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THE HINDU ANALYSIS

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TODAY'S COVERAGE

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1

Index of Industrial Production (IIP)

GS 3

Economy

WHY IN NEWS

Industrial output growth hit a 5-month high of **5.1% in May 2026**, driven by manufacturing, electricity, capital and consumer goods; mining and quarrying sector contracted for a fifth straight month.

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Industrial output growth hits 5-month high of 5.1%

Strong show by manufacturing, electricity, capital, and consumer goods sectors drives growth; mining and quarrying sector contracts for fifth straight month as govt. further tweaks IIP series

T.C.A. Sharad Baghavan
NEW DELHI

Growth in industrial activity quickened to a five-month high of 5.1% in May, buoyed by stronger performances by the manufacturing, electricity, capital goods, and consumer goods sectors, the latest government data show.

While releasing the data, the Ministry of Statistics and Programme Implementation also said that it has further tweaked the new series of the Index of Industrial Production (IIP), which had first been released on June 1. The new series has an updated base year of 2022-23 and incorporates new data sources. It explained that it has decided to discontinue the use of the Wholesale Price

Growth accelerates

Growth in the Index of Industrial Production quickened to a five-month high of 5.1% in May 2026



SOURCE: MOSPI

Index (WPI) in the measurement of some value-based outputs in the IIP and has instead adopted the Producer Price Index (PPI) for the purpose. "Accordingly, the present release supersedes the earlier WPI-based IIP 2022-23 series released on 1st June 2026," the release said. "Users are advised to use the PPI-based IIP series

presented in this release for all analytical, research, and policy purposes."

According to Rahul Agrawal, principal economist at the ICRA, this change has "led to material changes in growth across segments such as manufacturing and is also likely to lead to revisions in the GDP data". The manufacturing sector grew 5.5% in

May, down from 6.1% in April but faster than the 4.2% growth registered in May last year.

"Manufacturing has grown by 5.5% which can be attributed to a revival in consumption – both [consumer] durables and non-durables have done well at 7.2% and 3.6%, respectively," Madan Sabnavis, chief economist at the Bank of Baroda, said. "Within durables, the auto sector was once again the leader followed by computers and other electronic goods."

The electricity and gas supply category saw growth quicken to a two-year high of 9.9%, driven by a delayed monsoon and higher temperatures. The mining and quarrying sector contracted by 1.6%, the fifth consecutive month of contraction.

The Hindu, Pg 1 — 'Industrial output growth hits 5-month high of 5.1%' (with the original MoSPI growth chart)

- **5.1% growth** in May 2026 — a five-month high — led by manufacturing (5.5%), electricity & gas (9.9%, a two-year high on a delayed monsoon & higher temperatures) and capital/consumer goods.
- **Mining & quarrying contracted 1.6%**, its fifth consecutive month of contraction.
- Within durables, **autos** again led, followed by computers and other electronics; consumer durables (7.2%) and non-durables (3.6%) both revived.
- MoSPI further tweaked the new IIP series first released on 1 June — it now uses the **Producer Price Index (PPI)** instead of WPI for some value-based outputs, superseding the WPI-based 2022-23 series.

★ ABOUT THE IIP

- Published **monthly by the NSO under MoSPI**; a macro-indicator of short-term change in the volume of industrial production.
- **Base year revised 2011-12 → 2022-23**, the latest major macro-series revised in 2026 alongside GDP.
- Coverage broadened to include **gas supply, water supply, sewerage & waste management** beyond mining, manufacturing and electricity.
- Electricity generation now split cleanly into **renewable vs non-renewable**, sharpening the view of the green-energy transition.

2

White-rumped Vulture & Conservation

GS 3

Environment

WHY IN NEWS

A captive-bred, radio-tagged **white-rumped vulture** (*Gyps bengalensis*) released at Mudumalai Tiger Reserve was electrocuted by a power line — marking the failure of India's first attempted reintroduction of a captive-bred bird of the species.

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Radio-tagged white-rumped vulture electrocuted in T.N.

Rohan Premkumar
UDHAGAMANDALAM

A captive-bred, radio-tagged white-rumped vulture (*Gyps bengalensis*) that was released earlier this year at the Mudumalai Tiger Reserve in Nilgiris district of Tamil Nadu was electrocuted on Sunday.

The bird came into contact with a power line and was killed at Ebbanad village overlooking the Sigur plateau, Forest Department officials said.

The bird, initially released in the Tadoba-Andhari Tiger Reserve in Maharashtra in December 2025, made its way into Karnataka, where it had to be captured and treated after showing signs of illness. In April, the Bombay Natural



The radio-tagged vulture that was electrocuted on Sunday.
M. SATHYAMOORTHY.

History Society (BNHS) and the Karnataka Forest Department had discussions with their counterparts in Tamil Nadu and received permission to release the bird in the MTR, which is home to the last sizeable population of white-rumped vultures in South India. Foresters

hoped the bird would associate with other vultures and acclimatise to the region.

However, officials said the release proved to be more difficult than expected, with the vulture failing to acclimatise and embarking on exploratory forays around the tiger reserve, including to Gudalur, and later towards Kalhatty and Ebbanad.

The death of the vulture has signalled the end of the first attempted reintroduction of a captive-bred bird of the species into the landscape and could have consequences for conservation policies in the future.

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The Hindu, Pg 1 — 'Radio-tagged white-rumped vulture electrocuted in T.N.'

- The bird, initially released in **Tadoba-Andhari Tiger Reserve (Maharashtra)** in Dec 2025, drifted into Karnataka, was treated for illness, then released at MTR — home to South India's last sizeable population of the species.
- It failed to acclimatise, made exploratory forays (Gudalur, Kalhatty, Ebbanad) and died on a power line over the Sigur plateau.
- The death could have **consequences for future conservation/reintroduction policy**.

VULTURES — ECOLOGICAL ROLE

- Large scavengers that feed on carcasses, preventing disease spread, recycling nutrients and keeping landscapes clean. Indian populations collapsed mainly due to the NSAID **diclofenac**.

★ VULTURE SPECIES & IUCN STATUS

- **Critically Endangered:** Indian (*Gyps indicus*), Slender-billed (*G. tenuirostris*), White-rumped (*G. bengalensis*), Red-headed (*Sarcogyps calvus*).
- **Endangered:** Egyptian Vulture (*Neophron percnopterus*).
- **Near Threatened:** Himalayan (*G. himalayensis*), Cinereous (*Aegypius monachus*), Bearded (*Gypaetus barbatus*).
- **Least Concern:** Griffon Vulture (*Gyps fulvus*).

3

Bharat Rate of Growth — Reforms 3.0

GS 3

Economy

Sci & Tech

WHY IN NEWS

An op-ed argues India must move from the old 'Hindu rate of growth' to a '**Bharat rate of growth**' (8%+) by treating AI as the transformational lever that 1991 liberalisation once was — chiefly by making AI compute/tokens as freely available as data.

Reforms 3.0 – towards the Bharat rate of growth

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For 45 years after independence, India grew at an average 2% – the infamous ‘Hindu rate of growth’. Triggered by a balance-of-payments crisis, India found the gumption to liberalise. Within a decade, GDP growth surged. The lesson: crisis breeds reform, and reform breeds exponential outcomes. Artificial Intelligence (AI) provides the same transformational leverage that liberalisation provided in 1991. The question is not whether India can afford to invest – it has – but whether India can afford not to. Since 2012, the Prime Minister Narendra Modi's leadership, India has reached another WhatsApp moment in reform – dare I say, to take it from a Hindu rate of growth to the Bharat rate of growth – 8% and beyond for the next decade.

The case for making tokens free
India has since proven that it can leapfrog entire generations of infrastructure. Aadhaar enrolled 1.38 billion people in a biometric identity system, the largest on earth. UPI now processes 250 billion annual transactions worth \$3.4 trillion, handling 50% of the world's real-time digital payments. Reliance Jio, launched in 2016, added 100 million subscribers in just five months and made mobile data essentially free. How India can replicate its Aadhaar, data availability delays and UPI miracles in the age of AI – by embracing open models, diversifying compute hardware,

India spends just about 0.65% of its GDP on research and development (R&D), well below Japan (2.4%), the United States (3.5%), South Korea (4.5%), and Israel (5.4%). The excuse of the socialist Congress governments of 1947-1994 was: "we can't afford anything more", which does not and should not apply now. The central question is this: Has the time come to make AI tokens free? If so, how do we do it? Can we begin by making tokens free for the country's top 100 national R&D institutions and 5,000 schools, so that AI becomes a teammate for scientists and students

India spends approximately \$49 billion each year subsidizing calories, chemicals, and energy. The subsidies, which are administered through a complex subsidy committee, are the largest in the world. The answer is that it already can — at a fraction of what it spends today. The entire oil import subsidy for the country's top 100 refineries and national B&B industries, along with 5,000 high schools, would cost about \$2 billion annually — roughly 0.06% of GDP. The oil investment is around one-fourth of India's total energy investment, and the subsidies are less than the amount paid to compensate oil marketing companies for LPG under-recoveries in a single quarter. This is not a meager budget, but it is a fraction of what India spends on energy expenditure — but one with the potential to generate transformative, compounding returns.

India does not need more money; it needs new private capital. India's energy sector is under-invested. First, oil sales can be funded



Srivatsa Krishna
IFS officer

without cutting a single rupee from existing beneficiaries by merely increasing subsidy growth for a year. (The fertilizer subsidy alone has been compensating at 1% CAGR over the past decade.)

Second, India should force a public-private partnership with hyperscalers such as AWS, Google, and Microsoft, exchanging data centre land, power subsidies, and data sovereignty guarantees for free internet capacity. India's 1.44bn users in the market give it the leverage that few countries can match, though such techno-commercial negotiations, shaped by geopolitics and uncertainty, will require considerable skill. Third, if necessary, paid enterprise firms can cross-subsidise free access for schools and research institutions.

Free data and internet access will, too, be the government's end not just to subsidise jobs. Instead, it created the right regulatory environment through spectrum auctions, net neutrality, infrastructure sharing, and a controversial long pipe.

The result: data prices fell from about \$3 per GB to \$0.10 in under three years. The same playbook can apply to AI tokens. Create the right conditions, and the market will deliver abundance. India's role is not to write the cheque, but to make it unnecessary.

Hosting models

India must build the competence to host and operate large language models, not merely consume them through APIs from San Francisco or Beijing. With Sarvam, it has already shown the

frontier models can be trained on Indian soil. The next step is to host models such as Qwen, Deepseek, Kimi, Llama, and Surimi on sovereign servers. India's AI ecosystem must be rooted in its own soil. The models may be free, but the intelligence to host them at scale is not. A strategic infrastructure should be treated as a strategic asset. India's government and private sector must work together. The government has already done for space and nuclear programmes. India should pursue a hybrid strategy that combines sovereign and open-source models. India must build a sovereign AI ecosystem. Open-source models offer key advantages: sovereignty by reducing reliance on foreign APIs that can be restricted overnight; lower costs; transparency; and ethical benefits, thereby enabling free education and research uses; customisation for Indian languages and cultural context; and transparency through open audits for security, privacy, and defence applications.

Hosting ELMs at national scale is not "just deploy a container". India must develop deep expertise in availability (multi-region redundancy, 99.99% uptime SLAs for critical government services; latency <200ms token latency across Tier 2/3 cities); efficiency (like batch scheduling to maximise tokens per watt); security (data residency compliance, prompt injection defence, audit trails).

single-vendor monopoly for its AI compute fabric. NVIDIA dominance comes at an extraordinary cost – both financial and strategic. NVIDIA controls 80% of AI training hardware but creates deep vendor lock-in that extends far beyond hardware. For India to build sovereign AI infrastructure for 1.4 billion people, the math simply does not work at NVIDIA pricing.

India spent relatively little to build UPI, its central bank digital currency, and to spend \$50 billion on NVIDIA GPUs. The alternative hardware ecosystem is not just more economical – it is strategically essential. India should adopt a 40:30:30 hardware mix rather than rely on a single vendor. Around 40% should be built on AWS Tranium and AMD for cost-effective inference workloads across retail, financial, and government sectors. Google TPUs for research, model training, and academic partnerships. The remaining 30% should rely on NVIDIA for specialised training, legacy compatibility, and a domestic silicon hedge.

AI token policy, implementation timeline
India should announce a National AI Token Policy and implement it over the next 24 months. It should begin by signing public-private partnership agreements with AWS, Google, and Microsoft to establish a model consumer organization.

Microsoft to establish a multi-vendor sovereign compute framework. The first pilot should provide unlimited research tokens to the top 20 IITs and the IISc. As hyperscaler inference capacity comes online, India should open an AP sandbox for 500 startups, expand access to 100

universities, and launch an AI literacy pilot across 500 high schools in 10 states. The programme should culminate in the publication of a report on the state of AI literacy across India's AI model benchmarks.

Thereafter, India needs to scale the ecosystem through cross subsidies as mentioned above and develop a demand-driven market to test the agriculture, judiciary and education. It should focus this up with full deployment at 5,000 high schools and all 22 languages. With India's AI literacy programme, the AI gap has been closed. In two years, India-trained models will become competitive on international benchmarks and 10,000-AI-native startups will bloom, rocketing GDP growth.

In sum, India's AI leapfrog is a sine qua non for national transformation. India needs to replicate the US digital public infrastructure miracles in the form of an enterprise-grade AI ecosystem by diversifying compute hardware, and making

solents as free as data. India has all the necessary conditions – favourable policies, stable macroeconomy, prodigious talent and technology institutions – to become a global leader in AI applications. The sufficient condition is India's decisive, visionary leadership. It will take three moves. One decade. And a transformed (AI) nation.

The Hindu, Pg 8 — 'Reforms 3.0 — towards the Bharat rate of growth'

- For 45 years post-Independence India grew at an anaemic 3% ('**Hindu rate of growth**'); the 1991 BoP crisis forced liberalisation and GDP surged — **crisis breeds reform**.
- India has shown it can leapfrog infrastructure: **Aadhaar** (1.38 bn enrolled), **UPI** (250 bn annual transactions worth \$3.4 tn, ~50% of global real-time payments) and **Jio** making mobile data nearly free.
- India spends only **~0.65% of GDP on R&D**, far below China (2.4%), US (3.5%), South Korea (4.9%) and Israel (5.4%).
- Proposal: a **National AI Token Policy** over 24 months; PPP with AWS, Google, Microsoft for a multi-vendor sovereign compute framework; free research tokens to top-20 IITs + IISc, then 100 R&D institutions and 5,000 schools.
- Warns against a **single-vendor (NVIDIA) lock-in** — suggests a 40:30:30 hardware mix; favours open-source models for sovereignty and lower cost.

★ KEY DATA POINTS TO REMEMBER

- India subsidises 'calories, chemicals & carbon' at ~\$49 bn/year; the author argues for redirecting a fraction toward 'cognition'.
- An AI token subsidy for 100 universities + 5,000 schools is estimated at ~\$2 bn/yr (≈0.06% of GDP).

4

Delayed Honour — Op Sindoor & Accountability

GS 2

Governance

WHY IN NEWS

An editorial criticises the year-long delay in formally acknowledging that **six soldiers died in Operation Sindoor (2025)**, arguing operational secrecy cannot override public accountability.

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Delayed honour

Operational secrecy during wars is a must, but there must be accountability

War is secretive and strategy may require deception. But that is no good explanation for the fact that the Narendra Modi government took over a year before formally acknowledging that six soldiers had lost their lives in Operation Sindoor in 2025. India had launched cross-border military strikes in Pakistan in retaliation for the Pahalgalam terrorist attack, in April 2025, that killed 26 innocent people. From the beginning, the government has been reluctant to share any meaningful details of Operation Sindoor even as it continuously kept the hyperbolic self-congratulatory posture. Its decision to not publicly acknowledge and honour the supreme sacrifice of the fallen soldiers contemporaneously was hardly a sign of any wise strategy. Casualties can happen in any military operation and that is a key consideration in any military planning, and more importantly, the political decision to go to war or not. Not being transparent about losses, human and material, may serve the political interests of the ruling party, but not national interest. By trying to be clever and selective about facts, the government undermined its own credibility and did a disservice to those who paid with their lives. Soon after the operation concluded in May 2025, the then Director General of Military Operations (DGMO), Lieutenant General Rajiv Ghai, paid tribute, during a

press briefing on May 11, 2025, to Indian military personnel who had made the supreme sacrifice, though their names were not disclosed.

The cremations were done with full military honours. In August 2025, Air Chief Marshal A.P. Singh visited the family of Sergeant Surendra Kumar, who was killed during the operation, while the Ministry of Defence also announced gallantry awards for the fallen personnel. Tributes were simultaneously carried on the Indian Army's official social media platforms. In the Lok Sabha on July 28, 2025, Defence Minister Rajnath Singh said that "no Indian soldiers were harmed" during Operation Sindoor. Following accusations that it has misled Parliament, the government is now explaining that the Minister's remarks were made in the context of reports that Indian aircraft were shot down and were meant to clarify that no pilot was killed during the mission. The government has also maintained that details relating to aircraft losses during the conflict remain operationally sensitive and refused to disclose them. There is a distinction to be made between operational secrecy and requirements of public accountability. War is a stark demonstration of the fact that it is the public that always pays for all actions of the government. A public accounting of the gains and the losses is the best way to ensure wise decision making.

The Hindu, Pg 8 — 'Delayed honour'

- Operation Sindoor was a cross-border strike in Pakistan in retaliation for the **April 2025 Pahalgalam terror attack** that killed 26 people.
- The government took over a year to formally acknowledge the soldiers' deaths, even while maintaining a self-congratulatory public posture.
- Cremations were done with full military honours; in Aug 2025 the Air Chief visited a fallen soldier's family and the MoD announced **gallantry awards**.
- A July 2025 Lok Sabha remark that 'no soldiers were harmed' is now clarified as referring to **pilots**, amid claims Parliament was misled.

★ THE CORE PRINCIPLE

- There is a distinction between **operational secrecy** (legitimate) and **public accountability** (essential).
- Non-transparency about human/material losses may serve a ruling party's interest but not the national interest.
- A public accounting of gains and losses is the best safeguard for **wise decision-making** on war.



5

Caught in the Middle — Drug Abuse

GS 2

Social Issues

Security

WHY IN NEWS

India sits between the world's two largest drug-producing belts; an op-ed argues India must shift from a **seizure-and-arrest focus** to **harm reduction** and 'lives restored'.

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Caught in the middle India must prioritise reduction of harm from drug abuse

India is located between two major drug-producing regions: Afghanistan, Pakistan, and Iran to the west and Myanmar, Thailand, and Laos to the east. While the West has historically dominated heroin production, the International Narcotics Control Board has said Myanmar has become the world's leading source of illicit opium while East and Southeast Asia remain major sources of methamphetamine. Officials have said drugs are being received at Gujarat, Kerala, and Tamil Nadu via maritime routes. Similarly, some drugs are produced domestically using illegally diverted pharmaceutical ingredients, aided by the fact that individuals possessing small quantities of heroin can attract up to six months' imprisonment, whereas drugmakers that cannot account for lakhs of doses often face only slaps on the wrist. The rise of Myanmar, where the territory under ethnic armed organisations is expanding, as a key source is also troubling since it shares a border with India. The Narcotics Control Bureau has noted a dramatic surge in the use of drones to smuggle drugs across borders, especially over Punjab. Traffickers are organising over the darknet and using cryptocurrencies. The pillars of India's response thus aim to keep the enforcement regime from being out-innovated and improve regulatory certainty.

States are trying to adopt a 'whole of society' approach recognising the public health and social dimensions. However, India needs to do more. Physical abuse and forced detoxification are frequently reported from many private centres. Punjab has an extensive network of de-addiction centres providing opioid substitution therapy, and some northeastern States to a secondary extent, but most large States have much less access relative to need. Most Integrated Rehabilitation Centres for Addicts are located in urban areas whereas the highest density of addicts in Punjab are in border villages and rural pockets. Likewise, relapse is often treated as a moral failure and many addicts avoid government centres fearing social ostracisation, particularly in rural North India. The persistence of criminal records for small-scale possession prevents youth from getting jobs, reducing their odds of escaping the drug-crime cycle. Although the *Nasha Mukh Bharat Abhiyaan* has said it has sensitised over six crore women, facilities dedicated to women are scarce and concentrated in urban areas; stigma, caregiving responsibilities, and lack of gender-responsive treatment keep many women from seeking or completing care. Finally, as evidence shows, disrupted supply can drive many users to cheaper alternatives unless accompanied by effective treatment. India must therefore shift public focus from seizures and arrests to the number of lives restored.

The Hindu, Pg 8 — 'Caught in the middle' (drug-abuse harm reduction)

- India lies between the **Death Crescent** (Afghanistan-Pakistan-Iran) and **Death Triangle** (Myanmar-Thailand-Laos). Myanmar is now the world's leading source of illicit opium.
- Drugs arrive via maritime routes at **Gujarat, Kerala & Tamil Nadu**; some are made domestically from diverted pharma ingredients.
- The NCB notes a surge in **drone smuggling (esp. over Punjab)**, darknet trade and cryptocurrency use.
- Enforcement asymmetry: small possessors of heroin can face up to 6 months' jail while large drugmakers often escape lightly.
- Treatment gaps: forced detoxification in private centres, urban-concentrated rehabilitation while addiction is densest in **border/rural Punjab**, stigma, and scarce gender-responsive care.

★ WAY FORWARD & STATIC LINKAGE

- Shift the metric of success from **seizures & arrests** to **'lives restored'** — a public-health, harm-reduction approach.
- Expand **opioid substitution therapy** & Integrated Rehabilitation Centres into rural/border belts, not just cities; add gender-responsive care.
- Decriminalise **small-quantity possession** (de-link from criminal record) so youth aren't trapped in the drug-crime cycle.
- Relevant framework: **NDPS Act, 1985**; Narcotics Control Bureau (NCB); **Nasha Mukh Bharat Abhiyaan**; international body — INCB.

6

Preparing India for China's Missile Challenge

GS 3

Security

IR

WHY IN NEWS

With China deploying **200+ conventional missile launchers** opposite India, an analyst argues India needs a dedicated **Rocket Force** and interim measures to build credible deterrence.

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Preparing India for China's missile challenge

Missiles are reshaping warfare, making conflicts faster, cheaper, and more political. A limited volley of conventional missiles can paralyse a country, disrupt critical infrastructure, and complicate decision-making. With China having deployed more than 200 conventional missile launchers opposite India, the key question is how this missile superiority could shape a future conflict.

China's arsenal
While India views conventional missiles primarily as deterrents, China sees them as instruments of both political coercion and war-fighting. The threat of missile strikes alone may achieve strategic objectives without triggering a full-scale war. A barrage targeting critical infrastructure deep inside India could force New Delhi to fight on two fronts: a border conflict and a missile campaign against its hinterland.

The two missile bases located at Korla and Kunming can fire a range of conventional missiles DF-15B, DF-16, DF-21C and DF-26. DF-15B, DF-16 and DF-21C are most suited to hit military targets along the borders; whereas the DF-26 can hit high-value targets in depth. Further, their hypersonic missiles (DF-400 and QJ000) can hit deeper, with no launch warning. This becomes a major vulnerability, as India has no reliable defence against it.

Consequently, China's inventory reduces the salience of the Himalayas to provide strategic depth. The DF-26, being dual-role, raises the risk of escalation. While China shoots down from the Tibetan Plateau, India has to shoot over the Himalayas. This impacts missile detection timings. Moreover, India's missile inventory is still evolving, with limitations in both range and diversity. Its long-range systems – including Agni, the Long Range Land Attack Cruise Missile (LR-LACM) – Nirbhay, and BrahMos – and their variants are yet to be fully integrated. India also lacks robust real-time targeting capabilities, has



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finite missile stockpiles, and is still developing its hypersonic technology. Importantly, its rocket force remains a conceptual construct, with significant policy and organisational issues yet to be resolved.

Without a rocket force, India would have little choice but to absorb a Chinese missile strike. On the contrary, if India has one, both get hurt to varying degrees. That is when the missile math ticks in – in terms of mutual vulnerability. If China launches 100 missiles, India must be able to inflict significant damage – not necessarily through equal numbers, but through comparable effects. India should therefore aim to build a credible conventional missile inventory; otherwise, it risks being forced into a stalemate even before the border war begins.

Ideally, India's rocket force should deliver three effects. First, it should be able to hold the PLA's Western Theatre Command (WTC) at risk by having the threat to target deep inside Tibet and Xinjiang. Second, it should be capable of degrading the PLA's road and rail infrastructure, airbases, and logistics installations along the border. Third, it must enable field commanders to strike PLA camps, gun positions, and ammunition dumps in the tactical battle area. In essence, India needs a rocket force capable of engaging strategic, operational, and tactical military and economic targets from a single command authority.

Three aspects are important. First, at the doctrinal level, India must adopt counter-value strikes as part of its conventional missile strategy. This would require rethinking the scope and scale of its counter force doctrine and developing a unified target list. Service- or agency-specific target lists have little place in time-sensitive missile warfare. The rocket force must also have the authority to execute pre-designated precautionary strikes in the opening hours of a conflict. Without pre-delegated launch authority, India would risk defeat at the outset.

Second, at the structural level, whatever blueprint is adopted for the rocket force, it must be placed under the Chief of Defence Staff (CDS). Keeping it service-specific would undermine operational effectiveness. India must also expand its medium- and intermediate-range ballistic missile (MRBM/IRBM) inventory, including Agni variants, to hold targets such as Korla and Kunming at reciprocal risk. This would raise the cost of any Chinese use of the DF-26. Fast-tracking the development of hypersonic missiles is vital, especially since the DF-100 is already part of the PLA Rocket Force's order of battle (ORBAT).

Third, at the technological level, India's missile industry faces significant challenges. Private sector participation must expand to complement the efforts of the DRDO. Major missile programmes have suffered from cost overruns and delays, while critical gaps in advanced air propulsion systems, semiconductors, and high-grade materials continue to hamper self-reliance. Dependence on foreign suppliers for high-end components remains a strategic vulnerability. Greater investment in R&D and end-to-end private-sector manufacturing will be essential.

Interim steps

Since a rocket force will take time to become operational, India must adopt interim measures. First, disperse IAF assets and harden airbases to reduce vulnerability and force an adversary to expend more missiles. Second, optimise air-defence deployment to compel the PLA Rocket Force to target the air-defences rather than critical infrastructure. Third, strengthen long-range conventional strike capabilities to hold targets in Tibet and Xinjiang at risk, creating reciprocal vulnerability. Finally, expand satellite surveillance to detect mobile launchers, particularly DF-26 systems, improving the chances of early neutralisation.

The Hindu, Pg 8 — 'Preparing India for China's missile challenge'

- China treats missiles as tools of **coercion and war-fighting**, not just deterrence; a barrage on Indian hinterland could force a two-front fight.
- Bases at **Korla & Kunming** field DF-15B, DF-16, DF-21C (border targets) and DF-26 (deep, dual-role); hypersonics DF-100 & CJ-1000 strike with no warning — India lacks reliable defence.
- India's inventory (**Agni, LR-LACM, Nirbhay, BrahMos**) is still being integrated; it lacks real-time targeting, has finite stockpiles, and its **Rocket Force remains conceptual**.

A ROCKET FORCE SHOULD DELIVER THREE EFFECTS

- **Strategic:** hold the PLA Western Theatre Command at risk (deep Tibet/Xinjiang).
- **Operational:** degrade road/rail, airbases & logistics along the border.
- **Tactical:** let field commanders strike PLA camps, gun positions & ammo dumps.

★ WAY FORWARD / INTERIM STEPS

- Place the rocket force under the **CDS**, not a single service; expand MRBM/IRBM (Agni variants) for reciprocal risk against Korla & Kunming.
- Fast-track **hypersonics**; expand private-sector R&D and end-to-end manufacturing to cut foreign dependence.
- Interim: disperse & harden IAF airbases; optimise air defence; expand **satellite surveillance** to detect mobile DF-26 launchers.

7

Food Safety & FSSAI

GS 2

Governance

Health

WHY IN NEWS

Two recent mass food-poisoning events (Indore school, Bhiwandi eatery, 200+ affected) highlight weak implementation of the **Food Safety & Standards Act**; the State Food Safety Index shows widespread low scores.

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Rise in food poisoning cases highlights lapses in food safety

Nearly three-fourths of all States and Union Territories tended to have low or moderate scores on the Food Safety Index

DATA POINT

Sanctioned Food Safety Officers

Two suspected events of food poisoning reported last month, one at a government school in Indore, Madhya Pradesh, and another at a popular eatery in Bhiwandi in Maharashtra, which affected over 200 people have once again highlighted the need for strengthening the implementation of the Food Safety and Standards Act, 2006.

As per the latest 'accidental deaths and suicides in India report', a total of 1,122 people died due to food poisoning in India in 2024 (Chart 1).

Sanctioned food safety officers should be seen in the context of lapses in the implementation of the Act, as revealed by the government's own State Food Safety Index released last year (2023-24). The Food Safety and Standards Authority of India (FSSAI) measures the index for all states and union territories based on five key parameters: human resources and institutional data, compliance, food testing infrastructure and surveillance, training and capacity building, and consumer empowerment.

While no comprehensive data could not be established, the index showed that States that saw high numbers of food poisoning cases also tended to have low or moderate scores on the index (Chart 2). Justly three-fourths of all States and Union Territories scored below 50 out of the highest possible score of 100. Karnataka, where over 150 people died of food poisoning in 2024, scored 26.5, while the state with the highest score was Kerala, which reported over 200 casualties in 2024, scored 44.25.

The FSSAI has mandated periodic inspections and analysis of food samples from all registered Food Business Operators (FBOs). An amendment to the Act notified this month has made the frequency of the inspections to be based on a dynamic risk-based assessment of all FBOs, depending on the type of establishment, the size of the premises and other such factors. While the amended provisions are yet to be implemented, FSSAI data for the year 2023-24 showed that inspections conducted and food samples analysed by various States were more than twice compared with the number of registered FBOs (Chart 3). The variance, only 20,877 samples were filed in Maharashtra which has over 1.1 lakh registered or active FBO licenses, as per the data available with the FSSAI safety compliance system.

With the effective implementation of the regulations largely dependent on authorities working at the central and State levels, data showed that while the FSSAI is responsible for issuing food safety licences, it is the State Food Safety Authorities who are primarily responsible for enforcement at the field level. However, these institutions suffer from vacancies.

The FSSAI, which has a sanctioned strength of 422 officers, saw a 30% to almost 45% in the last five years. Further, data submitted in response to a question in the Rajya Sabha in March last year showed that only 2,997 of the sanctioned posts of 4,208 food safety officers under the Act, in States and UTs have been filled as of the third quarter of FY 2025-26.

The World Health Organization's Foodborne Disease Burden Estimates (CDB) estimated that worldwide food-borne cases are around 600 million annually. It also stated that 7.1 million deaths of food-borne-related diseases (FBDs) were lost in 2020. This burden was borne by children under-5 years.

Although the food and beverage sector has declined since 2009, a country-wide analysis of the state of years of life lost due to food-borne diseases, showed that India ranked 15th, along with several low-income African nations.

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Slipping safety standards

The state food safety index scores reveal Food Safety and Standards Authority of India, Accidental Deaths and Suicides in India and the World Health Organization



CHART 1: More than a thousand cases and deaths due to food poisoning were reported in 2024

Source: WHO, Census

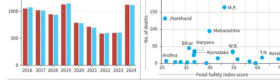


CHART 2: States that saw high incidence of food poisoning cases tended to have low or moderate scores on Food Safety Index

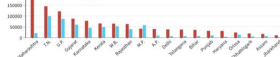


CHART 3: Samples collected for testing in 2023-24 compared with the total registered food business operators in select States

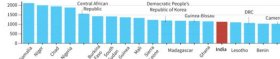


CHART 4: "Foodborne years of lives lost" per 1,00,000 persons, India is ranked 15th, along with many African countries



The Hindu, Pg 9 — 'Rise in food poisoning... Slipping safety standards'

- **1,122 people died of food poisoning in India in 2024** (Accidental Deaths & Suicides report).
- Nearly **three-fourths of States/UTs scored below 50/100** on the Food Safety Index. Jharkhand (130+ deaths) scored 26.5; Uttar Pradesh (200+ casualties) scored 44.25.
- Severe **vacancies**: only 2,997 of 4,208 sanctioned Food Safety Officer posts filled (Q3 FY 2025-26); FSSAI officer vacancies rose from ~30% to ~40% in five years.
- WHO (2026): unsafe food causes **~866 mn illnesses & 1.5 mn deaths** annually; **India ranks 15th** on years-of-life-lost, alongside several low-income African nations.
- A new amendment makes inspection frequency **risk-based** (by establishment type & past record).

★ FSSAI — AT A GLANCE

- Apex food regulator; **autonomous statutory body under the FSS Act, 2006**, working under the **Ministry of Health & Family Welfare**; HQ New Delhi.
- Five index parameters: human resources/institutional data, compliance, testing infra & surveillance, training & capacity, consumer empowerment.
- Sets science-based standards, accredits labs, advises governments and harmonises norms with **Codex**.



M Mains Practice Questions

Freshly framed from today's themes — not reproduced from the source.

GS 3 · ECONOMY & TECHNOLOGY

8 Marks

India is being urged to treat artificial intelligence as the structural reform that liberalisation was in 1991. Examine how making AI compute and tokens widely accessible could lift India toward a higher 'Bharat rate of growth', and identify the key risks in such a strategy. **(120 words)**

भारत से आग्रह किया जा रहा है कि वह कृत्रिम बुद्धिमत्ता (AI) को उसी प्रकार का संरचनात्मक सुधार माने जैसा 1991 का उदारीकरण था। परीक्षण कीजिए कि AI कंप्यूट एवं टोकन को व्यापक रूप से सुलभ बनाना भारत को उच्चतर 'भारत विकास दर' की ओर कैसे ले जा सकता है, तथा इस रणनीति के प्रमुख जोखिमों की पहचान कीजिए। (120 शब्द)

GS 3 · SECURITY

12 Marks

"A credible conventional missile capability, not numerical parity, is the foundation of deterrence against a militarily superior adversary." In light of China's missile deployments opposite India, critically analyse the case for an Indian Rocket Force and suggest interim measures India can adopt until one becomes operational. **(200 words)**

"किसी सैन्य दृष्टि से श्रेष्ठ प्रतिद्वंद्वी के विरुद्ध प्रतिरोध की नींव संख्यात्मक समानता नहीं, बल्कि एक विश्वसनीय पारंपरिक मिसाइल क्षमता है।" भारत के समक्ष चीन की मिसाइल तैनातियों के संदर्भ में, भारतीय रॉकेट फोर्स के पक्ष में तर्कों का आलोचनात्मक विश्लेषण कीजिए तथा रॉकेट फोर्स के परिचालनगत होने तक भारत द्वारा अपनाए जा सकने वाले अंतरिम उपाय सुझाइए। (200 शब्द)

PRELIMS PRACTICE — MCQS

Q1. With reference to the Index of Industrial Production (IIP), consider the following statements:

1. It is released monthly by the NSO under MoSPI.
2. Its base year was recently revised to 2022-23.
3. The new series uses the Wholesale Price Index for all value-based outputs.

Which are correct?

- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

Ans: (a) — The new series replaced WPI with the Producer Price Index (PPI) for some outputs — so statement 3 is wrong. Statements 1 and 2 are correct.

Q2. The white-rumped vulture (*Gyps bengalensis*), in news recently, is best described as:

- (a) Endangered, declined due to habitat loss (b) Critically Endangered, declined mainly due to diclofenac
(c) Near Threatened, a high-altitude species (d) Least Concern, common across India

Ans: (b) — White-rumped vulture is Critically Endangered (IUCN); its steepest decline was driven by the NSAID diclofenac in cattle carcasses.

Q3. Which of the following vultures is correctly matched with its IUCN status?

- (a) Egyptian Vulture — Critically Endangered (b) Griffon Vulture — Endangered
(c) Himalayan Vulture — Near Threatened (d) Red-headed Vulture — Least Concern

Ans: (c) — Himalayan Vulture is Near Threatened. Egyptian = Endangered; Griffon = Least Concern; Red-headed = Critically Endangered.

Q4. The terms 'Death Crescent' and 'Death Triangle', recently renamed by the MHA, refer respectively to:

- (a) Afghanistan-Pakistan-Iran and Myanmar-Thailand-Laos (b) Myanmar-Thailand-Laos and Afghanistan-Pakistan-Iran
(c) Iran-Iraq-Syria and Myanmar-China-Laos (d) Pakistan-Afghanistan-Tajikistan and Thailand-Vietnam-Laos

Ans: (a) — The Golden Crescent (Afghanistan-Pakistan-Iran) was renamed 'Death Crescent' and the Golden Triangle (Myanmar-Thailand-Laos) 'Death Triangle' to strip the drug trade of glamour.

Q5. With reference to UPI, consider the following:

1. It processes around 250 billion transactions annually.
2. It handles roughly half of the world's real-time digital payments.

Which is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither

Ans: (c) — Per the source, UPI processes ~250 bn annual transactions worth \$3.4 tn and handles ~50% of the world's real-time digital payments.

Q6. India's R&D spending as a share of GDP, as cited, is closest to:

- (a) 0.65%
- (b) 1.5%
- (c) 2.4%
- (d) 3.5%

Ans: (a) — India spends ~0.65% of GDP on R&D — well below China (2.4%), the US (3.5%), South Korea (4.9%) and Israel (5.4%).

Q7. Operation Sindoor (2025) was launched in retaliation for which event?

- (a) Galwan clash
- (b) Pulwama attack
- (c) Pahalgam terror attack
- (d) Uri attack

Ans: (c) — Operation Sindoor was cross-border strikes in Pakistan in response to the April 2025 Pahalgam terror attack that killed 26 people.

Q8. The Chinese missiles DF-100 and CJ-1000, mentioned as a major concern for India, are notable because they are:

- (a) Intercontinental ballistic missiles
- (b) Hypersonic missiles that strike with no launch warning
- (c) Submarine-launched cruise missiles
- (d) Anti-satellite weapons

Ans: (b) — DF-100 and CJ-1000 are hypersonic missiles that can strike deep with no launch warning — a vulnerability against which India lacks reliable defence.

Q9. With reference to FSSAI, consider the following:

1. It is a statutory body under the FSS Act, 2006.
2. It functions under the Ministry of Consumer Affairs.
3. It harmonises Indian food norms with Codex standards.

Which are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Ans: (b) — FSSAI works under the Ministry of Health & Family Welfare (not Consumer Affairs), so 2 is wrong. 1 and 3 are correct.

Q10. As per the WHO Foodborne Disease Estimates (2026) cited in the article, unsafe food causes approximately:

- (a) 200 million illnesses and 0.5 million deaths annually
- (b) 866 million illnesses and 1.5 million deaths annually
- (c) 1.2 billion illnesses and 3 million deaths annually
- (d) 500 million illnesses and 2 million deaths annually

Ans: (b) — WHO (2026) estimated unsafe food causes ~866 million illnesses and ~1.5 million deaths annually; India ranks 15th on years-of-life-lost.

ANSWER KEY

- Q1 (a)
- Q2 (b)
- Q3 (c)
- Q4 (a)
- Q5 (c)
- Q6 (a)
- Q7 (c)
- Q8 (b)
- Q9 (b)
- Q10 (b)



Quick Revision & Thought

★ ONE-LINE RECALL

- **IIP:** 5.1% (May'26), base year now 2022-23, PPI replaces WPI.
- **Vulture:** White-rumped (*Gyps bengalensis*), CR, diclofenac-hit.
- **Reforms 3.0:** National AI Token Policy; R&D only 0.65% of GDP.
- **Op Sindoor:** secrecy vs accountability; Pahalgam retaliation.
- **Drugs:** Death Crescent & Death Triangle; shift to harm reduction.
- **China missiles:** case for an Indian Rocket Force under CDS.
- **FSSAI:** statutory under FSS Act 2006, MoH&FW; 5 index parameters.

“

Crisis breeds reform, and reform breeds exponential outcomes.

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