocate **Ranjit Kumar**, appearing for the RBI, submitted that the **UDGAM portal** had already been operationalised to address the petitioner's concerns.
RBI की ओर से पेश वरिष्ठ अधिवक्ता **रंजीत कुमार** ने कहा कि याचिकाकर्ता की चिंताओं को दूर करने के लिए **UDGAM पोर्टल** पहले से ही चालू कर दिया गया है।
- "The UDGAM portal is an interactive platform. There are around 20 lakh registered users who have carried out around 44 lakh searches on the portal as of April 1," he said.
"UDGAM पोर्टल एक इंटरैक्टिव प्लेटफॉर्म है। 1 अप्रैल तक लगभग 20 लाख पंजीकृत उपयोगकर्ताओं ने इस पोर्टल पर लगभग 44 लाख खोजें की हैं," उन्होंने कहा।
- Mr. Kumar added that the 30 banks integrated into the portal account for nearly 90% of the funds held in the **Depositors' Education and Awareness Fund (DEAF)**, a corpus set up by the RBI in 2014 to house unclaimed deposits from commercial and cooperative banks.
श्री कुमार ने कहा कि पोर्टल में शामिल 30 बैंक लगभग 90% धन के लिए जिम्मेदार हैं, जो **Depositors' Education and Awareness Fund (DEAF)** में है, जिसे RBI ने 2014 में वाणिज्यिक और सहकारी बैंकों के बिना दावे वाले जमा के लिए बनाया था।
- The RBI clarified that the **UDGAM portal** enables individuals to look up unclaimed deposits and accounts, but does not function as a claims settlement mechanism.
RBI ने स्पष्ट किया कि **UDGAM पोर्टल** लोगों को बिना दावे वाले जमा और खातों की खोज करने में सक्षम बनाता है, लेकिन यह दावा निपटान प्रणाली के रूप में कार्य नहीं करता।
- "The object of the portal is to facilitate the identification and tracing of unclaimed deposits, so that the concerned depositor or claimant may approach the respective bank for settlement of the claim in accordance with the applicable procedure," it said.
"इस पोर्टल का उद्देश्य बिना दावे वाले जमा की पहचान और पता लगाने में सहायता करना है, ताकि संबंधित जमाकर्ता या दावेदार उचित प्रक्रिया के अनुसार संबंधित बैंक से दावा निपटान के लिए संपर्क कर सके," इसमें कहा गया।

Challenges for heirs

उत्तराधिकारियों के लिए चुनौतियाँ

- Advocate **Prashant Bhushan**, appearing for the petitioner, pointed out that deposits held in post offices, provident funds, and insurance schemes had not yet been integrated into the portal, thereby posing challenges for legal heirs seeking to claim such assets.
याचिकाकर्ता की ओर से पेश अधिवक्ता **प्रशांत भूषण** ने कहा कि डाकघरों, भविष्य निधि और बीमा योजनाओं में जमा धन अभी तक पोर्टल में शामिल नहीं किया गया है, जिससे कानूनी उत्तराधिकारियों के लिए इन्हें प्राप्त करना कठिन हो रहा है।
- Taking note of the submissions, the Bench granted one week to the Centre and the Securities and Exchange Board of India (**SEBI**) to place on record the relevant circulars and outline the steps taken to enable the return of unclaimed funds of deceased persons held with banks and financial institutions.
दलीलों को ध्यान में रखते हुए पीठ ने केंद्र और **भारतीय प्रतिभूति और विनियम बोर्ड (SEBI)** को एक सप्ताह का समय दिया कि वे संबंधित परिपत्र और उन कदमों का विवरण रिकॉर्ड पर रखें जो बैंकों और वित्तीय संस्थानों में मृत व्यक्तियों के बिना दावे वाले धन को लौटाने के लिए उठाए गए हैं।



How 'bulldozer justice' undermines the law

GS II: Polity

The sight of a five-year-old gifting a toy to Uttar Pradesh Chief Minister Yogi Adityanath on March 27 at Gorakhpur made for a tender photo moment. The Chief Minister returned the gift and asked the child to focus on her studies.

A child showing her admiration for a political leader is nothing out of the ordinary, as leaders are meant to be role models for the younger generation. But the five-year-old's choice of toy – a replica of a bulldozer – raises uncomfortable questions. The episode not only shows public approval for "bulldozer justice", it also reflects the normalisation of extrajudicial action by the state. What is arguably a problematic political symbol is now part of our everyday consciousness and holds the potential to influence impressionable minds.

The much-hailed "bulldozer justice" model isn't just a negation of the concept of due process but a direct challenge to it.

Not the first time

Though "bulldozer justice" is now part of India's political lexicon, the concept of bulldozers being used as an instrument of state policy is not new. Instances of bulldozers being used to clear encroachments and demolish unauthorised houses in Old Delhi's Turkman Gate area in 1976 – when the country was under the Emergency imposed by the then Prime Minister Indira Gandhi – have been well chronicled.

However, there is a key difference in how such actions have been perceived over time. From being examined as part of the excesses of the Emergency by a judicial commission, bulldozer action is now being amplified as a symbol of the state's firmness in dealing with those who break the law. It is premised on the fact that judicial processes are cumbersome and come in the way of delivering instant retributive justice. In an era of 10-minute deliveries, government authorities



Sandeep Phukan

The image of swift destruction creates an impression of decisive leadership, but it also normalises the idea that executive authority can override legal safeguards

are not immune to the same pressure. And since the judicial process does not follow a fixed timeline, some argue that this pressure is multiplied.

The drive for 'instant' justice

The backlog of cases across all courts in India has crossed 5.5 crore, with the figure in the Supreme Court alone accounting for over 90,000 cases. The India Justice Report 2025 noted that there are only 15 judges for every million Indians, as against a 1987 Law Commission of India recommendation of 50 judges per one million. In 22 of the 25 States, the same report noted, cases pending for over three years in subordinate courts amount to 25% of all pending cases. And across 25 High Courts, the number of cases which are pending for over five years account for 51%.

The burden of proof and the long road to litigation often act as a deterrent and, therefore, common citizens prefer quick justice. And when government authorities are under constant scrutiny and quick feedback, the pressure of "instant delivery of justice" is quite high.

But what an individual prefers, even a majority of them, cannot be the state's choice. In a state governed by the rule of law, there is no place for majoritarian populism. The tenets of criminal jurisprudence consider any crime against an individual as one against society. And the state can dispense justice only in accordance with the law.

The problem with bulldozer justice lies precisely in the fact that it substitutes spectacle for procedure. Demolitions carried out immediately after an alleged offence, often before investigations are completed, blur the distinction between punishment and an extrajudicial action carried out by the state. In such cases, the state assumes the role of investigator, judge and executioner at once. This dissolution of power between the organs of the state undermines the

very principles that underpin a constitutional democracy.

There is another aspect that is often overlooked. If the demolitions of the homes of the accused are for purported violations of land or municipal laws, it begs the question: why did the government allow such a structure in the first place? Is it an admission that a corrupt system allowed such a home to be built right before the gaze of law enforcers? But if the demolitions are meant to convey a message of zero tolerance towards crime, then it runs foul of the law. The state cannot reduce itself to the level of vigilante groups, whose main purpose of existence is to hand out "instant justice".

The image of swift destruction creates an impression of decisive leadership, but it also normalises the idea that executive authority can override legal safeguards whenever public anger demands immediate retribution. Over time, this risks weakening institutional credibility and erodes citizens' trust in lawful processes.

Strengthen institutions

The real solution to public frustration with the justice system lies not in bypassing it, but in strengthening it. Expanding judicial capacity, filling vacancies, modernising court infrastructure and improving investigative processes would address the underlying causes of delay far more effectively than theatrical displays of coercive powers. Cases involving heinous crimes must be mandatorily assigned to fast-track courts that are focused on speedy disposals with frequent hearings.

However, a constitutional state derives its legitimacy not from the speed of punishment but from its unimpeachable principles and the fairness of its processes.

"Bulldozer justice" may satisfy a demand for instant retribution, but it erodes the foundations of the rule of law and risks reducing the state to a vigilante group.

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06M. How 'bulldozer justice' undermines the law

'बुलडोज़र न्याय' किस प्रकार कानून को कमजोर करता है

- The sight of a five-year-old giving a toy to Uttar Pradesh Chief Minister Yogi Adityanath on March 27 at Gorakhpur made for a tender photo moment.



27 मार्च को गोरखपुर में एक पाँच वर्षीय बच्ची द्वारा उत्तर प्रदेश के मुख्यमंत्री योगी आदित्यनाथ को खिलौना भेंट करने का दृश्य एक भावुक क्षण बन गया।

- The Chief Minister returned the gift and asked the child to focus on her **studies**.
मुख्यमंत्री ने उपहार लौटाते हुए बच्ची से अपनी **पढ़ाई** पर ध्यान देने को कहा।
- A child showing her **admiration** for a political leader is nothing out of the ordinary, as leaders are meant to be **role models** for the younger generation.
किसी बच्चे द्वारा किसी राजनीतिक नेता के प्रति **प्रशंसा** दिखाना असामान्य नहीं है, क्योंकि नेता युवा पीढ़ी के लिए **आदर्श** होते हैं।
- But the five-year-old's choice of toy — a **replica of a bulldozer** — raises uncomfortable questions.
किन्तु पाँच वर्षीय बच्ची द्वारा चुना गया खिलौना — **बुलडोजर का प्रतिरूप** — असहज प्रश्न उत्पन्न करता है।
- The episode not only shows public approval for “**bulldozer justice**”, it also reflects the **normalisation of extrajudicial action by the state**.
यह घटना न केवल “**बुलडोजर न्याय**” के प्रति सार्वजनिक समर्थन दर्शाती है, बल्कि राज्य द्वारा **न्यायेतर कार्रवाइयों के सामान्यीकरण** को भी प्रतिबिंबित करती है।
- What is arguably a problematic **political symbol** is now part of our everyday consciousness and holds the potential to influence **impressionable minds**.
जो एक विवादास्पद **राजनीतिक प्रतीक** है, वह अब हमारी दैनिक चेतना का हिस्सा बन चुका है और **प्रभावित होने योग्य मनो** को प्रभावित करने की क्षमता रखता है।
- The much-hailed “**bulldozer justice**” **model** isn't just a negation of the concept of **due process** but a direct challenge to it.
बहुचर्चित “**बुलडोजर न्याय मॉडल**” केवल **विधिक प्रक्रिया** की अवधारणा का निषेध नहीं है, बल्कि उसके लिए एक सीधी चुनौती भी है।

Not the first time

यह पहली बार नहीं है

- Though “**bulldozer justice**” is now part of India's **political lexicon**, the concept of bulldozers being used as an **instrument of state policy** is not new.
यद्यपि “**बुलडोजर न्याय**” अब भारत की **राजनीतिक शब्दावली** का हिस्सा बन गया है, परन्तु राज्य नीति के **उपकरण** के रूप में बुलडोजर का उपयोग नया नहीं है।
- **Instances of bulldozers being used to clear encroachments and demolish unauthorised houses in Old Delhi's Turkman Gate area in 1976** — when the country was under the **Emergency** imposed by **Indira Gandhi**— have been well chronicled.
1976 में पुरानी दिल्ली के तुर्कमान गेट क्षेत्र में अतिक्रमण हटाने और अनधिकृत मकानों को गिराने के लिए बुलडोजर के उपयोग की घटनाएँ — जब देश में **इंदिरा गांधी द्वारा लगाए गए आपातकाल** का समय था — व्यापक रूप से दर्ज हैं।
- However, there is a key difference in how such actions have been **perceived over time**.
हालाँकि, समय के साथ इन कार्रवाइयों को **देखने के तरीके** में एक महत्वपूर्ण अंतर आया है।
- From being examined as part of the **excesses of the Emergency** by a judicial commission, bulldozer action is now being amplified as a symbol of the state's **firmness** in dealing with those who break the law.
जहाँ पहले इसे **आपातकाल की अतिरेकता** के रूप में न्यायिक आयोग द्वारा परखा गया था, वहीं अब इसे कानून तोड़ने वालों के विरुद्ध राज्य की **दृढ़ता** के प्रतीक के रूप में प्रस्तुत किया जा रहा है।
- It is premised on the fact that **judicial processes** are cumbersome and come in the way of delivering **instant retributive justice**.
यह इस धारणा पर आधारित है कि **न्यायिक प्रक्रियाएँ** जटिल होती हैं और **त्वरित दंडात्मक न्याय** प्रदान करने में बाधा बनती हैं।



- In an era of **10-minute deliveries**, government authorities are not immune to the same **pressure**.
10-मिनट डिलीवरी के युग में सरकारी संस्थाएँ भी उसी प्रकार के **दबाव** से मुक्त नहीं हैं।
- And since the judicial process does not follow a **fixed timeline**, some argue that this pressure is multiplied.
और चूँकि न्यायिक प्रक्रिया किसी **निश्चित समयसीमा** का पालन नहीं करती, इसलिए कुछ लोग मानते हैं कि यह दबाव और बढ़ जाता है।

The drive for 'instant' justice त्वरित न्याय की प्रवृत्ति

- The **backlog of cases across all courts in India has crossed 5.5 crore**, with the figure in the **Supreme Court** alone accounting for over **90,000 cases**.
भारत की सभी अदालतों में लंबित मामलों की संख्या **5.5 करोड़** से अधिक हो गई है, जिसमें केवल **सर्वोच्च न्यायालय** में ही **90,000 से अधिक मामले** लंबित हैं।
- The **India Justice Report 2025** noted that there are only **15 judges per million Indians**, as against a **1987 Law Commission** recommendation of **50 judges per million**.
इंडिया जस्टिस रिपोर्ट 2025 के अनुसार, भारत में प्रति दस लाख लोगों पर केवल **15 न्यायाधीश** हैं, जबकि **1987 के विधि आयोग** ने प्रति दस लाख पर **50 न्यायाधीशों** की सिफारिश की थी।
- **In 22 of the 25 States**, the same report noted, cases pending for over **three years in subordinate courts** amount to **25% of all pending cases**.
25 में से 22 राज्यों में, अधीनस्थ न्यायालयों में **तीन वर्षों से अधिक समय** से लंबित मामलों की संख्या कुल लंबित मामलों का **25%** है।
- **And across 25 High Courts**, the number of cases which are pending for over **five years** account for **51%**.
और **25 उच्च न्यायालयों** में, **पाँच वर्षों से अधिक समय** से लंबित मामलों की संख्या **51%** है।
- The **burden of proof** and the long road to **litigation** often act as a deterrent and, therefore, common citizens prefer **quick justice**.
साक्ष्य का भार और **लंबी न्यायिक प्रक्रिया** अक्सर लोगों को हतोत्साहित करते हैं, इसलिए सामान्य नागरिक **त्वरित न्याय** को प्राथमिकता देते हैं।
- And when government authorities are under constant **scrutiny** and quick feedback, the pressure of "**instant delivery of justice**" is quite high.
और जब सरकारी संस्थाएँ निरंतर **निगरानी** और त्वरित प्रतिक्रिया के अधीन होती हैं, तो "**त्वरित न्याय**" प्रदान करने का दबाव अत्यधिक बढ़ जाता है।
- But what an individual prefers, even a majority of them, cannot be the **state's choice**.
किन्तु किसी व्यक्ति की पसंद, चाहे वह बहुसंख्यक ही क्यों न हो, **राज्य का निर्णय** नहीं हो सकती।
- **In a state governed by the rule of law**, there is no place for **majoritarian populism**.
कानून के शासन वाले राज्य में **बहुसंख्यक जनवाद** के लिए कोई स्थान नहीं होता।
- The tenets of **criminal jurisprudence** consider any crime against an individual as one against **society**.
दंड विधि के सिद्धांत किसी व्यक्ति के विरुद्ध अपराध को पूरे **समाज के विरुद्ध अपराध** मानते हैं।
- And the state can dispense **justice only in accordance with the law**.
और राज्य केवल **कानून के अनुरूप ही न्याय** प्रदान कर सकता है।
- The problem with **bulldozer justice** lies precisely in the fact that it substitutes **spectacle for procedure**.
बुलडोजर न्याय की समस्या यही है कि यह **प्रक्रिया के स्थान पर प्रदर्शन** को स्थापित करता है।
- Demolitions carried out immediately after an alleged **offence**, often before investigations are completed, blur the distinction between **punishment** and an **extrajudicial action** carried out by the state.



कथित अपराध के तुरंत बाद, जाँच पूरी होने से पहले ही किए गए ध्वस्तीकरण, दंड और राज्य द्वारा की गई न्यायेतर कार्रवाई के बीच अंतर को धुंधला कर देते हैं।

- In such cases, the state assumes the role of investigator, judge and executioner at once. ऐसे मामलों में राज्य एक साथ जाँचकर्ता, न्यायाधीश और दंडदाता की भूमिका ग्रहण कर लेता है।

- This dissolution of power between the organs of the state undermines the very principles that underpin a constitutional democracy.

राज्य के अंगों के बीच शक्तियों का यह विघटन संवैधानिक लोकतंत्र के मूल सिद्धांतों को कमजोर करता है।

- There is another aspect that is often overlooked.

एक अन्य पहलू भी है जिसे अक्सर नज़रअंदाज़ किया जाता है।

- If the demolitions of the homes of the accused are for purported violations of land or municipal laws, it begs the question: why did the government allow such a structure in the first place?

यदि आरोपियों के घरों का ध्वस्तीकरण भूमि या नगरपालिका कानूनों के उल्लंघन के कारण किया जा रहा है, तो यह प्रश्न उठता है कि सरकार ने प्रारंभ में ऐसे निर्माण की अनुमति क्यों दी?

- Is it an admission that a corrupt system allowed such a home to be built right before the gaze of law enforcers?

क्या यह इस बात की स्वीकृति है कि एक भ्रष्ट व्यवस्था ने कानून प्रवर्तन एजेंसियों की निगरानी में ही ऐसे निर्माण को होने दिया?

- But if the demolitions are meant to convey a message of zero tolerance towards crime, then it runs foul of the law.

किन्तु यदि यह ध्वस्तीकरण अपराध के प्रति शून्य सहिष्णुता का संदेश देने के लिए है, तो यह कानून का उल्लंघन करता है।

- The state cannot reduce itself to the level of vigilante groups, whose main purpose of existence is to hand out "instant justice".

राज्य स्वयं को भीड़ न्याय करने वाले समूहों के स्तर तक नहीं गिरा सकता, जिनका उद्देश्य "त्वरित न्याय" देना होता है।

- The image of swift destruction creates an impression of decisive leadership, but it also normalises the idea that executive authority can override legal safeguards whenever public anger demands immediate retribution.

त्वरित विनाश की छवि निर्णायक नेतृत्व का आभास देती है, परन्तु यह इस विचार को भी सामान्य बनाती है कि कार्यपालिका की शक्ति सार्वजनिक आक्रोश के समय कानूनी सुरक्षा उपायों को दरकिनार कर सकती है।

- Over time, this risks weakening institutional credibility and erodes citizens' trust in lawful processes.

समय के साथ यह संस्थागत विश्वसनीयता को कमजोर करता है और नागरिकों के कानूनी प्रक्रियाओं में विश्वास को घटाता है।

Strengthen institutions

संस्थाओं को सुदृढ़ बनाना

- The real solution to public frustration with the justice system lies not in bypassing it, but in strengthening it.

न्याय प्रणाली के प्रति जन असंतोष का वास्तविक समाधान इसे दरकिनार करने में नहीं बल्कि इसे सुदृढ़ करने में है।

- Expanding judicial capacity, filling vacancies, modernising court infrastructure and improving investigative processes would address the underlying causes of delay far more effectively than theatrical displays of coercive powers.

न्यायिक क्षमता का विस्तार, रिक्तियों की पूर्ति, न्यायालयीन अवसंरचना का आधुनिकीकरण, तथा जाँच प्रक्रियाओं में सुधार विलंब के मूल कारणों को कहीं अधिक प्रभावी ढंग से संबोधित कर सकते हैं।



- Cases involving **heinous crimes** must be mandatorily assigned to **fast-track courts** that are focused on **speedy disposal** with frequent hearings.
गंभीर अपराधों से संबंधित मामलों को अनिवार्य रूप से त्वरित न्यायालयों को सौंपा जाना चाहिए, जो शीघ्र निपटान और नियमित सुनवाई पर केंद्रित हों।
- However, a **constitutional state** derives its legitimacy not from the speed of punishment but from its **unimpeachable principles** and the **fairness of its processes**.
किन्तु एक संवैधानिक राज्य अपनी वैधता दंड की गति से नहीं बल्कि अपने निर्विवाद सिद्धांतों और निष्पक्ष प्रक्रियाओं से प्राप्त करता है।
- “**Bulldozer justice**” may satisfy a demand for **instant retribution**, but it erodes the foundations of the **rule of law** and risks reducing the state to a **vigilante group**.
“बुलडोजर न्याय” त्वरित प्रतिशोध की मांग को पूरा कर सकता है, परंतु यह कानून के शासन की नींव को कमजोर करता है और राज्य को भीड़ न्याय करने वाले समूह में परिवर्तित करने का जोखिम उत्पन्न करता है।

Supreme Court defines life imprisonment

GS II: Polity

New Delhi, May 5: The notion that life imprisonment implies imprisonment for 20 or 14 years is wrong. Life imprisonment means “imprisonment for the entire life of the prisoner” unless the Government chooses to remit the same earlier, the Supreme Court to-day ruled.

A sentence of life imprisonment did not automatically come to an end after 20 years. After serving a jail term of 20 years, including remissions, a life convict could not ask to be released as a matter of right, the Court held.

Under Section 401 of the Code of Criminal Procedure, it was the “undoubted discretion” of the “appropriate Government” to “remit or refuse to remit” the sentence and where the State Government refused to remit the sentence, a High Court could not issue a writ under Article 226 of the Constitution directing the Government to release the prisoner, the Court ruled.

One Rattan Singh was convicted by the Sessions Judge Bhind (Madhya Pradesh) on charges of murder and sentenced to life imprisonment on October 16, 1957. He appealed for a transfer to Amritsar in Punjab. The same was granted.

On May 7, 1971, the prisoner made a representation to the Government seeking release.

The Punjab Government forwarded the representation to the Madhya Pradesh Government and the latter, rejected it.

The prisoner then filed a writ petition under Article 226 of the Constitution before the Punjab and Haryana High Court on the ground that having already served sentence of more than 20 years, he was entitled to be released “as a matter of course” under the provisions of the Jail Manual and the Prison Act.

06M. Supreme Court defines life imprisonment

सुप्रीम कोर्ट ने आजीवन कारावास को परिभाषित किया

• New Delhi, May 5: The notion that **life imprisonment** implies imprisonment for 20 or 14 years is wrong.

नई दिल्ली, 5 मई: यह धारणा कि **आजीवन कारावास** का अर्थ 20 या 14 वर्ष की कैद है, गलत है।

• **Life imprisonment** means “imprisonment for the entire life of the prisoner” unless the Government chooses to remit the same earlier, the Supreme Court to-day ruled.

आजीवन कारावास का अर्थ है “कैदी के पूरे जीवन तक की कैद”, जब तक सरकार इसे पहले माफ न कर दे, सुप्रीम कोर्ट ने आज फैसला सुनाया।

• A sentence of life imprisonment did not automatically come to an end after 20 years.

आजीवन कारावास की सजा 20 साल बाद स्वतः समाप्त नहीं होती।

• After serving a jail term of 20 years, including remissions, a life convict could not ask to be released as a matter of right, the Court held.

20 साल की सजा, जिसमें छूट भी शामिल है, पूरी करने के बाद भी आजीवन कैदी रिहाई को अधिकार के रूप में नहीं मांग सकता, कोर्ट ने कहा।

• Under Section 401 of the **Code of Criminal Procedure**, it was the “undoubted discretion” of the “appropriate Government” to “remit or refuse to remit” the sentence and where the State Government refused to remit the sentence, a High Court could not issue a writ under Article 226 of the Constitution directing the Government to release the prisoner, the Court ruled.



दंड प्रक्रिया संहिता (Code of Criminal Procedure) की धारा 401 के तहत “उचित सरकार” के पास सजा को “माफ करने या माफ न करने” का “निर्विवाद अधिकार” है, और जहां राज्य सरकार सजा माफ करने से इनकार करती है, वहां उच्च न्यायालय संविधान के अनुच्छेद 226 के तहत सरकार को कैदी रिहा करने का आदेश नहीं दे सकता, कोर्ट ने फैसला दिया।

- One **Rattan Singh** was convicted by the Sessions Judge Bhind (Madhya Pradesh) on charges of murder and sentenced to life imprisonment on October 16, 1957.
एक **रतन सिंह** को भिंड (मध्य प्रदेश) के सेशन जज ने हत्या के आरोप में दोषी ठहराया और 16 अक्टूबर 1957 को आजीवन कारावास की सजा दी।
- He appealed for a transfer to Amritsar in Punjab.
उन्होंने पंजाब के अमृतसर में स्थानांतरण के लिए अपील की।
- The same was granted.
यह अनुरोध स्वीकार कर लिया गया।
- On May 7, 1971, the prisoner made a representation to the Government seeking release.
7 मई 1971 को कैदी ने सरकार से रिहाई के लिए एक आवेदन दिया।
- The Punjab Government forwarded the representation to the Madhya Pradesh Government and the latter, rejected it.
पंजाब सरकार ने यह आवेदन मध्य प्रदेश सरकार को भेजा और बाद में उसे खारिज कर दिया गया।
- The prisoner then filed a writ petition under Article 226 of the Constitution before the Punjab and Haryana High Court on the ground that having already served a sentence of more than 20 years, he was entitled to be released “as a matter of course” under the provisions of the **Jail Manual and the Prison Act**.
इसके बाद कैदी ने संविधान के अनुच्छेद 226 के तहत पंजाब और हरियाणा हाई कोर्ट में याचिका दायर की कि 20 वर्ष से अधिक की सजा काटने के बाद वह जेल मैनुअल और प्रिजन एक्ट के तहत “स्वाभाविक रूप से” रिहाई का हकदार है।

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The Iran conflict and the future of Shia identity

GS II, West Asia

The Iran war is not merely a geopolitical conflict; it is a crucible for the future of Shia identity. For nearly half a century, Shiism has been shaped by the Iranian revolutionary model – an assertive fusion of clerical authority, state power, and transnational political ambition. This conflict could disrupt, reinforce, or redesign that synthesis. The war may fragment Shia identity, pulling it back toward national forms. But it may equally consolidate and radicalise it, deepening a shared narrative of oppression and reviving its most powerful theological motifs – martyrdom, sacrifice, and resistance.

Simultaneous trajectories

These two trajectories are unfolding simultaneously, in tension with one another, across different Shia societies. The first points toward fragmentation. Since the 1979 Iranian Revolution, Shia identity has been closely tied to the idea of “political Shiism” – a model in which religious authority is enshrined as the supreme decision maker within a state and projected outward through networks of religious and political influence. Iran positioned itself as the guardian and leader of Shia communities worldwide, building alliances with groups such as Hezbollah in Lebanon, the Houthis in Yemen, and various militias and political factions in Iraq.

The current war places this model under severe strain. With Iran immeasurably weakened – militarily and economically – its ability to sustain this transnational network is considerably diminished. This could lead to what might be called the “nationalization” of Shia identity. Shiism will not be seen as a vehicle for geopolitical struggle but a religious tradition that coexists with multiple political arrangements.

Yet, this is only one side of the story. Wars do not merely fragment identities; they also forge them. The same conflict that has weakened institutional structures can intensify emotional



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Shia identity faces the possibility of fragmentation or radical consolidation

and symbolic bonds. The alternative trajectory is one of consolidation and radicalisation. If the war is framed – and experienced – by Shia communities as an assault not just on Iran but on Shia identity itself, it could reinforce a shared sense of collective victimhood.

For centuries, Shia consciousness has been shaped by the memory of oppression under Sunni-dominated empires. The Islamic Republic successfully tapped into this historical narrative, recasting contemporary conflicts as continuations of a long struggle against injustice. The current war adds a further dimension: the perception of being targeted not only by regional Sunni oppressors such as the House of Saud but also by powerful external actors, particularly Israel and the United States. In such a context, differences of nationality or political orientation may recede in importance, overshadowed by a shared narrative of existential threat.

What Karbala represents

At the heart of this consolidating and radicalising narrative lies the Battle of Karbala in 680 CE, in which Imam Hussain and his small band of followers were martyred by the forces of the Umayyad caliph Yazid. This is the foundational event of Shia identity. It is not merely a historical episode but a living symbol, reenacted annually in rituals of mourning and remembrance. Karbala represents the triumph of moral truth over brute power, the willingness to make the supreme sacrifice in the face of injustice. If Shia communities perceive themselves as under siege, Karbala provides a ready-made narrative through which to interpret their experience.

This consolidation and radicalisation would also reinvigorate the concept of “resistance”. This war and especially the near total devastation of South Lebanon, which is predominantly Shia, and the uprooting of its population by Israeli invaders could deepen this orientation. Resistance would no longer be simply a strategic

choice; it would be an expression of identity itself. The juxtaposition of these two trajectories captures the uncertainty of the present moment. These dynamics are not evenly distributed. In countries such as Iraq, where the Shia are a demographic majority and deeply invested in state institutions, the pull toward nationalisation may be stronger especially if Grand Ayatollah Sistani and the Najaf religious establishment throw their weight behind it. In Lebanon and Bahrain, where identity is more closely tied to perceptions of oppression, consolidation may prove more compelling. In Iran the suffering inflicted by the United States-Israeli attacks, seen by Iranians of all political hues as unprovoked and unjustified, is likely to reinforce the Karbala syndrome and, therefore, aid consolidation as well as radicalisation.

Looking ahead

The outcome will depend not only on the course of the war but on how it is interpreted. For in Shiism, as in all living traditions, identity is not merely inherited; it is continually reconstructed through the interplay of history, memory, and experience.

While on the surface it appears like a toss up between the two trajectories, given the transnational nature of Shia suffering, it is more than likely that consolidation as well as radicalisation may prevail over fragmentation or at the very least inspire a significant section of the Shia population into action across national boundaries.

If the latter prediction holds true, the war against Iran may end up spawning a Shia variant of al-Qaeda that, like the original version, could make the U.S. its primary target. Lebanon, a failing state, could provide the breeding ground and sanctuary for such an organisation as the failed Afghan state did for the original al-Qaeda.

The law of unintended consequences works in unpredictable ways.

06M. The Iran conflict and the future of Shia identity

ईरान संघर्ष और शिया पहचान का भविष्य

- The Iran war is not merely a geopolitical conflict; it is a crucible for the future of Shia identity. ईरान युद्ध केवल एक भूराजनीतिक संघर्ष नहीं है; यह शिया पहचान के भविष्य के लिए एक कसौटी है।
- For nearly half a century, Shiism has been shaped by the Iranian revolutionary model — an assertive fusion of clerical authority, state power, and transnational political ambition. लगभग आधी सदी से, शियावाद को ईरानी क्रांतिकारी मॉडल ने आकार दिया है — जो धार्मिक नेतृत्व, राज्य शक्ति, और सीमापार राजनीतिक महत्वाकांक्षा का सशक्त मिश्रण है।
- This conflict could disrupt, reinforce, or redesign that synthesis. यह संघर्ष इस संरचना को विघटित, मजबूत, या पुनर्निर्मित कर सकता है।
- The war may fragment Shia identity, pulling it back toward national forms. यह युद्ध शिया पहचान को विभाजित कर सकता है, उसे पुनः राष्ट्रीय स्वरूपों की ओर ले जा सकता है।
- But it may equally consolidate and radicalise it, deepening a shared narrative of oppression and reviving its most powerful theological motifs — martyrdom, sacrifice, and resistance.

किन्तु यह इसे समान रूप से सुदृढ़ और उग्र भी बना सकता है, उत्पीड़न की साझा कथा को गहरा कर सकता है और इसके प्रमुख धार्मिक तत्वों — शहादत, बलिदान, और प्रतिरोध — को पुनर्जीवित कर सकता है।



Simultaneous trajectories

समानांतर प्रवृत्तियाँ

- These two **trajectories** are unfolding simultaneously, in tension with one another, across different **Shia societies**.
ये दोनों प्रवृत्तियाँ एक साथ, परस्पर तनाव में, विभिन्न शिया समाजों में विकसित हो रही हैं।
- The first points toward **fragmentation**.
पहली दिशा विभाजन की ओर संकेत करती है।
- Since the **1979 Iranian Revolution**, Shia identity has been closely tied to the idea of **“political Shiism”** — a model in which **religious authority** is ensconced as the **supreme decision maker** within a state and projected outward through networks of **religious and political influence**.
1979 की ईरानी क्रांति के बाद से, शिया पहचान **“राजनीतिक शियावाद”** की अवधारणा से जुड़ी रही है — एक ऐसा मॉडल जिसमें **धार्मिक प्राधिकरण** राज्य के भीतर **सर्वोच्च निर्णयकर्ता** के रूप में स्थापित होता है और **धार्मिक तथा राजनीतिक प्रभाव** के नेटवर्क के माध्यम से बाहर तक विस्तारित होता है।
- Iran positioned itself as the **guardian and leader of Shia communities** worldwide, building alliances with groups such as **Hezbollah**, the **Houthis**, and various militias and political factions.
ईरान ने स्वयं को विश्वभर के **शिया समुदायों के संरक्षक और नेता** के रूप में स्थापित किया, और **हिज़बुल्लाह, हूती, तथा विभिन्न मिलिशिया और राजनीतिक समूहों** के साथ गठबंधन बनाए।
- The current war places this model under **severe strain**.
वर्तमान युद्ध इस मॉडल को **गंभीर दबाव** में डाल रहा है।
- With Iran immeasurably **weakened — militarily and economically**, its ability to sustain this **transnational network** is considerably diminished.
ईरान के **सैन्य और आर्थिक रूप से कमजोर** होने के कारण, इस **सीमापार नेटवर्क** को बनाए रखने की उसकी क्षमता काफी घट गई है।
- This could lead to what might be called the **“nationalization” of Shia identity**.
यह **शिया पहचान के “राष्ट्रीयकरण”** की ओर ले जा सकता है।
- Shiism will not be seen as a vehicle for **geopolitical struggle** but a **religious tradition** that coexists with multiple **political arrangements**.
शियावाद को अब **भूराजनीतिक संघर्ष** के साधन के रूप में नहीं बल्कि एक **धार्मिक परंपरा** के रूप में देखा जाएगा, जो विभिन्न **राजनीतिक व्यवस्थाओं** के साथ सह-अस्तित्व रखती है।
- Yet, this is only one side of the story.
किन्तु यह केवल कहानी का एक पक्ष है।
- Wars do not merely **fragment identities**; they also **forge them**.
युद्ध केवल **पहचान को विभाजित** नहीं करते; वे उन्हें **निर्मित** भी करते हैं।
- The same conflict that has weakened **institutional structures** can intensify **emotional and symbolic bonds**.
वही संघर्ष जिसने **संस्थागत ढाँचों** को कमजोर किया है, वह **भावनात्मक और प्रतीकात्मक संबंधों** को मजबूत भी कर सकता है।
- The alternative trajectory is one of **consolidation and radicalisation**.
वैकल्पिक दिशा **सुदृढ़ीकरण और उग्रता** की है।
- If the war is framed — and experienced — by Shia communities as an assault not just on Iran but on **Shia identity itself**, it could reinforce a shared sense of **collective victimhood**.
यदि यह युद्ध शिया समुदायों द्वारा केवल ईरान ही नहीं बल्कि **शिया पहचान पर आक्रमण** के रूप में देखा जाता है, तो यह **सामूहिक पीड़ित भावना** को और मजबूत कर सकता है।
- For centuries, **Shia consciousness** has been shaped by the memory of **oppression under Sunni-dominated empires**.
सदियों से **शिया चेतना** को **सुन्नी-प्रधान साम्राज्यों** के अधीन **उत्पीड़न** की स्मृतियों ने आकार दिया है।



- The **Islamic Republic** successfully tapped into this **historical narrative**, recasting contemporary conflicts as continuations of a long struggle against **injustice**.
इस्लामिक गणराज्य ने इस ऐतिहासिक कथा का सफलतापूर्वक उपयोग किया, और वर्तमान संघर्षों को अन्याय के विरुद्ध लंबे संघर्ष की निरंतरता के रूप में प्रस्तुत किया।
- The current war adds a further dimension: the perception of being targeted not only by regional **Sunni oppressors** such as the **House of Saud** but also by powerful external actors, particularly **Israel** and the **United States**.
वर्तमान युद्ध एक और आयाम जोड़ता है: यह धारणा कि केवल क्षेत्रीय सुन्नी शासकों जैसे सऊद परिवार ही नहीं बल्कि शक्तिशाली बाहरी शक्तियाँ, विशेषकर इज़राइल और संयुक्त राज्य अमेरिका, भी लक्ष्य बना रही हैं।
- In such a context, differences of **nationality** or **political orientation** may recede in importance, overshadowed by a shared narrative of **existential threat**.
ऐसे परिप्रेक्ष्य में राष्ट्रीयता या राजनीतिक दृष्टिकोण के अंतर महत्वहीन हो सकते हैं, और उनकी जगह अस्तित्वगत खतरे की साझा भावना ले सकती है।

What Karbala represents

कर्बला का प्रतिनिधित्व क्या है

- At the heart of this **consolidating and radicalising narrative** lies the **Battle of Karbala in 680 CE**, in which **Imam Hussain** and his small band of followers were **martyred** by the forces of the **Umayyad caliph Yazid**.
इस सुदृढ़ और उग्र बनती कथा के केंद्र में 680 ईस्वी का कर्बला युद्ध है, जिसमें इमाम हुसैन और उनके अनुयायियों के छोटे समूह को उमय्यद खलीफा यज़ीद की सेना द्वारा शहीद किया गया।
- This is the **foundational event of Shia identity**.
यह शिया पहचान की आधारभूत घटना है।
- It is not merely a **historical episode** but a **living symbol**, reenacted annually in rituals of mourning and remembrance.
यह केवल एक ऐतिहासिक घटना नहीं बल्कि एक जीवंत प्रतीक है, जिसे प्रतिवर्ष शोक और स्मरण के अनुष्ठानों में दोहराया जाता है।
- **Karbala represents the triumph of moral truth over brute power, the willingness to make the supreme sacrifice in the face of injustice.**
कर्बला नैतिक सत्य की क्रूर शक्ति पर विजय तथा अन्याय के सामने सर्वोच्च बलिदान देने की इच्छा का प्रतीक है।
- If Shia communities perceive themselves as **under siege**, Karbala provides a ready-made narrative through which to interpret their experience.
यदि शिया समुदाय स्वयं को घेराबंदी में महसूस करते हैं, तो कर्बला उनके अनुभव को समझने के लिए एक तैयार कथा प्रदान करता है।
- This **consolidation and radicalisation** would also reinvigorate the concept of **“resistance”**.
यह सुदृढ़ीकरण और उग्रता “प्रतिरोध” की अवधारणा को भी पुनर्जीवित करेगी।
- This war and especially the near total **devastation of South Lebanon**, which is predominantly Shia, and the **uprooting of its population** by Israeli invaders could deepen this orientation.
यह युद्ध, विशेषकर शिया-बहुल दक्षिण लेबनान का व्यापक विनाश और इज़राइली आक्रमणकारियों द्वारा उसकी जनसंख्या का विस्थापन, इस प्रवृत्ति को और गहरा कर सकता है।
- Resistance would no longer be simply a **strategic choice**; it would be an **expression of identity itself**.
प्रतिरोध अब केवल एक रणनीतिक विकल्प नहीं रहेगा, बल्कि स्वयं पहचान की अभिव्यक्ति बन जाएगा।
- The juxtaposition of these two **trajectories** captures the uncertainty of the present moment.
इन दोनों प्रवृत्तियों का संयोजन वर्तमान समय की अनिश्चितता को दर्शाता है।



- These dynamics are not evenly distributed.
ये गतिशीलताएँ समान रूप से वितरित नहीं हैं।
- In countries such as **Iraq**, where the Shia are a **demographic majority** and deeply invested in **state institutions**, the pull toward **nationalisation** may be stronger especially if **Grand Ayatollah Sistani** and the **Najaf religious establishment** throw their weight behind it.
इराक जैसे देशों में, जहाँ शिया जनसंख्या में बहुसंख्यक हैं और राज्य संस्थानों में गहराई से जुड़े हैं, वहाँ राष्ट्रीयकरण की प्रवृत्ति अधिक मजबूत हो सकती है, विशेषकर यदि ग्रैंड अयातुल्ला सिस्तानी और नजफ धार्मिक प्रतिष्ठान इसका समर्थन करें।
- In **Lebanon** and **Bahrain**, where identity is more closely tied to perceptions of **oppression**, consolidation may prove more compelling.
लेबनान और बहरीन में, जहाँ पहचान उत्पीड़न की धारणा से अधिक जुड़ी है, वहाँ सुदृढीकरण अधिक प्रभावी हो सकता है।
- In **Iran** the suffering inflicted by the **United States-Israeli attacks**, seen by Iranians of all political hues as **unprovoked and unjustified**, is likely to reinforce the **Karbala syndrome** and, therefore, aid **consolidation as well as radicalisation**.
ईरान में संयुक्त राज्य और इज़राइल के हमलों से हुई पीड़ा, जिसे विभिन्न राजनीतिक विचारधाराओं के ईरानी लोग अकारण और अन्यायपूर्ण मानते हैं, कर्बला मानसिकता को और मजबूत करेगी और इस प्रकार सुदृढीकरण तथा उग्रता को बढ़ावा देगी।

Looking ahead आगे की दिशा

- The outcome will depend not only on the course of the **war** but on how it is **interpreted**.
परिणाम केवल युद्ध की दिशा पर ही नहीं बल्कि उसकी व्याख्या पर भी निर्भर करेगा।
- For in **Shiism**, as in all living traditions, identity is not merely **inherited**; it is continually **reconstructed** through the interplay of **history**, **memory**, and **experience**.
क्योंकि शियावाद में, जैसे सभी जीवित परंपराओं में, पहचान केवल विरासत में नहीं मिलती, बल्कि इतिहास, स्मृति, और अनुभव के माध्यम से निरंतर पुनर्निर्मित होती रहती है।
- While on the surface it appears like a toss up between the two **trajectories**, given the **transnational nature of Shia suffering**, it is more than likely that **consolidation as well as radicalisation** may prevail over **fragmentation** or at the very least inspire a significant section of the Shia population into action across **national boundaries**.
यद्यपि सतह पर यह दो प्रवृत्तियों के बीच संतुलन जैसा प्रतीत होता है, किन्तु शिया पीड़ा के अंतरराष्ट्रीय स्वरूप को देखते हुए यह अधिक संभावित है कि सुदृढीकरण और उग्रता विभाजन पर हावी हो जाएँ या कम से कम शिया जनसंख्या के एक बड़े हिस्से को राष्ट्रीय सीमाओं से परे कार्रवाई के लिए प्रेरित करें।
- If the latter prediction holds true, the **war against Iran may end up spawning a Shia variant of al-Qaeda** that, like the original version, could make the **United States** its primary target.
यदि यह पूर्वानुमान सही सिद्ध होता है, तो ईरान के विरुद्ध युद्ध एक अल-कायदा के शिया स्वरूप को जन्म दे सकता है, जो मूल संगठन की तरह संयुक्त राज्य को अपना प्रमुख लक्ष्य बना सकता है।
- **Lebanon**, a **failing state**, could provide the **breeding ground and sanctuary** for such an organisation as the failed Afghan state did for the original al-Qaeda.
लेबनान, जो एक विफल राज्य है, ऐसे संगठन के लिए उत्पत्ति स्थल और आश्रय प्रदान कर सकता है, जैसा कि विफल अफगान राज्य ने मूल अल-कायदा के लिए किया था।
- The **law of unintended consequences** works in unpredictable ways.
अनपेक्षित परिणामों का सिद्धांत अप्रत्याशित तरीकों से कार्य करता है।



BANGKOK

Thailand scraps treaty on energy, maritime territory with Cambodia



REUTERS

GS II: IR

Thailand cancelled a 25-year-old agreement with neighbour Cambodia on overlapping maritime claims and energy exploration on Tuesday, the Thai Prime Minister said, drawing a sharp rebuke from Phnom Penh. He said the move was not related to border clashes that killed dozens of people last year. AFP

06M. Thailand scraps treaty on energy, maritime territory with Cambodia
थाईलैंड ने कंबोडिया के साथ ऊर्जा और समुद्री क्षेत्र संधि रद्द की

- **Thailand cancelled a 25-year-old agreement with neighbour Cambodia on overlapping maritime claims and energy exploration** on Tuesday, the Thai Prime Minister said, drawing a sharp rebuke from **Phnom Penh**. थाईलैंड ने मंगलवार को पड़ोसी देश **कंबोडिया** के साथ समुद्री दावों के ओवरलैप और ऊर्जा खोज से संबंधित **25 साल पुरानी संधि** को रद्द कर दिया, थाई प्रधानमंत्री ने कहा, जिससे **नोम पेन्ह** की ओर से कड़ी आलोचना हुई।
- He said the move was not related to border clashes that killed dozens of people last year. उन्होंने कहा कि यह कदम पिछले वर्ष दर्जनों लोगों की जान लेने वाली सीमा झड़पों से संबंधित नहीं है।

GS Paper III: Economy		06 May 2026
TOPICS COVERED		
06M	Govt. hikes sugarcane FRP by ₹10 per quintal सरकार ने गन्ने के FRP में ₹10 प्रति क्विंटल की बढ़ोतरी की	
06M	India's energy security amid conflicts संघर्षों के बीच भारत की ऊर्जा सुरक्षा	
06M	Industrial heat pumps and the case for cleaning industrial heat औद्योगिक हीट पंप और औद्योगिक ऊष्मा को स्वच्छ बनाने का मामला	
06M	Govt. sets 12-week limit to process FDI applications सरकार ने FDI आवेदनों को संसाधित करने के लिए 12 सप्ताह की समयसीमा तय की	
06M	Govt. approves fifth edition of credit guarantee scheme सरकार ने क्रेडिट गारंटी योजना का पांचवां संस्करण मंजूर किया	



Govt. hikes sugarcane FRP by ₹10 per quintal

GS III: Economy

The Hindu Bureau
NEW DELHI

The Cabinet Committee on Economic Affairs on Tuesday increased the Fair and Remunerative Price of sugarcane for the sugar season 2026-27 by ₹10 a quintal from the last crop year. The new price will be ₹365 a quintal for a basic sugar recovery rate of 10.25%.

There will not be any deduction in case of sugar mills where recovery is below 9.5%. "Such farmers will get ₹338.3 per quintal," a press release stated.

The Cabinet also approved ₹5,659.22 crore for "Mission for Cotton Productivity" (2026-27 to 2030-31) to address bottlenecks, declining growth, and quality concerns in the cotton sector.

06M. Govt. hikes sugarcane FRP by ₹10 per quintal सरकार ने गन्ने के FRP में ₹10 प्रति क्विंटल की बढ़ोतरी की

- The Cabinet Committee on Economic Affairs on Tuesday increased the Fair and Remunerative Price (FRP) of sugarcane for the sugar season 2026-27 by ₹10 a quintal from the last crop year. मंगलवार को आर्थिक मामलों की कैबिनेट समिति ने चीनी सत्र 2026-27 के लिए गन्ने के उचित और लाभकारी मूल्य (FRP) में पिछले फसल वर्ष की तुलना में ₹10 प्रति क्विंटल की वृद्धि की।

- The new price will be ₹365 a quintal for a basic sugar recovery rate of 10.25%.

10.25% की मूल चीनी रिकवरी दर के लिए नया मूल्य ₹365 प्रति क्विंटल होगा।

- There will not be any deduction in case of sugar mills where recovery is below 9.5%.

जिन चीनी मिलों में रिकवरी 9.5% से कम होगी, वहां किसी भी प्रकार की कटौती नहीं की जाएगी।

- "Such farmers will get ₹338.3 per quintal," a press release stated.

"ऐसे किसानों को ₹338.3 प्रति क्विंटल मिलेगा," एक प्रेस विज्ञप्ति में कहा गया।

- The Cabinet also approved ₹5,659.22 crore for "Mission for Cotton Productivity" (2026-27 to 2030-31) to address bottlenecks, declining growth, and quality concerns in the cotton sector.

कैबिनेट ने कपास क्षेत्र में बाधाओं, घटती वृद्धि और गुणवत्ता संबंधी समस्याओं को दूर करने के लिए "मिशन फॉर कॉटन प्रोडक्टिविटी" (2026-27 से 2030-31) के लिए ₹5,659.22 करोड़ की भी मंजूरी दी।



India's energy security amid conflicts

The conflict in West Asia has shown how geopolitical shocks can transmit to India's domestic economy, given that the country imports over 85% of its crude needs. In a fragmented energy market, India's edge lies not in self-sufficiency but in optionality.

GS III: Economy

EXPLAINER

Deepanshu Mohan
Aditi Lazarus

The conflict in West Asia has demonstrated the speed with which geopolitical shocks have been transmitted to India's domestic economy. The head of the International Energy Agency has described the current geo-economic crisis as more severe than the combined shocks of 1973, 1979 and 2022.

The price of Brent crude oil rose to \$109.03 per barrel after hitting highs of around \$120 during the conflict. At a domestic level, India is projected to see its economy slow from 7.4% growth in FY26 to 6.5% in FY27 with a projected increase in inflation from 2.3% to 4.4% due to the impact of disruptions observed in the energy supply chains.

Energy security can no longer be defined solely as purchasing fuel at the lowest possible price. It now rests on resilience, diversification, and protection of macroeconomic stability.

Breakdown of the old energy market order

The Russia-Ukraine War was the first major warning to the pre-existing energy market order. It exposed the perils of energy dependence overnight.

Europe once relied on Russia for 45% of its gas imports. By 2025, that had fallen to 12%. Europe did not respond by chasing efficiency, it did so by buying insurance. Gas consumption by European Union (EU) countries fell by 20% between 2021 and 2024, while the combined imports of gas and liquefied natural gas (LNG) declined by 18%.

Even when average LNG terminal utilisation was only 52% in the first half of 2025, Europe accepted spare capacity as the price of security.

While the war in Ukraine revealed the reliance on pipeline-based supplies, the conflict in West Asia demonstrated the reliance on sea transportation.

The Strait of Hormuz, through which approximately 25% of the world's crude oil is transported, has once again become an extremely important chokepoint, transmitting price shocks rapidly across global markets.

Other powers have adapted differently. China has locked in nearly 25 million metric tons of LNG per year through contracts, South Korea has secured 273 million barrels of crude oil that will transit from outside the Strait of Hormuz, while Japan has stockpiled 470 million barrels, which is equivalent to 254 days of consumption.

Gulf shore exporters have regained much of their bargaining power due to spare capacity. The International Energy Agency (IEA) forecasts a contraction of 80 kb/d in the global demand for oil on average in 2026, with a decrease of 236 kb/d for OECD (Organisation for Economic Co-operation and Development) and 254 kb/d for Middle East, while non-OECD demand still rises 152 kb/d. In this weaker market, India's demand growth becomes strategically valuable.

How India gained more room to manoeuvre

The potential threat of disruption of the Indian oil imports is real and immediate, since the country imports over 85% of its crude needs, with roughly 45% of its imports transiting through the Strait of Hormuz.



Navigating the crisis: An Indian-flagged tanker carrying crude oil that transited through the Strait of Hormuz, is seen docked in Mumbai. AFP

THE GIST

India has long relied on crude oil imports but has handled repeated geo-economic shock better than many comparably importers.

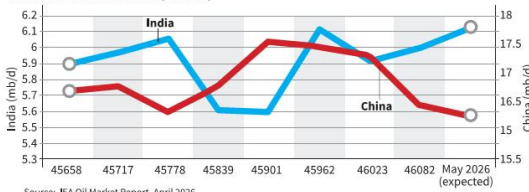
Its import basket—spanning Iraq, Saudi Arabia, the UAE, Russia, and the United States—remains geographically diversified.

While expansion into solar, batteries, and EVs may reduce oil use over time, reliance on lithium, cobalt, nickel, copper and rare earths may increase in the future.

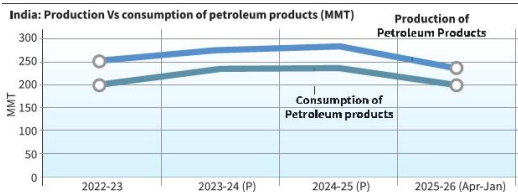
Energy requirements

India is now the world's third-largest oil consumer, with high dependence on crude imports. As a result, fluctuations in crude oil prices, freight rates, and currency exchange rates remain a concern, especially during geo-economic conflicts.

India and China oil demand (2025-26)

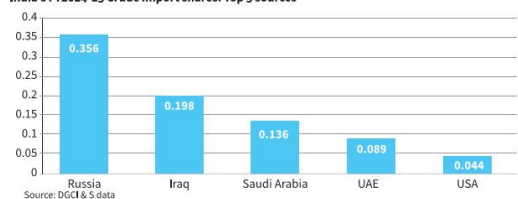


Source: IEA Oil Market Report, April 2026



Source: PPAC Monthly Ready Reckoner, January 2026

India's FY2024-25 Crude import shares: Top 5 sources



Source: DGCI & S data

For years, India has depended heavily on imports. But the country has handled repeated shocks better than many comparable importers. It is now the world's third-largest oil consumer.

According to OPEC's forecast, India's consumption is expected to reach 5.74 million barrels per day (mb/d) in 2025 and 5.99 mb/d in 2026, while the IEA projects that Indian crude demand will rise approximately 130 kb/d, compared with 80 kb/d for China.

As Chinese demand becomes flatter

and more cyclical, India has become one of the few large engines of incremental oil demand.

Before 2022, Russia supplied barely 2% of India's crude imports, however, by FY2024-25, that figure was around 36%, making Russia India's largest supplier. Flows from Russia picked up again as Gulf disruptions intensified.

Now, India's import basket also includes countries such as Iraq, Saudi Arabia, UAE, and the United States, while remaining geographically diversified. In a

fragmented energy market, India's edge lies not in self-sufficiency, but in optionality.

Tactical gains and structural risks

India has managed successive shocks well. First, India's crude oil dependence is extremely high, reaching 89.4% in FY2024-25. During that period, India produced only 28.7 million metric tons of crude oil domestically. As a result, fluctuations in crude oil prices, freight rates, and currency exchange rates continue to be a concern.

Second, geography still constrains strategy. Significant reductions in flows along Gulf sea lanes occurred due to tensions in 2026, and Indian LPG carriers, carrying a combined cargo of 97,000 metric tonnes required naval escort under Operation Sankalp. Diversification cannot bypass chokepoints.

Third, the energy transition creates fresh vulnerabilities. India's expansion into solar, batteries, electric vehicles (EV), and storage may reduce oil use over time. However, the reliance on lithium, cobalt, nickel, copper, and rare earths may increase in the future.

The way forward

India's dependence on critical minerals is tied to processing networks dominated elsewhere, especially by China, which controls over 91% of global rare-earth production, while India currently processes less than 5% of its projected 2035 battery-grade mineral requirements domestically. While India has adapted to the new oil order with considerable agility, having such tactical flexibility does not provide security in the long-term.

The next phase must focus on increasing larger strategic reserves, reducing the oil intensity in transport, strengthening maritime resilience, and ensuring security for supply chains of critical minerals. The real question is no longer whether India can switch suppliers during crises, but whether future crises will carry lower economic costs when they occur.

(Deepanshu Mohan is professor and dean, O.P. Jindal Global University. He is a visiting professor at LSE and a visiting academic fellow at University of Oxford. Srisoniya Subramoniam contributed to this column. Srisoniya and Aditi Lazarus are both research analysts with Centre for New Economics Studies, O.P. Jindal Global University)



06M. India's energy security amid conflicts

संघर्षों के बीच भारत की ऊर्जा सुरक्षा

- The conflict in West Asia has shown how geopolitical shocks can transmit to India's domestic economy, given that the country imports over 85% of its crude needs.
पश्चिम एशिया में संघर्ष ने यह दिखाया है कि भू-राजनीतिक झटके भारत की घरेलू अर्थव्यवस्था तक कैसे पहुंच सकते हैं, क्योंकि देश अपनी कच्चे तेल की आवश्यकता का 85% से अधिक आयात करता है।
- In a fragmented energy market, India's edge lies not in self-sufficiency but in optionality
एक खंडित ऊर्जा बाजार में, भारत की बढ़त आत्मनिर्भरता में नहीं बल्कि विकल्पों की उपलब्धता में निहित है
- The conflict in West Asia has demonstrated the speed with which geopolitical shocks have been transmitted to India's domestic economy.
पश्चिम एशिया का संघर्ष यह दर्शाता है कि किस तेजी से भूराजनीतिक झटके भारत की घरेलू अर्थव्यवस्था तक पहुँचते हैं।
- The head of the **International Energy Agency** has described the current **geo-economic crisis** as more severe than the combined shocks of 1973, 1979 and 2022.
अंतरराष्ट्रीय ऊर्जा एजेंसी के प्रमुख ने वर्तमान भू-आर्थिक संकट को 1973, 1979 और 2022 के संयुक्त झटकों से भी अधिक गंभीर बताया है।
- The price of **Brent crude oil** rose to **\$109.03 per barrel** after hitting highs of around **\$120** during the conflict.
संघर्ष के दौरान लगभग **120 डॉलर** तक पहुँचने के बाद **ब्रेंट कच्चे तेल** की कीमत **109.03 डॉलर प्रति बैरल** तक बढ़ गई।
- At a domestic level, India is projected to see its economy slow from **7.4% growth in FY26** to **6.5% in FY27** with inflation rising from **2.3% to 4.4%**.
घरेलू स्तर पर भारत की अर्थव्यवस्था **वित्त वर्ष 2026 में 7.4% से घटकर 2027 में 6.5%** रहने का अनुमान है, जबकि **मुद्रास्फीति 2.3% से बढ़कर 4.4%** हो सकती है।
- This is due to disruptions in **energy supply chains**.
यह ऊर्जा आपूर्ति श्रृंखलाओं में व्यवधान के कारण है।
- **Energy security can no longer be defined solely as purchasing fuel at the lowest price.**
ऊर्जा सुरक्षा को अब केवल न्यूनतम मूल्य पर ईंधन खरीदने तक सीमित नहीं किया जा सकता।
- It now rests on **resilience, diversification, and macroeconomic stability**.
अब यह लचीलापन, विविधीकरण, और समष्टि आर्थिक स्थिरता पर आधारित है।

Breakdown of the old energy market order

पुरानी ऊर्जा बाज़ार व्यवस्था का विघटन

- The **Russia-Ukraine War** was the first major warning to the **energy market order**.
रूस-यूक्रेन युद्ध ऊर्जा बाज़ार व्यवस्था के लिए पहला बड़ा चेतावनी संकेत था।
- It exposed the risks of **energy dependence** overnight.
इसने ऊर्जा निर्भरता के खतरों को अचानक उजागर कर दिया।
- **Europe once relied on Russia for 45% of its gas imports, which fell to 12% by 2025.**
यूरोप पहले अपने **45% गैस आयात** के लिए रूस पर निर्भर था, जो **2025 तक घटकर 12%** रह गया।
- **Europe responded not by efficiency, but by energy security measures.**
यूरोप ने दक्षता बढ़ाने के बजाय ऊर्जा सुरक्षा उपायों को अपनाया।
- **Gas consumption in the European Union fell by 20% between 2021 and 2024, while imports declined by 18%.**
यूरोपीय संघ में गैस खपत 2021 से 2024 के बीच 20% घटी, जबकि आयात में 18% की कमी आई।



- Even with **LNG terminal utilisation at 52%**, Europe accepted spare capacity as the cost of **security**.
एलएनजी टर्मिनलों के 52% उपयोग के बावजूद, यूरोप ने अतिरिक्त क्षमता को सुरक्षा की कीमत के रूप में स्वीकार किया।
- While the Ukraine war revealed dependence on **pipeline supply**, the West Asia conflict exposed reliance on **sea transport**.
जहाँ यूक्रेन युद्ध ने पाइपलाइन आधारित आपूर्ति पर निर्भरता दिखाई, वहीं पश्चिम एशिया संघर्ष ने समुद्री परिवहन पर निर्भरता को उजागर किया।
- The **Strait of Hormuz**, through which **25% of global crude oil passes**, has become a critical **chokepoint**.
होर्मुज़ जलडमरूमध्य, जिससे वैश्विक 25% कच्चा तेल गुजरता है, एक महत्वपूर्ण संकीर्ण मार्ग बन गया है।
- It transmits **price shocks rapidly** across global markets.
यह वैश्विक बाजारों में मूल्य झटकों को तेजी से प्रसारित करता है।
- Other countries have adopted different strategies.
अन्य देशों ने भिन्न रणनीतियाँ अपनाई हैं।
- **China** has secured **25 million metric tonnes of LNG annually** through contracts.
चीन ने अनुबंधों के माध्यम से प्रतिवर्ष 25 मिलियन मीट्रिक टन एलएनजी सुनिश्चित किया है।
- **South Korea** has secured **273 million barrels of crude oil from alternative routes**.
दक्षिण कोरिया ने वैकल्पिक मार्गों से 273 मिलियन बैरल कच्चा तेल सुनिश्चित किया है।
- **Japan** has stockpiled **470 million barrels, equivalent to 254 days of consumption**.
जापान ने 470 मिलियन बैरल तेल का भंडारण किया है, जो 254 दिनों की खपत के बराबर है।
- **Gulf exporters** have regained **bargaining power** due to spare capacity.
खाड़ी देशों के निर्यातकों ने अतिरिक्त क्षमता के कारण अपनी सौदेबाजी शक्ति पुनः प्राप्त कर ली है।
- The **International Energy Agency (IEA)** forecasts a contraction of **80 kb/d** in global oil demand in **2026**.
अंतरराष्ट्रीय ऊर्जा एजेंसी के अनुसार 2026 में वैश्विक तेल मांग में 80 हजार बैरल प्रतिदिन की कमी आ सकती है।
- Demand is expected to fall by **236 kb/d** in **OECD countries** and **254 kb/d** in the **Middle East**, while **non-OECD demand rises by 152 kb/d**.
ओईसीडी देशों में 236 हजार बैरल प्रतिदिन और मध्य पूर्व में 254 हजार बैरल प्रतिदिन की गिरावट होगी, जबकि गैर-ओईसीडी देशों में 152 हजार बैरल प्रतिदिन की वृद्धि होगी।
- In this weaker market, India's **demand growth** becomes strategically important.
इस कमजोर बाजार में भारत की मांग वृद्धि रणनीतिक रूप से महत्वपूर्ण बन जाती है।

How India gained more room to manoeuvre

भारत ने अधिक रणनीतिक गुंजाइश कैसे प्राप्त की

- The potential threat of disruption of the **Indian oil imports** is real and immediate, since the **country imports over 85% of its crude needs, with roughly 45% transiting through the Strait of Hormuz**.
भारतीय तेल आयात में व्यवधान का संभावित खतरा वास्तविक और तात्कालिक है, क्योंकि देश अपनी आवश्यकताओं का 85% से अधिक कच्चा तेल आयात करता है, जिसमें लगभग 45% होर्मुज़ जलडमरूमध्य से होकर गुजरता है।
- For years, India has depended heavily on **imports**.
वर्षों से भारत आयात पर अत्यधिक निर्भर रहा है।
- But the country has handled repeated **shocks** better than many comparable importers.
किन्तु देश ने बार-बार आने वाले झटकों का सामना अन्य समान आयातक देशों की तुलना में बेहतर ढंग से किया है।



- It is now the world's **third-largest oil consumer**.
अब यह विश्व का तीसरा सबसे बड़ा तेल उपभोक्ता है।
- According to **OPEC's forecast**, India's consumption is expected to reach **5.74 mb/d in 2025** and **5.99 mb/d in 2026**.
ओपेक के पूर्वानुमान के अनुसार, भारत की खपत 2025 में 5.74 मिलियन बैरल प्रतिदिन और 2026 में 5.99 मिलियन बैरल प्रतिदिन तक पहुँचने की संभावना है।
- The **IEA** projects that Indian crude demand will rise by approximately **130 kb/d**, compared with **80 kb/d for China**.
अंतरराष्ट्रीय ऊर्जा एजेंसी के अनुसार भारत की कच्चे तेल की मांग में लगभग 130 हजार बैरल प्रतिदिन की वृद्धि होगी, जबकि चीन के लिए यह वृद्धि 80 हजार बैरल प्रतिदिन है।
- As Chinese demand becomes **flatter and cyclical**, India has become one of the few large engines of **incremental oil demand**.
जैसे-जैसे चीन की मांग स्थिर और चक्रीय होती जा रही है, भारत अतिरिक्त तेल मांग का प्रमुख स्रोत बन गया है।
- **Before 2022, Russia supplied barely 2% of India's crude imports, however, by FY2024-25, that figure rose to around 36%.**
2022 से पहले रूस भारत के कच्चे तेल आयात का केवल 2% आपूर्ति करता था, किन्तु वित्त वर्ष 2024-25 तक यह बढ़कर लगभग 36% हो गया।
- Russia has become India's **largest supplier**.
रूस भारत का सबसे बड़ा आपूर्तिकर्ता बन गया है।
- Flows from Russia picked up again as **Gulf disruptions intensified**.
खाड़ी क्षेत्र में व्यवधान बढ़ने के साथ रूस से आपूर्ति फिर बढ़ गई।
- Now, **India's import basket includes Iraq, Saudi Arabia, UAE, and the United States, while remaining geographically diversified**.
अब भारत के आयात स्रोत में इराक, सऊदी अरब, संयुक्त अरब अमीरात और संयुक्त राज्य अमेरिका शामिल हैं और यह भौगोलिक रूप से विविधीकृत है।
- In a fragmented energy market, India's edge lies not in **self-sufficiency**, but in **optionality**.
विखंडित ऊर्जा बाजार में भारत की बढ़त आत्मनिर्भरता में नहीं बल्कि विकल्पों की उपलब्धता में है।

Tactical gains and structural risks

रणनीतिक लाभ और संरचनात्मक जोखिम

- India has managed successive **shocks** well.
भारत ने लगातार आने वाले झटकों का सफलतापूर्वक सामना किया है।
- First, **India's crude oil dependence is extremely high, reaching 89.4% in FY2024-25**.
पहला, भारत की कच्चे तेल पर निर्भरता अत्यधिक है, जो वित्त वर्ष 2024-25 में 89.4% तक पहुँच गई।
- **During that period, India produced only 28.7 million metric tons of crude oil domestically**.
उस अवधि में भारत ने घरेलू स्तर पर केवल 28.7 मिलियन मीट्रिक टन कच्चे तेल का उत्पादन किया।
- **As a result, fluctuations in oil prices, freight rates, and exchange rates remain a concern**.
इसके परिणामस्वरूप तेल कीमतों, माल भाड़ा दरों और विनिमय दरों में उतार-चढ़ाव चिंता का विषय बना रहता है।
- Second, **geography still constrains strategy**.
दूसरा, भौगोलिक स्थिति अभी भी रणनीति को सीमित करती है।
- Significant reductions in flows along **Gulf sea lanes** occurred due to tensions in 2026.
2026 में तनाव के कारण खाड़ी समुद्री मार्गों पर आपूर्ति में उल्लेखनीय कमी आई।
- Indian **LPG carriers** carrying **97,000 metric tonnes** required **naval escort under Operation Sankalp**.



97,000 मीट्रिक टन भार वाले भारतीय एलपीजी जहाजों को ऑपरेशन संकल्प के तहत नौसैनिक सुरक्षा प्रदान करनी पड़ी।

- Diversification cannot bypass **chokepoints**.
विविधीकरण रणनीतिक संकीर्ण मार्गों को पूरी तरह टाल नहीं सकता।
- Third, the **energy transition** creates fresh vulnerabilities.
तीसरा, ऊर्जा संक्रमण नई कमजोरियाँ उत्पन्न करता है।
- India's expansion into **solar, batteries, EVs, and storage** may reduce oil use over time.
भारत का सौर ऊर्जा, बैटरी, विद्युत वाहन और भंडारण में विस्तार समय के साथ तेल उपयोग को कम कर सकता है।
- However, reliance on **lithium, cobalt, nickel, copper, and rare earths** may increase.
किन्तु लिथियम, कोबाल्ट, निकल, तांबा और दुर्लभ खनिजों पर निर्भरता भविष्य में बढ़ सकती है।

The way forward

आगे की राह

- India's dependence on **critical minerals** is tied to **processing networks dominated elsewhere, especially by China, which controls over 91% of global rare-earth production**.
भारत की महत्वपूर्ण खनिजों पर निर्भरता ऐसे प्रसंस्करण तंत्रों से जुड़ी है जो अन्य देशों के नियंत्रण में हैं, विशेषकर चीन, जो वैश्विक दुर्लभ पृथ्वी उत्पादन का 91% से अधिक नियंत्रित करता है।
- India currently processes **less than 5% of its projected 2035 battery-grade mineral requirements** domestically.
वर्तमान में भारत अपने अनुमानित 2035 के बैटरी-ग्रेड खनिजों की आवश्यकता का 5% से भी कम घरेलू स्तर पर संसाधित करता है।
- While India has adapted to the **new oil order** with considerable **agility**, such **tactical flexibility** does not guarantee **long-term security**.
हालाँकि भारत ने नए तेल व्यवस्था के साथ पर्याप्त लचीलापन दिखाया है, किन्तु ऐसी रणनीतिक लचीलापन दीर्घकालिक सुरक्षा की गारंटी नहीं देता।
- The next phase must **focus on increasing strategic reserves, reducing oil intensity in transport, strengthening maritime resilience, and ensuring critical mineral supply chain security**.
अगले चरण में रणनीतिक भंडार बढ़ाने, परिवहन में तेल निर्भरता कम करने, समुद्री लचीलापन मजबूत करने, और महत्वपूर्ण खनिज आपूर्ति श्रृंखला की सुरक्षा सुनिश्चित करने पर ध्यान देना होगा।
- The **real question is no longer whether India can switch suppliers during crises, but whether future crises will carry lower economic costs**.
वास्तविक प्रश्न अब यह नहीं है कि भारत संकट के समय आपूर्तिकर्ता बदल सकता है या नहीं, बल्कि यह है कि भविष्य के संकटों में आर्थिक लागत कम होगी या नहीं।



Industrial heat pumps and the case for cleaning industrial heat

Industry accounted for nearly half of India's final energy consumption in 2025, much of it still tied to fossil fuels. Cleaning up industrial heat is therefore not just a climate issue, but also one of air quality, competitiveness, energy security, and worker health.

GS III: Economy
Srinivas Ethiraj

Industrial decarbonisation is often framed through solutions that promise deep emissions reductions (e.g. green hydrogen and carbon capture). These pathways are essential, particularly for hard-to-abate sectors, but are still several years away from large-scale adoption.

Even so, a significant share of manufacturing functions under very different operating conditions: one defined not by extreme temperatures but by the widespread demand for low-to-medium temperature process heat. Across sectors such as textiles, food processing, chemicals, pharmaceuticals and paper and pulp, this heat forms the backbone of production and continues to be largely met through combustion.

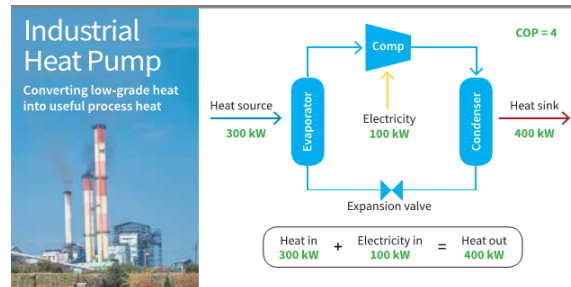
Industry accounted for nearly half of India's final energy consumption in 2025, much of it still tied to fossil fuels. The story becomes even sharper when we look at process steam. Industrial process steam alone is estimated to have generated 182 million metric tonnes of CO₂ annually in India, along with 595 kilotonnes of SO₂, 520 kilotonnes of particulate matter, and 516 kilotonnes of NO_x.

This is why cleaning up industrial heat is not just a climate question. It is also an air quality, competitiveness, energy security, and worker-health question.

The opportunity is especially important for micro, small, and medium enterprises (MSMEs) in India. Spread across millions of units, MSMEs form the backbone of the country's manufacturing economy. Although they account for a smaller share of total industrial emissions (around 17%), their emissions are more fragmented and concentrated in sectors such as textiles, food processing, and paper. These are the sectors where coal, firewood, biomass, gas and furnace oil continue to run the conventional thermal systems such as boilers, thermic fluid heaters, dryers, evaporators and hot-water systems, etc.

Heat pumps as a solution

Heat pumps enter this conversation as one of the most practical technologies for this specific frontier of industrial heat. Unlike boilers, heat pumps do not create



heat by burning fuel. They move and upgrade heat from one stream to another, using electricity. This is why they can deliver more useful heat than the electricity they consume. Industrial heat pumps often have a coefficient of performance of 3 to 5, meaning they can provide three to five units of heat for every unit of electricity consumed. Even at higher output temperatures, where performance falls, they can remain more efficient than simple electric resistance-based heating. This efficiency is the core of their decarbonisation value. It reduces the amount of electricity needed to electrify heat and improves the economics of switching away from combustion. If renewable electricity is available at competitive rates, the effective cost of heat from a heat pump becomes attractive even against conventional fuels.

What makes this transition compelling is the way industrial heat is currently produced and used. In a medium-sized textile finishing unit studied in Surat, around 92 percent of energy load was thermal, delivered through steam and industrial heat using a mix of Indonesian coal and lignite. The unit consumed roughly 0.42 kg of Indonesian coal per meter of processed fabric, illustrating the material intensity of fuel use embedded in routine operations. Despite this, steam is often used indirectly for generating hot water, maintaining vessel temperature, or heating surfaces rather than directly heating the product.

This reflects a central inefficiency. Conventional industrial thermal systems

in such factories are often designed around the highest heat requirement, with boilers sized to meet peak demand. But many loads require lower-quality heat. In such cases, steam is generated at higher temperature and pressure, then reduced or diverted for lower-temperature applications. However, industrial heat pumps require a different engineering mindset: start with the lowest-temperature heat demand, then boost heat only where needed. This reverses the legacy boiler approach and can reduce overall energy use by 40-60 percent in suitable applications.

This right-sizing logic is particularly relevant in brownfield MSME clusters. Many boilers are old, oversized, manually operated in such settings, and run below optimal capacity. Replacing every boiler with a single large electric system is often not practical. But heat pumps can be modular. They can first serve specific loads: pre-heating boiler feedwater, supplying hot water, supporting dyeing and washing processes, recovering waste heat from effluents, or reducing steam demand in evaporators and drying streams.

Their role becomes even more interesting when heating and cooling are considered together. Industrial heat pumps can simultaneously generate hot water, steam, or hot air while producing cooling or dehumidified air as a by-product. In food processing and digital textile printing, where process heat is required alongside controlled cooling for process stability and equipment performance, heat pumps can

simultaneously supply useful heat while reducing chiller or air-conditioner loads.

Health, safety and emission control
Beyond system efficiency, heat pumps can also improve worker health and safety. Workplace heat exposure is emerging as a serious occupational health risk, especially in labor-intensive factory environments where internal process heat compounds rising ambient temperatures. Globally, over 2.4 billion workers are exposed to excessive heat at work, with the highest exposure rates in Asia and the Pacific. Prolonged workplace heat is linked to heat exhaustion, heart stroke, cardiovascular strain, kidney disease, accident risk, and reduced cognitive performance.

In parallel, combustion-based process heat contributes to emission of harmful air pollutants exacerbating respiratory and cardiovascular health risks. The public health dimension is significant: fossil-fuel-driven air pollution caused an estimated 1.72 million premature deaths in India in 2022, with industrial heat systems being a key source of these emissions. In this context, increasing the use of electrified heating systems such as industrial heat pump technologies, particularly within the temperature ranges in which they are technically feasible can significantly improve air quality, mitigate greenhouse gas emissions and reduce health harms associated with both air pollution and climate change. By displacing on-site combustion and enabling the integration of heating and cooling, heat pumps can create opportunities for spot and space cooling to improve thermal comfort on factory floors.

What emerges, then, is not just a technology shift but a systems transition. Scaling industrial heat pumps will depend on how well they are embedded into existing industrial ecosystems through better process integration, reliable access to low-cost electricity, and financing models that work for industries, especially MSMEs. Done right, it can unlock not just emissions reduction, but a more resilient, efficient, and safer model of industrial growth.
(Srinivas Ethiraj is assistant manager, Energy Transition, at the Vasudha Foundation.)

06M. Industrial heat pumps and the case for cleaning industrial heat

औद्योगिक हीट पंप और औद्योगिक ऊष्मा को स्वच्छ बनाने का मामला

- Industry accounted for nearly half of India's final energy consumption in 2025, much of it still tied to fossil fuels.

वर्ष 2025 में उद्योग भारत की अंतिम ऊर्जा खपत का लगभग आधा हिस्सा था, जिसका बड़ा भाग अभी भी जीवाश्म ईंधनों से जुड़ा हुआ है।

- Cleaning up industrial heat is therefore not just a climate issue, but also one of air quality, competitiveness, energy security, and worker health.

इसलिए औद्योगिक ऊष्मा को स्वच्छ बनाना केवल जलवायु का मुद्दा नहीं है, बल्कि वायु गुणवत्ता, प्रतिस्पर्धात्मकता, ऊर्जा सुरक्षा और श्रमिकों के स्वास्थ्य से भी जुड़ा हुआ है।

- Industrial decarbonisation is often framed through solutions that promise deep emissions reductions such as green hydrogen and carbon capture.



औद्योगिक डीकार्बोनाइजेशन को अक्सर ऐसे समाधानों के माध्यम से देखा जाता है जो उत्सर्जन में गहरी कमी का वादा करते हैं, जैसे ग्रीन हाइड्रोजन और कार्बन कैप्चर।

- These pathways are essential, particularly for **hard-to-abate sectors**, but are still several years away from **large-scale adoption**.
ये उपाय विशेष रूप से कठिन-उत्सर्जन क्षेत्रों के लिए आवश्यक हैं, किन्तु अभी भी व्यापक स्तर पर अपनाने से कई वर्ष दूर हैं।
- Even so, a significant share of manufacturing functions under very different **operating conditions**, defined by demand for **low-to-medium temperature process heat**.
इसके बावजूद, विनिर्माण का एक बड़ा हिस्सा ऐसे परिचालन परिस्थितियों में कार्य करता है जो निम्न से मध्यम तापमान की प्रक्रिया ऊष्मा की मांग से निर्धारित होते हैं।
- **Across sectors such as textiles, food processing, chemicals, pharmaceuticals, and paper and pulp, this heat forms the backbone of production.**
वस्त्र, खाद्य प्रसंस्करण, रसायन, औषधि, और कागज उद्योग जैसे क्षेत्रों में यह ऊष्मा उत्पादन की आधारशिला बनती है।
- This demand continues to be largely met through **combustion**.
यह मांग अभी भी मुख्यतः दहन प्रक्रिया के माध्यम से पूरी की जाती है।
- **Industry accounted for nearly half of India's final energy consumption in 2025, much of it tied to fossil fuels.**
2025 में भारत की कुल ऊर्जा खपत का लगभग आधा हिस्सा उद्योगों द्वारा उपयोग किया गया, जो मुख्यतः जीवाश्म ईंधनों पर आधारित था।
- Industrial **process steam** alone is estimated to have generated **182 million metric tonnes of CO2 annually**.
औद्योगिक प्रक्रियात्मक भाप से ही प्रति वर्ष लगभग 182 मिलियन मीट्रिक टन कार्बन डाइऑक्साइड उत्सर्जित हुई।
- It also produced **595 kilotonnes of SO2, 520 kilotonnes of particulate matter, and 516 kilotonnes of NOx.**
इसके साथ 595 किलोटन सल्फर डाइऑक्साइड, 520 किलोटन कणीय पदार्थ, और 516 किलोटन नाइट्रोजन ऑक्साइड का भी उत्सर्जन हुआ।
- Cleaning up **industrial heat** is not just a **climate issue**, but also relates to **air quality, competitiveness, energy security, and worker health.**
औद्योगिक ऊष्मा को स्वच्छ बनाना केवल जलवायु का प्रश्न नहीं है, बल्कि यह वायु गुणवत्ता, प्रतिस्पर्धा, ऊर्जा सुरक्षा और श्रमिक स्वास्थ्य से भी जुड़ा है।
- The opportunity is especially important for **MSMEs**, which form the **backbone of manufacturing**.
यह अवसर विशेष रूप से सूक्ष्म, लघु और मध्यम उद्यमों के लिए महत्वपूर्ण है, जो विनिर्माण क्षेत्र की आधारशिला हैं।
- They account for around **17% of industrial emissions**, but these emissions are **fragmented and concentrated**.
ये लगभग 17% औद्योगिक उत्सर्जन के लिए जिम्मेदार हैं, किन्तु ये उत्सर्जन बिखरे हुए और केंद्रित होते हैं।
- These sectors rely on fuels such as **coal, firewood, biomass, gas, and furnace oil for thermal systems.**
ये क्षेत्र कोयला, लकड़ी, बायोमास, गैस और फर्नेस ऑयल जैसे ईंधनों पर आधारित ऊष्मीय प्रणालियों का उपयोग करते हैं।

Heat pumps as a solution
हीट पंप एक समाधान के रूप में



- **Heat pumps** are among the most practical technologies for **industrial heat decarbonisation**.
हीट पंप औद्योगिक ऊष्मा के डीकार्बोनाइजेशन के लिए सबसे व्यावहारिक तकनीकों में से एक हैं।
- Unlike **boilers**, they do not generate heat through **fuel combustion**.
बॉयलर के विपरीत, ये ईंधन जलाकर ऊष्मा उत्पन्न नहीं करते।
- They **transfer and upgrade heat using electricity**.
ये बिजली का उपयोग करके ऊष्मा को स्थानांतरित और उन्नत करते हैं।
- They can deliver **more heat than the electricity consumed**.
ये उपभोग की गई बिजली से अधिक उपयोगी ऊष्मा प्रदान कर सकते हैं।
- Industrial heat pumps have a **coefficient of performance of 3 to 5**.
औद्योगिक हीट पंप का प्रदर्शन गुणांक 3 से 5 तक होता है।
- This means they provide **three to five units of heat per unit of electricity**.
अर्थात ये प्रति इकाई बिजली पर तीन से पाँच इकाई ऊष्मा प्रदान करते हैं।
- Even at higher temperatures, they remain more **efficient than electric resistance heating**.
उच्च तापमान पर भी ये विद्युत प्रतिरोध आधारित हीटिंग से अधिक कुशल रहते हैं।
- This efficiency is central to their **decarbonisation value**.
यह दक्षता इनके डीकार्बोनाइजेशन मूल्य का मूल है।
- It reduces electricity demand and improves the **economics of switching from combustion**.
यह बिजली की मांग को कम करता है और दहन से हटने की आर्थिक व्यवहार्यता को बेहतर बनाता है।
- If **renewable electricity** is available at competitive rates, heat pumps become economically attractive.
यदि नवीकरणीय बिजली प्रतिस्पर्धी दरों पर उपलब्ध हो, तो हीट पंप आर्थिक रूप से आकर्षक बन जाते हैं।
- In a textile unit in **Surat**, about **92% of energy load was thermal**, supplied by **coal and lignite**.
सूरत के एक वस्त्र इकाई में लगभग 92% ऊर्जा भार ऊष्मीय था, जो कोयला और लिग्नाइट से पूरा किया जाता था।
- The unit consumed **0.42 kg of coal per meter of fabric**, showing high **fuel intensity**.
इस इकाई में प्रति मीटर कपड़े के लिए 0.42 किलोग्राम कोयले की खपत होती थी, जो उच्च ईंधन तीव्रता को दर्शाता है।
- Despite this, steam is often used **indirectly** for heating purposes rather than directly heating the product.
इसके बावजूद, भाप का उपयोग अक्सर प्रत्यक्ष रूप से उत्पाद को गर्म करने के बजाय अप्रत्यक्ष रूप से किया जाता है।
- This reflects a central **inefficiency**.
यह एक मूलभूत अक्षमता को दर्शाता है।
- Conventional **industrial thermal systems** in such factories are often designed around the **highest heat requirement**, with boilers sized to meet **peak demand**.
ऐसी फैक्ट्रियों में पारंपरिक औद्योगिक ऊष्मीय प्रणालियाँ अक्सर अधिकतम ऊष्मा आवश्यकता के आधार पर डिजाइन की जाती हैं, जहाँ बॉयलर अधिकतम मांग को पूरा करने के लिए निर्धारित किए जाते हैं।
- But many loads require **lower-quality heat**.
किन्तु कई प्रक्रियाओं को कम गुणवत्ता वाली ऊष्मा की आवश्यकता होती है।
- In such cases, steam is generated at **higher temperature and pressure**, then reduced or diverted for **lower-temperature applications**.
ऐसे मामलों में भाप को उच्च तापमान और दाब पर उत्पन्न किया जाता है, फिर उसे कम तापमान के उपयोगों के लिए घटाया या मोड़ा जाता है।
- However, **industrial heat pumps** require a different **engineering mindset**.
किन्तु औद्योगिक हीट पंप के लिए एक अलग अभियांत्रिकी दृष्टिकोण की आवश्यकता होती है।



- Start with the **lowest-temperature heat demand**, then boost heat only where needed. सबसे पहले न्यूनतम तापमान की आवश्यकता से शुरुआत करें और केवल आवश्यक स्थानों पर ही ऊष्मा बढ़ाएँ।
- This reverses the **legacy boiler approach** and can reduce **energy use by 40–60%**. यह पारंपरिक बॉयलर आधारित दृष्टिकोण को उलट देता है और ऊर्जा उपयोग में 40–60% तक कमी ला सकता है।
- This **right-sizing logic** is particularly relevant in **brownfield MSME clusters**. यह उचित आकार निर्धारण का सिद्धांत विशेष रूप से मौजूदा सूक्ष्म, लघु और मध्यम उद्यम समूहों में महत्वपूर्ण है।
- Many boilers are **old, oversized, and inefficiently operated**. कई बॉयलर पुराने, अधिक क्षमता वाले और कम दक्षता से संचालित होते हैं।
- Replacing every boiler with a single **large electric system** is often not practical. हर बॉयलर को एक बड़े विद्युत प्रणाली से बदलना व्यावहारिक नहीं होता।
- **But heat pumps can be modular**. किन्तु हीट पंप मॉड्यूलर हो सकते हैं।
- They can serve specific functions such as **pre-heating boiler feedwater, supplying hot water, supporting dyeing and washing, and recovering waste heat**. ये बॉयलर जल को पूर्व-गर्म करना, गर्म पानी उपलब्ध कराना, रंगाई और धुलाई प्रक्रियाओं में सहायता, तथा अपशिष्ट ऊष्मा पुनः प्राप्त करना जैसे कार्य कर सकते हैं।
- They can also reduce **steam demand in drying and evaporation processes**. ये सुखाने और वाष्पीकरण प्रक्रियाओं में भाप की मांग को कम कर सकते हैं।
- Their role becomes more valuable when **heating and cooling are integrated**. इनका महत्व तब और बढ़ जाता है जब तापन और शीतलन को एक साथ जोड़ा जाता है।
- Industrial heat pumps can generate **heat and cooling simultaneously**. औद्योगिक हीट पंप एक साथ ऊष्मा और शीतलन उत्पन्न कर सकते हैं।
- They can produce **hot water, steam, and hot air** along with **cooling or dehumidified air**. ये गर्म पानी, भाप और गर्म हवा के साथ-साथ शीतलन या आर्द्रता-रहित वायु भी उत्पन्न कर सकते हैं।
- In sectors like **food processing and textile printing**, this improves **process stability and efficiency**. खाद्य प्रसंस्करण और वस्त्र मुद्रण जैसे क्षेत्रों में यह प्रक्रिया की स्थिरता और दक्षता को बढ़ाता है।

Health, safety and emission control

स्वास्थ्य, सुरक्षा और उत्सर्जन नियंत्रण

- Heat pumps can improve **worker health and safety**. हीट पंप श्रमिकों के स्वास्थ्य और सुरक्षा में सुधार कर सकते हैं।
- **Workplace heat exposure** is a serious **occupational risk**. कार्यस्थल पर अत्यधिक ताप एक गंभीर व्यावसायिक जोखिम है।
- Globally, over **2.4 billion workers** are exposed to excessive heat. विश्व स्तर पर 2.4 अरब से अधिक श्रमिक अत्यधिक ताप के संपर्क में हैं।
- This leads to **heat exhaustion, heart stress, kidney disease, and reduced cognitive performance**. इससे थकावट, हृदय तनाव, गुर्दा रोग और मानसिक क्षमता में कमी होती है।
- Combustion-based heat also emits **harmful pollutants** affecting **air quality**. दहन आधारित ऊष्मा से हानिकारक प्रदूषक निकलते हैं, जो वायु गुणवत्ता को प्रभावित करते हैं।
- **Fossil fuel pollution caused 1.72 million premature deaths in India in 2022**. भारत में 2022 में जीवाश्म ईंधन प्रदूषण से 17.2 लाख असामयिक मौतें हुईं।



- Electrified systems like **heat pumps** can reduce **air pollution and greenhouse gas emissions**.
हीट पंप जैसे विद्युत आधारित प्रणालियाँ वायु प्रदूषण और ग्रीनहाउस गैस उत्सर्जन को कम कर सकती हैं।
- They also improve **thermal comfort in factories**.
ये कारखानों में तापीय आराम को भी बेहतर बनाते हैं।
- What emerges is not just a **technology shift**, but a **systems transition**.
यह केवल एक प्रौद्योगिकी परिवर्तन नहीं बल्कि एक प्रणालीगत परिवर्तन है।
- Scaling heat pumps depends on **integration, electricity access, and financing models**.
हीट पंप के विस्तार के लिए एकीकरण, सस्ती बिजली की उपलब्धता और वित्तीय मॉडल महत्वपूर्ण हैं।
- This is especially important for **MSMEs**.
यह विशेष रूप से सूक्ष्म, लघु और मध्यम उद्यमों के लिए महत्वपूर्ण है।
- Done right, it can enable **cleaner, efficient, and resilient industrial growth**.
सही तरीके से लागू होने पर यह स्वच्छ, दक्ष और सुदृढ़ औद्योगिक विकास को संभव बना सकता है।

Govt. sets 12-week limit to process FDI applications

GS III: Economy

T.C.A. Sharad Raghavan
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To expedite and bring transparency to foreign direct investments (FDI) coming into India, the Ministry of Commerce issued an updated Standard Operating Procedure (SOP) document laying out the timeline and norms for processing foreign firms' investment applications.



FDI rules have been eased.

Apart from specifying heightened scrutiny by mandating approvals from the Ministry of Home Affairs on investments in sensitive sectors and from particular countries, the document sets a maximum limit of 12 weeks for the processing of applications. Large investments would first have to be cleared by the Cabinet Committee on Economic Affairs.

The previous 2017 SOP laid out a maximum period of 10 weeks.

"This SOP aims to make the FDI application filing process completely paperless," the document said. "Therefore, the applicant will not be required to file physical copies of any documents required to process FDI proposals."

As per the rules, all applications for foreign investment into India will have to be filed on the Foreign Investment Facilitation or National Single Window System portals.

Once a proposal is made, the Department for Promotion of Industry & Internal Trade (DPIIT) will have two days to identify

the concerned administrative Ministry or department and assign the proposal to them, along with sharing it with the Reserve Bank of India (RBI), the Ministry of Home Affairs (MHA), and the Ministry of External Affairs (MEA).

Two-week scrutiny

These bodies will have two weeks for the initial scrutiny of the proposal and to seek any relevant additional information or documents from the applicant. The DPIIT will have a maximum of two additional weeks to submit any clarification on the FDI policy.

The MHA, MEA and other Ministries or departments, sector regulator, or stakeholders, will have an additional four weeks for comments.

"In case comments are not received within the prescribed time, it shall be presumed that they have no comments to offer," the SOP said. After this, the competent authority will have four weeks to decide on the applications taking the total processing time to 12 weeks.

06M. Govt. sets 12-week limit to process FDI applications

सरकार ने FDI आवेदनों को संसाधित करने के लिए 12 सप्ताह की समयसीमा तय की

To expedite and bring transparency to **foreign direct investments (FDI)** coming into India, the **Ministry of Commerce** issued an updated **Standard Operating Procedure (SOP)** document laying out the timeline and norms for processing foreign firms' investment applications.

भारत में आने वाले **विदेशी प्रत्यक्ष निवेश (FDI)** को तेज और पारदर्शी बनाने के लिए वाणिज्य मंत्रालय ने एक अद्यतन **मानक संचालन प्रक्रिया (SOP)** दस्तावेज जारी किया, जिसमें विदेशी कंपनियों के निवेश आवेदनों के प्रसंस्करण की समयसीमा और नियम बताए गए हैं।

Apart from specifying heightened scrutiny by **mandating approvals from the Ministry of Home Affairs on investments in sensitive sectors and from particular countries**, the document sets a **maximum limit of 12 weeks for the processing of applications**.

संवेदनशील क्षेत्रों और विशेष देशों से आने वाले निवेशों के लिए **गृह मंत्रालय** की मंजूरी अनिवार्य करके कड़ी जांच का प्रावधान करने के अलावा, दस्तावेज में आवेदनों के प्रसंस्करण के लिए अधिकतम 12 सप्ताह की सीमा तय की गई है।

Large investments would first have to be cleared by the Cabinet Committee on Economic Affairs.

बड़े निवेशों को पहले **आर्थिक मामलों की कैबिनेट समिति** से मंजूरी लेनी होगी।

The **previous 2017 SOP laid out a maximum period of 10 weeks**.

पहले 2017 के SOP में अधिकतम समयसीमा 10 सप्ताह निर्धारित थी।

"This **SOP aims to make the FDI application filing process completely paperless**," the document said.

"यह **SOP FDI आवेदन प्रक्रिया** को पूरी तरह कागज रहित बनाने का उद्देश्य रखता है," दस्तावेज में कहा गया।

"Therefore, the applicant will not be required to file physical copies of any documents required to process FDI proposals."



“इसलिए आवेदक को FDI प्रस्तावों के लिए किसी भी दस्तावेज की भौतिक प्रतियां जमा करने की आवश्यकता नहीं होगी।”

- As per the rules, all applications for foreign investment into India will have to be filed on the **Foreign Investment Facilitation or National Single Window System** portals.
नियमों के अनुसार, भारत में विदेशी निवेश के सभी आवेदन फॉरेन इन्वेस्टमेंट फैसिलिटेशन या नेशनल सिंगल विंडो सिस्टम पोर्टल पर दाखिल करने होंगे।
- Once a proposal is made, the **Department for Promotion of Industry & Internal Trade (DPIIT)** will have two days to identify the concerned administrative Ministry or department and assign the proposal to them, along with sharing it with the **Reserve Bank of India (RBI)**, the **Ministry of Home Affairs (MHA)**, and the **Ministry of External Affairs (MEA)**.
एक बार प्रस्ताव आने के बाद उद्योग एवं आंतरिक व्यापार संवर्धन विभाग (DPIIT) के पास दो दिन होंगे संबंधित मंत्रालय या विभाग की पहचान करने और प्रस्ताव उन्हें सौंपने के लिए, साथ ही इसे भारतीय रिज़र्व बैंक (RBI), गृह मंत्रालय (MHA) और विदेश मंत्रालय (MEA) के साथ साझा किया जाएगा।

Two-week scrutiny दो सप्ताह की जांच

- These bodies will have two weeks for the initial scrutiny of the proposal and to seek any relevant additional information or documents from the applicant.
इन संस्थाओं के पास प्रस्ताव की प्रारंभिक जांच और आवेदक से अतिरिक्त जानकारी या दस्तावेज मांगने के लिए दो सप्ताह का समय होगा।
- The DPIIT will have a maximum of two additional weeks to submit any clarification on the FDI policy.
FDI नीति पर किसी भी स्पष्टीकरण को प्रस्तुत करने के लिए DPIIT के पास अधिकतम दो अतिरिक्त सप्ताह होंगे।
- The MHA, MEA and other Ministries or departments, sector regulators, or stakeholders, will have an additional four weeks for comments.
MHA, MEA और अन्य मंत्रालयों, विभागों, सेक्टर नियामकों या हितधारकों के पास अपनी टिप्पणियों के लिए अतिरिक्त चार सप्ताह होंगे।
- “In case comments are not received within the prescribed time, it shall be presumed that they have no comments to offer,” the SOP said.
“SOP में कहा गया कि यदि निर्धारित समय में टिप्पणियां प्राप्त नहीं होती हैं, तो माना जाएगा कि उनके पास कोई टिप्पणी नहीं है।”
- After this, the competent authority will have four weeks to decide on the applications taking the total processing time to 12 weeks.
इसके बाद सक्षम प्राधिकरण के पास आवेदनों पर निर्णय लेने के लिए चार सप्ताह होंगे, जिससे कुल प्रसंस्करण समय 12 सप्ताह हो जाएगा।



Govt. approves fifth edition of credit guarantee scheme

GS III: Economy

The Hindu Bureau
NEW DELHI

In response to the crisis in West Asia, the Union Cabinet on Tuesday approved the fifth edition of its Emergency Credit Line Guarantee Scheme, under which it will provide additional credit guarantees to micro, small and medium enterprises (MSMEs) and non-MSMEs, including airline

companies.

The total outlay of the scheme is expected to be ₹18,100 crore and it is expected to generate additional credit flows worth ₹2.25 lakh crore, the government said.

“The scheme aims to enable businesses to tide over the challenges arising from the West Asia conflict,” the government said in a release.

- The total outlay of the scheme is expected to be ₹18,100 crore and it is expected to generate additional credit flows worth ₹2.25 lakh crore, the government said.
सरकार ने कहा कि इस योजना का कुल व्यय ₹18,100 करोड़ होने की उम्मीद है और इससे ₹2.25 लाख करोड़ के अतिरिक्त ऋण प्रवाह उत्पन्न होने की संभावना है।
- “The scheme aims to enable businesses to tide over the challenges arising from the West Asia conflict,” the government said in a release.
“इस योजना का उद्देश्य व्यवसायों को पश्चिम एशिया संघर्ष से उत्पन्न चुनौतियों से निपटने में सक्षम बनाना है,” सरकार ने एक विज्ञप्ति में कहा।

06M. Govt. approves fifth edition of credit guarantee scheme

सरकार ने क्रेडिट गारंटी योजना का पांचवां संस्करण मंजूर किया

In response to the crisis in West Asia, the Union Cabinet on Tuesday approved the fifth edition of its Emergency Credit Line Guarantee Scheme, under which it will provide additional credit guarantees to micro, small and medium enterprises (MSMEs) and non-MSMEs, including airline companies.

पश्चिम एशिया में संकट के जवाब में, केंद्रीय कैबिनेट ने मंगलवार को अपनी आपातकालीन क्रेडिट लाइन गारंटी योजना के पांचवें संस्करण को मंजूरी दी, जिसके तहत सूक्ष्म, लघु और मध्यम उद्यमों (MSMEs) तथा गैर-MSMEs, जिसमें एयरलाइन कंपनियां भी शामिल हैं, को अतिरिक्त क्रेडिट गारंटी प्रदान की जाएगी।

GS Paper III: Science and Technology		06 May 2026
TOPICS COVERED		
06M	Scientists build metamaterial that can ‘learn’ to change shape वैज्ञानिकों ने ऐसा मेटामटेरियल विकसित किया जो ‘सीखकर’ अपना आकार बदल सकता है	
06M	A radiation ‘glitch’ limits quantum computing एक विकिरण ‘गड़बड़ी’ क्वांटम कंप्यूटिंग को सीमित करती है	



Scientists build metamaterial that can 'learn' to change shape

All life must adapt over time to changing conditions or they could go extinct; on the other hand, most non-living materials do not actively adjust their internal structure in response to conditions once they are made, but in a new study researchers from Europe have challenged this difference

विज्ञान
वासुदेव मुकुन्ध

When you exercise, your muscles become stronger. When you sow a plant, its stem will bend so that its leaves get more sunlight. Both these changes are examples of adaptation – when a biological material senses its environment, then reorganises its internal structure to survive better. All life must adapt over time to changing conditions. Populations that don't could become extinct.

However, most non-living materials do not actively adjust their internal structure in response to new conditions after they are made. When a metalsmith forges a bar of steel, its internal structure is mostly fixed from that point on, though it can still change due to heat, stress, etc. If you want a new bar with different properties, you need to engineer it anew.

However, in a new study in *Nature Physics*, researchers from Europe have challenged this difference. The team has reportedly built a synthetic material that can learn physically, by actively changing their internal mechanical properties based on external conditions.

Chain of units

The team used metamaterials for this work. These are special materials whose properties are not determined by their chemical composition alone but also by the structure, or the way in which they're physically arranged. As a result, they often have properties that natural materials don't.

In the last decade or so, scientists have used metamaterials to bend light in counterintuitive ways, shield buildings from earthquakes, and hide objects from radar, among other feats.

In the new study, the team built a robotic metamaterial consisting of a chain of connected units. Each unit had a small motor, an angle sensor, and a microcontroller.

Using these components, a unit could send and receive data to/from its adjacent units and change how much it bent in response. This way, the whole metamaterial could be as rigid as a metal spring or as flexible as a rubber band, or something else in between, based on how each unit responded to feedback from the two units attached to it. The researchers used a method called contrastive learning to 'teach' the metamaterial a particular shape.

While contrastive learning exists in machine-learning as an algorithm, the researchers implemented it here using only a hardware-based system.

Four steps to learn

First, the researchers kept the metamaterial chain in a straight line and set starting values for the stiffness of each unit. The stiffer a unit, the lesser it would bend in response to forces.

Second, they applied an input: bending one unit in the chain by a fixed angle. This would change the rest of the chain into a particular shape, called the free state. Then, they would hold the input fixed and manually turn the other units so that the chain formed a new shape, like a 'U' or an 'L'. This was called the clamped state.

Finally, the microcontroller in each unit would compare its angle in the free state to that in the clamped state, and use the difference to adjust its stiffness using the motor. When the researchers repeated these four steps again and again, the metamaterial chain went from the free state to the clamped state in fewer steps. This is called contrastive learning because each unit 'learns' by contrasting the free and clamped states to figure out what it should do.

Thus, as the researchers explained in their paper, "Unlike traditional materials that are designed once and for all, our metamaterials have the ability to forget and learn new shape changes in sequence, to learn several shape changes that break reciprocity, and to learn multistable shape changes, which in turn allows them to perform reflex-gripping actions and locomotion."

"Our findings establish metamaterials as an exciting platform for physical learning, which in turn opens avenues for the use of physical learning to design adaptive materials and robots."

The researchers reported that in one test, a chain of six units eventually 'learned' to form a U-shape in a single step from a straight line.

Another 11-unit chain also 'learned' to spell each letter of the word 'LEARN' in sequence, at each step 'forgetting' one shape and 'learning' the next one.



Top: A robotic metamaterial spells the word 'LEARN'. A metamaterial is a special material whose properties are not determined by its chemical composition alone but also by its structure, giving rise to unusual properties.
COULAS LAB/UNIVERSITY OF AMSTERDAM

The researchers likened this ability (with some qualifications) to the adaptability of simple organisms.

Talking to each other

A usual question that arises after researchers report a successful finding in a lab is whether they would find the same thing at a larger scale or in the real world. The authors of the study addressed this question using only simulations, where they ran computer models of metamaterial chains with thousands of units. These models were not very complicated, however, as each unit had only the three components and 'learned' only based on two inputs – the units on either side.

However, the models showed that as the chains became longer, the metamaterial 'learned' at a slower pace. This was because the amount of deformation passing through the chain decayed over a particular length. Put differently, a signal arising from one unit weakened significantly by the time it reached a distant unit.

The researchers found a simple fix: they allowed each unit to 'talk' to the nearest unit as well as the next-nearest unit, i.e. the units one and two steps away. With this rule, each unit's microcontroller received data about the angle of the unit two steps away, and used it with the 'knowledge' that the angle was X two steps away, not one. This allowed the inputs to propagate further along the chain than before. The researchers were able to have a 48-unit chain morph into the outline of a cat using just three inputs as a result.

The way the chain works is an example of local decision-making. It is unlike, say, the human body, where the brain receives inputs from multiple senses and makes many decisions, which the nervous system finally relays to different parts. Machine-learning models also use techniques like backpropagation, where the output generated near the end of a model is used to 'teach' computers near the beginning.

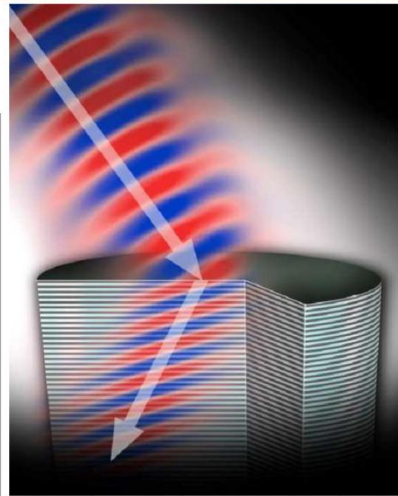
The metamaterial chain, however, made no such effort. Its 'learning' was based on the units before and after (or the next-nearest). This is useful in technological applications because it removes the need for complex networks to transfer data.

Taking a walk

The researchers also found that the chain responded differently depending on which side it was nudged. When they nudged one six-unit chain from the left end, the right end bent one way. But when they pushed it from the right end, the left end bent in a different way. This non-reciprocity, the researchers argued, allowed the metamaterial to 'learn' different ways to attain a final shape without requiring separate training.

In a commentary accompanying the paper, Karen Alim, of the Technical University of Munich, Germany, who wasn't associated with the study, wrote that such non-reciprocity tests scientists' understanding of 'intelligence' in materials beyond the bounds of traditional physics.

For example, physics dictates that



An artist's rendition of a metamaterial that refracts light the 'wrong' way when it enters the material.
KEITH DBRACK

The programmable metamaterial wire presented by [the team] is a brilliant reduction in complexity that is key to disentangling the essential physics concepts that enable learning and constrain the space of learnable states," Dr. Lim wrote.

KAREN ALIM

Researcher at Technical University of Munich, Germany

when you push a spring, it will push back. This is because the spring wants to settle into its lowest energy state, where it is not compressed.

In this context, the spring can be said to 'learn' by finding the valley in its energy landscape. That is, if you take the spring to a different point in this landscape, by compressing or extending it by some amount, it will respond by making a beeline for just one spot: the valley.

However, per Dr. Lim, the chain metamaterial is non-reciprocal, so it doesn't have a simple energy landscape. In non-reciprocal systems, the energy required to move from point A to point B depends on the path the object takes – since there is more than one option. In these cases, it becomes a question of how much physical effort each path takes.

So while the spring 'learns' by minimising energy, the metamaterial chain 'learns' by minimising work – in this case the work done by the motors. As a result, the chain was able to 'learn' different paths to a final shape the way a spring never can.

"Breaking down the complexity of learning in artificial intelligence systems and the brain into physical concepts

appears to be an insurmountable task. The programmable metamaterial wire presented by [the team] is a brilliant reduction in complexity that is key to disentangling the essential physics concepts that enable learning and constrain the space of learnable states," Dr. Lim wrote.

Like a switch

The researchers also unexpectedly found bistable units – meaning they could act like switches. For example, when a moving object came in contact with a six-unit chain, the chain coiled itself around the object and gripped it. To release the object, the researchers only had to nudge one particular unit, which uncoiled the rest of the chain. (This unit was bistable.)

This is also why Dr. Lim wrote that the metamaterial chain should thus be seen as a dynamical system, i.e. something capable of adapting. According to her, the chain was able to perform life-like actions, like gripping an object, because it could 'navigate' through different stable states by minimising the work along specific paths.

Indeed, while the chains in the team's experiments illustrated what a metamaterial chain with just a few controllable parameters was capable of, they are also not ready for real-world use. The team needed an air table and impractically large components to make them work. But if these requirements are eased, such metamaterial chains could in future be used as advanced prosthetic limbs and in soft robots that need to respond agilely to obstacles.

Overall, they concluded, their "work paves the way for the design of adaptive metamaterials as well as soft and distributed robotics".

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06M. Scientists build metamaterial that can 'learn' to change shape

वैज्ञानिकों ने ऐसा मेटामटेरियल विकसित किया जो 'सीखकर' अपना आकार बदल सकता है

• When you exercise, your muscles become stronger.

जब आप व्यायाम करते हैं, तो आपकी मांसपेशियाँ अधिक मजबूत हो जाती हैं।

• When you sow a plant, its stem will bend so that its leaves get more sunlight.

जब आप कोई पौधा बोते हैं, तो उसका तना

इस प्रकार मुड़ता है कि उसकी पतियाँ अधिक सूर्यप्रकाश प्राप्त कर सकें।

• Both these changes are examples of adaptation — when a biological material senses its environment, then reorganises its internal structure to survive better.

ये दोनों परिवर्तन अनुकूलन

(Adaptation) के उदाहरण हैं — जब कोई

जैविक पदार्थ अपने पर्यावरण को महसूस

करता है और बेहतर जीवित रहने के लिए

अपनी आंतरिक संरचना का पुनर्गठन करता

है।

• All life must adapt over time to changing conditions.

सभी जीवों को समय के साथ बदलती हुई

परिस्थितियों के अनुसार अनुकूलित होना

आवश्यक है।

• Populations that don't could become extinct.

जो जनसंख्या ऐसा नहीं कर पाती, वे विलुप्त

हो सकती हैं।

• However, most non-living materials do not actively adjust their internal structure in

response to new conditions after they are made.

हालाँकि, अधिकांश निर्जीव पदार्थ बनने के बाद नई परिस्थितियों के अनुसार अपनी आंतरिक संरचना को सक्रिय रूप से समायोजित नहीं करते।

• When a metalsmith forges a bar of steel, its internal structure is mostly fixed from that point on, though it can still change due to heat, stress, etc.



जब कोई लोहार इस्पात की छड़ बनाता है, तो उसकी आंतरिक संरचना प्रायः उसी समय से स्थिर हो जाती है, यद्यपि वह ऊष्मा या तनाव के कारण कुछ हद तक बदल सकती है।

- **If you want a new bar with different properties, you need to engineer it anew.**
यदि आपको भिन्न गुणों वाली नई छड़ चाहिए, तो आपको उसे पुनः अभियंत्रित करना होगा।
- **However, in a new study in Nature Physics, researchers from Europe have challenged this difference.**
हालाँकि, Nature Physics में प्रकाशित एक नए अध्ययन में यूरोप के शोधकर्ताओं ने इस अंतर को चुनौती दी है।
- **The team has reportedly built a synthetic material that can learn physically, by actively changing their internal mechanical properties based on external conditions.**
इस दल ने एक कृत्रिम पदार्थ विकसित किया है जो भौतिक रूप से सीख सकता है, अर्थात बाहरी परिस्थितियों के आधार पर अपनी आंतरिक यांत्रिक विशेषताओं को सक्रिय रूप से बदल सकता है।

Chain of units

इकाइयों की श्रृंखला

- **The team used metamaterials for this work.**
इस कार्य के लिए टीम ने **मेटामटेरियल्स** का उपयोग किया।
- **These are special materials whose properties are not determined by their chemical composition alone but also by the structure, or the way in which they're physically arranged.**
ये विशेष पदार्थ हैं जिनके गुण केवल उनकी रासायनिक संरचना से नहीं बल्कि उनकी संरचना अथवा भौतिक व्यवस्था से भी निर्धारित होते हैं।
- **As a result, they often have properties that natural materials don't.**
परिणामस्वरूप, इनमें ऐसे गुण होते हैं जो प्राकृतिक पदार्थों में नहीं पाए जाते।
- **In the last decade or so, scientists have used metamaterials to bend light in counterintuitive ways, shield buildings from earthquakes, and hide objects from radar, among other feats.**
पिछले एक दशक में वैज्ञानिकों ने **मेटामटेरियल्स** का उपयोग प्रकाश को असामान्य तरीके से मोड़ने, भूकंप से भवनों की रक्षा करने तथा **रडार** से वस्तुओं को छिपाने जैसे कार्यों में किया है।
- **In the new study, the team built a robotic metamaterial consisting of a chain of connected units.**
इस नए अध्ययन में टीम ने एक **रोबोटिक मेटामटेरियल** बनाया जो आपस में जुड़े **इकाइयों की श्रृंखला** से बना था।
- **Each unit had a small motor, an angle sensor, and a microcontroller.**
प्रत्येक इकाई में एक छोटा **मोटर**, एक **कोण संवेदक**, और एक **माइक्रोकंट्रोलर** था।
- **Using these components, a unit could send and receive data to/from its adjacent units and change how much it bent in response.**
इन घटकों की सहायता से प्रत्येक इकाई अपने पास की इकाइयों को **डेटा भेज** और **प्राप्त** कर सकती थी तथा प्रतिक्रिया के अनुसार अपने **मुड़ने** की मात्रा बदल सकती थी।
- **This way, the whole metamaterial could be as rigid as a metal spring or as flexible as a rubber band, or something else in between, based on how each unit responded to feedback from the two units attached to it.**
इस प्रकार पूरा **मेटामटेरियल** एक **धातु स्प्रिंग** जितना कठोर या **रबर बैंड** जितना लचीला, या इनके बीच कुछ भी हो सकता था, यह इस बात पर निर्भर करता था कि प्रत्येक इकाई अपने दोनों ओर की इकाइयों से प्राप्त **फीडबैक** पर कैसे प्रतिक्रिया देती है।
- **The researchers used a method called contrastive learning to 'teach' the metamaterial a particular shape.**



शोधकर्ताओं ने कॉन्ट्रास्टिव लर्निंग नामक विधि का उपयोग करके मेटामटेरियल को एक विशेष आकृति सिखाई।

- While contrastive learning exists in machine-learning as an algorithm, the researchers implemented it here using only a hardware-based system.
यद्यपि कॉन्ट्रास्टिव लर्निंग मशीन लर्निंग में एक एल्गोरिथम के रूप में मौजूद है, शोधकर्ताओं ने इसे यहाँ केवल हार्डवेयर-आधारित प्रणाली के माध्यम से लागू किया।

Four steps to learn

सीखने के चार चरण

- **First, the researchers kept the metamaterial chain in a straight line and set starting values for the stiffness of each unit.**
प्रथम, शोधकर्ताओं ने मेटामटेरियल श्रृंखला को सीधी रेखा में रखा और प्रत्येक इकाई की कठोरता के प्रारंभिक मान निर्धारित किए।
- **The stiffer a unit, the lesser it would bend in response to feedback.**
जितनी अधिक किसी इकाई की कठोरता होती, वह उतनी ही कम फीडबैक के प्रति मुड़ती।
- **Second, they applied an input: bending one unit in the chain by a fixed angle.**
द्वितीय, उन्होंने एक इनपुट दिया: श्रृंखला की एक इकाई को एक निश्चित कोण पर मोड़ना।
- **This would change the rest of the chain into a particular shape, called the free state.**
इससे शेष श्रृंखला एक विशेष आकृति में बदल जाती थी, जिसे मुक्त अवस्था (Free State) कहा जाता है।
- **Then, they would hold the input fixed and manually turn the other units so that the chain formed a new shape, like a 'U' or an 'L'.**
इसके बाद वे इनपुट को स्थिर रखते हुए अन्य इकाइयों को हाथ से घुमाते थे ताकि श्रृंखला एक नई आकृति, जैसे 'U' या 'L', बना सके।
- **This was called the clamped state.**
इसे क्लैम्पड अवस्था (Clamped State) कहा जाता था।
- **Finally, the microcontroller in each unit would compare its angle in the free state to that in the clamped state, and use the difference to adjust its stiffness using the motor.**
अंततः प्रत्येक इकाई का माइक्रोकंट्रोलर मुक्त अवस्था और क्लैम्पड अवस्था में अपने कोण की तुलना करता था और इस अंतर का उपयोग करके मोटर के माध्यम से अपनी कठोरता को समायोजित करता था।
- **When the researchers repeated these four steps again and again, the metamaterial chain went from the free state to the clamped state in fewer steps.**
जब शोधकर्ताओं ने इन चार चरणों को बार-बार दोहराया, तो मेटामटेरियल श्रृंखला कम चरणों में ही मुक्त अवस्था से क्लैम्पड अवस्था में पहुँचने लगी।
- **This is called contrastive learning because each unit 'learns' by contrasting the free and clamped states to figure out what it should do.**
इसे कॉन्ट्रास्टिव लर्निंग कहा जाता है क्योंकि प्रत्येक इकाई मुक्त अवस्था और क्लैम्पड अवस्था के अंतर की तुलना करके यह सीखती है कि उसे क्या करना चाहिए।
- **Thus, as the researchers explained in their paper, "Unlike traditional materials that are designed once and for all, our metamaterials have the ability to forget and learn new shape changes in sequence, to learn several shape changes that break reciprocity, and to learn multistable shape changes, which in turn allows them to perform reflex gripping actions and locomotion.**
इस प्रकार, जैसा कि शोधकर्ताओं ने अपने शोध-पत्र में समझाया, "परंपरागत पदार्थों के विपरीत जिन्हें एक बार ही डिज़ाइन किया जाता है, हमारे मेटामटेरियल्स में क्रमशः नई आकृति परिवर्तनों को भूलने और सीखने की क्षमता होती है, वे कई ऐसे आकृति परिवर्तन सीख सकते हैं जो पारस्परिकता (Reciprocity) को तोड़ते हैं, और बहु-स्थिर (Multistable) आकृतियाँ सीख सकते हैं, जिससे वे प्रतिवर्त (Reflex) पकड़ने और गतिशीलता (Locomotion) क्रियाएँ कर सकते हैं।



- “Our **findings** establish **metamaterials** as an exciting platform for **physical learning**, which in turn opens avenues for the use of physical learning to design **adaptive materials** and **robots**.”
“हमारे **निष्कर्ष** मेटामटेरियल्स को **भौतिक अधिगम (Physical Learning)** के लिए एक रोमांचक मंच के रूप में स्थापित करते हैं, जो आगे चलकर **अनुकूलनशील पदार्थों** और **रोबोटों** के डिजाइन के लिए नए मार्ग खोलते हैं।”
- The researchers reported that in one **test**, a chain of six **units** eventually ‘learnt’ to form a **U-shape** in a single step from a straight line.
शोधकर्ताओं ने बताया कि एक परीक्षण में छह **इकाइयों की श्रृंखला** ने अंततः एक ही चरण में सीधी रेखा से **U-आकार** बनाना ‘सीख’ लिया।
- Another 11-unit chain also ‘learnt’ to spell each letter of the word ‘**LEARN**’ in sequence, at each step ‘forgetting’ one **shape** and ‘learning’ the next one.
एक अन्य 11-इकाई श्रृंखला ने भी क्रमशः ‘**LEARN**’ शब्द के प्रत्येक अक्षर को बनाना ‘सीख’ लिया, जहाँ प्रत्येक चरण में एक आकृति को ‘भूलकर’ अगली आकृति को ‘सीखा’ गया।
- The researchers likened this **ability** (with some qualifications) to the **adaptability** of simple organisms.
शोधकर्ताओं ने इस क्षमता (कुछ शर्तों के साथ) की तुलना सरल **जीवों की अनुकूलन क्षमता** से की।

Talking to each other

आपस में संवाद करना

- A usual question that arises after researchers report a successful **finding** in a lab is whether they would find the same thing at a larger scale or in the **real world**.
जब शोधकर्ता प्रयोगशाला में कोई सफल **खोज** प्रस्तुत करते हैं, तो सामान्यतः यह प्रश्न उठता है कि क्या वही परिणाम बड़े स्तर पर या **वास्तविक दुनिया** में भी मिलेंगे।
- The authors of the study addressed this question using only **simulations**, where they ran **computer models** of metamaterial chains with thousands of units.
अध्ययन के लेखकों ने इस प्रश्न का समाधान केवल **सिमुलेशन** के माध्यम से किया, जहाँ उन्होंने हजारों इकाइयों वाली **मेटामटेरियल श्रृंखलाओं** के कंप्यूटर मॉडल चलाए।
- These models were not very complicated, however, as each unit had only the three **components** and ‘learnt’ only based on two **inputs** — the units on either side.
हालाँकि ये मॉडल बहुत जटिल नहीं थे, क्योंकि प्रत्येक इकाई में केवल तीन **घटक** थे और वह केवल दो **इनपुट** — दोनों ओर की इकाइयों — के आधार पर ‘सीखती’ थी।
- However, the models showed that as the chains became longer, the metamaterial ‘learnt’ at a slower **pace**.
हालाँकि मॉडलों ने दिखाया कि जैसे-जैसे श्रृंखला लंबी होती गई, मेटामटेरियल की **सीखने की गति** धीमी हो गई।
- This was because the amount of **deformation** passing through the chain decayed over a particular length.
ऐसा इसलिए हुआ क्योंकि श्रृंखला में फैलने वाला **विकृति (Deformation)** एक निश्चित दूरी के बाद कम हो जाता था।
- Put differently, a ‘**signal**’ arising from one unit weakened significantly by the time it reached a distant unit.
दूसरे शब्दों में, एक इकाई से उत्पन्न **संकेत (Signal)** दूरस्थ इकाई तक पहुँचते-पहुँचते काफी **कमज़ोर** हो जाता था।
- The researchers found a simple **fix**: they allowed each unit to ‘**talk**’ to the nearest unit as well as the next-nearest unit, i.e. the units one and two steps away.
शोधकर्ताओं ने एक सरल समाधान निकाला: उन्होंने प्रत्येक इकाई को निकटतम तथा अगले निकटतम इकाई (अर्थात् एक और दो चरण दूर) से **संवाद (Talk)** करने की अनुमति दी।



- With this rule, each unit's **microcontroller** received data about the angle of the unit two steps away, and used it with the '**knowledge**' that the angle was X two steps away, not one. इस नियम के तहत प्रत्येक इकाई का माइक्रोकंट्रोलर दो चरण दूर स्थित इकाई के कोण का डेटा प्राप्त करता था और इस 'ज्ञान' के साथ उसका उपयोग करता था कि यह कोण एक नहीं बल्कि दो चरण दूर है।
- This allowed the **inputs** to propagate further along the chain than before. इससे इनपुट पहले की तुलना में श्रृंखला में अधिक दूरी तक प्रसारित हो सके।
- The researchers were able to have a 48-unit chain **morph** into the outline of a **cat** using just three inputs as a result. परिणामस्वरूप, शोधकर्ता केवल तीन इनपुट का उपयोग करके 48-इकाई श्रृंखला को एक बिल्ली की आकृति में परिवर्तित करने में सफल रहे।
- The way the chain works is an example of **local decision-making**. श्रृंखला का कार्य करने का तरीका स्थानीय निर्णय-निर्माण (Local Decision-Making) का एक उदाहरण है।
- It is unlike, say, the **human body**, where the **brain** receives inputs from multiple **senses** and makes many decisions, which the **nervous system** finally relays to different parts. यह मानव शरीर के विपरीत है, जहाँ मस्तिष्क विभिन्न इंद्रियों से इनपुट प्राप्त करता है और कई निर्णय लेकर उन्हें तंत्रिका तंत्र के माध्यम से शरीर के विभिन्न भागों तक पहुँचाता है।
- **Machine-learning models** also use techniques like **backpropagation**, where the **output** generated near the end of a model is used to 'teach' computers near the beginning. मशीन लर्निंग मॉडल भी बैकप्रोपेगेशन जैसी तकनीकों का उपयोग करते हैं, जहाँ मॉडल के अंत में उत्पन्न आउटपुट का उपयोग प्रारंभिक चरणों में कंप्यूटर को 'सिखाने' के लिए किया जाता है।
- The metamaterial chain, however, made no such **effort**. हालाँकि, मेटामटेरियल श्रृंखला ने ऐसा कोई प्रयास नहीं किया।
- Its 'learning' was based on the units before and after (or the **next-nearest**). इसकी 'सीख' केवल पहले और बाद की इकाइयों (या निकटतम इकाइयों) पर आधारित थी।
- This is useful in **technological applications** because it removes the need for **complex networks** to transfer data. यह प्रौद्योगिकीय अनुप्रयोगों में उपयोगी है क्योंकि इससे डेटा स्थानांतरण के लिए जटिल नेटवर्कों की आवश्यकता समाप्त हो जाती है।

Taking a walk

चलना (गतिशीलता का उदाहरण)

- The researchers also found that the chain responded differently depending on which side it was **nudged**. शोधकर्ताओं ने यह भी पाया कि श्रृंखला इस बात पर निर्भर करते हुए अलग-अलग प्रतिक्रिया देती थी कि उसे किस दिशा से धक्का दिया गया।
- When they nudged one six-unit chain from the left end, the right end bent one way. जब उन्होंने छह-इकाई श्रृंखला को बाईं ओर से धक्का दिया, तो दाहिना सिरा एक दिशा में मुड़ गया।
- But when they pushed it from the right end, the left end bent in a different way. लेकिन जब उन्होंने इसे दाईं ओर से धक्का दिया, तो बायाँ सिरा एक अलग दिशा में मुड़ गया।
- This **non-reciprocity**, the researchers argued, allowed the metamaterial to 'learn' different ways to attain a final shape without requiring separate training. शोधकर्ताओं के अनुसार, यह अप्रतिपादकता मेटामटेरियल को बिना अलग प्रशिक्षण के अंतिम आकृति प्राप्त करने के विभिन्न तरीके 'सीखने' की अनुमति देती है।
- In a commentary accompanying the paper, Karen Alim, of the Technical University of Munich, Germany, who wasn't associated with the study, wrote that such non-reciprocity tests scientists' understanding of '**intelligence**' in materials beyond the bounds of traditional physics. पेपर के साथ प्रकाशित टिप्पणी में, जर्मनी के Technical University of Munich की करेन अलीम, जो इस



अध्ययन से जुड़ी नहीं थीं, ने लिखा कि ऐसी अप्रतिपादकता वैज्ञानिकों की पारंपरिक भौतिकी से परे पदार्थों में **बुद्धिमत्ता** की समझ को चुनौती देती है।

- For example, physics dictates that when you push a **spring**, it will push back. उदाहरण के लिए, भौतिकी के अनुसार जब आप किसी **स्प्रिंग** को दबाते हैं, तो वह वापस बल लगाता है।
- This is because the spring wants to settle into its lowest **energy state**: where it is not compressed. ऐसा इसलिए होता है क्योंकि स्प्रिंग अपनी न्यूनतम **ऊर्जा अवस्था** में जाना चाहता है, जहाँ वह संकुचित नहीं होता।
- In this context, the spring can be said to 'learn' by finding the valley in its **energy landscape**. इस संदर्भ में, स्प्रिंग को अपनी **ऊर्जा परिदृश्य** में न्यूनतम बिंदु खोजकर 'सीखने' वाला कहा जा सकता है।
- That is, if you take the spring to a different point in this landscape, by compressing or extending it by some amount, it will respond by making a beeline for just one spot: the valley. अर्थात्, यदि आप स्प्रिंग को संकुचित या विस्तारित करके इस परिदृश्य में किसी अन्य बिंदु पर ले जाते हैं, तो वह केवल एक ही स्थान—न्यूनतम बिंदु—की ओर लौटने का प्रयास करेगा।
- However, per Dr. Lim, the chain metamaterial is **non-reciprocal**, so it doesn't have a simple energy landscape. हालाँकि, डॉ. लिम के अनुसार, श्रृंखला मेटामटेरियल **अप्रतिपादक** है, इसलिए इसका ऊर्जा परिदृश्य सरल नहीं होता।
- In non-reciprocal systems, the energy required to move from point A to point B depends on the **path** the object takes — since there is more than one option. अप्रतिपादक प्रणालियों में, बिंदु A से B तक जाने के लिए आवश्यक ऊर्जा उस **पथ** पर निर्भर करती है जिसे वस्तु अपनाती है, क्योंकि एक से अधिक विकल्प होते हैं।
- In these cases, it becomes a question of how much physical **effort** each path takes. ऐसे मामलों में यह प्रश्न बन जाता है कि प्रत्येक पथ पर कितना **भौतिक प्रयास** लगता है।
- So while the spring 'learns' by minimising **energy**, the metamaterial chain 'learns' by minimising **work** — in this case the work done by the motors. इस प्रकार जहाँ स्प्रिंग **ऊर्जा** को न्यूनतम करके 'सीखता' है, वहीं मेटामटेरियल श्रृंखला **कार्य** को न्यूनतम करके 'सीखती' है — यहाँ यह कार्य मोटरों द्वारा किया गया कार्य है।
- As a result, the chain was able to 'learn' different paths to a final shape the way a spring never can. परिणामस्वरूप, यह श्रृंखला अंतिम आकृति तक पहुँचने के विभिन्न **पथों** को 'सीख' सकती है, जो स्प्रिंग नहीं कर सकता।
- "Breaking down the complexity of learning in **artificial intelligence systems** and the brain into physical concepts appears to be an insurmountable task. "कृत्रिम बुद्धिमत्ता प्रणालियों और मस्तिष्क में सीखने की जटिलता को भौतिक अवधारणाओं में विभाजित करना एक कठिन कार्य प्रतीत होता है।
- The programmable metamaterial wire presented by [the team] is a brilliant reduction in complexity that is key to disentangling the essential physics concepts that enable learning and constrain the space of learnable states," Dr. Lim wrote. [टीम] द्वारा प्रस्तुत **प्रोग्राम योग्य मेटामटेरियल तार** जटिलता को कम करने का एक उत्कृष्ट उदाहरण है, जो सीखने को संभव बनाने वाले आवश्यक भौतिक सिद्धांतों को समझने में सहायक है," डॉ. लिम ने लिखा।

Like a switch

स्विच की तरह कार्य करना

- The researchers also unexpectedly found **bistable units** — meaning they could act like switches.



शोधकर्ताओं ने अप्रत्याशित रूप से **द्वि-स्थिर इकाइयाँ** भी पाई — अर्थात वे स्विच की तरह कार्य कर सकती थीं।

- For example, when a moving object came in contact with a six-unit chain, the chain coiled itself around the object and gripped it.
उदाहरण के लिए, जब कोई गतिमान वस्तु छह-इकाई श्रृंखला के संपर्क में आई, तो श्रृंखला उस वस्तु के चारों ओर लिपट गई और उसे पकड़ लिया।
- To release the object, the researchers only had to nudge one particular unit, which uncoiled the rest of the chain.
वस्तु को छोड़ने के लिए, शोधकर्ताओं को केवल एक विशेष इकाई को धक्का देना पड़ा, जिससे पूरी श्रृंखला खुल गई।
- 1. (This unit was **bistable**.)
(यह इकाई **द्वि-स्थिर** थी।)
- This is also why Dr. Lim wrote that the metamaterial chain should thus be seen as a **dynamical system**, i.e. something capable of adapting.
इसी कारण डॉ. लिम ने लिखा कि मेटामटेरियल श्रृंखला को एक **गतिशील प्रणाली** के रूप में देखा जाना चाहिए, अर्थात ऐसा तंत्र जो अनुकूलन कर सके।
- According to her, the chain was able to perform life-like actions, like gripping an object, because it could 'navigate' through different **stable states** by minimising the work along specific paths.
उनके अनुसार, यह श्रृंखला वस्तु को पकड़ने जैसी **जीवन-सदृश क्रियाएँ** कर सकती है क्योंकि यह विभिन्न **स्थिर अवस्थाओं** के बीच विशेष पथों पर कार्य को न्यूनतम करते हुए संचालित हो सकती है।
- Indeed, while the chains in the team's experiments illustrated what a metamaterial chain with just a few controllable parameters was capable of, they are also not ready for real-world use.
वास्तव में, यद्यपि प्रयोगों में इन श्रृंखलाओं ने यह दिखाया कि कुछ नियंत्रित मापदंडों के साथ मेटामटेरियल श्रृंखला क्या कर सकती है, वे अभी **वास्तविक उपयोग** के लिए तैयार नहीं हैं।
- The team needed an **air table** and impractically large components to make them work.
टीम को इन्हें संचालित करने के लिए एक **वायु तालिका** और अत्यधिक बड़े घटकों की आवश्यकता पड़ी।
- But if these requirements are eased, such metamaterial chains could in future be used as advanced **prosthetic limbs** and in **soft robots** that need to respond agilely to obstacles.
लेकिन यदि इन आवश्यकताओं को सरल किया जाए, तो भविष्य में ऐसे मेटामटेरियल श्रृंखलाओं का उपयोग उन्नत **कृत्रिम अंगों** और ऐसे **मृदु रोबोटों** में किया जा सकता है जिन्हें बाधाओं के प्रति तेज़ी से प्रतिक्रिया देनी होती है।
- Overall, they concluded, their "work paves the way for the design of **adaptive metamaterials** as well as soft and **distributed robotics**."
समग्र रूप से, उन्होंने निष्कर्ष निकाला कि उनका "कार्य **अनुकूलनशील मेटामटेरियल्स** तथा मृदु और वितरित **रोबोटिक्स** के डिज़ाइन के लिए मार्ग प्रशस्त करता है।"



A radiation 'glitch' limits quantum computing

CS III: SET
vasudevamukund

What is the world's next great frontier in technology? There are multiple contenders: artificial general intelligence, programmable biology, sustainable energy, metamaterials, human-machine interfaces, and quantum computing. The future could in fact be more wondrous but also more difficult to predict because of how some of these technologies can work together. But there is still a long way to go – and quantum computing of late has illustrated that well.

Quantum computers are a new type of computer that promises to solve calculations significantly faster than today's 'traditional' computers. The problem is that these machines are also very fragile. They operate in temperatures lower than outer space and the slightest vibration or heat can cause them to stop working.

On May 4, researchers from Google Quantum AI published a paper in *Physical Review X* reporting that they had found a new ghost in the machine that poses another major threat to these computers – called correlated phase error bursts.

Scientists are working on a technology called quantum error correction – a safety net to allow a quantum computer to keep working even if a few qubits fail

High-energy particles from outer space and trace elements in the earth's crust both emit ionising radiation. When even a small dose of it strikes the silicon substrate of a quantum chip, it creates a splash of vibrations that ripple across the chip. These vibrations break apart the pairs of electrons that allow a superconductor to work. Many quantum computing chips are based on superconductors. The break-ups create a swarm of quasiparticles. It's like a cloud of electronic debris has flooded the chip.

A conventional chip is made of many semiconductors. A quantum chip is made of many qubits. Scientists were worried that the quasiparticles would interfere with sensitive parts of the qubits, causing a crash. So they developed a hardware design where a component acts like a fence that prevents the quasiparticles from jumping into sensitive parts of the qubit.

The solution worked too – until the current study revealed the new problem. Its authors found that even if the quasiparticles couldn't jump the fence, their mere presence near a qubit caused its frequency to shift. This is like some soldiers walking at a different pace than others in a march-past, falling out of sync and breaking up the parade.

A single dose of radiation could shift the frequencies of many qubits together by as much as 3 megahertz for 1 millisecond – an eternity in quantum computing. Because these shifts happen to many qubits at once, they hit the computer like a sudden loss of coordination.

Scientists are working on a technology called quantum error correction – a safety net to allow a quantum computer to keep working even if a few qubits fail. Among others, it depends on the assumption that errors in different qubits are independent of each other. The correlated burst nullifies this assumption. In fact, the authors of the study have said correlated phase error bursts could set an upper limit on how reliable current quantum computers can be.

Gianluigi Catelani, a scientist at the Jülich Research Centre, Germany, wrote in *Physics* that researchers already have at least two solutions in the works: 'traps' that absorb the static before it hits the qubits and technologies to dampen the splash.

06M. A radiation 'glitch' limits quantum computing एक विकिरण 'गड़बड़ी' क्वांटम कंप्यूटिंग को सीमित करती है

What is the world's next great frontier in technology?
प्रौद्योगिकी में विश्व की अगली महान सीमा क्या है?

- There are multiple contenders: **artificial general intelligence, programmable biology, sustainable energy, metamaterials, human-machine interfaces, and quantum computing.**

इसके कई प्रतिस्पर्धी क्षेत्र हैं: कृत्रिम सामान्य बुद्धिमत्ता, प्रोग्राम योग्य जीवविज्ञान, सतत ऊर्जा, मेटामटेरियल्स, मानव-मशीन इंटरफेस, और क्वांटम कंप्यूटिंग।

- The future could in fact be more **wondrous** but also more difficult to predict because of how some of these technologies can work together.

भविष्य वास्तव में अधिक अद्भुत हो सकता है, परंतु इसका अनुमान लगाना अधिक कठिन होगा क्योंकि ये तकनीकें आपस में मिलकर कार्य कर सकती हैं।

- But there is still a long way to go — and quantum computing of late has illustrated that well.

किन्तु अभी भी लंबा मार्ग शेष है — और हाल के समय में क्वांटम कंप्यूटिंग ने इसे स्पष्ट किया है।

- Quantum computers are a new type of computer that promises to solve calculations significantly faster than today's 'traditional' computers.

क्वांटम कंप्यूटर एक नए प्रकार के कंप्यूटर हैं जो आज के पारंपरिक कंप्यूटरों की तुलना में गणनाएँ अत्यधिक तेजी से करने का वादा करते हैं।

- The **problem is that these machines are also very fragile.**

समस्या यह है कि ये मशीनें अत्यंत संवेदनशील होती हैं।

- They operate in temperatures lower than outer space and the slightest vibration or heat can cause them to stop working.

ये बाहरी अंतरिक्ष से भी कम तापमान पर कार्य करती हैं और मामूली कंपन या ऊष्मा भी इन्हें बंद कर सकती है।

- On May 4, researchers from **Google Quantum AI** published a paper in **Physical Review X** reporting that they had found a new ghost in the machine that poses another major threat to these computers — called **correlated phase error bursts.**

4 मई को **Google Quantum AI** के शोधकर्ताओं ने **Physical Review X** में एक शोध प्रकाशित किया, जिसमें उन्होंने एक नई समस्या का उल्लेख किया जो इन कंप्यूटरों के लिए बड़ा खतरा है — जिसे **सहसंबद्ध चरण त्रुटि विस्फोट** कहा जाता है।

- **High-energy particles from outer space and trace elements in the earth's crust both emit ionising radiation.**

बाहरी अंतरिक्ष से आने वाले उच्च-ऊर्जा कण और पृथ्वी की पर्पटी में मौजूद सूक्ष्म तत्व दोनों **आयनकारी विकिरण** उत्सर्जित करते हैं।

- **When even a small dose of it strikes the silicon substrate of a quantum chip, it creates a splash of vibrations that ripple across the chip.**

जब इसका छोटा सा अंश भी क्वांटम चिप के **सिलिकॉन आधार** पर पड़ता है, तो यह कंपन उत्पन्न करता है जो पूरे चिप में फैल जाता है।

- **These vibrations break apart the pairs of electrons that allow a superconductor to work.**

ये कंपन उन इलेक्ट्रॉन युग्मों को तोड़ देते हैं जो **अतिचालकता** को संभव बनाते हैं।

- Many quantum computing chips are based on superconductors.

अनेक क्वांटम कंप्यूटिंग चिप्स **अतिचालकों** पर आधारित होते हैं।



- The **break-ups create a swarm of quasiparticles**.
ये विघटन **क्वाज़ी कणों** का समूह उत्पन्न करते हैं।
- **It's like a cloud of electronic debris has flooded the chip.**
यह ऐसा प्रतीत होता है मानो इलेक्ट्रॉनिक मलबे का एक बादल पूरे चिप में फैल गया हो।
- **A conventional chip is made of many semiconductors.**
एक पारंपरिक चिप अनेक **अर्धचालकों** से बना होता है।
- **A quantum chip is made of many qubits.**
एक क्वांटम चिप अनेक **क्यूबिट्स** से बना होता है।
- **Scientists were worried that the quasiparticles would interfere with sensitive parts of the qubits, causing a crash.**
वैज्ञानिकों को चिंता थी कि क्वाज़ी कण क्यूबिट्स के संवेदनशील भागों में हस्तक्षेप कर सकते हैं, जिससे प्रणाली विफल हो सकती है।
- **So they developed a hardware design where a component acts like a fence that prevents the quasiparticles from jumping into sensitive parts of the qubit.**
इसलिए उन्होंने एक ऐसा हार्डवेयर डिज़ाइन विकसित किया जिसमें एक घटक **बाधा** की तरह कार्य करता है और क्वाज़ी कणों को संवेदनशील भागों में प्रवेश करने से रोकता है।
- The solution worked too — until the current study revealed the new problem.
यह समाधान कार्य कर रहा था — जब तक कि वर्तमान अध्ययन ने एक नई समस्या उजागर नहीं की।
- Its authors found that **even if the quasiparticles couldn't jump the fence, their mere presence near a qubit caused its frequency to shift.**
अध्ययन के लेखकों ने पाया कि भले ही क्वाज़ी कण बाधा पार न कर सकें, परंतु उनकी निकट उपस्थिति भी क्यूबिट की **आवृत्ति** को बदल देती है।
- **This is like some soldiers walking at a different pace than others in a march-past, falling out of sync and breaking up the parade.**
यह वैसा ही है जैसे परेड में कुछ सैनिक अलग गति से चलते हुए तालमेल बिगाड़ दें।
- **A single dose of radiation could shift the frequencies of many qubits together by as much as 3 megahertz for 1 millisecond — an eternity in quantum computing.**
विकिरण की एक मात्रा कई क्यूबिट्स की आवृत्ति को एक साथ लगभग 3 मेगाहर्ट्ज तक 1 मिलीसेकंड के लिए बदल सकती है — जो क्वांटम कंप्यूटिंग में अत्यंत लंबा समय है।
- Because these shifts happen to many qubits at once, they hit the computer like a sudden loss of coordination.
चूँकि ये परिवर्तन कई क्यूबिट्स में एक साथ होते हैं, इसलिए यह कंप्यूटर में अचानक समन्वय की कमी उत्पन्न करते हैं।
- Scientists are working on a technology called **quantum error correction** — a safety net to allow a quantum computer to keep working even if a few qubits fail.
वैज्ञानिक **क्वांटम त्रुटि सुधार** नामक तकनीक पर कार्य कर रहे हैं — यह एक सुरक्षा व्यवस्था है जिससे कुछ क्यूबिट्स के विफल होने पर भी कंप्यूटर कार्य करता रहे।
- **Among others, it depends on the assumption that errors in different qubits are independent of each other.**
यह इस धारणा पर आधारित है कि विभिन्न क्यूबिट्स में त्रुटियाँ एक-दूसरे से स्वतंत्र होती हैं।
- The **correlated burst nullifies this assumption.**
सहसंबद्ध त्रुटि विस्फोट इस धारणा को निरस्त कर देता है।
- In fact, the authors of the study have said **correlated phase error bursts could set an upper limit on how reliable current quantum computers can be.**
वास्तव में, अध्ययन के लेखकों ने कहा है कि यह समस्या वर्तमान क्वांटम कंप्यूटरों की **विश्वसनीयता** की सीमा निर्धारित कर सकती है।
- Gianluigi Catelani, a scientist at the Jülich Research Centre, Germany, wrote in Physics that researchers already have at least two solutions in the works: 'traps' that absorb the static before it hits the qubits and technologies to dampen the splash.



जर्मनी के जूलिख अनुसंधान केंद्र के वैज्ञानिक जियानलुइगी कैटेलानी ने लिखा कि शोधकर्ताओं के पास पहले से ही कम से कम दो समाधान विकसित हो रहे हैं: ऐसे फंडे जो क्यूबिट्स तक पहुँचने से पहले अवांछित प्रभावों को अवशोषित कर लें और ऐसी तकनीकें जो कंपन को कम कर दें।

GS Paper III: Environment		06 May 2026
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06M	RE meets global electricity demand for the first time नवीकरणीय ऊर्जा ने पहली बार वैश्विक विद्युत मांग को पूरा किया	

GS III: Environment

Building bridges

Battery storage capacity must keep pace with solar energy generation

India scaled a record peak demand of 256.1 GW on April 25 with solar plants supplying 21.5% of the afternoon load – an all-time high, and the clearest signal yet that the country's installed solar fleet can do real work when the sun is overhead. But the same day's full 24-hour ledger told a more sobering story. When there was accounting for the whole day of April 25, solar contributed only about 10.8% of daily generation, and just 0.1% of the evening's needs after sunset. Solar's share of India's installed electric capacity has nearly doubled from about 15% in 2022 to nearly 28% in early 2026. However, solar accounted for roughly 5.6% of generation on India's peak-demand day in 2022 and only increased to the 10.8% of April – a clear indication of the yawning gap that remains between the realities of the present and what is possible. The bottleneck is not panels, land or ambition but the inability to use the vast stores of generated electrons through batteries. In fact, such is the paucity of battery storage that States which are prolific producers of solar power are being asked to halt their supply, lest it compromise the stability of India's electric grid. In 2025, India had to curtail 2.3 terawatt hours of solar generation between late May and December, equivalent to 18% of average monthly solar output, with 0.9 TWh (terra-watt hours) wasted in October alone. Given that producers of such electricity must be compensated, this ends up being a cost to the public exchequer which pays for power that was never delivered. The India Meteorological Department's forecast of a below-normal monsoon at 92% of the Long Period Average – the first such warning in 11 years – only sharpens the argument: a hotter, drier summer means greater daytime demand, which is precisely when solar should be doing the heavy lifting.

The encouraging news is battery economics. Standalone two-hour battery storage tariffs fell from around ₹2.21 lakh per MW per month in early 2025 to ₹1.48 lakh by year-end. The challenge is execution. Only 0.7 GWh of battery storage was operational in India by end-2025, with another 2 GWh expected by December 2026. The Centre and States must now focus less on tendering and more on commissioning – pairing every fresh solar auction with mandatory co-located storage and resolving the financing wall facing aggressively bid low-tariff projects. Solar capacity without storage is a half-built bridge.

06M. Building bridges सेतु निर्माण

- Battery storage capacity must keep pace with solar energy generation

बैटरी भंडारण क्षमता को सौर ऊर्जा उत्पादन के साथ तालमेल बनाए रखना चाहिए

- India scaled a record peak demand of 256.1 GW on April 25 with solar plants supplying 21.5% of the afternoon load — an all-time high, and the clearest signal yet that the country's installed solar fleet can do real work when the sun is overhead.

भारत ने 25 अप्रैल को 256.1 गीगावाट की रिकॉर्ड अधिकतम मांग प्राप्त की, जिसमें सौर संयंत्रों ने दोपहर के भार का 21.5% आपूर्ति किया — जो अब तक का उच्चतम स्तर है और यह स्पष्ट संकेत है कि देश की स्थापित सौर क्षमता सूर्य के उपलब्ध होने पर वास्तविक कार्य कर सकती है।

- But the same day's full 24-hour ledger told a more sobering story.

किन्तु उसी दिन का पूर्ण 24-घंटे का विवरण एक अधिक गंभीर स्थिति दर्शाता है।

- When there was accounting for the whole day of April 25, solar contributed only about 10.8% of daily generation, and just 0.1% of the evening's needs after sunset.

जब पूरे दिन का लेखा-जोखा किया गया, तो सौर ऊर्जा ने केवल लगभग 10.8% दैनिक उत्पादन में योगदान दिया, और सूर्यास्त के बाद शाम की आवश्यकताओं का मात्र 0.1% ही पूरा किया।

- Solar's share of India's installed electric capacity has nearly doubled from about 15% in 2022 to nearly 28% in early 2026.

भारत की स्थापित विद्युत क्षमता में सौर ऊर्जा का हिस्सा 2022 के लगभग 15% से बढ़कर 2026 की शुरुआत में लगभग 28% हो गया है।

- However, solar accounted for roughly 5.6% of generation on India's peak-demand day in 2022 and only increased to the 10.8% of April — a clear indication of the yawning gap that remains between the realities of the present and what is possible.



हालाँकि, 2022 के अधिकतम मांग वाले दिन सौर ऊर्जा का योगदान लगभग 5.6% था और यह बढ़कर अप्रैल में केवल 10.8% हुआ — जो वर्तमान वास्तविकताओं और संभावित क्षमता के बीच बड़े अंतर को दर्शाता है।

- The **bottleneck** is not panels, land or ambition but the **inability to use the vast stores of generated electrons through batteries**.

मुख्य बाधा **पैनल**, भूमि या इच्छाशक्ति नहीं है, बल्कि **बैटरियों** के माध्यम से उत्पन्न विद्युत को संग्रहित और उपयोग करने की अक्षमता है।

- In fact, such is the **paucity of battery storage** that States which are prolific producers of solar power are being asked to halt their supply, lest it compromise the stability of India's **electric grid**.

वास्तव में, **बैटरी भंडारण** की इतनी कमी है कि सौर ऊर्जा के अधिक उत्पादन वाले राज्यों से आपूर्ति रोकने को कहा जा रहा है, ताकि भारत की **विद्युत ग्रिड की स्थिरता** प्रभावित न हो।

- In 2025, India had to **curtail 2.3 terawatt hours** of solar generation between late May and December, equivalent to **18% of average monthly output**, with **0.9 TWh wasted in October alone**.

2025 में, भारत को मई के अंत से दिसंबर तक **2.3 टेरावाट-घंटे** सौर उत्पादन को सीमित करना पड़ा, जो औसत मासिक उत्पादन का लगभग 18% है, जिसमें अकेले अक्टूबर में **0.9 टेरावाट-घंटे** ऊर्जा व्यर्थ हुई।

- Given that producers of such electricity must be compensated, this ends up being a cost to the **public exchequer** which pays for power that was never delivered.

चूँकि इस प्रकार की ऊर्जा के उत्पादकों को मुआवजा देना होता है, यह अंततः **सरकारी कोष** पर भार बनता है, जो ऐसी बिजली के लिए भुगतान करता है जो कभी वितरित ही नहीं हुई।

- The **India Meteorological Department's** forecast of a **below-normal monsoon (92% of Long Period Average)** — the first such warning in 11 years — **only sharpens the argument: a hotter, drier summer means greater daytime demand, which is precisely when solar should be doing the heavy lifting**.

भारत मौसम विज्ञान विभाग द्वारा दीर्घकालिक औसत के 92% के बराबर सामान्य से कम मानसून का पूर्वानुमान — जो 11 वर्षों में पहली चेतावनी है — इस तर्क को और मजबूत करता है कि अधिक गर्म और शुष्क ग्रीष्मकाल का अर्थ है अधिक **दिवाकालीन मांग**, जो वह समय है जब सौर ऊर्जा को प्रमुख भूमिका निभानी चाहिए।

- The encouraging news is **battery economics**.

सकारात्मक समाचार **बैटरी अर्थशास्त्र** से संबंधित है।

- Standalone **two-hour battery storage tariffs** fell from around **₹2.21 lakh per MW/month** in early 2025 to **₹1.48 lakh** by year-end.

स्वतंत्र दो-घंटे के **बैटरी भंडारण शुल्क** 2025 की शुरुआत में लगभग **₹2.21 लाख प्रति मेगावाट प्रति माह** से घटकर वर्ष के अंत तक **₹1.48 लाख** हो गए।

- The challenge is **execution**.

चुनौती **कार्यान्वयन** की है।

- **Only 0.7 GWh battery storage** was operational in India by end-2025, with another **2 GWh expected by December 2026**.

2025 के अंत तक भारत में केवल **0.7 गीगावाट-घंटे** बैटरी भंडारण कार्यरत था, और दिसंबर 2026 तक अतिरिक्त **2 गीगावाट-घंटे** की अपेक्षा है।

- The **Centre and States** must now focus less on **tendering** and more on **commissioning** — pairing every fresh solar auction with mandatory **co-located storage** and resolving the **financing wall** facing aggressively bid low-tariff projects.

अब केंद्र और राज्यों को **निविदा प्रक्रिया** पर कम और **परियोजनाओं के संचालन** पर अधिक ध्यान देना चाहिए — प्रत्येक नई सौर निविदा के साथ अनिवार्य **सह-स्थित भंडारण** सुनिश्चित करना तथा कम शुल्क वाली परियोजनाओं के वित्तीय अवरोधों को दूर करना चाहिए।



- **Solar capacity without storage is a half-built bridge.**
भंडारण के बिना सौर क्षमता एक अधूरा पुल है।

RE meets global electricity demand for the first time

Despite rapid renewable capacity growth globally, geopolitical shocks expose India's dependence on fossil fuel imports from West Asia

GS III: Environment

DATA POINT

Arena Arora

In 2025, global electricity generation increased by roughly 850 terawatt-hours (TWh), according to data from the Ember Energy Institute. This increase was supplied almost entirely by solar and wind energy, contributing 636 TWh and 204 TWh respectively. Other renewables added another 23 TWh. Coal generation and oil meanwhile fell by 67 TWh and 12 TWh respectively. This is the first year in which expanded electricity demand did not require an increase in fossil fuels.

Over the past decade, the cost of solar and wind energy has dropped steeply, and battery storage and grid integration capacities have improved drastically, supporting an uptick in reliance on renewable energy sources. In 2025, coal's share of global electricity production fell by just over 1% and solar energy increased by nearly 2%. The dependence on oil also went down.

Major superpowers are embracing the change. China, for instance, saw its fossil fuel generation fall for the first time since 2015. The country saw a strong 5% growth in electricity demand and a 15% growth in clean energy generation, met largely by solar and wind energy. Solar energy in China grew by 40% compared to 2024 and wind energy increased by 14%. Solar energy alone met two-thirds of the increase in the country's electricity demand in 2025, according to a report by Ember Energy.

Fossil fuel demand fell in India as well. Together, the fall in demand in India and China has pushed global fossil fuel generation to stagnation, according to the report. Fossil fuel generation fell in both India (down 3.3%) and China (down 0.9%), driven by clean power usage and demand growth.

How is this different from the

earlier years? For two decades, even as renewable electricity capacity grew at double-digit rates, fossil fuel generation remained relevant and kept climbing because absolute electricity demand was rising faster than what renewables could cover. The rising consumption relied on coal and gas-fuelled energy. Even as renewable energy gained market share, it could not displace fossil fuels in absolute terms. However, that pattern reversed in 2025.

Globally, coal's share in electricity production declined from 36% in 2015 to 33% in 2024 (Chart 1). Coal generation fell in absolute terms for the first time last year, as renewables outpaced demand growth. Natural gas also saw a modest 45 TWh increase, entirely offset by renewable gains.

The effect of war

India's crude oil imports fell by 17% year-over-year in March 2026 to 18.9 million tonnes, compared with 22.8 million tonnes in March 2025 (Chart 2). The decline comes amid the closure of the Strait of Hormuz starting March 1 due to the U.S.-Israel conflict with Iran. This narrow waterway handles a significant share of global oil and gas shipments. India imports 89% of its crude oil from mostly Qatar, the UAE and Saudi Arabia. The Indian basket crude (simplify) price averaged \$113.49 per barrel in March 2026, compared with \$72.47 in March 2025, a 56% increase year-over-year.

India's primary energy supply consists of coal, followed by oil, natural gas and then renewables (Chart 3).

India's natural gas consumption rose in March 2026 despite supply disruptions. Natural gas available for consumption went up by 7% from March 2025. This increase came despite a 4.9% decline in domestic production. The gap was filled by LNG imports, which jumped by 20.5% by March this year. India's LNG imports reached 27 million metric tonnes (mmt) in

2024-25, the highest on record and double the 13.5 mmt imported in 2011-12. India's LPG imports also surged with expanded household access. The Pradhan Mantri Ujjwala Yojana increased LPG connections from 62% of households in 2016 to nearly 100% by 2025, driving imports to 18 mmt in 2025-26 from 16.48 mmt in 2020-21.

Crude oil, LNG, and LPG are all imported heavily from West Asian suppliers. The closure of the Strait of Hormuz disrupted all three simultaneously. India's response included accelerating renewable approvals, maximising refinery output, and paying ₹30,000 crore to oil marketing companies in FY 2025-26 to cushion LPG losses. LPG prices rose by ₹60 per cylinder after the conflict began.

On the flip side, India's renewable capacity grew by over 210% in the past decade. In FY 2024-25, renewable energy accounted for 89% of India's new capacity additions. Yet absolute energy dependence on imports has also deepened. India imports 89% of crude oil, 47% of natural gas, and 26% of coal despite being the world's third-largest coal producer. The renewable buildout has not yet reduced India's reliance on imported fossil fuels.

Renewable capacity takes years to translate into reliable, usable power and geopolitical shocks affect energy supply in the instant short-term. When the Strait of Hormuz closed in early March, India could not wait for wind farms to reach completion or battery capacity to scale. It responded by maximising output from existing coal and gas infrastructure, instructing domestic suppliers to prioritise domestic users and accelerating imports of LNG and LPG from alternative suppliers.

The global energy transition advanced significantly in 2025. India's renewable capacity is growing at the fastest rate globally. However, import dependence on a conflict zone exists alongside clean energy progress in India.



Chart 1: The shift towards renewables for global electricity generation, with an uptick in solar and wind energy (Figures in %)

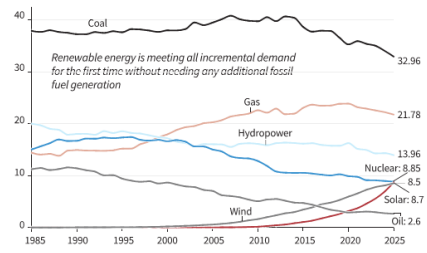


Chart 2: The fall in India's crude oil imports in March

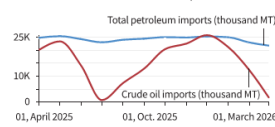
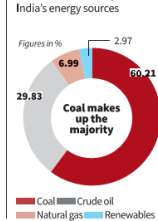


Chart 3: The makeup of India's energy sources



Data for the charts were sourced from Ember (2026), Energy Institute - Statistical Review of World Energy (2025) - with major processing by Our World in Data; Petroleum Planning and Analysis Cell; Energy Statistics India 2025 report by the Ministry of Statistics and Planning Implementation

06M. RE meets global electricity demand for the first time

नवीकरणीय ऊर्जा ने पहली बार वैश्विक विद्युत मांग को पूरा किया

- Despite rapid renewable capacity growth globally, geopolitical shocks expose India's dependence on fossil fuel imports from West Asia
वैश्विक स्तर पर नवीकरणीय क्षमता में तीव्र वृद्धि के बावजूद, भू-राजनीतिक झटके भारत की पश्चिम एशिया से जीवाश्म ईंधन आयात पर निर्भरता को उजागर करते हैं
- In 2025, global electricity generation increased by roughly 850 terawatt-hours (TWh), according to data from the Ember Energy Institute.
2025 में वैश्विक विद्युत उत्पादन लगभग 850 टेरावाट-घंटे बढ़ा, जैसा कि एम्बर ऊर्जा संस्थान के आँकड़ों से पता चलता है।
- This increase was supplied almost entirely by solar and wind energy, contributing 636 TWh and 204 TWh respectively.



यह वृद्धि लगभग पूरी तरह सौर और पवन ऊर्जा द्वारा पूरी की गई, जिनका योगदान क्रमशः 636 टेरावाट-घंटे और 204 टेरावाट-घंटे रहा।

- Other renewables added another 23 TWh.
अन्य नवीकरणीय स्रोतों ने अतिरिक्त 23 टेरावाट-घंटे का योगदान दिया।
- Coal generation and oil meanwhile fell by 67 TWh and 12 TWh respectively.
इस दौरान कोयला उत्पादन और तेल आधारित उत्पादन क्रमशः 67 टेरावाट-घंटे और 12 टेरावाट-घंटे घटे।
- This is the first year in which expanded electricity demand did not require an increase in fossil fuels.
यह पहला वर्ष है जब बढ़ती हुई विद्युत मांग को पूरा करने के लिए जीवाश्म ईंधन की आवश्यकता नहीं पड़ी।
- Over the past decade, the cost of solar and wind energy has dropped steeply, and battery storage and grid integration capacities have improved drastically.
पिछले दशक में सौर और पवन ऊर्जा की लागत में तेजी से गिरावट आई है, और बैटरी भंडारण तथा ग्रिड एकीकरण क्षमता में उल्लेखनीय सुधार हुआ है।
- This has supported an uptick in reliance on renewable energy sources.
इससे नवीकरणीय ऊर्जा स्रोतों पर निर्भरता में वृद्धि हुई है।
- In 2025, coal's share of global electricity production fell by just over 1% and solar energy increased by nearly 2%.
2025 में वैश्विक विद्युत उत्पादन में कोयले का हिस्सा लगभग 1% घटा, जबकि सौर ऊर्जा का हिस्सा लगभग 2% बढ़ा।
- The dependence on oil also went down.
तेल पर निर्भरता भी कम हुई।
- Major superpowers are embracing the change.
प्रमुख महाशक्तियाँ इस परिवर्तन को अपना रही हैं।
- China, for instance, saw its fossil fuel generation fall for the first time since 2015.
उदाहरण के लिए, चीन में जीवाश्म ईंधन आधारित उत्पादन 2015 के बाद पहली बार घटा।
- The country saw a strong 5% growth in electricity demand and a 15% growth in clean energy generation, met largely by solar and wind energy.
देश में विद्युत मांग में 5% वृद्धि और स्वच्छ ऊर्जा उत्पादन में 15% वृद्धि हुई, जो मुख्यतः सौर और पवन ऊर्जा से पूरी हुई।
- Solar energy in China grew by 40% compared to 2024 and wind energy increased by 14%.
चीन में सौर ऊर्जा में 2024 की तुलना में 40% वृद्धि हुई और पवन ऊर्जा में 14% वृद्धि दर्ज की गई।
- Solar energy alone met two-thirds of the increase in the country's electricity demand in 2025.
केवल सौर ऊर्जा ने 2025 में देश की विद्युत मांग में हुई वृद्धि का दो-तिहाई हिस्सा पूरा किया।
- Fossil fuel demand fell in India as well.
भारत में भी जीवाश्म ईंधन की मांग घटी।
- Together, the fall in demand in India and China has pushed global fossil fuel generation to stagnation.
भारत और चीन में मांग में गिरावट ने वैश्विक जीवाश्म ईंधन उत्पादन को स्थिरता की स्थिति में पहुँचा दिया है।
- Fossil fuel generation fell in both India (down 3.3%) and China (down 0.9%), driven by clean power usage and demand growth.
भारत (3.3% कमी) और चीन (0.9% कमी) दोनों में स्वच्छ ऊर्जा उपयोग और मांग वृद्धि के कारण जीवाश्म ईंधन उत्पादन घटा।

How is this different from the earlier years?

यह पहले के वर्षों से कैसे भिन्न है?

- For two decades, even as renewable electricity capacity grew at double-digit rates, fossil fuel generation remained relevant and kept climbing.



दो दशकों तक, भले ही नवीकरणीय विद्युत क्षमता दो अंकों की दर से बढ़ी, फिर भी जीवाश्म ईंधन उत्पादन प्रासंगिक बना रहा और बढ़ता रहा।

- This was because **electricity demand** was rising faster than what **renewables** could cover. ऐसा इसलिए था क्योंकि विद्युत मांग नवीकरणीय ऊर्जा की आपूर्ति से अधिक तेजी से बढ़ रही थी।
- The rising consumption relied on **coal and gas-based energy**. बढ़ती हुई खपत कोयला और गैस आधारित ऊर्जा पर निर्भर थी।
- Even as renewable energy gained **market share**, it could not displace fossil fuels in **absolute terms**. हालाँकि नवीकरणीय ऊर्जा ने बाजार हिस्सेदारी बढ़ाई, परंतु यह पूर्ण रूप से जीवाश्म ईंधन को प्रतिस्थापित नहीं कर सकी।
- However, that pattern **reversed in 2025**. किन्तु यह प्रवृत्ति 2025 में उलट गई।
- **Globally, coal's share in electricity production declined from 36% in 2015 to 33% in 2024**. वैश्विक स्तर पर विद्युत उत्पादन में कोयले का हिस्सा 2015 में 36% से घटकर 2024 में 33% हो गया।
- **Coal generation fell in absolute terms for the first time last year, as renewables outpaced demand growth**. पिछले वर्ष कोयला उत्पादन पहली बार पूर्ण रूप से घटा, क्योंकि नवीकरणीय ऊर्जा ने मांग वृद्धि को पीछे छोड़ दिया।
- **Natural gas** also saw a modest **45 TWh increase**, entirely offset by **renewable gains**. प्राकृतिक गैस में भी 45 टेरावाट-घंटे की वृद्धि हुई, जिसे पूरी तरह नवीकरणीय ऊर्जा वृद्धि ने संतुलित कर दिया।

The effect of war

युद्ध का प्रभाव

- **India's crude oil imports fell by 17% year-over-year in March 2026 to 18.9 million tonnes, compared with 22.8 million tonnes in March 2025**. मार्च 2026 में भारत के कच्चे तेल के आयात में वर्ष-दर-वर्ष 17% की गिरावट आई और यह 18.9 मिलियन टन रह गया, जबकि मार्च 2025 में यह 22.8 मिलियन टन था।
- The decline comes amid the **closure of the Strait of Hormuz** starting March 1 due to the **U.S.-Israel conflict with Iran**. यह गिरावट 1 मार्च से होर्मुज़ जलडमरूमध्य के बंद होने के कारण आई, जो अमेरिका-इज़राइल और ईरान के संघर्ष के चलते हुआ।
- This narrow waterway handles a **significant share of global oil and gas shipments**. यह संकीर्ण जलमार्ग वैश्विक तेल और गैस आपूर्ति का महत्वपूर्ण हिस्सा वहन करता है।
- **India imports 89% of its crude oil from mostly Qatar, UAE and Saudi Arabia**. भारत अपने कच्चे तेल का 89% आयात मुख्यतः कतर, संयुक्त अरब अमीरात और सऊदी अरब से करता है।
- **The Indian basket crude price averaged \$113.49 per barrel in March 2026, compared with \$72.47 in March 2025, a 56% increase year-over-year**. भारतीय बास्केट कच्चे तेल की कीमत मार्च 2026 में औसतन 113.49 डॉलर प्रति बैरल रही, जो मार्च 2025 में 72.47 डॉलर थी, अर्थात् 56% की वृद्धि।
- **India's primary energy supply consists of coal, followed by oil, natural gas and then renewables**. भारत की प्राथमिक ऊर्जा आपूर्ति में कोयला प्रमुख है, उसके बाद तेल, प्राकृतिक गैस और फिर नवीकरणीय ऊर्जा का स्थान है।
- **India's natural gas consumption rose in March 2026 despite supply disruptions**. आपूर्ति बाधाओं के बावजूद मार्च 2026 में भारत की प्राकृतिक गैस खपत बढ़ी।



- Natural gas available for consumption went up by 7% from March 2025. मार्च 2025 की तुलना में उपभोग के लिए उपलब्ध प्राकृतिक गैस में 7% की वृद्धि हुई।
- This increase came despite a 4.9% decline in domestic production. यह वृद्धि घरेलू उत्पादन में 4.9% की कमी के बावजूद हुई।
- The gap was filled by LNG imports, which jumped by 20.5%. इस कमी को एलएनजी आयात द्वारा पूरा किया गया, जिसमें 20.5% की वृद्धि हुई।
- India's LNG imports reached 27 million metric tonnes in 2024-25, the highest on record. भारत का एलएनजी आयात 2024-25 में 27 मिलियन मीट्रिक टन तक पहुँच गया, जो अब तक का उच्चतम स्तर है।
- India's LPG imports also surged with expanded household access. भारत के एलपीजी आयात में भी वृद्धि हुई, जो बढ़ती हुई घरेलू पहुँच के कारण है।
- The Pradhan Mantri Ujjwala Yojana increased LPG connections from 62% in 2016 to nearly 100% by 2025. प्रधानमंत्री उज्ज्वला योजना के तहत एलपीजी कनेक्शन 2016 में 62% से बढ़कर 2025 तक लगभग 100% हो गए।
- This drove imports to 18 million metric tonnes in 2025-26 from 16.48 mmt in 2020-21. इससे आयात 2020-21 के 16.48 मिलियन मीट्रिक टन से बढ़कर 2025-26 में 18 मिलियन मीट्रिक टन हो गया।
- Crude oil, LNG, and LPG are heavily imported from West Asia. कच्चा तेल, एलएनजी और एलपीजी का भारी आयात पश्चिम एशिया से होता है।
- The closure of the Strait of Hormuz disrupted all three simultaneously. होर्मुज़ जलडमरूमध्य के बंद होने से इन तीनों की आपूर्ति एक साथ प्रभावित हुई।
- India's response included accelerating renewable approvals, maximising refinery output, and paying ₹30,000 crore to oil marketing companies. भारत की प्रतिक्रिया में नवीकरणीय परियोजनाओं की स्वीकृति में तेजी, रिफाइनरी उत्पादन में वृद्धि, और तेल विपणन कंपनियों को 30,000 करोड़ रुपये का भुगतान शामिल था।
- LPG prices rose by ₹60 per cylinder after the conflict began. संघर्ष शुरू होने के बाद एलपीजी की कीमतें प्रति सिलेंडर 60 रुपये बढ़ गईं।
- On the flip side, India's renewable capacity grew by over 210% in the past decade. दूसरी ओर, पिछले दशक में भारत की नवीकरणीय ऊर्जा क्षमता में 210% से अधिक वृद्धि हुई।
- In FY 2024-25, renewables accounted for 89% of new capacity additions. वित्त वर्ष 2024-25 में नई ऊर्जा क्षमता में 89% योगदान नवीकरणीय ऊर्जा का था।
- Yet import dependence has also deepened. फिर भी आयात पर निर्भरता भी बढ़ी है।
- India imports 89% crude oil, 47% natural gas, and 26% coal. भारत 89% कच्चा तेल, 47% प्राकृतिक गैस, और 26% कोयला आयात करता है।
- The renewable buildout has not yet reduced reliance on imported fossil fuels. नवीकरणीय ऊर्जा के विस्तार के बावजूद आयातित जीवाश्म ईंधनों पर निर्भरता कम नहीं हुई है।
- Renewable capacity takes years to become reliable power and geopolitical shocks affect supply instantly. नवीकरणीय क्षमता को विश्वसनीय ऊर्जा में बदलने में वर्षों लगते हैं, जबकि भूराजनीतिक झटके तुरंत प्रभाव डालते हैं।
- When the Strait of Hormuz closed, India responded by maximising coal and gas output, prioritising domestic supply, and increasing LNG and LPG imports. जब होर्मुज़ जलडमरूमध्य बंद हुआ, तब भारत ने कोयला और गैस उत्पादन बढ़ाया, घरेलू आपूर्ति को प्राथमिकता दी, और एलएनजी तथा एलपीजी आयात बढ़ाया।
- The global energy transition advanced significantly in 2025. 2025 में वैश्विक ऊर्जा संक्रमण में महत्वपूर्ण प्रगति हुई।



- India's **renewable capacity growth** is among the fastest globally.
भारत की नवीकरणीय ऊर्जा क्षमता वृद्धि विश्व में सबसे तेज़ है।
- However, **import dependence on a conflict zone** still exists alongside clean energy progress.
किन्तु संघर्ष क्षेत्र पर आयात निर्भरता अभी भी स्वच्छ ऊर्जा प्रगति के साथ मौजूद है।

GS Paper III: Internal Security		06 May 2026
TOPICS COVERED		
06M	At sea समुद्र में	

GS III: Internal Security

At sea

The expansion of high-end frigate fleet must be in step with perceived threats

The Indian Navy's Project 17A is a ₹45,000-crore programme to build seven 'Nilgiri'-class frigates, with anti-air, anti-surface, and anti-submarine capabilities, as an advanced complement to the 'Shivalik' frigates and a precursor to Project 17B. The Project delivered the *INS Mahendragiri* on April 30, completing six deliveries in 17 months, but had previously faced multiple delays. The Comptroller and Auditor General (CAG) of India has flagged hundreds of design changes in previous warship classes during construction. Deliveries had been delayed even though ships were nominally complete because they lacked critical components such as engines and sensors, allowing the projects to meet commissioning dates on paper while leaving the hull unprepared for combat. A 2025 CAG report found that the Navy was inducting platforms without building the supporting infrastructure. While Project 17A used 75% indigenous components by value, many critical parts were sourced from abroad, and without them the vessels' final integration was withheld. Currently, India can build most of each ship but exercises limited control over timelines.

The Indian Ocean carries most of India's energy imports as well as Chinese naval deployments, but the nature of these challenges alone does not resolve the kind and scale of response they merit. India built the Chain of Static Sensors after the 2008 Mumbai attacks, with radar hardware involving imported parts. The Chain has been extended to Mauritius, Sri Lanka, and the Seychelles, and together with naval platforms forms a detect-decide-respond system. But while naval satellites and underwater sensor networks provide the 'detect' aspect, the frigates' radars and sonars remain the most imported – and thus most delayed – components, limiting the vessels' ability to function as mobile sensors. Adding more surface combatants is like adding receivers to a network still transmitting a fuzzy picture. Granted, securing sea lanes and addressing non-traditional threats such as Houthi drone and missile activity justify some number of multi-role frigates. However, these platforms are also overkill for countering piracy and smuggling. Heightened surveillance and the Indian Coast Guard also address the 26/11 scenario. And while the People's Liberation Army Navy has been increasing its submarine presence in the region, an Indian hull lacking the premium sensors required to find these vessels is effectively not responding to China's presence. What then is the purpose of expanding the high-end frigate fleet? One possibility is to sustain domestic shipyards and absorb new technologies, but this risks allowing industry interests to supersede the demands of the threat environment. In sum, India has a response fleet facing delays, a sensor grid with incomplete coverage and overdue upgrades, a domestic industrial ecosystem that still depends on imports, and, ultimately, investments that are out of step with the threats they are meant to address.

06M. At sea
समुद्र में

- The expansion of high-end frigate fleet must be in step with perceived threats

उच्च-स्तरीय फ्रिगेट बेड़े का विस्तार अनुमानित खतरों के अनुरूप होना चाहिए

- The **Indian Navy's Project 17A** is a ₹45,000-crore programme to build seven '**Nilgiri**'-class frigates, with **anti-air, anti-surface, and anti-submarine capabilities**, as an advanced complement to the '**Shivalik**' frigates and a precursor to **Project 17B**.

भारतीय नौसेना की परियोजना 17ए ₹45,000 करोड़ का एक कार्यक्रम है, जिसके अंतर्गत सात '**नीलगिरि**' श्रेणी के युद्धपोत बनाए जा रहे हैं, जिनमें **वायु-रोधी, सतह-रोधी, और पनडुब्बी-रोधी क्षमताएँ** हैं, जो '**शिवालिक**' युद्धपोतों के उन्नत पूरक और **परियोजना 17बी** के पूर्ववर्ती हैं।

- The **Project delivered the *INS Mahendragiri* on April 30**, completing six deliveries in 17 months, but had previously faced multiple **delays**.

इस परियोजना के अंतर्गत **आईएनएस महेंद्रगिरि** को 30 अप्रैल को सौंपा गया, जिससे 17 महीनों में छह डिलीवरी पूरी हुई, किन्तु इससे पूर्व इसमें कई **विलंब** हुए थे।

- The **Comptroller and Auditor General (CAG)** of India has flagged hundreds of **design changes** in previous warship classes during construction.

भारत के नियंत्रक एवं महालेखा परीक्षक ने निर्माण के दौरान पूर्व युद्धपोत श्रेणियों में **सैकड़ों डिज़ाइन परिवर्तनों** को चिन्हित किया है।

- Deliveries had been delayed even though **ships were nominally complete** because they lacked **critical components** such as **engines and sensors**, allowing the projects to meet commissioning dates on paper while leaving the hull unprepared for combat.

डिलीवरी में विलंब हुआ, जबकि जहाज कागज़ों पर पूर्ण थे, क्योंकि उनमें **इंजन और सेंसर** जैसे महत्वपूर्ण घटकों का अभाव था, जिससे परियोजनाएँ औपचारिक रूप से समयसीमा पूरी कर सकीं, परंतु युद्ध के लिए तैयार नहीं थीं।

- A **2025 CAG report** found that the Navy was inducting platforms without building the **supporting infrastructure**.

2025 की एक **सीएजी रिपोर्ट** में पाया गया कि नौसेना बिना आवश्यक **सहायक अवसंरचना** विकसित किए ही प्लेटफॉर्म को शामिल कर रही थी।



- While **Project 17A used 75% indigenous components by value**, many **critical parts** were sourced from abroad, and without them the vessels' final **integration** was withheld.
यद्यपि परियोजना 17ए में **75% स्वदेशी घटकों** का उपयोग हुआ, परंतु कई महत्वपूर्ण भाग विदेश से प्राप्त किए गए, और इनके बिना जहाजों का अंतिम **एकीकरण** संभव नहीं था।
- Currently, India can build most of each ship but exercises **limited control over timelines**. वर्तमान में भारत प्रत्येक जहाज का अधिकांश भाग बना सकता है, परंतु **समयसीमा** पर उसका सीमित नियंत्रण है।
- The **Indian Ocean** carries most of India's **energy imports** as well as **Chinese naval deployments**, but the nature of these challenges alone does not resolve the kind and scale of response they merit.
हिंद महासागर भारत के अधिकांश **ऊर्जा आयात** तथा चीन की **नौसैनिक तैनाती** को वहन करता है, किन्तु ये चुनौतियाँ स्वयं ही उनके अनुरूप प्रतिक्रिया के प्रकार और स्तर को निर्धारित नहीं करतीं।
- India built the **Chain of Static Sensors** after the **2008 Mumbai attacks**, with radar hardware involving **imported parts**.
भारत ने **2008 मुंबई हमलों** के बाद **स्थिर सेंसर श्रृंखला** का निर्माण किया, जिसमें **रडार उपकरण** में आयातित भाग शामिल थे।
- The Chain has been extended to **Mauritius, Sri Lanka, and the Seychelles**, and together with naval platforms forms a **detect-decide-respond system**.
यह श्रृंखला **मॉरीशस, श्रीलंका, और सेशेल्स** तक विस्तारित की गई है, और नौसैनिक प्लेटफॉर्म के साथ मिलकर एक **पता लगाओ-निर्णय लो-प्रतिक्रिया दो प्रणाली** बनाती है।
- But while **naval satellites and underwater sensor networks provide the 'detect' aspect, the frigates' radars and sonars remain the most imported** — and thus most **delayed** — components, limiting the vessels' ability to function as **mobile sensors**.
यद्यपि **नौसैनिक उपग्रह और जलमग्न सेंसर नेटवर्क** 'पता लगाने' का कार्य करते हैं, परंतु युद्धपोतों के **रडार और सोनार** सबसे अधिक आयातित और विलंबित घटक हैं, जिससे उनकी **गतिशील सेंसर** के रूप में क्षमता सीमित होती है।
- Adding more **surface combatants** is like adding receivers to a network still transmitting a **fuzzy picture**.
अधिक **सतही युद्धपोतों** को जोड़ना ऐसा है जैसे एक ऐसे नेटवर्क में रिसीवर जोड़ना जो अभी भी अस्पष्ट चित्र प्रसारित कर रहा हो।
- Granted, securing **sea lanes** and addressing **non-traditional threats** such as drone and missile activity justify some number of **multi-role frigates**.
यह स्वीकार्य है कि **समुद्री मार्गों की सुरक्षा** और **गैर-पारंपरिक खतरों** जैसे ड्रोन और मिसाइल गतिविधियों का सामना करने के लिए कुछ संख्या में **बहुउद्देश्यीय युद्धपोतों** की आवश्यकता है।
- However, **these platforms are also overkill for countering piracy and smuggling**.
हालाँकि, ये प्लेटफॉर्म **समुद्री डकैती और तस्करी** से निपटने के लिए अत्यधिक शक्तिशाली सिद्ध होते हैं।
- **Heightened surveillance** and the **Indian Coast Guard** also address the 26/11 scenario. **उन्नत निगरानी और भारतीय तटरक्षक बल** भी 26/11 जैसी परिस्थितियों का सामना करने में सक्षम हैं।
- And while the **People's Liberation Army Navy** has been increasing its **submarine presence** in the region, an Indian hull lacking the **premium sensors** required to find these vessels is effectively not responding to China's presence.
और जबकि **पीपुल्स लिबरेशन आर्मी नौसेना** क्षेत्र में अपनी **पनडुब्बी उपस्थिति** बढ़ा रही है, ऐसे में आवश्यक उन्नत **सेंसरों** के अभाव में भारतीय जहाज प्रभावी प्रतिक्रिया देने में असमर्थ हैं।
- What then is the purpose of expanding the **high-end frigate fleet**?
तो फिर उच्च स्तरीय युद्धपोत बेड़े के विस्तार का उद्देश्य क्या है?
- One possibility is to sustain **domestic shipyards** and absorb **new technologies**, but this risks allowing **industry interests** to supersede the demands of the threat environment.



एक संभावना यह है कि इससे घरेलू शिपयार्ड को बनाए रखा जाए और नई प्रौद्योगिकियों को आत्मसात किया जाए, परंतु इससे औद्योगिक हितों को सुरक्षा आवश्यकताओं पर प्राथमिकता मिलने का जोखिम है।

- In sum, India has a **response fleet facing delays**, a **sensor grid with incomplete coverage**, a domestic industrial ecosystem that still **depends on imports**, and, ultimately, **investments out of step with threats**.

संक्षेप में, भारत के पास एक प्रतिक्रिया बेड़ा है जो विलंब का सामना कर रहा है, एक सेंसर नेटवर्क है जिसकी कवरेज अधूरी है, एक घरेलू औद्योगिक तंत्र है जो अभी भी आयात पर निर्भर है, और अंततः ऐसे निवेश हैं जो मौजूदा खतरों के अनुरूप नहीं हैं।

GS Paper IV: Ethics		06 May 2026
TOPICS COVERED		
06M	'In organisations that encourage learning, failure not a bad word' 'जो संगठन सीखने को बढ़ावा देते हैं, उनमें असफलता कोई बुरा शब्द नहीं है'	

'In organisations that encourage learning, failure not a bad word'

GS IV: Ethics

The Hindu Bureau
CHENNAI

Organisations that create opportunities for employees to improve and excel through upskilling or reskilling often reap the benefits in the long run. Such learning organisations create an ecosystem where employees are incentivised for efforts to learn new skills and apply at work, speakers at a panel discussion said on Tuesday.

The discussion was part of Future Career Conversations series organised jointly by the SRM Institute of Science and Technology (SRMIST) and *The Hindu* under the title "The Future Reimagined - Discover, Decide, Define Your Career."

"A learning organisation is one where failure is not a



Panelists at the session titled 'The Rejigged Employee', organised in Chennai on Tuesday. B. JOTHI RAMALINGAM

bad word," said Amardeep Devadasan, Senior Vice-President, RR Donnelley & Williams Lea. Abhishek Paul, Culture Shepherd, Kissflow, said, "A learning organisation has a lot of courageous people who are not afraid to seek failure."

Bijumon Jacob, Head-India Operations, Human Resources, Ejada, Dubai, said organisations that invest in technology and upgrading

the skills of employees were indeed learning organisations.

A. Vinay Kumar, Pro-Vice Chancellor, SRMIST, said as organisations grow, "people who build these structures become leaders and their reluctance to understand change or actually change themselves leads to problems."

06M. 'In organisations that encourage learning, failure not a bad word' 'जो संगठन सीखने को बढ़ावा देते हैं, उनमें असफलता कोई बुरा शब्द नहीं है'

- Organisations that create opportunities for employees to improve and excel through **upskilling** or **reskilling** often reap the benefits in the long run.



जो संगठन कर्मचारियों को अपस्किलिंग या रीस्किलिंग के माध्यम से सुधार और उत्कृष्टता के अवसर देते हैं, वे अक्सर लंबे समय में लाभ प्राप्त करते हैं।

- **Such learning organisations create an ecosystem where employees are incentivised for efforts to learn new skills and apply at work**, speakers at a panel discussion said on Tuesday. ऐसे **लर्निंग संगठन** एक ऐसा पारिस्थितिकी तंत्र बनाते हैं जहां कर्मचारियों को नए कौशल सीखने और उन्हें काम में लागू करने के प्रयासों के लिए प्रोत्साहित किया जाता है, वक्ताओं ने मंगलवार को एक पैनल चर्चा में कहा।
- The discussion was part of **Future Career Conversations** series organised jointly by the **SRM Institute of Science and Technology (SRMIST)** and **The Hindu** under the title "The Future Reimagined – Discover, Decide, Define Your Career." यह चर्चा **फ्यूचर करियर कन्वर्सेशन्स** श्रृंखला का हिस्सा थी, जिसे संयुक्त रूप से **SRM इंस्टीट्यूट ऑफ साइंस एंड टेक्नोलॉजी (SRMIST)** और **द हिंदू** द्वारा "The Future Reimagined – Discover, Decide, Define Your Career" शीर्षक के तहत आयोजित किया गया था।
- "A learning organisation is one where failure is not a bad word," said **Amardeep Devadasan**, Senior Vice-President, RR Donnelley & Williams Lea. "एक **लर्निंग संगठन** वह होता है जहां असफलता कोई बुरा शब्द नहीं होती," **अमरदीप देवदासन**, सीनियर वाइस-प्रेसिडेंट, RR Donnelley & Williams Lea ने कहा।
- **Abhishek Paul**, Culture Shepherd, Kissflow, said, "A learning organisation has a lot of courageous people who are not afraid to seek failure." **अभिषेक पॉल**, कल्चर शेफर्ड, Kissflow ने कहा, "एक लर्निंग संगठन में बहुत से साहसी लोग होते हैं जो असफलता से डरते नहीं हैं।"
- **Bijumon Jacob**, Head-India Operations, Human Resources, Ejada, Dubai, said organisations that invest in technology and upgrading the skills of employees were indeed learning organisations. **बिजुमोन जैकब**, हेड-इंडिया ऑपरेशंस, ह्यूमन रिसोर्स, Ejada, दुबई ने कहा कि जो संगठन तकनीक और कर्मचारियों के कौशल उन्नयन में निवेश करते हैं, वे वास्तव में लर्निंग संगठन होते हैं।
- **A. Vinay Kumar**, Pro-Vice Chancellor, SRMIST, said as organisations grow, "people who build these structures become leaders and their reluctance to understand change or actually change themselves leads to problems." **ए. विनय कुमार**, प्रो-वाइस चांसलर, SRMIST ने कहा कि जैसे-जैसे संगठन बढ़ते हैं, "जो लोग इन संरचनाओं को बनाते हैं वे नेता बन जाते हैं और परिवर्तन को समझने या स्वयं को बदलने की उनकी अनिच्छा समस्याओं का कारण बनती है।"