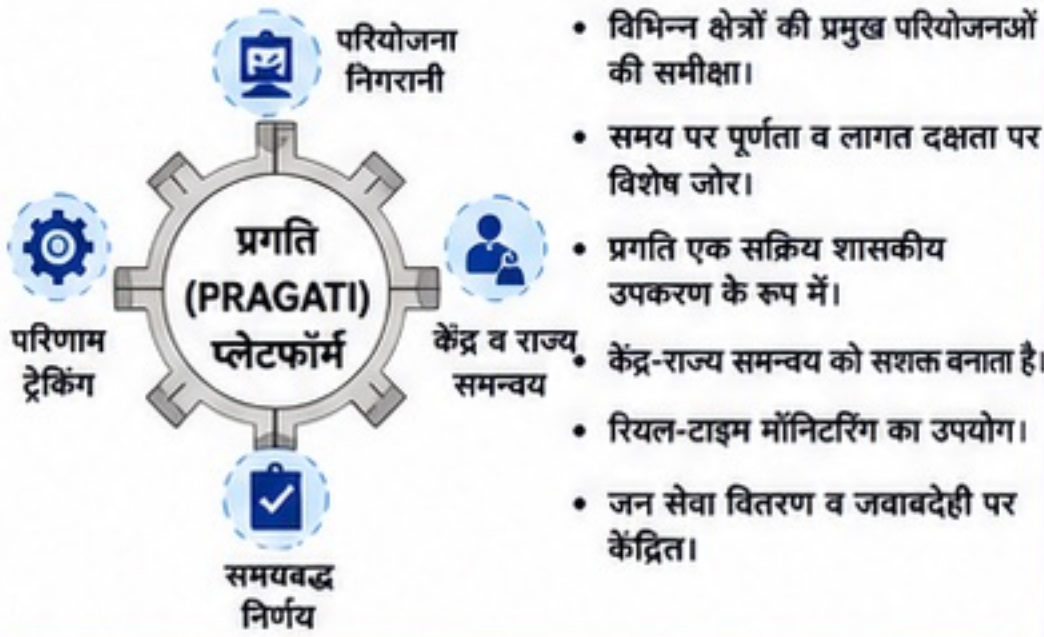


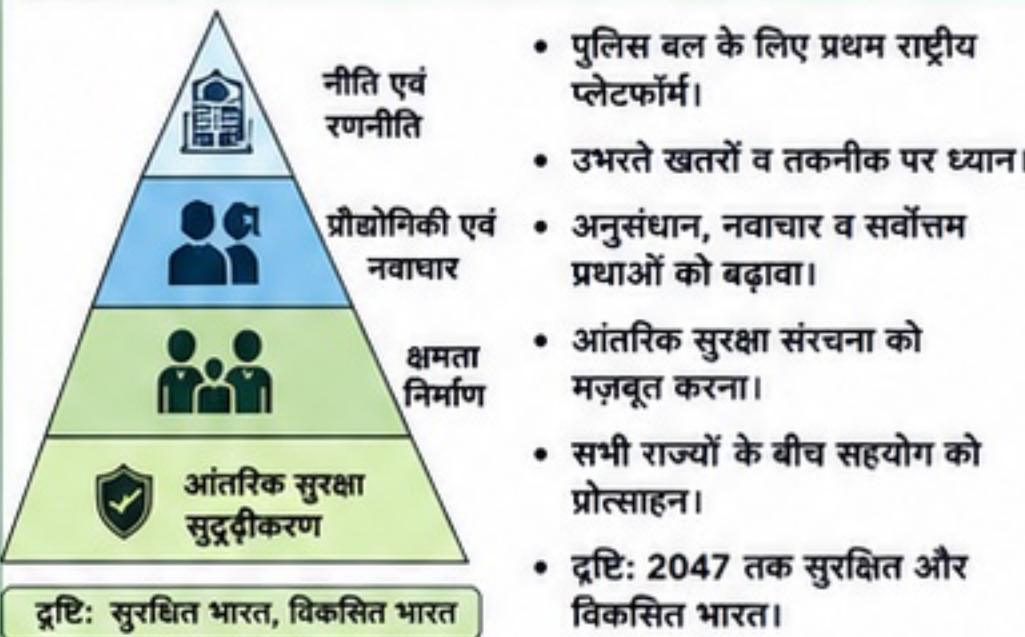
1 प्रधानमंत्री ने 16वीं प्रगति बैठक की अध्यक्षता की समग्र अवसंरचना को गति



मूल्य संवर्धन
300 से अधिक परियोजनाएँ, ₹15 लाख करोड़ मूल्य की, प्रगति पर निगरानी।

मुख्य शब्द
प्रगति, अवसंरचना, शासन, निगरानी, केंद्र-राज्य समन्वय

2 प्रधानमंत्री ने प्रथम अखिल भारतीय पुलिस विज्ञान कांग्रेस का उद्घाटन किया



मूल्य संवर्धन
10,000+ पुलिस अधिकारी, विशेषज्ञ व तकनीकी नेता शामिल हुए।

मुख्य शब्द
पुलिस सुधार, आंतरिक सुरक्षा, नवाचार, क्षमता निर्माण, सहयोग

3 प्रधानमंत्री ने वाराणसी में ₹1,280 करोड़ की परियोजनाओं का शुभारंभ किया

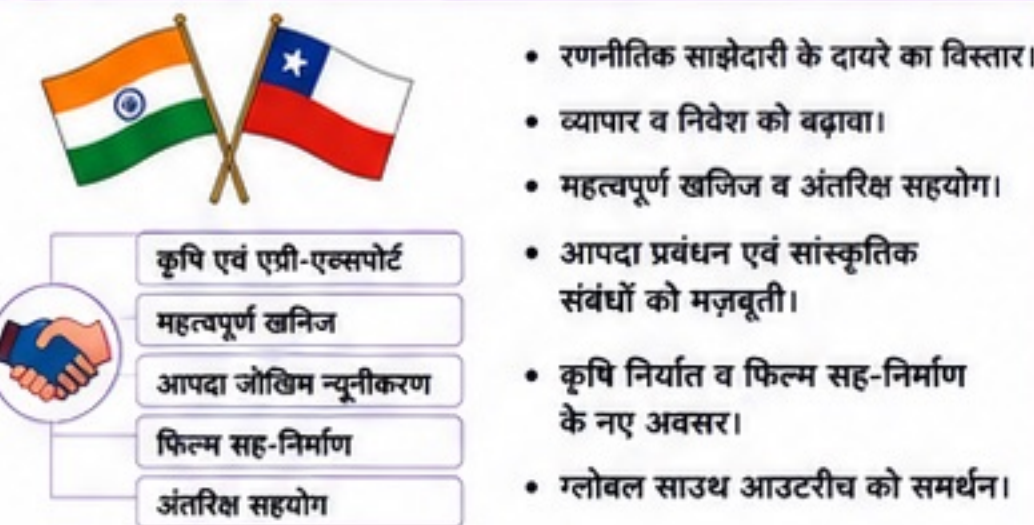


- अवसंरचना, रेल, पर्यटन व शहरी विकास परियोजनाएँ।
- कनेक्टिविटी व नागरिक सुविधाओं को बढ़ावा।
- धार्मिक एवं सांस्कृतिक पर्यटन को सुदृढ़ करना।
- स्थानीय अर्थव्यवस्था व रोज़गार को समर्थन।
- 'वाराणसी विकास रोडमैप' का महत्वपूर्ण भाग।
- सतत व समावेशी शहरी विकास को प्रोत्साहन।

मूल्य संवर्धन
वाराणसी विकास योजना के अंतर्गत ₹20,000+ करोड़ के निवेश को कवर करती है।

मुख्य शब्द
वाराणसी, शहरी विकास, अवसंरचना, पर्यटन, कनेक्टिविटी

4 भारत ने चिली के साथ 5 समझौते/परिच्छेदों पर हस्ताक्षर किए



मूल्य संवर्धन
भारत-चिली व्यापार (FY 2024-25): ~USD 2.7 अरब।

मुख्य शब्द
भारत-चिली संबंध, व्यापार, महत्वपूर्ण खनिज, अंतरिक्ष, कृषि-निर्यात

5 भारत ने तिमोर-लेस्ते के साथ 10 समझौता ज्ञापनों (MoUs) पर हस्ताक्षर किए



मूल्य संवर्धन
तिमोर-लेस्ते के विकास सहायता पैक की राशि USD 200 मिलियन से अधिक हो चुकी है।

मुख्य शब्द
तिमोर-लेस्ते, MoUs, विकास साझेदारी, क्षमता निर्माण, एक्ट ईस्ट नीति

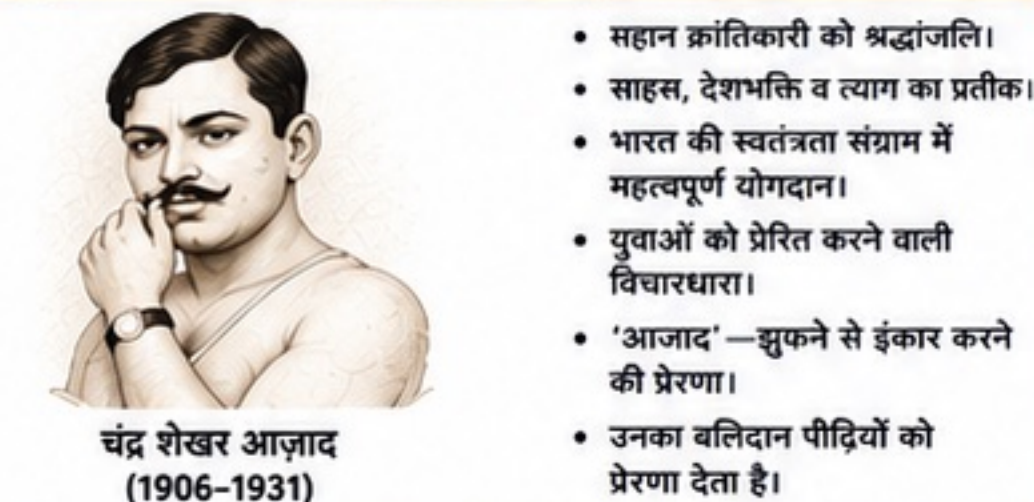
6 भारत और UK ने संतुलित व व्यापक समझौते की ओर FTA वार्ता को आगे बढ़ाया



मूल्य संवर्धन
भारत-UK व्यापार (FY 2024-25): ~USD 21.3 अरब।

मुख्य शब्द
FTA, भारत-UK, व्यापार, निवेश, बाज़ार पहुँच, आपूर्ति श्रृंखला

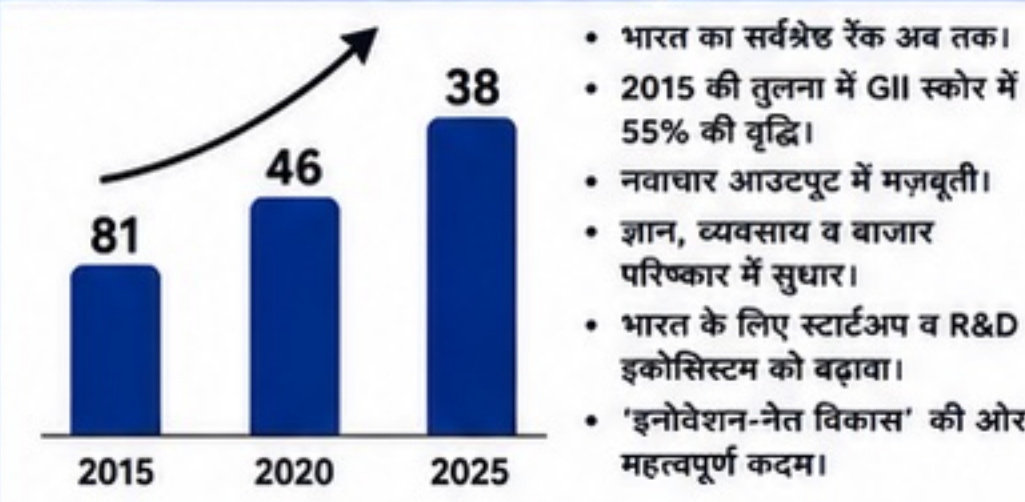
7 प्रधानमंत्री ने चंद्र शेखर आज़ाद को उनकी जयंती पर श्रद्धांजलि दी



मूल्य संवर्धन
आज़ाद ने प्रतिज्ञा की थी कि वे ब्रिटिशों द्वारा जीवित नहीं पकड़े जाएंगे।

मुख्य शब्द
चंद्र नेशर आज़ाद, स्वतंत्रता संग्राम, बलिदान, क्रांतिकारी, प्रेरणा

8 भारत 2025 में वैश्विक नवाचार सूचकांक में 38वें स्थान पर पहुँचा



मूल्य संवर्धन
GIİ 2025 में शीर्ष 5 अर्थव्यवस्थाओं में भारत का स्थान।

मुख्य शब्द
ग्लोबल इनोवेशन इंडेक्स, GIİ, नवाचार, स्टार्टअप, प्रतिस्पर्धात्मकता

9 प्रधानमंत्री ने राइजिंग नॉर्थ ईस्ट इन्वेस्टर्स समिट 2025 का उद्घाटन किया



मूल्य संवर्धन
NE क्षेत्र की GDP वृद्धि दर ~10.2% (FY 2024-25)।

मुख्य शब्द
उत्तर-पूर्व भारत, निवेश, कनेक्टिविटी, एक्ट ईस्ट नीति, समावेशी विकास

अन्य महत्वपूर्ण एक-पंक्तियाँ

SC ने उत्तराखंड में कुरान पर प्रतिबंध के खिलाफ PIL पर नोटिस जारी किया।

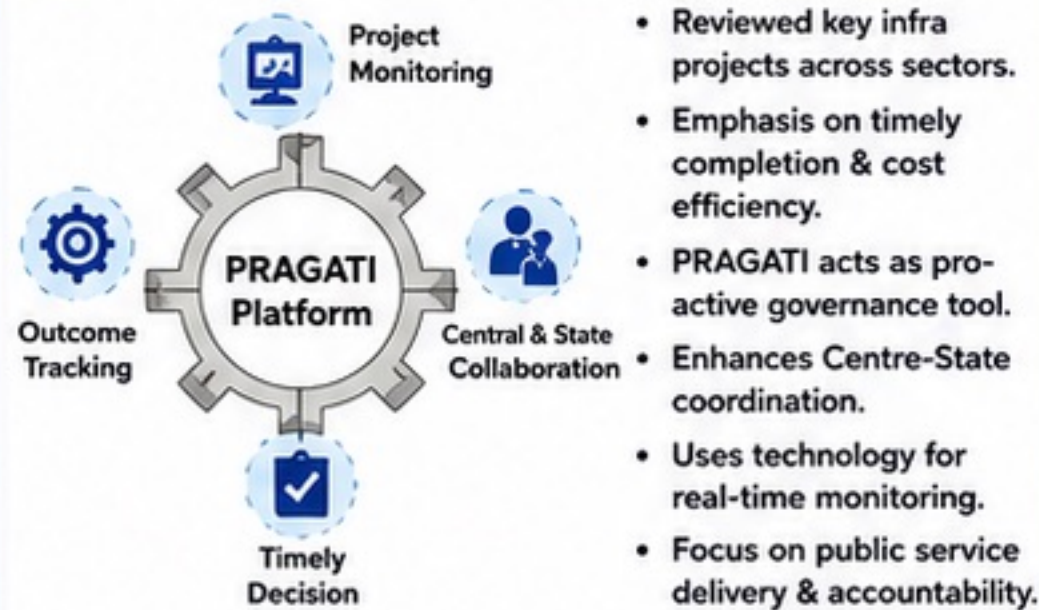
वन नेशन वन इलेक्शन बिल JPC द्वारा अनुमोदित; रिपोर्ट लोकसभा में प्रस्तुत की गई।

11 कंपनियों ने ग्रीन हाइड्रोजन इकोसिस्टम हेतु ₹10,000 करोड़ के निवेश की प्रतिबद्धता दी।

चंद्रयान-5 पर जापान के साथ एयरोस्पेस अन्वेषण एजेंसी पर चर्चा।

भारत और ऑस्ट्रेलिया ने महत्वपूर्ण खनिजों के निवेश साझेदारी योजना बनाई।

1 PM Chairs 16th PRAGATI Meeting Accelerating Holistic Infrastructure



- Reviewed key infra projects across sectors.
- Emphasis on timely completion & cost efficiency.
- PRAGATI acts as pro-active governance tool.
- Enhances Centre-State coordination.
- Uses technology for real-time monitoring.
- Focus on public service delivery & accountability.

VALUE ADDITION
Over 300 projects worth ₹15 lakh crore under PRAGATI monitoring.

KEYWORDS
PRAGATI, Infrastructure, Governance, Monitoring, Centre-State Coordination

2 PM Inaugurates 1st All India Police Science Congress



VALUE ADDITION
Over 10,000 police officials, experts & tech leaders participated.

- First-of-its-kind national platform for police forces.
- Focus on emerging threats & technology.
- Promotes research, innovation & best practices.
- Strengthens internal security architecture.
- Encourages cooperation among all states.
- Aligns policing with Viksit Bharat 2047.

KEYWORDS
Police Reform, Internal Security, Innovation, Cooperation

3 PM Launches Projects Worth ₹1,280 Crore in Varanasi



- Projects span infrastructure, rail, tourism & urban development.
- Boost to connectivity & civic amenities.
- Strengthens religious & cultural tourism.
- Supports local economy & employment.
- Part of Varanasi's development roadmap.
- Promotes sustainable urban growth.

VALUE ADDITION
Varanasi Development Plan covers ₹20,000+ crore investment.

KEYWORDS
Urban Development, Varanasi, Tourism, Infrastructure, Connectivity

4 India Signs 5 Agreements with Chile



- Expands strategic partnership footprint.
- Promotes trade & investment.
- Cooperation in critical minerals & space.
- Strengthens cultural & disaster resilience ties.
- Opens new avenues for agri-exports.
- Supports India's global South outreach.

VALUE ADDITION
Bilateral trade (FY 2024-25): ~USD 2.7 billion.

KEYWORDS
India-Chile Relations, Trade, Critical Minerals, Space, Agri-exports

5 India Signs 10 MoUs with Timor-Leste



- Strengthens bilateral partnership.
- Focus on capacity building & development.
- Enhances cooperation in health & education.
- Promotes trade & digital collaboration.
- Supports Timor-Leste's nation-building.
- Reinforces India's Act East Policy.

VALUE ADDITION
India's development assistance to Timor-Leste exceeds USD 200 million.

KEYWORDS
India-Timor-Leste, MoUs, Development, Capacity Building, Act East

6 India & UK Advance FTA Talks Towards Balanced Pact



- 14th round of talks held.
- Focus on balanced market access.
- Key areas: goods, services, investment.
- Boosts trade & job creation.
- Aligns with supply chain diversification.
- Target: early conclusion of agreement.

VALUE ADDITION
India-UK trade (FY 2024-25): ~USD 21.3 billion.

KEYWORDS
FTA, India-UK, Trade, Investment, Market Access, Supply Chains

7 PM Pays Homage to Chandra Shekhar Azad

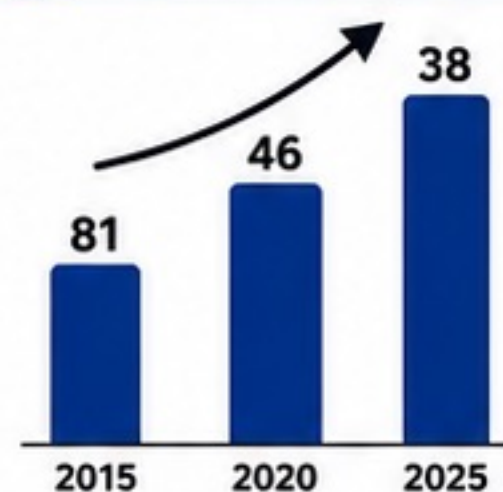


- Remembered on his martyrdom anniversary.
- Symbol of courage & patriotism.
- Key figure in India's freedom struggle.
- Inspired youth through revolutionary ideals.
- Embodiment of sacrifice & selfless service.
- His legacy continues to inspire generations.

VALUE ADDITION
Azad pledged never to be captured alive by the British.

KEYWORDS
Chandra Shekhar Azad, Freedom Struggle, Martyrdom, Inspiration

8 India Climbs to 38th Rank in Global Innovation Index 2025



VALUE ADDITION
India among top 5 economies in GI 2025 for innovation outputs.

- Highest rank ever for India.
- 55% increase in GI score since 2015.
- Strong in innovation outputs.
- Improvement across knowledge, business & market sophistication.
- Boost to Start-up India & Make in India.
- Reflects innovation-led development.

KEYWORDS
Global Innovation Index, GI, Innovation, Startups, R&D, Competitiveness

9 PM Inaugurates Rising North East Investors Summit 2025



- Showcase of investment opportunities in NE.
- Focus on infrastructure, connectivity & sectors.
- Boosts Act East Policy implementation.
- Promotes inclusive growth & employment.
- Strengthens integration with ASEAN.
- Encourages sustainable & green investments.

VALUE ADDITION
NE region's GDP growth rate ~10.2% (FY 2024-25).

KEYWORDS
North East India, Investment, Act East, Connectivity, Inclusive Growth

Other Important One-Liners

SC issues notice on PIL Against Qur'an ban in Uttarakhand.

One Nation One Election Bill approved by JPC; report tabled in Lok Sabha.

11 Companies commit ₹10,000 Crore for Green Hydrogen ecosystem.

Chandrayaan-5 under Discussion with Japan Aerospace Exploration Agency.

India & Australia plan minerals investment partnership.

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 of 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 relations as an apolitical transaction, 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



Shashi Tharoor

Fourth-term Member of Parliament (Lok Sabha) for Thiruvananthapuram (Congress party), the Chairman of the Parliamentary Standing Committee on External Affairs and the Sahitya Akademi Award-winning author of 29 books, including 'Pax Indica' (2012) and 'The New World Disorder' (2020)

humiliation. From Depsang (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 intelligence from a five-military-surveillance satellite, from a mere hostile puppet in Pakistan's security architecture, 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. Dozens of billions of dollars of its trade deficit, accumulated over the past decade of its behaviour, it effectively funnels 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.

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, stand tall on our own two feet.



- Article argues for strategic autonomy – not dependence on China or the U.S.
- A reset with China without resolving core issues is dangerous.
- India must protect long-term national security and economic sovereignty.



- China's actions: LAC violations, Galwan (2020), renaming places, stapled visas, economic coercion.
- Military support to Pakistan in Operation Sindoor (May 2025) using real-time satellite data.
- Shows Beijing's hostile intent and disregard for India's sovereignty.



- Business lobby seeks cheap Chinese inputs for short-term gains.
- This creates dependency, widens trade deficit (> \$100 billion), and weakens leverage.
- Economic cooperation without trust = strategic vulnerability.



- China's foreign policy goal in Asia = unipolar dominance.
- No reciprocity: It blocks India in UNSC, NSG and shields Pakistan.
- Flooding India with capital without resolving disputes strengthens China.



- Restrictions on Chinese apps, investments, telecom = strategic leverage.
- Easing them too soon = unilateral disarmament.
- Concessions invite more demands, not peace.



- India's strategy: Don't tilt, remain autonomous.
- Reduce dependency, diversify partnerships, build self-reliance.
- Focus on supply chain resilience, domestic manufacturing.



- Washington is unreliable, but China is hostile.
- Strategic space exists between dependence and surrender.
- Stand tall, protect sovereignty, strengthen internal capabilities.

“

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



FROM THE ARCHIVES

Know your English

S. Upendran

What is the meaning and origin of “not be up to scratch”? (M. Ganesh, Mysore)

When you say that something is “not up to scratch” it means that it is not up to the mark. It is not of an acceptable standard or quality. Here are some examples.

I find that Alok’s designs aren’t up to scratch.

The tests showed that the new recruits were not up to scratch.

This is an idiom that comes from the world of boxing. In the old days when boxing was still a primitive sport, a line was drawn in the centre of the ring. The line was called a “scratch”. Nowadays whenever a boxer is knocked down during the bout, all he/she has to do is to stand up before the referee counts to ten. During the early days of boxing, the contestant who had been knocked down had to demonstrate that he was in control of his faculties by walking to the line (‘scratch’) within 38 seconds. If the boxer was unable to come up to the ‘scratch’ within the allotted time, then he was considered unfit to continue the fight.

What is the question tag to be used for “I am a boy”? (K. Sathis Kumar, Kasargod)

The question tag that is normally used is “aren’t I”. This would be considered standard.

In informal contexts one could also say “ain’t I”. The word “ain’t” however is considered non-standard. It is also possible to say “am I not?”

What is the meaning of “carte blanche”? (B. Balaji, Pondicherry)

The first word “carte” is pronounced like the word “cart”. The “a” in “blanche” is pronounced like the “o” in “hot” and “cot”. The final “che” sounds like the “sh” in words like “should”, “shut”, and “ship”. As you have probably guessed, the expression comes from French.

When you give someone “carte blanche”, you give them total freedom to do whatever they want. The literal French meaning of carte blanche is “blank document”. Therefore when you are given “carte blanche” you are given complete freedom or authority to do whatever you think is right. For example:

The new Director was given carte blanche to do what he wanted.

Is it OK to say, “Australia’s Northern Territory passed an euthanasia law”? (C. Selvamani, Bangalore)

We generally use the article “an” before words that begin with a vowel sound. Do not get confused between “sound” and “letter”. The words “university” and “unique” begin with a vowel – at least in spelling. But when you pronounce these two words they begin with a consonant sound. Therefore one has to use the indefinite article “a” and not “an” before these two words. We have to say “a unique person” and “a university”.

Similarly, the word “euthanasia”, though it begins with a vowel letter, when the word is pronounced, the first sound is a consonant one. Therefore the article that will precede it is “a”. It should be “a euthanasia law”. Euthanasia as you know is sometimes referred to as “mercy killing”. It is the act of painlessly killing an individual who has no hope of recovering from the disease that is slowly killing him. Euthanasia is illegal in most countries.



- “Not be up to scratch” = not up to the mark; not of acceptable standard.
- Origin: Boxing. “Scratch” was a line in the ring.
- Early rule: Boxer had to reach the line within 38 seconds after being knocked down; otherwise unfit to continue.
- Usage: Used to judge quality, performance or ability.



- Question tag for “I am a boy” = “aren’t I” (standard).
- Informal: “ain’t I” (non-standard).
- Alternative but correct: “am I not?”
- Question tags are used to confirm information or invite agreement.



- “Carte blanche” (French) = total freedom or authority.
- Literal meaning: “blank document”.
- Usage: Allows a person to act independently without restrictions.
- Example: “The new Director was given carte blanche to do what he wanted.”



- Use “an” before words that begin with a vowel sound, not vowel letter.
- Words like “university”, “unique” start with consonant sound → use “a”.
- Correct: “a unique person”, “a university”.
- Incorrect: “an unique person”, “an university”.



- Correct: “Australia’s Northern Territory passed a euthanasia law.”
- “Euthanasia” begins with a consonant sound /ju:/ (y sound) → use “a”.
- It refers to “mercy killing”.
- Illegal in most countries.



- Sound vs Letter is key in article usage.
- Idioms often come from practical origins.
- French terms in English enrich expression.
- Precision in grammar improves clarity and credibility.

Beyond compliance, India's road to cleaner mobility

The debate over India's proposed Corporate Average Fuel Efficiency (CAFE) III norms comes at a crucial time for the global automobile industry as it transitions from internal combustion engines (ICE) to electrified powertrains. It also highlights India's vulnerability to imported crude oil amid renewed geopolitical tensions. The framework India adopts today will influence investment, technology choices and energy security for decades.

CAFE III, compliance or transformation

The Power Ministry's July 16 draft notification marks the third iteration of CAFE III after months of industry lobbying. While some manufacturers pushed for stricter norms, others sought flexibility. The proposal attempts a compromise, but the question remains whether it prioritises compliance over transformation.

CAFE norms set annual sales-weighted average fuel-efficiency targets for manufacturers' passenger vehicle fleets rather than individual models. Introduced in the United States in 1975 after the 1973 Arab oil embargo, they aimed to reduce oil dependence and protect consumers from high fuel costs. The rules caused automakers to adopt smaller, more efficient vehicles. This also helped accelerate the rise of Japanese manufacturers.

From the 1990s, fuel-efficiency regulations gained a second purpose: reducing greenhouse-gas emissions. In the United States, the EPA's Endangerment Finding brought greenhouse gases under the Clean Air Act, with later emissions standards aligned closely with CAFE rules. While technology-neutral, the rules encouraged innovation in hybrids and electric vehicles (EV). Ironically, the Obama administration's \$465 million Department of Energy loan to Tesla in 2010 helped accelerate an EV industry now dominated by China.

China's experience is even more instructive. It introduced mandatory fuel-consumption standards in 2004, initially regulating individual vehicle models by weight rather than fleet averages. As car ownership surged, concerns over oil imports and urban air pollution grew. The standards tightened over time before China changed direction in 2018 with the introduction of its Dual Credit System.

Under this framework, manufacturers must meet both Corporate Average Fuel Consumption (CAFC) standards and New Energy Vehicle (NEV) credit requirements. Fuel-efficiency compliance alone is insufficient. Companies that fail to earn enough NEV credits through EV or plug-in hybrid production must purchase credits from those with surplus EV production, creating a market that rewards innovation and penalises delayed electrification. For example, in India, Maruti Suzuki could remain NEV credit-deficient by 18%



Kunal Shankar

Weak fuel efficiency norms risk keeping the country dependent on imported oil

despite having highly fuel-efficient ICE models if it had no EVs in its portfolio. It would need to buy credits from companies such as Tata Motors or Mahindra, which generate NEV credits through their EV portfolios. While CAFC credits can be banked, carried forward or transferred within corporate groups, NEV credits cannot be offset in the same way. The results are evident. According to the International Energy Agency's Global EV Outlook 2026, China sold more than 13 million electric cars in 2025, accounting for almost 55% of new passenger vehicle sales. Comparable figures were about 27% in the European Union, nearly 10% in the U.S. and around 4% in India.

India's own debate has centred on differences between Maruti Suzuki, Tata Motors and Mahindra & Mahindra. An earlier proposal effectively carved out lighter small cars from the full stringency of CAFE III. That exemption has since been removed. The current proposal seeks to reduce average emissions from around 113 gCO₂/km to 77 gCO₂/km by FY2031-32. On paper, that appears ambitious. Yet, the headline target tells only part of the story.

The cost of flexibility

The revised framework introduces several flexibility mechanisms that, taken together, substantially reduce its effective stringency.

The first is the Carbon Neutrality Factor, which awards compliance benefits for vehicles compatible with higher ethanol blends and other fuels. Yet, the government has informed Parliament that no decision has been taken to move beyond E20 blending (20% plant-based ethanol with 80% regular petrol). Manufacturers therefore receive compliance advantages for technologies whose long-term policy trajectory remains uncertain. Ethanol is also more expensive than petrol, and has lower energy density, and therefore delivers lower mileage – a fact belatedly acknowledged by the Centre after it drew severe criticism.

The second is the use of super credits. Battery EVs, plug-in hybrids, strong hybrids and flex-fuel vehicles receive additional weight in fleet calculations. While this encourages cleaner technologies, it also means that fewer actual low-emission vehicle sales are required to offset higher-emission models. Strong hybrids, which generally rely primarily on the ICE while using electric propulsion over relatively short distances and at lower speeds, also receive super-credit benefits despite offering only partial electrification.

The third mechanism is banking and trading of compliance credits. Manufacturers outperforming their targets can accumulate credits and sell them to others. In addition, the draft allows companies to buy credits directly from the Bureau of Energy Efficiency (BEE) at administratively fixed prices if deficits remain

after trading. The BEE is therefore not a market exchange but effectively a seller of last resort.

In theory, this introduces efficiency into the system. In practice, it allows companies that are lagging to meet compliance requirements without upgrading their own technology. Moreover, the draft notification allows manufacturers to buy compliance credits from the BEE at ₹2,500 per gram of CO₂/km in FY2028, rising to ₹4,500 by FY2032. By comparison, the Energy Conservation Act prescribes additional penalties of ₹25,000 or ₹50,000 per vehicle depending on the extent of non-compliance. Expressed in CAFE terms, the lower penalty threshold is broadly equivalent to a little over ₹5,000 per gram of CO₂/km, implying that the proposed buyout price begins at less than half that level.

Finally, compliance is assessed over three-year blocks before shifting to two-year blocks, allowing manufacturers to average performance across multiple years rather than meeting targets annually. Therefore, delays in one year can be compensated in another.

The case of CNG

Taken together, these mechanisms significantly alter the stringency of these regulations. Which raises a fundamental question: What is the purpose of a regulation?

Regulation should shape markets rather than simply accommodate prevailing market preferences. India's own experience with compressed natural gas (CNG) illustrates the point. Once policy support aligned with regulatory certainty, manufacturers rapidly introduced CNG variants. Regulation can create markets as much as respond to them.

To put this in perspective: manufacturers' voluntary commitments already average nearly 20% EV share by 2030, with several original equipment manufacturers aiming for 30% or higher. In effect, the revised regulation attempts only half of what the industry itself has committed to. The timing also matters. India remains heavily dependent on imported crude, exposing the economy to geopolitical shocks, imported inflation and currency pressures. Strengthening fuel-efficiency standards is therefore not merely an environmental objective. It is an energy-security strategy, an industrial policy and a macroeconomic imperative.

These developments highlight the urgency and significance of revising India's CAFE norms, as they offer an opportunity to address a macroeconomic vulnerability while helping meet India's Glasgow commitment on energy efficiency.

India should seize this opportunity to position itself alongside the world's leading automotive markets in the transition to low-carbon mobility.

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- CAFE norms set fleet-average fuel efficiency targets, not model-wise.
- Originated in US (1975) after oil crisis to cut oil dependence.
- Evolved to reduce greenhouse emissions; drove EV adoption.
- China's Dual Credit System (2018) links fuel efficiency (CAFC) + NEV credits; created a strong EV market.

- India's draft CAFE III target: 113 → 77 gCO₂/km by FY2031-32.
- Debate between Maruti, Tata Motors, Mahindra & Mahindra.
- China sold 13M EVs in 2025 (55% of new sales) vs India ~4%.

- Carbon Neutrality Factor gives benefit for ethanol-compatible vehicles, but no clarity beyond E20 blending.
- Ethanol costlier, lower energy density → lower mileage.

- Super credits for EVs, hybrids, flex-fuel reduce actual low-emission sales needed.
- Strong hybrids get benefits despite partial electrification.

- Credit banking & trading allow firms to buy compliance.
- BEE sells credits at ₹2,500–₹4,500 per gCO₂/km; penalty threshold > ₹5,000 per gCO₂/km.
- Rules average compliance over 2–3 years → delays allowed.

- Regulation should shape markets, not just follow preferences.
- CNG success shows policy + certainty creates markets.
- Industry already targets 20% EV share by 2030 (some 30%+).

- Strong CAFE norms = energy security + industrial policy + macroeconomic stability.
- Helps cut oil import dependence, inflation & currency risks.
- Aligns India with global low-carbon mobility transition.

QUESTION

“Decolonization transformed the political map of the world but failed to eliminate economic and strategic dependence.” Critically examine. (15 Marks | 250 Words)

1. INTRODUCTION



Decolonization, the process by which colonies gained political independence in the 20th century, ended centuries of foreign rule and led to the emergence of new nation-states. However, political freedom did not translate into complete economic and strategic autonomy.

2. DECOLONIZATION – TRANSFORMED THE POLITICAL MAP



Emergence of New Nation-States
Over 100 countries in Asia, Africa and the Caribbean achieved independence (1945–2000).



End of Colonial Empires
Collapse of British, French, Dutch, Belgian, Portuguese and Spanish empires.



Self-Determination & Nationalism
Rise of nationalist movements demanding freedom and dignity.



United Nations & International Support
UN Charter, Trusteeship Council and General Assembly resolutions supported decolonization.



Non-Aligned Movement (NAM)
Platform for newly independent countries to assert autonomy during the Cold War.

EXPANSION OF INDEPENDENT STATES (1945–2000)



EXAMPLES

- Asia: India (1947), Indonesia (1949), Vietnam (1954), Sri Lanka (1948), Malaysia (1957)
- Africa: Ghana (1957), Nigeria (1960), Algeria (1962), Kenya (1963)
- Caribbean: Jamaica (1962), Trinidad & Tobago (1962)

3. POLITICAL TRANSFORMATION – KEY IMPACTS



Sovereignty & Nationhood
Creation of sovereign states with the right to govern their people.



End of Racial Discrimination
Abolition of colonial racial hierarchies and legal inequalities.



Constitutional & Democratic Growth
Adoption of constitutions, elections and parliaments in many countries.



Cultural Revival
Reassertion of indigenous languages, cultures and identities.



Global Power Shift
Rise of the Global South; demand for a more equitable world order.

4. ECONOMIC & STRATEGIC DEPENDENCE – PERSISTING REALITIES

A. ECONOMIC DEPENDENCE



Trade Dependence
Export of primary commodities; import of finished goods.



Commodity Dependence
Reliance on a few primary commodities; vulnerable to price fluctuations.



Capital & Debt Dependence
Dependence on foreign loans, aid, and investment.



Foreign Investment Dominance
Control of key sectors (mining, oil, plantations) by MNCs.



Unequal Exchange
Terms of trade remain unfavourable for many developing countries.

B. STRATEGIC DEPENDENCE



Military Alliances & Bases
Presence of military bases and security treaties.



Political Influence
External interference in domestic politics and regime change.



Control of Resources
Access to strategic resources (oil, minerals, rare earths).



Geopolitical Rivalries
Cold War competition kept many states in spheres of influence.



Technology Dependence
Dependence on advanced technology and intellectual property regimes.

5. EXAMPLES OF CONTINUING DEPENDENCE



AFRICA

Resource extraction, external debt, foreign military presence (e.g., Sahel region).

ASIA

Debt traps, trade dependence, strategic influence (e.g., South Asia, Southeast Asia).

LATIN AMERICA

Economic dominance, political interventions (e.g., Banana Republics legacy).

6. WHY DEPENDENCE PERSISTS?



Legacy of colonial economic structures



Weak institutions and governance challenges



Global economic system biased towards developed countries



Debt burden and conditionalities



Technological and innovation gap

STRUCTURAL LEGACY

Colonial Economy
(Extraction & Control)

Post-Colonial Economy
(Dependent & Peripheral)

Continued Dependence
in New Forms

7. WAY FORWARD – BREAKING THE CYCLE



Economic Diversification
Move up the value chain; develop manufacturing and services.



South-South Cooperation
Strengthen trade, investment and technology partnerships.



Strategic Autonomy
Independent foreign policy; balanced engagements.



Debt Justice & Fair Trade
Reform global financial institutions and trade rules.



Innovation & Human Capital
Invest in education, R&D and technology development.

8. CONCLUSION

Decolonization was a historic struggle that ended foreign rule and restored dignity to nations. Yet, **true freedom remains incomplete** as economic and strategic dependence continues in modern forms. Achieving real independence requires structural reforms, **self-reliance, regional cooperation and a more just global order.**



**KEY
TAKEAWAY**

Political independence ended colonial rule; economic and strategic independence remains the unfinished agenda of decolonization. The 21st century demands transformation from **political freedom** to **holistic autonomy**.



1 जबदस्ती श्रम की नाटकबाज़ी

(संपादकीय)

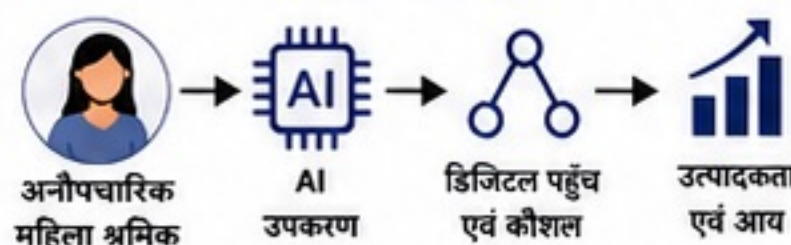


- विश्व आपूर्ति श्रृंखला में जबदस्ती श्रम जारी।
- मानव गरिमा और मौलिक अधिकारों का उल्लंघन।
- ILO मानकों का पालन होना अनिवार्य।
- व्यवसायों को उचित परिश्रम (उच्च डिलिजेंस) करना चाहिए।
- निगरानी, पारदर्शिता और शिकायत निवारण आवश्यक।
- भारत को वैश्विक मानकों के अनुरूप कानून लागू करने चाहिए।

ILO • SDG 8 • श्रम संहिता
GS II • शासन • मानवाधिकार

4 AI का अगला परीक्षण — भारत की अनौपचारिक महिला श्रमिक

(संपादकीय)

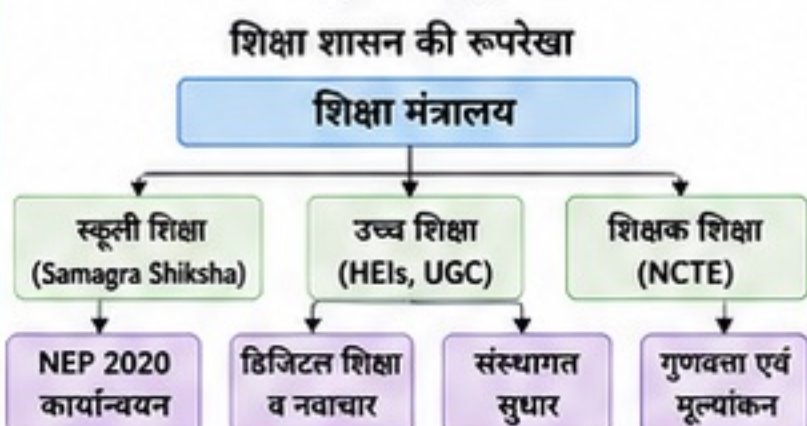


- अनौपचारिक महिला श्रमिकों की तकनीक तक पहुंच सीमित।
- AI उपकरण कौशल, उत्पादकता और आय बढ़ा सकते हैं।
- डिजिटल साक्षरता और क्वालिटी उपकरण आवश्यक।
- वित्तीय समावेशन से आर्थिक अवसर बढ़ेंगे।
- नैतिक, समावेशी और उत्तरदायी AI का उपयोग हो।
- लक्षित प्रशिक्षण से महिलाओं की आर्थिक भागीदारी बढ़ेगी।

डिजिटल इंडिया • AI मिशन
GS III • प्रौद्योगिकी • सामाजिक समावेशन

7 शिक्षा मंत्रालय का अगला अध्याय

(एक्सप्लेनर)

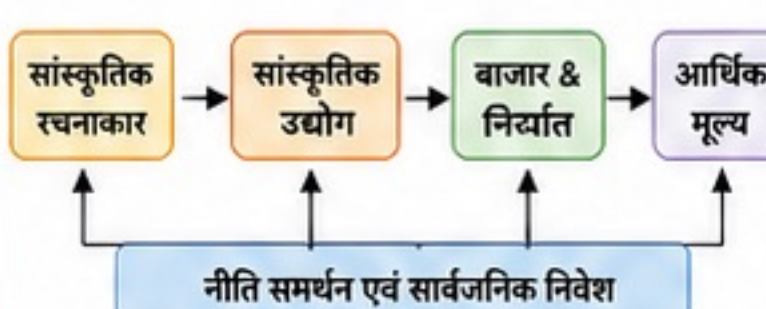


- NEP 2020 के प्रभावी क्रियान्वयन पर फोकस।
- स्कूली शिक्षा की गुणवत्ता और पहुंच बढ़ाना।
- उच्च शिक्षा में अनुसंधान व नवाचार को प्रोत्साहन।
- डिजिटल शिक्षा और समावेशी अधिगम का विस्तार।
- संस्थागत सुधार, स्वायत्तता और पारदर्शिता बढ़ाना।
- गुणवत्ता आश्वासन व क्षमता निर्माण को मजबूत करना।

NEP 2020 • UGC • NCERT
GS II • शिक्षा • मानव संसाधन विकास

2 सिर्फ कला, कोई सौदा नहीं

(संपादकीय)

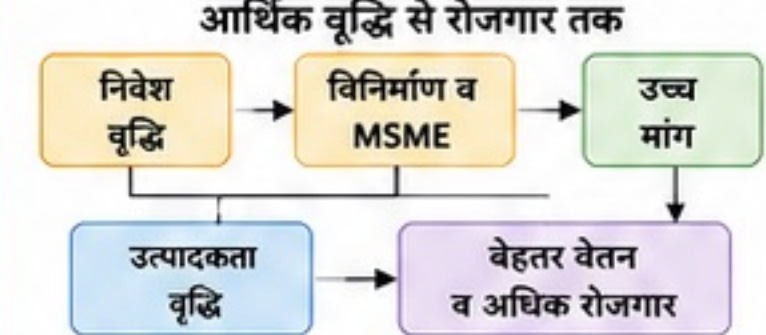


- रचनात्मक अर्थव्यवस्था की विशाल क्षमता।
- सांस्कृतिक उद्योगों को नीति व निवेश की आवश्यकता।
- सार्वजनिक वित्तपोषण से अवसर रचना व नवाचार बढ़ता है।
- कला पर्यटन और स्थानीय आजीविका को बढ़ावा देती है।
- भारत की सांस्कृतिक ब्रांडिंग और सॉफ्ट पावर को बल।
- प्रतीकात्मकता से आगे बढ़कर आर्थिक मूल्य सृजन करें।

UNESCO • क्रिएटिव इकॉनॉमी
GS I • संस्कृति

5 रोजगार ठीक करना है, तो अर्थव्यवस्था ठीक करें

(मत लेख)

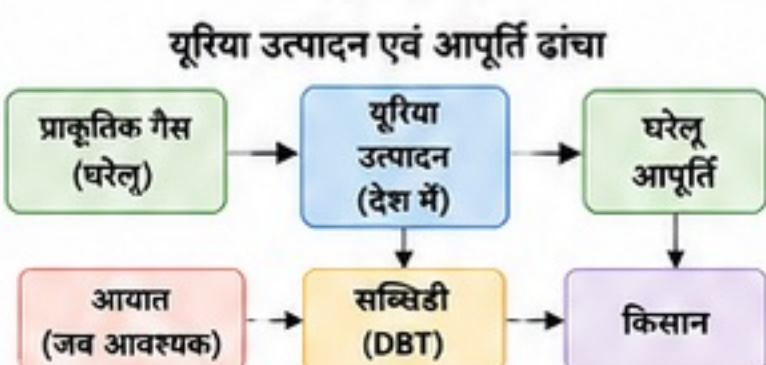


- मजबूत अर्थव्यवस्था के बिना स्थायी रोजगार संभव नहीं।
- विनिर्माण और MSME बड़े पैमाने पर रोजगार दे सकते हैं।
- निवेश व मांग से निजी क्षेत्र में नौकरी सृजन बढ़ेगा।
- उत्पादकता वृद्धि से वेतन और जीवन स्तर सुधरेगा।
- संरचनात्मक सुधार रोजगार वृद्धि के लिए आवश्यक।
- कुशल विकास और नवाचार पर निरंतर ध्यान जरूरी।

PLFS • GDP • श्रम बल
GS III • अर्थव्यवस्था • रोजगार

8 भारत की यूरिया नीति क्या है?

(एक्सप्लेनर)



- यूरिया उत्पादन मुख्यतः प्राकृतिक गैस पर निर्भर।
- मांग-आपूर्ति अंतर को आयात से पूरा किया जाता है।
- सब्सिडी DBT के माध्यम से किसानों को दी जाती है।
- नीम-लेपित यूरिया से डायवर्जन व दुरुपयोग कम।
- लक्ष्य: घरेलू उत्पादन बढ़ाकर आत्मनिर्भरता।
- संतुलित नीति से खाद्य सुरक्षा सुनिश्चित होती है।

NBS • DBT (उर्वरक) • नीम-लेपित यूरिया
GS III • कृषि • खाद्य सुरक्षा

3 स्वच्छ गतिशीलता की ओर

(संपादकीय)

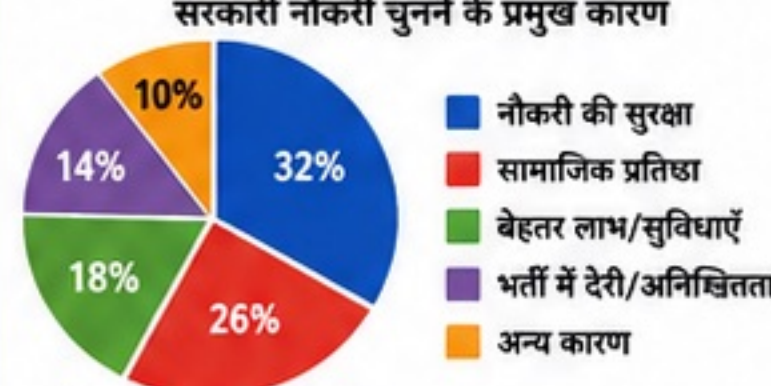


- परिवहन क्षेत्र उत्सर्जन का बड़ा स्रोत है।
- EV, बायोफ्यूल और ग्रीन हाइड्रोजन पर जोर।
- चार्जिंग अवसंरचना और सार्वजनिक परिवहन आवश्यक।
- रेल, मेट्रो और गैर-मोटर चालित परिवहन को बढ़ावा।
- स्वच्छ वायु तथा जलवायु लक्ष्यों में योगदान।
- नीतिगत समन्वय से सतत गतिशीलता सुनिश्चित करें।

FAME • PM E-Drive • पेरिस समझौता
GS III • पर्यावरण • सतत विकास

6 युवाओं का सरकारी नौकरियों की ओर झुकाव क्यों?

(डेटा पॉइंट)



- नौकरी सुरक्षा सबसे बड़ा कारण (32%)।
- वेतन, पेंशन और लाभ बेहतर माने जाते हैं।
- निजी क्षेत्र में अस्थिरता और अनिश्चितता की धारणा।
- भर्ती में देरी और पारदर्शिता की कमी चिंता का विषय।
- कौशल-नौकरी अनुपयुक्तता भी एक बड़ा कारण।
- गुणवत्तापूर्ण निजी नौकरियों बढ़ाना आवश्यक।

PLFS • जनसांख्यिकीय लाभांश
GS III • अर्थव्यवस्था • रोजगार

9 CBSE मूल्यांकन विवाद का समाधान कैसे?

(टेक्स्ट एवं कॉन्टेक्स्ट)



- मूल्यांकन गुणवत्ता से छात्रों का भविष्य प्रभावित होता है।
- डिजिटल मूल्यांकन से बूटि और पक्षपात कम होता है।
- मॉडरेशन से अंकों में समानता और निष्पक्षता सुनिश्चित।
- परीक्षकों का प्रशिक्षण और स्पष्ट रूक़िक आवश्यक।
- पारदर्शी प्रक्रिया से विश्वास और ग्रहणशीलता बढ़ती है।
- समयबद्ध, सटीक और छात्र-केंद्रित मूल्यांकन जरूरी।

NEP • अधिगम परिणाम • मूल्यांकन सुधार
GS II • शिक्षा • सुशासन

त्वरित समाचार (Quick News)

- सुप्रीम कोर्ट ने माखू प्रोटेस्ट के दौरान पुलिस के आचरण पर दिशा-निर्देशों पर विचार किया।
- रुपये की मजबूती और कच्चे तेल में गिरावट से BSE में ₹5.1 लाख करोड़ की बढ़त।
- शीर्ष 7 भारतीय शहरों में मॉल्स में रिटेल स्पेस की कमी।
- AI की मांग से डेटा सेंटर क्षमता 12 GW तक पहुंचेगी।
- बैंक ऑफ बड़ोदा के 'महत्वपूर्ण डेटा' लीक, बैंक ने जांच शुरू की।
- ट्रंप को 2027 की समयसीमा तक चीन के खनिजों की अनुमति देनी पड़ सकती है।
- ईरान का कहना है कि वह होर्मुज जलडमरूमध्य पर नियंत्रण रखता है, अमेरिका से वार्ता में शामिल नहीं।
- हृदयी नाकेबंदी के कारण सऊदी अरब के लिए बाब-एल-मंदेब फिर अहम केंद्र बना।
- सीरिया अपने राष्ट्रपति अल-शरआ के अनुसार इजरायल के साथ संयुक्त सुरक्षा समझौते की तलाश में।

प्रिलिम्स तथ्य (Prelims Facts)

- होर्मुज जलडमरूमध्य ईरान और ओमान के बीच स्थित है।
- बाब-एल-मंदेब लाल सागर को अदन की खाड़ी से जोड़ता है।
- CBSE भारत सरकार के शिक्षा मंत्रालय के अधीन कार्य करता है।
- नीम-लेपित यूरिया का उपयोग दुरुपयोग रोकने के लिए किया जाता है।
- भारत का AI मिशन जिम्मेदार और समावेशी AI को बढ़ावा देता है।
- PLFS (पीरिडिक लेबर फोर्स सर्वे) NSO द्वारा संचालित है।
- FAME योजना EV अपनाने को प्रोत्साहित करती है।
- ILO का मुख्यालय जिनेवा, स्विट्जरलैंड में है।
- UGC की स्थापना UGC अधिनियम, 1956 के तहत हुई थी।

शब्दावली (Vocabulary)

- प्रत्यास्थता (Resilience) — कठिन परिस्थितियों से शीघ्र उबरने की क्षमता।
- दूरदर्शिता (Prudence) — विवेकपूर्ण और सावधानीपूर्वक निर्णय लेने की गुणवत्ता।
- समावेशिता (Inclusivity) — सभी को समान रूप से शामिल करने की भावना।
- जवाबदेही (Accountability) — अपने कार्यों के लिए जिम्मेदारी स्वीकार करने की प्रवृत्ति।
- प्रतिस्पर्धात्मकता (Competitiveness) — प्रतिस्पर्धा में बेहतर प्रदर्शन करने की क्षमता।

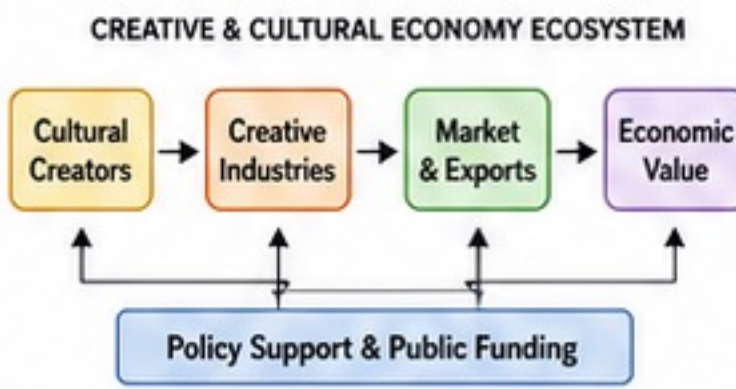
1 Forced Labour Farce



- Forced labour persists in global supply chains.
- Violates human dignity and fundamental rights.
- International standards: ILO Conventions.
- Businesses must ensure due diligence.
- Stronger monitoring and grievance systems needed.
- India must align laws with global benchmarks.

ILO • SDG 8 • Labour Codes
GS II • Governance

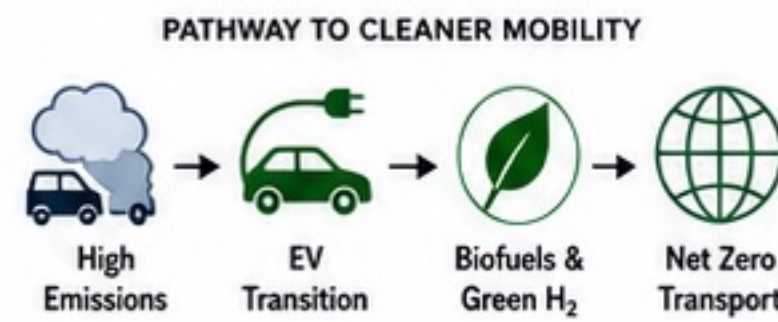
2 All Art, No Deal



- Creative economy holds immense potential.
- Cultural industries need policy & investment.
- Public funding builds cultural infrastructure.
- Enhances soft power and global presence.
- Strengthens tourism and local livelihoods.
- India must move from symbolism to strategy.

UNESCO • Creative Economy
GS I • Culture

3 Cleaner Mobility



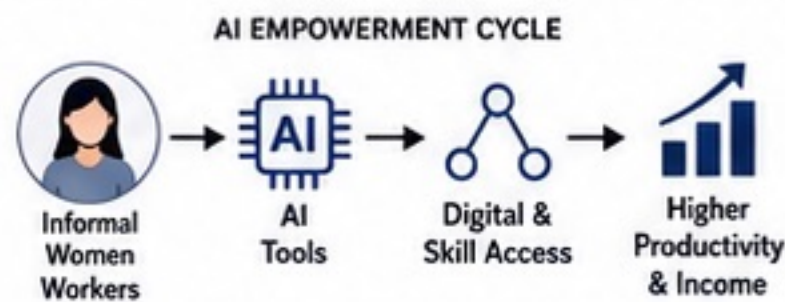
- Transport is a major emissions contributor.
- EV adoption must be scaled and inclusive.
- Biofuels and green hydrogen are key enablers.
- Invest in charging, public transport, rail.
- Supports climate goals and clean air.
- Policy coherence for sustainable mobility.

FAME • PM E-Drive • Paris Agreement
GS III • Environment

QUICK NEWS

- 1 SC considers framing guidelines for police conduct during mass protests.
- 2 BSE adds ₹5.1 lakh crore as rupee appreciates, crude dips.
- 3 Top 7 Indian cities face retail space crunch in malls.
- 4 Data centre capacity to jump to 12 GW as AI fuels demand.
- 5 BoB's 'critical data' leaks on dark web, bank initiates probe.
- 6 Trump may need to allow Chinese minerals as U.S. industry struggles to meet 2027 deadline.
- 7 Iran says it still controls Hormuz, not involved in negotiations with U.S.
- 8 With Houthi blockade on Saudi Arabia, Bab el-Mandeb returns to centre stage.
- 9 Syria to seek joint security agreement with Israel: al-Sharaa.

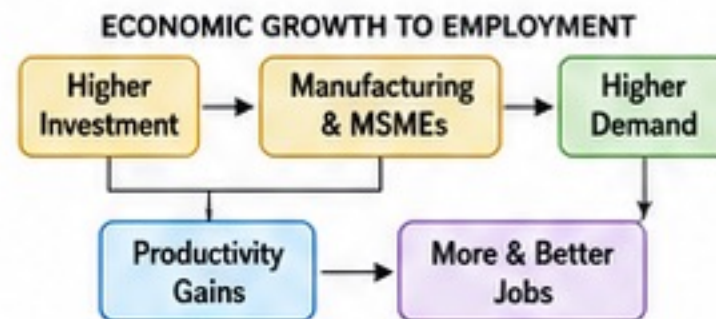
4 AI for Informal Women Workers



- Informal women workers lack tech access.
- AI tools can simplify tasks and boost earnings.
- Digital literacy and affordable devices crucial.
- Financial inclusion unlocks opportunities.
- Targeted skilling improves productivity.
- AI must be inclusive, ethical and accessible.

Digital India • AI Mission
GS III • Technology

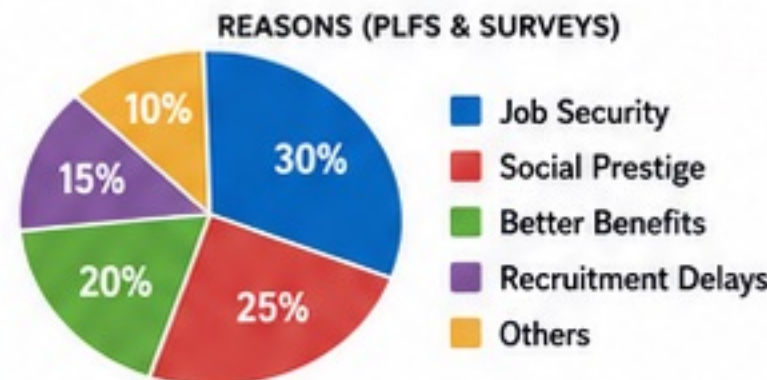
5 Fix Economy to Fix Jobs



- Jobs need a strong, growing economy.
- Manufacturing can absorb large workforce.
- MSMEs drive employment across regions.
- Investment and demand create job cycles.
- Boost productivity for quality employment.
- Structural reforms essential for job growth.

PLFS • GDP • Labour Force
GS III • Economy

6 Why Youth Prefer Government Jobs



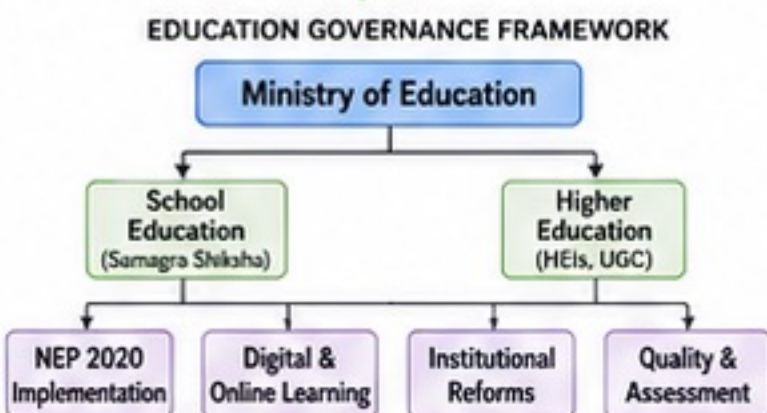
- Job security remains the top priority.
- Govt jobs offer better benefits and respect.
- Private sector wage & stability concerns.
- Lengthy recruitment adds to preference.
- Skill mismatch limits private opportunities.
- Need to expand quality private jobs.

PLFS • Demographic Dividend
GS III • Economy

PRELIMS FACTS

- 1 Strait of Hormuz: key oil chokepoint between Iran & Oman.
- 2 Bab-el-Mandeb links Red Sea with Gulf of Aden.
- 3 CBSE functions under Education Ministry, Govt. of India.
- 4 Neem-coated urea curbs diversion of urea to non-agricultural use.
- 5 India AI Mission launched under Digital India for responsible AI.
- 6 PLFS (Periodic Labour Force Survey) conducted by NSO.
- 7 FAME scheme promotes adoption of EVs in India.
- 8 ILO headquarters located in Geneva, Switzerland.
- 9 UGC established under UGC Act, 1956.

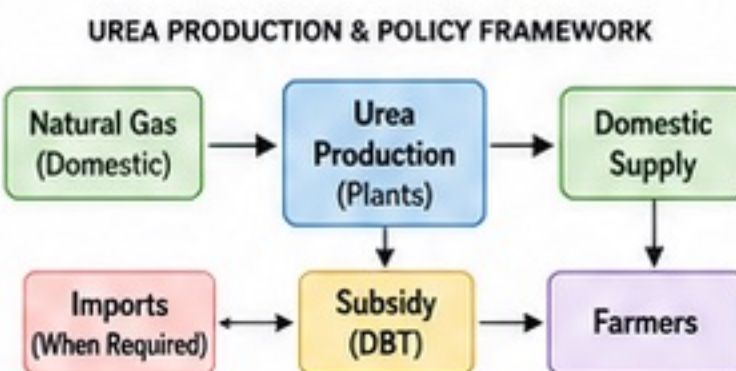
7 Education Ministry's Next Chapter



- Implement NEP 2020 in mission mode.
- Strengthen school and higher education.
- Expand digital learning and inclusion.
- Reform governance and accreditations.
- Build research, innovation and skilling.
- Ensure equity, quality and accountability.

NEP 2020 • UGC • NCERT
GS II • Education

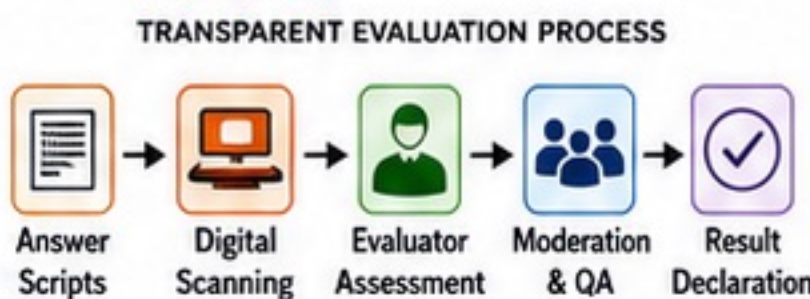
8 India's Urea Policy



- Urea production depends on natural gas.
- Imports meet demand-supply gaps.
- Subsidy ensures affordable availability.
- Neem coating curbs diversion to industry.
- Aim: self-reliance in fertiliser production.
- Balanced policy for food security.

NBS • DBT Fertiliser
GS III • Agriculture

9 CBSE Evaluation Reform



- Assessment quality impacts student future.
- Robust moderation ensures fairness.
- Digital evaluation improves transparency.
- Training and capacity building for examiners.
- Clear rubrics align with learning outcomes.
- Build trust and student confidence.

NEP • Learning Outcomes
GS II • Education

VOCABULARY

- 1 **Resilience** | Capacity to recover quickly from difficulties.
- 2 **Prudence** | Quality of wise and careful judgement.
- 3 **Inclusivity** | Ensuring equal participation for all.
- 4 **Accountability** | Being responsible for actions and decisions.
- 5 **Competitiveness** | Ability to perform efficiently in competition.

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.

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



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 vaccinated group, five children out of 1,000 contracted a DENV infection while in the unvaccinated 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.

S. Swaminathan is retired professor of biology from BITS Pilani-Hyderabad and a former scientist in the area of dengue vaccinology at ICGB, New Delhi. (ssn225@gmail.com)

Why in News?

- DCGI approved India's first dengue vaccine 'Qdenga'.

Vaccine Overview

- Developed by Takeda (Japan).
- Protects against all 4 dengue serotypes: DENV-1 to DENV-4.
- For 4–60 years age group, irrespective of past infection.
- Approved in 40+ countries.

Key Concerns

- High efficacy against DENV-1 and DENV-2.
- In seronegative children, 25% higher risk of DENV-3 infection.
- Efficacy against DENV-4 unknown (very few/no cases).
- Risk of ADE in secondary DENV-3/4 infection.

Clinical Trial Insights

- Phase-3 trial on ~20,000 children (4–16 yrs) in Asia & Latin America.
- Overall efficacy ~80%.
- Higher DENV-3 cases in seronegative vaccinated group vs placebo.

Way Forward

- Screen children for prior dengue exposure before vaccination.
- Ignore DENV-3 safety signal at our peril.
- Policy must prioritise safety through screening.

UPSC Relevance

GS II – Health governance, DCGI, vaccine policy, drug regulation

GS III – Disease control, public health, biotechnology, health security

Ethics – Do no harm, precautionary principle, equity in health

Prelims Pointers

- DENV-1 to DENV-4
- ADE – Antibody Dependent Enhancement
- DCGI – Drugs Controller General of India
- Takeda – Japanese pharma