

EDITORIAL HIGHLIGHTS

27-07-2026

1. Do Not Surrender to China, Do Not Depend on the U.S. (TH PAGE NO 8)
Syllabus Mapping
GS Paper: GS Paper 2 Syllabus Topics:
India and its neighborhood—relations.
Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
Effect of policies and politics of developed and developing countries on India's interests.

Do not surrender to China, do not depend on the U.S.

A volatile political climate in Washington has triggered a wave of strategic anxiety in New Delhi. Buffeted by the transactional, often erratic policy shifts of the Donald Trump administration – which hit India last year with punitive tariffs on steel and aluminium, stripped its preferential trade status, and aggressively renewed ties with Islamabad while imposing irritants such as tightening H-1B visa rules – a growing chorus of domestic voices is calling for a fundamental reset of India's China policy.

Economic actors, their flawed line

The argument, championed largely by an influential business lobby, suggests that India's confrontational approach toward Beijing was overly synchronised with Washington's strategic agenda of "containment" rather than India's national interests. The lobby contends that because India remains deeply reliant on Chinese technology, supply chains, industrial inputs, and capital, a dogmatic anti-China stance ultimately stymies domestic economic growth while barely denting Beijing's economy. The core risk, critics warn, is Washington's historical pattern of tactical flip-flops – escalating tensions one day and striking bilateral deals the next – which risks leaving an overextended India strategically vulnerable to Chinese retaliation.

While the warning against subordinating Indian interests to an unpredictable Washington is entirely valid, it is not clear that this is what is occurring. In any case, the proposed alternative – a hasty, unreciprocated economic embrace of China – is a dangerous prescription. It mistakes tactical business convenience for long-term national security. A premature capitulation to Beijing ignores a decade of unprovoked hostility, deepens an asymmetric dependency, and strips India of its leverage just as the global order enters its most volatile phase since the Cold War.

Let us face it: the primary domestic driver for a China reset is an influential business lobby obsessed with short-term balance sheets. For years, parts of corporate India have argued that access to cheap Chinese capital, machinery, and active pharmaceutical ingredients (APIs) is indispensable for India's growth. However, this view suffers from severe strategic myopia. It treats international trade as an apolitical transaction, completely divorced from the realities of comprehensive national power.

By advocating a return to the pre-2020 status quo, these economic actors choose to selectively forget a dozen years of relentless, unprovoked aggression by the People's Liberation Army (PLA) and the Chinese Communist Party (CCP). The list of Beijing's hostile acts against Indian sovereignty is not a series of isolated border skirmishes; it is a coherent strategy of containment and



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Realising that Washington is an unreliable partner does not mean India must run into the arms of an actively hostile neighbour

humiliation. From Dipsang (2013) and Chumar (2014) to Doklam (2017) and then the fatal clashes in the Galwan Valley (2020), China has systematically attempted to alter the Line of Actual Control (LAC) through salami-slicing tactics, unilaterally violating decades of border peace protocols. Beijing continues to aggressively assert absurd claims over the entire State of Arunachal Pradesh, renaming geographical features in places it does not control (but plans to), and issuing stapled visas to residents of Jammu and Kashmir and Arunachal to weaponise India's internal geography.

And then there is economic coercion. China has routinely used its manufacturing dominance as a political weapon, abruptly withholding critical machinery and industrial inputs, even weaponising its monopoly over rare earths and tunnel-boring machines during bilateral disputes, simply to inconvenience Indian industries and signal its leverage, knowing fully that India has none to exercise in return. Most alarming has been Beijing's overt, coordinated military support for Pakistan during Operation Sindoor (May 2025). By providing Islamabad with real-time tactical satellite data and intelligence, China transformed itself from a mere military supplier into an active, hostile participant in Pakistan's security architecture against India. To ignore this track record in pursuit of cheaper components is not pragmatism; it is strategic blindness.

The myth of reciprocity

The core flaw in the argument for a quick reset is the naive assumption that if India relaxes its economic guard, China will reciprocate with geopolitical goodwill. The foundational tenet of Chinese foreign policy in Asia is the establishment of a unipolar continent. Beijing does not view New Delhi as a peer, nor does it desire India to become one.

For over a decade, China has weaponised its veto at the United Nations Security Council (UNSC) to shield Pakistan-based terrorist organisations from international sanctions and condemnation. It has blocked India's legitimate aspirations for permanent membership in the UNSC and membership in the Nuclear Suppliers Group (NSG). If India opens the floodgates to Chinese capital and market access without any fundamental resolution of the border dispute or a halt to Beijing's hostile behaviour, it effectively subsidises its own encirclement. Pouring billions of dollars into Chinese coffers as a compliant consumer market merely expands the asymmetric trade deficit (China's annual surplus over India now exceeds \$100 billion). More dangerously, it hands Beijing an economic kill-switch over the Indian economy. In a future crisis, the threat of cutting off critical components could paralyse Indian industry,

rendering New Delhi incapable of independent strategic decision-making.

Advocates of a reset argue that easing economic tensions could pave the way for a permanent demarcation of the border. In reality, the opposite is true. China respects power and exploits vulnerability. If India surrenders its economic leverage and signals that it cannot sustain a prolonged stand-off, Beijing will conclude that its strategy of multi-domain pressure is working. China will simply bide its time, allowing India to grow comfortably dependent once again. When Beijing eventually decides it is ready to discuss a permanent border settlement, it will dictate terms from a position of absolute dominance. An India structurally dependent on Chinese technology and cowed by the threat of economic disruption will have no choice but to accept a deeply disadvantageous territorial status quo.

Leverage, once surrendered, cannot be easily reclaimed. The restrictions India placed on Chinese apps, investments, and telecom infrastructure post-Galwan were not just emotional reactions; they were crucial diplomatic leverage. Dismantling them for minor economic relief would be an act of unilateral disarmament.

India is undeniably in a complex position. The Trump administration's unpredictable shifts mean that relying entirely on Washington as a security guarantor is unwise, despite the enthusiasm of his emissary to India, Sergio Gor. The United States will always prioritise its own domestic and global calculations, and New Delhi must remain clear-eyed that it stands alone on the heights of Ladakh. However, realising that Washington is an unreliable partner does not mean India must run into the arms of an actively hostile neighbour. There is an immense strategic space between subordinating India's national interests to the U.S. and conceding an unconditional economic and political surrender to China.

The path India must tread

The correct path for New Delhi is one of strategic patience and internal fortifying. India must accelerate its supply chain resilience, diversify its trade partnerships across Europe, East Asia, and the Global South, and aggressively build up its domestic manufacturing capabilities – even if it comes with short-term inflationary costs. The last decade has proven that China presents a structural, generational challenge to India's rise. A hasty rethink driven by panic over Washington or the complaints of a short-term-profit-driven business lobby will only ensure that India remains permanently exposed, economically vulnerable, and strategically diminished.

We do not have to "tilt" either way. We must, instead, develop the strength to walk straight.

The Youth Have Risen Against Authoritarianism (TH PAGE NO 8)

Syllabus Mapping

GS Paper: GS Paper 2 Syllabus Topics:
Important aspects of governance, transparency, and accountability. Structure, organization, and functioning of the Executive and Judiciary. Citizen participation and democratic rights in governance.

The youth have risen against authoritarianism

The Prime Minister blinked. The government blinked. Unfortunately, the blinking was over something that was never called for in the yesteryears of politics. A Railway Minister would resign, in those times, following a terrible railway accident.

Not that it was his personal negligence. But he took responsibility as the ultimate authority.

Unfortunately, that sense of honour, self-respect, and decency is lost in politics today. The cars with red lights, a house in Lutyens' Delhi, and a false sense of aggrandisement is now the priority.

The resignation of an Education Minister, which should have been immediate – following the National Eligibility cum Entrance Test (Undergraduate) catastrophe – became an issue requiring a huge protest. The reparation of the damage and taking serious and sincere measures to quell the rot in the education system (alas, just one of the many in various departments) required a protest of the magnitude one has seen, to make the government decide to actually perform its duty, function, and responsibility.

People remain the masters

But one very great takeaway and benefit that has come out of this (for, after all, every negative has



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Senior Advocate in the Supreme Court of India

Without any religious or other artificial divides, the youth of India have shown the courage that their elders lacked

the prospect of resulting in something positive) is that an authoritarian government which had grown to believing, and behaving, like it was a body, a party, above the people, with its threats and possible vindictiveness, to anyone who did not “toe the line”, realised that, when you suppress the people, in the end, they are the masters, and the self-important government functionaries are but their servants.

In a way, the NEET incident has been a positive development in the current Indian landscape. At last people have risen against authoritarianism, against fear, against the threat of reprisal, from those who are given power by the very people they now consistently let down. The threat of government reprisal against those who protest or object. The threat of being planted with drugs or false rape charges and of being incarcerated without bail, in the belief that a pliant judicial system would blink, and turn away from injustice, has finally found people, and fortunately the youth of this country who say, “this much and no more”.

Standing united

I am proud of the youth. They have risen as one. With no religious or other artificial divides. They

have shown the courage that elders, who had the wherewithal to show, lacked. They have shown us that cowardice, impotence, and a willingness to bow to such authoritarianism as pliant and obedient cattle, to safeguard the positions we have reached without inviting any unrest or destabilisation of our own self-comfort, are unacceptable. Go forth youth. You are not cockroaches. We elders will hopefully find the courage, through your strength, to stop being cockroaches and shed our fears, and not be protective of our own survival.

Courage against unchecked power

The greatest threat to authoritarianism is when it is taken too far and to such sectors that cannot and will not tolerate it anymore. This has been a protest not just against the NEET debacle, but also against the authoritarian rule that prevails. From the heart of a man known to be completely apolitical, and who has judged each issue on the strength of its own right or wrong, unmindful of whether the ruling dispensation or the Opposition is to blame, all I can say is – may this swing against authoritarianism spearheaded by the youth succeed, so that we can all truly say ‘Jai Hind’.

Indian Monsoon: A Democratic Tipping Point (TH PAGE NO 9)

Syllabus Mapping

GS Paper: GS Paper 2 & GS Paper 3 Syllabus Topics:

Important aspects of governance, transparency, and accountability. Inclusive growth and issues arising from it. Awareness in the fields of IT, AI, and scientific temper.

Indian Monsoon: a democratic tipping point

India stands at an important moment in its democratic journey. Large student demonstrations which were demanding fairness in examinations and Sonam Wangchuk's prolonged fast and hospitalisation along with the start of the Monsoon session of Parliament have together captured the nation's attention. These events viewed together tell a larger story. They signal a growing desire and demand among citizens to be heard, to participate, and shape India's democratic future.

This moment can be described as the Indian Monsoon.

Just as the annual monsoon follows months of intense heat, societies too experience seasons when accumulated aspirations, frustrations, and exclusion seek peaceful democratic expression. Such moments should not be feared. They should be welcomed as opportunities for reflection, dialogue, reform and redesign.

On imagining a future

India has much to celebrate. The country has expanded digital public infrastructure, modernised transportation, strengthened financial inclusion, and demonstrated achievements in science, technology, and space. These accomplishments have brought recognition for India.

At the same time, many young Indians worry about the credibility of competitive examinations, access to quality education, and the availability of meaningful employment. Farmers continue to face economic uncertainty and income inequality remains a major concern. Public discourse has become increasingly polarised, with many citizens questioning institutional autonomy, the role of the media, the undermining of civil society, and the quality of democratic debate. These concerns should not be viewed through a partisan lens. They should be understood as democratic signals.

The strength of a democracy is measured not by the absence of



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Telecom inventor, entrepreneur, development thinker, and policy maker

Our future depends upon combining technological excellence with constitutional values, scientific temper, ethical leadership, and respect for humanity

criticism but by its willingness to listen and reform.

India's greatest asset has always been its extraordinary diversity – of languages, religions, castes, cultures, traditions, trade, ideas, and aspirations. The Indian Constitution transformed that diversity into the foundation of national unity. It affirmed that justice, liberty, equality, and fraternity are not just abstract ideals but practical principles for governing a vibrant society.

As India moves toward the centenary of its Independence in 2047, there is an opportunity to renew that constitutional promise. The real question is: what kind of India do we want to build for the next generation? Do we aspire merely to become a larger economy, or do we seek to become a more inclusive, more equitable, more scientific, more innovative, more peaceful and compassionate society?

This Monsoon moment calls for a new national agenda.

The government must restore complete confidence in our education and examination systems. It must create millions of meaningful jobs by encouraging decentralisation, district-level development, entrepreneurship, innovation, and local manufacturing. It must also strengthen public healthcare, improve nutrition, low-cost housing, safety, security, schools, vocational training, invest in scientific research, reduce bureaucracy, and expand technology and opportunities for every young Indian, regardless of their background.

Above all, India must prepare for the age of Artificial Intelligence (AI). AI is not simply another technological revolution. It will reshape and redefine work, education, healthcare, agriculture, manufacturing, communities, villages, cities, governance and employment.

India possesses the raw young talent, entrepreneurial spirit, and digital foundation to become a global leader in AI for public good.

Its challenge is to ensure that technology serves every citizen sustainably. No algorithm can replace trust and no AI system can replace human wisdom.

Our future therefore depends upon combining technological excellence with constitutional values, scientific temper, ethical leadership, and respect for humanity.

The idea of India

Perhaps, the greatest challenge before India today is not economic or technological. It is philosophical – the idea of India rooted in our Constitution. That ideology needs to be the core of our development, and the prerequisite for a path to prosperity. For far too long has the world measured success primarily through the pursuit of power and profit. The time has come to rebalance our priorities: to place people and the planet at the centre of development. If we empower every young person, reduce inequality, strengthen democratic institutions, focus on humanity and not religion, and use technology to expand opportunity rather than privilege, India can offer the world a new developmental model – one that combines economic progress with human dignity.

The Indian Monsoon is therefore not a political movement. It is a democratic season of renewal. It reminds us that governments derive strength by listening to their citizens, and that India's greatest achievements have always come when we have chosen dialogue over division.

History will judge us by whether we had the wisdom to listen, the courage to reform, and the imagination to build an India worthy of its civilisational heritage and its democratic promise.

If we seize this moment with humility, confidence and vision, the Indian Monsoon will not merely mark another season of public debate. It will mark the beginning of India's next democratic renaissance.

Why is China's AI Push Gaining Ground?(TH PAGE NO 10) Syllabus Mapping

GS Paper: GS Paper 3 Syllabus Topics:
Science and Technology—developments and their applications and effects in everyday life.
Indigenization of technology and developing new technology.
Awareness in the fields of IT, Computers, and Robotics

Why is China's AI push gaining ground?

How have Chinese firms caught up with leading U.S. AI models despite chip restrictions? What advantages do Chinese open-source AI models offer over captive models? How has Beijing supported the growth? What challenges could China face in the future?

EXPLAINER

Aroon Deep

The story so far:

A matter of weeks after Anthropic's Fable AI model was launched to great acclaim, Chinese firm Moonshot AI released Kimi K3, a model that has measured up to the Claude model in most parameters. The notable factor here is that K3, and a clutch of other models made in China, are open-weight and/or open-source, meaning that any company (or well-resourced individual) can run them locally.

How is China positioning itself in AI?

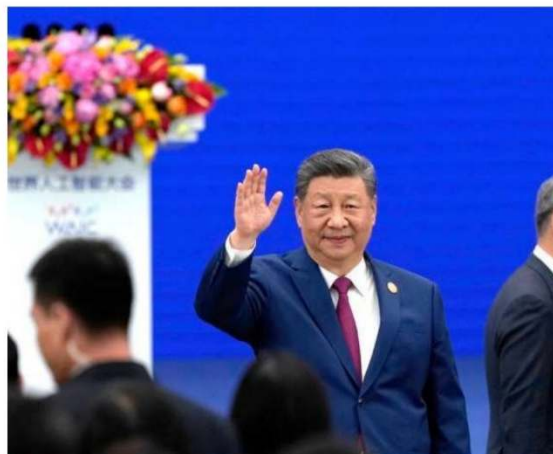
At the Shanghai World AI Conference on July 17, Chinese president Xi Jinping said that with AI, countries "should adhere to the principle of openness and win-win and boost innovation-driven development". At least as far as the currently available open models are concerned, Chinese firms are walking that talk.

China faces crucial restrictions on graphics processing units (GPUs) that are required for training AI models and running queries (inference) on them. However, China has bridged this gap with abundant electricity access and a larger quantity of less advanced chips. The result is models like Kimi K3, which is a 2.8 trillion parameter model.

How have they built a competitive ecosystem?

Not all open-source models are designed for those many parameters; Alibaba, the retail and e-commerce giant that is now growing significant in-house AI capabilities, has put out several lightweight models that have impressed AI enthusiasts who prefer to run inference on their own hardware.

China has supported AI research labs as well as encouraged existing large firms like Tencent and Baidu to work on AI,



Gearing up: Chinese president Xi Jinping; China's results are indicative of long-term planning that it had set in motion for the AI ecosystem. AP

which has resulted in a multiplicity of models that have been downloaded millions of times from platforms like HuggingFace, with developers enthusiastically adopting these models for narrow, tailored use-cases.

One of the most well-known entrants that challenged U.S. dominance is the startup DeepSeek, whose models are available online as well as on an open-source basis. The Chinese government has also acted to protect these firms from being co-opted into the U.S.-led AI ecosystem, such as by restricting travel for key personnel and blocking Facebook parent Meta's acquisition of the firm Manus.

What does this mean for the global race?

The difference between open-source and captive models – Anthropic and OpenAI's

models, as well as most of Google's, land in the latter category – is that source code is not freely shared with the broader AI developer ecosystem, giving firms a theoretical edge. But another key difference that could counteract that advantage is that open-source models can be run by third-party providers who compete with others like them to provide greater cost predictability.

This is so far a theoretical advantage, since the U.S.'s frontier firms are greatly subsidising their models; Anthropic is this month giving out \$100 in credits to paying users to use their Fable model. But once that exuberance dies down, the focus may very well shift to infrastructure providers, who may find open-source models an attractive offering.

This is, of course, assuming that open-source models continue to be provided freely by Chinese firms in the

coming months and years. Alibaba has already started working on captive AI models that run on its own infrastructure and are not open-source.

Since open-source models are expensive to produce, it may not be a given that they will be trained at the same clip, as the companies most capable of making them may change business models.

Chinese firms have caught up in capability, but there remains a trust deficit, especially in India, on using their models. Open-sourcing models means that local firms running on inference aggregators like Neysa and even the IT Ministry's Computer Emergency Response Team (CERT-in) make use of these models, since no question of data leakage emerges.

The bet may very well be that once the open-source honeymoon ends, and the world has seen how good Chinese models are compared to the most advanced Western counterparts, captive models may get a second consideration, even allowing for the geopolitical baggage that comes with embracing Chinese technology.

Things may not necessarily move in that direction, as the existing models and their accompanying literature are being studied by researchers and labs around the world.

The geopolitical baggage has likely been a major reason why India, despite hosting the AI Impact Summit in February, skipped out on the Shanghai conference. The government is trying to encourage domestic champions and hold off Chinese capital in Indian AI by promoting firms like Sarvam AI in spite of scarce resources. However, as noted above, open-source models have not been discouraged.

China's results are indicative of long-term planning that its government had set in motion for the AI ecosystem.

The next major focus area, Mr. Jinping indicated in his speech, was AI "moving from the digital world into the physical world."

THE GIST

China's open-source AI push has rapidly narrowed the capability gap with U.S. frontier models, backed by State support, efficient use of computing resources, and a growing ecosystem of developers and firms.

While open models could reshape the global AI market through lower-cost deployment, questions over long-term business models, geopolitical trust, and India's push for domestic AI champions will influence their adoption.

Why Has India Moved to Take Down BitChat Repositories? (TH PAGE NO 10)

Syllabus Mapping

GS Paper: GS Paper 2 & GS Paper 3 Syllabus Topics:

**Fundamental Rights and reasonable restrictions under Article 19.
Challenges to internal security through communication networks
and social networking sites.**

Cyber security basics and regulatory frameworks under the IT Act.

Why has India moved to take down BitChat repositories?

What is BitChat? Can communication tools be blocked for their potential misuse?

Rizmi Lia M.

The story so far:

The Indian Cyber Crime Coordination Centre (I4C), under the Ministry of Home Affairs, directed GitHub on July 23 to remove repositories hosting BitChat, the Bluetooth mesh messaging application developed by X co-founder Jack Dorsey, stating that the app could be exploited to coordinate unlawful assemblies and circumvent lawful restrictions imposed by competent authorities during situations involving public order. The order comes at a time when repeated internet shutdowns near protest sites have led protesters to increasingly rely on Bluetooth-enabled messaging platforms such as BitChat for communication.

What is BitChat?

BitChat is a decentralised peer-to-peer messaging application that operates over Bluetooth mesh networks. It requires no

internet connection, no servers and no phone numbers.

Traditional messaging apps depend on centralised infrastructure that can be monitored, censored or disabled. BitChat creates ad hoc communication networks using only devices in physical proximity, with each device acting as both a client and a server, automatically discovering peers and relaying messages across multiple hops to extend the network's reach.

According to the platform, this approach provides censorship resistance, surveillance resistance and infrastructure independence. The network remains functional during internet outages, natural disasters, protests, or in regions with limited connectivity.

What does the order say?

The order directs GitHub to disable access to three repositories, including the Android application and its release files, within three hours.

It also warns that failure to comply

could invite criminal prosecution.

According to the order, the application enables anonymous communication without mandatory user registration, phone number verification or centralised logging of communications. It states that the application's technical architecture significantly impedes lawful interception, attribution and investigation by law enforcement agencies.

It further states that since communications occur directly between nearby devices through a decentralised mesh network, the platform can be misused to evade lawful surveillance, facilitate anonymous coordination and circumvent lawful restrictions imposed by competent authorities during situations involving public order, riots, terrorism, organised crime or internet shutdowns.

The order also states that "such decentralised communication platforms are capable of being exploited for coordinating unlawful assemblies, violent protests, dissemination of misinformation, radicalisation, criminal

conspiracies, and other activities prejudicial to the sovereignty and integrity of India, defence of India, security of the State, public order, and for facilitating the commission of cognisable offences."

What does the law say?

The order, Notice No. 11072601011432, was issued at 11.16 p.m. on July 23 under Section 79(3)(b) of the Information Technology Act, 2000, read with Rule 30(d) of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

Section 79(3)(b) provides that an intermediary may lose its safe harbour protection if, upon receiving actual knowledge or being notified by the appropriate government or its agency that any information, data or communication link residing in or connected to a computer resource controlled by the intermediary is being used to commit an unlawful act, it fails to expeditiously remove or disable access to that material without vitiating the evidence in any manner.

However, Section 79 itself does not confer a blocking power. Blocking directions are ordinarily issued under Section 69A of the IT Act and the Blocking Rules, 2009, which require a hearing and reasons recorded in writing, subject to review.

It empowers the Union government to direct the blocking of public access to information on grounds such as national

security, public order and the prevention of incitement to the commission of cognisable offences. Such orders are required to follow the procedure prescribed under the law.

Why is the order being criticised?

The Internet Freedom Foundation (IFF) criticised the order, arguing that it relies on the application's potential for misuse rather than identifying any unlawful content hosted in the repositories.

"Anticipated misuse of a communications tool is not a lawful basis to prohibit the tool," the organisation said.

The order directs GitHub to "remove and disable access to the concerned URLs within three hours of the issue of this communication without vitiating evidence in any manner."

According to IFF, the notice, issued close to midnight, fails the proportionality standard laid down by the Supreme Court in *Anuradha Bhasin v. Union of India* (2020).

In *Anuradha Bhasin*, the Supreme Court held that "the degree of restriction and the scope of the same, both territorially and temporally, must stand in relation to what is actually necessary to combat an emergent situation." The court observed that the principle of proportionality requires restrictions to be tailored to the territorial extent of the restriction, the stage of the emergency, the nature of the urgency, the duration of the restrictive measure and the nature of the restriction.

Indus Waters Treaty: India's Plans, Pakistan's Protests (IE PAGE NO 9)

Syllabus Mapping

GS Paper: GS Paper 2 Syllabus Topics:

India and its neighborhood—relations.

Bilateral agreements involving India and affecting national interests. Dispute redressal mechanisms and international treaty obligations.

• GEOPOLITICS

Indus Waters Treaty: India's plans, Pakistan's protests



SHUBHAJIT ROY

PAKISTAN HAS been targeting India in recent weeks over the Indus Waters Treaty (IWT), which New Delhi placed in abeyance after the Painsgam terror attack last April. Pakistan's Defence Minister Khawaja Asif recently said his country would not hesitate to go to war for its water security.

The Indian government's argument, that "blood and water cannot flow together", has at times been perceived to be directed at its domestic political constituency. That weakens its argument in front of the global audience, which often is sympathetic to Pakistan portraying itself as the lower riparian victim.

Pakistan's actions

India maintains it has honoured the treaty amid wars, military crises, terror attacks and prolonged periods of bilateral hostility as Pakistan pursued a policy of cross-border terrorism. According to New Delhi, such treaties cannot remain insulated from persistent acts of hostility.

India feels that Pakistan's conduct reflects a pattern of obstruction. Virtually every Indian project on the Western Rivers (meant for Pakistan's use)—irrespective of its size, storage capacity or technical design—has been objected to by Pakistan. Indian officials argue that the treaty's dispute resolution provisions, intended as an exceptional mechanism to resolve genuine differences, have been converted into instruments for delaying Indian projects.

New hydrological realities

The IWT reflects the technological and hydrological realities of the late 1950s. More than 60 years later, India's population has increased several-fold, resulting in higher demand for drinking water, irrigation, industry and urban development needs. States dependent upon the Indus Basin—including Punjab, Haryana and Rajasthan—face increasing water stress and developmental requirements that could not have been envisaged when the Treaty was signed.

The Indus Basin

India also faces a serious challenge of declining groundwater levels, particularly



The Salal dam on the Chenab. Pakistan had objected to it. WIKIMEDIA COMMONS
Real Creator IAS Edition <https://whatsapp.com/channel/0029Van2VRb6RGJOKH6oBd0F>

in Punjab and Haryana, making greater utilisation of available surface water an urgent national priority.

At the same time, the hydrological regime has evolved, with reduced availability in the Eastern Rivers (for India's use), while flows in the Western Rivers have not experienced a comparable decline.

Climate change has altered basin dynamics through greater hydrological variability, increasing the need for flood moderation, drought resilience, storage optimisation and adaptive operations.

Engineering practices have undergone a profound transformation since 1960. Modern dam safety and sustainability require low-level outlets, drawdown flushing, gated spillways, advanced sediment management and flexible reservoir operations. These technologies were either unavailable or not widely recognised when the treaty was drafted.

India's commitments towards clean energy transition and climate goals require efficient development of hydropower infrastructure using state-of-the-art engineering practices, rather than technologies frozen in the engineering standards of the 1950s.

The IWT imposes extensive obligations on India concerning project design, storage limits, spillway configuration, operational procedures and advance information. While Pakistan has built hydropower projects on its rivers, it objects to similar initiatives by India.

Dividing a river system

The Indus Waters Treaty divides the six rivers of the Indus system, giving India control of the Eastern Rivers (Ravi, Beas, and Sutlej), and Pakistan the Western Rivers (Indus, Jhelum, and Chenab).

Sections within India have long held that the IWT is one of the most generous water-sharing arrangements ever accepted by an upper riparian state.

Since the treaty was put in abeyance, Pakistan has been targeting India on international fora for 'treating a lower riparian state unfairly'

and established operational practices of run-of-the-river hydropower projects.

River flows at downstream locations such as Marala are influenced by seasonal snowmelt in the Himalayas. Variations in winter snowfall, delayed melting, or cooler spring temperatures naturally affect early-season discharge levels. Such fluctuations cannot, by themselves, be interpreted as evidence of deliberate interference. Temporary fluctuations in downstream river flows during sediment flushing or maintenance operations are normal, regulated engineering phenomena observed in reservoir operations across the world.

What India may now be looking at

Utilising waters: India is expediting projects designed to prevent the avoidable wastage of waters allocated to it. A key priority will be the accelerated development of hydropower projects on the Chenab basin. These are critical for India's clean energy transition, grid stability and regional development.

Major projects under implementation include the 1,856 MW Sawalkot Hydroelectric Project, the 1,000 MW Pakal Dul Project, the 850 MW Ratle Project, the 624 MW Kirthi Project and the 540 MW Kwar Project.

The Ujh Multipurpose Project, on a tributary of the Ravi, will enable the storage and productive utilisation of waters that presently flow unutilised across the International Boundary while simultaneously providing irrigation, drinking water, flood moderation and hydropower benefits to Jammu & Kashmir and other states.

Flushing reservoirs: India will also restore the efficiency and sustainability of existing hydropower projects through modern reservoir and sediment management practices. For decades, essential maintenance measures such as sediment flushing and operation of low-level outlets were either delayed or constrained because of persistent objections from Pakistan, despite these being internationally accepted engineering practices.

The Salal Hydroelectric Project illustrates the consequences of such restrictions. Originally designed with a gross storage capacity of about 284 million cubic metres (MCM), the project had to plug its low-level sediment outlets following Pakistan's objections, depriving the reservoir of its primary sediment management mechanism. As a result, the reservoir silted up within a few years of commissioning, reducing its effective storage.

Pakistan's water crisis

Pakistan's recurring claims of water insecurity linked to the IWT are contradicted by its official documents and public statements. The Pakistan National Water Policy acknowledges that approximately 35 million-acre feet (MAF) of water flows annually into the Arabian Sea without productive utilisation.

It records that nearly 30–40% of canal water is lost during conveyance, with barely about 58 MAF ultimately reaching farms out of more than 100 MAF diverted through the canal system.

These figures reveal that Pakistan's principal challenge is not upstream water availability but inefficient water management. Chronic canal seepage, ageing irrigation infrastructure, inadequate storage capacity, poor irrigation efficiency, delayed modernisation and inefficient cropping patterns continue to constrain Pakistan's agricultural productivity. These are domestic governance and infrastructure issues that cannot reasonably be attributed to India's hydropower projects.

Senior Pakistani leaders have publicly acknowledged as much. Former foreign minister Shah Mahmood Qureshi admitted that Pakistan's water shortages arise primarily from internal mismanagement rather than any diversion by India.

Pakistan has also attempted to portray fluctuations in the Chenab River as evidence of hostile manipulation. But officials say this ignores both hydrological realities

How Quantum Computing and AI Can Help Trigger a Better Immune Response (IE PAGE NO 9)

Response Syllabus Mapping

GS Paper: GS Paper 3 Syllabus Topics:

Science and Technology—developments and their applications in everyday life.

Awareness in the fields of IT, Quantum Computing, and Biotechnology. Public health technology and vaccine development.

ARTIFICIAL INTELLIGENCE

How quantum computing and AI can help trigger a better immune response



EXPERT EXPLAINS

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COULD THE next breakthrough in cancer treatment come from combining artificial intelligence (AI) with quantum computing? Researchers at the Technical University of Denmark (DTU) have taken an early step by using a photonic quantum computer to improve how an AI model designs peptides, which help the body's immune system recognise diseased or infected cells.

A quantum computer differs from a normal or classical computer primarily in the way it is built and operates. While the latter

uses bits (basic unit of classical information) that are either 0 or 1, a quantum computer uses qubits (fundamental unit of quantum information) that can be both at the same time. A photonic quantum computer uses individual light particles, or photons, as qubits to encode and process information.

The DTU's proof-of-concept study, awaiting peer review, confirmed through laboratory tests that the AI-designed peptides could successfully bind to human leukocyte antigen (HLA) molecules present on a cell's surface — a critical first step in triggering an immune response. Timothy Patrick Jenkins, corresponding author of the study, told Anagha Jayakumar that while the technology is still far from clinical use, it could eventually help scientists develop more personalised cancer vaccines and other immune-based therapies.

What are peptides, and why is designing them hard?

Peptides are short chains of amino acids, the building blocks of proteins. In im-

munology, they matter because cells display peptides on their surface, allowing your immune system to inspect them and decide what is healthy and what is foreign. Many vaccines work by showing the immune system the right peptide and training it to respond.

The HLA proteins, sitting on the surface of almost all your cells, are the immune molecules. They act like a display shelf, grabbing short peptides from inside the cell and holding them up on the surface so patrolling immune cells can inspect them. A peptide only gets shown to the immune system if it can bind and sit stably in the groove of an HLA molecule.

So binding is the entry ticket: no binding, no display, no immune recognition. Designing a peptide that binds a particular HLA is the first step in developing such vaccines or immune therapies.

The difficulty then is the sheer size of the

search space. Even for a short peptide, there are hundreds of billions of possible sequences, and only a tiny fraction binds well to any given person's HLA molecules. Finding those needles in that haystack, especially for immune types that are poorly represented in existing data, is hard.



A weekly column decoding AI's new frontiers, how they shape the world and our place in it

What did AI do, and what did the quantum computer add?

The AI does the actual design work: it learns the patterns of real immune-binding peptides and proposes new ones. Every such model needs a random starting point for each new design. Normally, that's a simple, standard distribution from a classical computer.

We replaced it with samples from a photonic quantum processor, which produces a fundamentally different, more richly correlated kind of randomness that is hard to reproduce on a classical machine.

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So the quantum computer didn't replace the AI; it changed the raw material the AI starts from. Handing the model these structured, correlated starting points appears to push it to explore a wider, less obvious range of designs, rather than converging on familiar designs. That seems to matter most for the harder, understudied immune types where there is little data to guide it.

Why do the gains for data-poor HLA types matter?

HLA genes are among the most variable in the human genome. There are thousands of versions, and you inherit your particular set from your parents.

Versions may differ between individuals and between populations, so two people can display quite different peptides from the very same virus. This partly explains why a given infection or vaccine can provoke a stronger response in some people than others. It's also why some HLA types are well-studied and data-rich while others, often those more common in underrepresented

populations, have far less data.

Current tools work well for common HLA types. That means people with less-studied immune profiles are often less well served by AI-driven design. In our work, the quantum-derived starting distribution performed best for these rarer HLA types.

Why was lab validation important?

Prediction tools are least reliable for the rare immune types we cared about most, so a purely computational result would not have been convincing. We synthesised the top quantum-designed peptides and tested in the lab whether they actually bind well to HLA molecules. Across all three HLA types tested, the peptides bound their targets with nearly all succeeding for two HLA types and about three-quarters for the most difficult one, whose unusual chemistry makes it challenging for existing predictors. Validation is what separates a real demonstration from an interesting simulation.

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Cockroaches Have Shown What It Means to Be Courageous Citizens, Not Subjects (IE PAGE NO 10)

Syllabus Mapping

GS Paper: GS Paper 2 Syllabus Topics:

Issues relating to development and management of Social Sector/Services relating to Education and Human Resources.

Important aspects of governance, transparency, and accountability. Role of civil society and citizen action in democratic governance.

Cockroaches have shown what it means to be courageous citizens, not subjects

THERE ARE glorious moments when the youth of the nation demonstrate that they are indeed the genuine trustees of posterity, to borrow Benjamin Disraeli's phrase. A generation that has been catastrophically failed by their elders, who bequeathed to them authoritarianism, communalism, a failing education system, an administrative state marked by impunity, and an atmosphere of suffocating fear, decided to take their future into their own hands. They made a regime and Prime Minister Narendra Modi, intoxicated with fantasies of total power, look out of touch, small and ridiculous. By itself, the resignation of Dharmendra Pradhan will not bring change. But India's young have shown that the regime is vulnerable. We can still pull back from the abyss.

The movement was the product of an unlikely conjuncture. Protests against exam leaks are quite frequent in India. But it is an adage of politics that we discover power only in the doing of deeds and after the fact. An ill-considered word, "cockroach", used by a Chief Justice of India who has been emblematic of the singularly bad judgment and institutional degradation that marks Indian public life, gave the young an unlikely political identity. Sonam Wangchuk went on a hunger strike, bringing more attention to the movement, and precipitating what seemed like a crackdown. AISA students led by Neha Bora and others continued the fast. The governments repression only fuelled the movement further.

The issue of fairness and quality in education cuts across party lines, and is a source of consternation even among BJP sup-

porters. Opposition parties, from the SP to the Congress, for once did the right thing — played second fiddle to a movement. All of them showed up, even if sometimes reluctantly. Mobilisers like Chandrashekhar and other organisations provided additional ground troops. The Cockroach Janta Party and Abhijeet Dipke outwitted the government on Instagram. The sheer youthfulness, creativity, and mocking power slowly began to draw out voices of celebrities and ordinary parents. These voices had all been suppressed or often complicit for over a decade. And a movement was born.

The movement has lifted, at least for the moment, the pall of fear that diminished us. It has brought the scandal that is Indian higher education onto the political agenda. The resignation of Dharmendra Pradhan unleashes two dynamics. The farmers' agitation had made the government withdraw legislation. But this is the first time that the government has acknowledged the need for taking responsibility and being held accountable. Responsibility and accountability had disappeared from our political lexicon. But the resignation has another potential. For the first time, a thought will cross the mind of other ministers that they might also someday be held accountable.

They will realise that even PM Modi can, when it suits him, use them as sacrificial pawns. They will need to protect themselves.

Pradhan's fault was not that he did not deliver. He delivered everything the Prime Minister seems to have wanted: Complete control of the RSS over India's higher educa-



PRATAP BHANU MEHTA

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tion. He subordinated education to ideology and mediocrity. He promoted greater centralisation of higher education, and gave filip to a corrupt political economy of exams and testing. The government reduced the education budget as a share of GDP. No government in India has done well on higher education. The government stuck with him so long because he was succeeding by the metric they wanted him to succeed by. Every other minister should now think whether succeeding by the ideological metric of the RSS will protect them in the future.

The political fallout will be complicated. The government will now never recover its untrammelled authority; there will be internal confusion even among BJP supporters. The Opposition has hopefully realised that corroding the authority of the government with a broad front is far more important than their own petty differences. It will be interesting to see if coalition partners now hesitate more in supporting BJP's far-reaching legislative agenda. But it is not going to be easy to stem the rot in Indian higher education. This government's stated agenda does not look good: Rather than just fast-track courts for exam leakers, the entire NTA structure needs to be dismantled. The proposed Higher Education Authority Bill will centralise power even more. In education, personnel is policy, and it is hard to imagine this government putting together even a minimally competent, independent and empowered talent pool.

It always bears repeating: For this government, the loss of face, and the potential loss of power, is existential. It may have retreated

for the moment, but it will almost certainly return with renewed determination, doubling down on repression, even if by stealth. It is to the Gen Z movement's credit, and to the advantage of its novelty, that it proved difficult to delegitimise it through the familiar tropes of a "foreign hand" or the spectre of anarchy. Whatever disorder did occur was the consequence of the government's actions, not those of the protestors. But citizens should expect more prohibitory orders on protest, more targeted harassment of individuals and institutions, and the continued incarceration of students such as Umar Khalid, whose prolonged detention remains a stark reminder of the communal and authoritarian core of this government's vision for education.

At one level, this movement brings to light a background failure: There are no institutional channels left for policy feedback or accountability. The street is our only channel. These students reminded us what it means to be courageous citizens, not subjects. But citizenship alone will not suffice; we will also have to recover the ethics of our professions. Chief Justices will have to uphold the majesty of the Constitution, not hunt for cockroaches. Academics, who have too long abdicated their vocation, will have to reclaim the university. Politicians will have to rediscover the obligation to be responsive rather than demand submission. Otherwise, India will remain trapped in a grim dialectic: Repression answered by protest, tyranny interrupted by moments of extraordinary courage, but tyranny nonetheless.

The writer is contributing editor, The Indian Express

1. Rising Rupee, New Trump Tariffs — Track the Headwinds

2. (IE PAGE NO 10)

Syllabus Mapping

GS Paper: GS Paper 3 Syllabus Topics:

Indian Economy and issues relating to planning, mobilization of resources, growth, and development.

Effects of liberalization on the economy and foreign trade dynamics.

Monetary policy, inflation management, and exchange rate fluctuations.

Rising rupee, new Trump tariffs — track the headwinds



ISHAN BAKSHI

OVER THE last few weeks, there have been some signs of foreign capital flows trickling back in. In July, foreign portfolio investors have so far poured in \$1.5 billion in the equity markets, reversing the trend of massive capital outflows witnessed in the months before. Last week, the RBI also disclosed that after the measures it had announced to boost capital flows, so far, \$17.4 billion had been mopped up through the FCNR(B) route, and another \$3.3 through other channels. In April and May, net FDI stood at \$6.5 billion, as compared to \$2.4 billion over the same period last year. Not only are gross FDI inflows higher, but so far, repatriation is lower than last year. These are encouraging signs. Yet, at the same time, concerns are also mounting. Fresh headwinds are buffeting the economy.

Global crude oil prices have edged upwards, hitting \$100 as the conflict of West Asia has reignited concerns over energy supplies. With the Houthis in Yemen attacking oil tankers in the Red Sea, the theatre of conflict has also expanded. After the Strait of Hormuz, now cargo movement through the Bab al-Mandab strait is at risk. The renewed conflict comes at a time when oil inventories are depleting. The combination of higher energy costs and possible constraints on supplies will have consequences for India at multiple levels. India's crude oil basket, which had fallen from \$114.48 per barrel in April to \$83.22 in June, has now edged up to \$103.33 per barrel as on July 23. If global crude oil prices are sustained at these levels, the economy will feel the pain. Inflationary pressures will mount. Though whether prices at the pump are raised will depend on the capacity of the oil companies and the government to absorb the price shock. The current account will also come under stress, financing which has been challenging.

In recent weeks, the Indian currency has once again come under pressure. While the rupee had recovered after the steep fall in May, it has once again begun to test those levels, ending Friday at 96.53 against the dollar. The US dollar index — which measures the strength of the green-

Real Creator IAS Edition https://t.me/+2RvD_RGf9mljMzg1 back against a basket of six currencies — is strengthening. The Indian currency's weakness, however, predates the conflict in West Asia, raising questions over the country's growth prospects.

There is also uncertainty over the monsoon season and El Nino to contend with. Some believe that both kharif and rabi prospects don't seem great this year. A poor crop will have a bearing on food prices. Food inflation is already inching upwards — the consumer food price index stood at 5.32 per cent in June. Price pressures seem to be building up. The next meeting of the RBI's monetary policy committee, scheduled in early August, will shed light on the central bank's expectations of the trajectory of inflation — where food and fuel play a critical role — and interest rates.

And then there is the tariff issue. Last week, the US imposed a 10 per cent tariff on India, following the USTR's Section 301 investigation. India falls in the category of countries like Bangladesh, Canada, Mexico, UK and Malaysia on whom a 10 per cent tariff has been levied. Other countries such as Vietnam, Turkey and Australia face a slightly higher rate of 12.5 per cent. This, however, may not be the end of the country's tariff challenge. US President Donald Trump has also unveiled a phased tariff plan for imported generic medicines — 100 per cent after two years and 200 per cent thereafter. Further, the outcome of another investigation by the United States Trade Representative into excess capacity and production in manufacturing sectors is also awaited. This investigation targets 16 countries including India, China, EU, Mexico, Taiwan and Vietnam. While it remains to be seen whether this investigation also proposes the levy of additional tariffs, it does seem that tariffs will remain an internal part of Trump's economic strategy.

All this makes for a challenging environment, navigating which will require coordinated action and deft handling by policy makers.

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India's First Dengue Vaccine Arrives with a Crucial Safety Caveat (TH PAGE NO 7)

Syllabus Mapping

GS Paper: GS Paper 2 & GS Paper 3 Syllabus Topics:
Issues relating to development and management of Social Sector/Services relating to Health.

Science and Technology—developments and their applications in healthcare.

Awareness in the field of Biotechnology and regulatory safety standards.

India's first dengue vaccine arrives with a crucial safety caveat

Qdenga could be responsible for enhancing dengue in children who have not had an infection yet in their lives; in such cases, the vaccine could simulate a primary dengue infection in the body, resulting in protection against DENV-1 and DENV-2 infections but not against a DENV-3 infection

Swaminathan S

India's drug regulator just approved the country's first dengue vaccine, Qdenga. It is designed and claimed to protect against the four serotypes of the dengue-causing virus, called DENV-1 to DENV-4. Young children as well as adults (aged 4-60 years), irrespective of whether they have had dengue before, may be vaccinated with Qdenga.

More than 40 countries have already approved Qdenga, which is manufactured by the Japanese pharmaceutical company Takeda. That said, data from clinical trials that Takeda published in 2019, 2020, and 2024 on the vaccine's efficacy raise a specific concern about its abilities.

Rationale of dengue vaccines

All the four DENV serotypes are prevalent in India. Each serotype is different from the other such that an immune response to one may not necessarily protect against another. A person who has experienced a natural dengue infection will carry antibodies to the specific DENV serotype in their serum, and the person will be said to be seropositive. A person who has not been exposed to a natural DENV infection will not carry dengue antibodies and is said to be seronegative.

When a seronegative person contracts a first DENV infection for the first time, they will develop antibodies to that particular DENV serotype. When this person, seropositive for that particular DENV serotype, suffers a second infection by another DENV serotype, there is a non-zero chance that they may experience severe dengue. This is because the antibodies produced against the first DENV serotype may actually enhance infection by the second DENV serotype. This is called antibody-dependent enhancement (ADE).

The holy grail of dengue vaccines is to avoid ADE. Any safe and effective vaccine for dengue must be 'tetravalent' — meaning it must target all four DENV serotypes simultaneously and equally. If a dengue vaccine fails to protect against even one serotype, it will keep the door open to ADE in future.

It is quite clear that the efficacy and safety of a dengue vaccine are linked to each other as two sides of the same coin. And Qdenga's phase-3 trial efficacy data need to be understood through this lens.

Phase-3 trial

Takeda set up a large phase-3 trial involving around 20,000 healthy children (4-16 years old) across eight Latin American and Asian countries where dengue is endemic to assess Qdenga's safety and efficacy. The results from this trial were first published in 2019, with additional data published in 2020 and



The efficacy and safety of a dengue vaccine are linked to each other as two sides of the same coin, and Qdenga's phase-3 trial data need to be understood through this lens. GETTY IMAGES

2024. Around two-thirds of the children in the trial received Qdenga while the remaining third received a saline solution. Then the researchers compared the vaccine efficacy between the two groups. The efficacy was defined to mean the ability of Qdenga to prevent dengue infections and resultant hospitalisation.

If the vaccine worked as intended, one would expect fewer cases of dengue in the vaccinated group versus in the unvaccinated group. And this was true. In the unvaccinated group, five children out of 1,000 contracted a DENV infection while in the vaccinated group, 24 children per 1,000 contracted a DENV infection. This translates to an overall efficacy of about 80%.

Overall, Takeda's investigators stratified their participants into seropositive and seronegative groups before administering the vaccine. The efficacy was about 82% and 75% in these two groups, respectively. These seem like solid numbers — but the devil is in the details.

'Variable VE'

If you look at the results stratified by DENV serotype as well, a particular granular detail, which could actually be a potential safety signal, emerges. In children who were seronegative prior to vaccination, those susceptible to DENV-3 infection were noticeably more numerous in the vaccinated group than in the unvaccinated group. In other words, seronegative children vaccinated with

The consequences of contracting a secondary DENV-4 infection by seronegative children cannot be predicted since we do not know of Qdenga's efficacy against DENV-4; in India, the number of such children facing this risk could be very large

Qdenga were 25% more likely to be infected by DENV-3 relative to unvaccinated children.

The number of DENV-4 cases during the trial were so low (in the seropositive group) or totally absent (in the seronegative group) that the efficacy of Qdenga for DENV-4 is essentially unknown. The efficacy was high against DENV-1 and -2, irrespective of the serostatus at baseline.

The investigators had consistently noted these observations in Takeda's 2020 and 2024 papers as well.

They also persistently referred to this feature of their vaccine as "variable VE against the different serotypes" and described it as a "numerical imbalance" in the number of dengue infections.

The data clearly demonstrate that Qdenga does not offer protection against DENV-3 and could in fact actually be responsible for enhancing dengue in children who have not had a dengue infection yet in their lives. In such cases, Qdenga — being a live dengue vaccine — could simulate a primary dengue

infection in the body, resulting in protection against DENV-1 and DENV-2 infections — but not against a DENV-3 infection.

And if such children were to contract a natural DENV-3 infection, they will have a 25% higher likelihood of falling sick, as this will be a secondary dengue infection linked to potential ADE.

Need for screening

The consequences of contracting a secondary DENV-4 infection by such children cannot be predicted since we do not know of Qdenga's efficacy against DENV-4. At a conservative estimate of 40 million children in India, with only under 30% of them estimated to be seropositive for dengue, the number of seronegative children facing this heightened risk could be very large.

In a paper in *Nature Medicine* on July 25, researchers from Imperial College London modelled the health impact of Qdenga in a population and concluded that it would be safer for seronegative recipients — especially children — to be screened for prior dengue exposure before receiving the shot.

In sum, ignoring the DENV-3 safety signal in seronegative children could be a costly and avoidable mistake, and should be avoided through screening.

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THE GIST

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