GS Paper I – Geography

Date: 08.07.26

What does the lifting of gas curbs mean?

What led to the lifting of restrictions on energy supply imposed following the West Asia crisis?

Debayan Tewari

The story so far:

On July 4, 2026, the government lifted emergency curbs it had imposed on the supply of natural gas during the West Asia crisis in March. It cited "ceasefire and negotiations" and the resumption of "sea traffic through the Strait of Hormuz" to restore gas supplies to fertilizer plants, refineries, distributors and industrial users. The Petroleum and Natural Gas Ministry, in a notification, amended the Natural Gas (Supply Regulation) Order, 2026, and omitted provisions that had prioritised sale of domestically produced natural gas and imported Liquefied Natural Gas (LNG) as per a priority list released by the government during the U.S.-Israel war on Iran.

On March 12, Union Minister for Petroleum and Natural Gas Hardeep Singh Puri told Parliament about the "immediate priority sequence". "Domestic piped gas to homes and CNG for vehicles receive 100% supply with no cuts. Industrial and manufacturing consumers will receive up to 80% of their previous six-month average. Fertilizer plants will receive up to 70%, protecting the agricultural input chain ahead of the sowing season. Refineries and petrochemical units absorb a managed reduction, with that gas redirected to higher-priority sectors," he had said.

Which sectors will benefit?

The latest measure follows a series of steps the government has taken to ease the supply of gas in the wake of an improved supply situation. On June 25, it restored the supply of industrial and commercial LPG to the pre-West Asia crisis levels.

The move is expected to benefit the refineries, city gas distributors, and industries such as ceramic. These sectors need reliable supply of natural gas at affordable rates.

According to Prashant Vasisht, senior vice-president at ratings agency ICRA, the biggest beneficiaries of this move will be the industrial and commercial users of natural gas. He said the supplies to fertilizer units and domestic users were all but normalised.

"The emergency measures had affected supplies of city gas distributors to their industrial and commercial clients. There were industries which did not get even alternate fuel to carry out operations. Hotels, for instance, had to stop making items that consumed more fuel," he said.

Gas supplies to ceramic, power, sponge iron and petrochem sectors were curtailed. "So, factories that were operating in reduced capacity can now ramp up their capacities as and when the fuel supplies come in," he said.

When the West Asia crisis peaked in March, ceramic manufacturing units based in Gujarat's Morbi bore the brunt with reports indicating that 600 factories and 4 lakh workers were affected amid a shortage of propane and natural gas, both used in the production of ceramic.

Which sector uses LNG the most?

Fertilizer plants are known to consume a bulk of India's LNG. In an earlier interaction with *The Hindu* in March, Mr. Vasisht had said, "A little less than 30% of natural gas use goes into making fertilizers, while power plants account for 13% and city gas distribution 21%."

Urea, which has around 46% of nitrogen, is the most common nitrogen fertilizer. It is produced by converting natural gas (methane) into ammonia and then combining it with carbon dioxide. The energy-dependent process, hence, makes LNG a crucial ingredient of the product.

What should be the next step?

India has been diversifying its energy sources. As Mr. Puri put it in a recent blog post, "The widening of our crude basket from 27 countries to 41, the doubling of our import terminals, and the pipelines and reserves built across a decade under Prime Minister Modi were not abstractions when the Strait finally closed; they were the very reason the lights stayed on."

The road ahead now is one of capacity building. As Mr. Puri wrote, "Learning from this experience, we will build additional capabilities to strengthen our energy resilience..."

THE GIST

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The move is expected to benefit refineries, city gas distributors and industries such as ceramics, which need a reliable supply of natural gas at affordable rates.

GS Paper I – Geography

When might life on the earth end?

Vasudevan Mukunth

Researchers from the U.S. have estimated how long photosynthetic life will last on the earth. As the sun ages, it also becomes brighter, eventually emitting a colour too hot for plants to survive.

Previous studies had tried to answer this question using simplified climate models, finding the biosphere's twilight could occur in 100 million to 900 million years. The new study made use of a more sophisticated model, which also accounted for the effects of clouds, humidity, and planetary circulation on temperature. The new estimate: around 1.68 billion years for land plants and total extinction by 1.87 billion years.

The researchers explored two primary trajectories of future climate. The first, called strong weathering, assumed the planet's carbon cycle could successfully draw carbon dioxide out of the atmosphere to offset the sun's heat. While the traditional minimum for plant survival is 10 parts per million (ppm) of carbon dioxide, the authors suggested that crassulacean acid metabolism plants and certain aquatic species could even survive at as low as 1 ppm. This could extend the lifespan of the vegetative biosphere to around 1.84 billion years.

In the second trajectory, weak weathering, carbon dioxide levels remained constant while the temperature rose. In around 1.68 billion years, the global average surface temperature reaches the thermal limit for complex life. Around 1.87 billion years from now, the climate becomes too hot for all land plants, marking the end of the vegetative biosphere. And in 2.1 billion years, the earth begins losing its oceans to space.

Plants need at least around 10 ppm of carbon dioxide in the air to survive. MICK HAUPT/UNSPLASH

For feedback and suggestions for 'Science', please write to **science@thehindu.co.in** with the subject 'Daily page'

GS Paper I – Geography

Rural demand to face pressure as El Niño impacts rains

The Hindu Bureau
MUMBAI


Rural inflation is up at 4.25%

Scant monsoons have added to higher farm input prices after geopolitical events and are expected to trump rural demand and push prices further up, according to expert analyses.

"Prospects for FY27 look precarious: a severe El Niño effect has produced a 41% rainfall deficiency in the first month of the southwest monsoon, with most States across north, south, east, and central India recording deficient or severely deficient rainfall in June 2026.

"With roughly 43% of employment dependent on agriculture (PLFS 2025), a deficient monsoon implies weaker demand for farm labour and falling farm incomes, further pressuring rural demand," according to a report from Systematix Group.

The rural inflation already hastened to 4.25% on a year over year basis as of May 2026. The CFPI climbed faster at 4.85% in the same month. This is expected to rise in the coming months as farmers expect lower yields.

The over all retail inflation came it at 3.93% in May 2026.

Inflation in focus

"In our view, higher food and energy prices will push inflation to 5.1% for fiscal 2027. We anticipate the Reserve Bank of India (RBI) will maintain a moderately tight policy stance, dampening activity," wrote S&P Global Ratings analysts in a note.

The RBI's tolerance level for retail inflation ranges between 2% to 6%. The central bank held repo rate at 5.25% in the recently-concluded monetary policy review keeping stance at 'neutral.' Experts expect that the regulator may raise the repo rate by 50 basis points in 2027. A basis point is 1/100th of a percentage point.

'Bridge Man of India' Girish Bharadwaj passes away

Girish Bharadwaj, who built over 140 hanging footbridges across India, passed away at a hospital at Sullia in Dakshina Kannada district of Karnataka on Tuesday. He was 76. An engineering graduate, he was known for his low-cost bridges. Nearly 120 of the footbridges provided connectivity in rural areas and the rest served the interests of tourists. Popularly called the 'Bridge Man of India', the Union Government honoured him with the Padma Shri in 2017.

Phone No: 73739 11577 & 73739 11133

GS Paper II – Social Issue

Linking women's incomes and healthcare

Chirantan Chatterjee

Professor of Development Economics, Innovation and Global Health at U-Sussex

India is experiencing two revolutions at once. The first is economic. Female labour force participation has risen sharply over the past few years, supported by greater formalisation, digital payments, and government efforts to increase women's participation in the workforce.

The second is epidemiological. India is no longer fighting only infectious diseases. Diabetes, hypertension, cardiovascular disease, obesity and mental health disorders are now becoming defining public health challenges. These chronic conditions already account for most deaths in the country and place increasing pressure on both households and public finances.

Most policy discussions assume that these two are unrelated. However, new research, forthcoming in the *Oxford Open Economics* journal, suggests that they may be deeply connected.

Looking beyond hospitals

India has traditionally measured progress in healthcare through familiar indicators such as more hospitals, more doctors, more insurance coverage, and higher healthcare expenditure. These investments remain indispensable; schemes such as the Ayushman Bharat have expanded financial protection for millions of households, while improvements in primary healthcare infrastructure continue to save lives. But healthcare expenditure is only one way of producing health. Many of the biggest determinants of health lie outside hospitals – better nutrition, healthier lifestyles, timely preventive care, education, sanitation, and informed household decision-making. If households began investing more in these activities, healthcare expenditure may fall, not because health deteriorates, but because health improves.

In the forthcoming research, a natural experiment created by India's 2018 reform of the Employees' Provident Fund was examined. The reform reduced the mandatory provident fund contributions for newly employed women in the formal sector from 12% to 8% during their first three years of employment. In effect, women experienced an unexpected increase in take-home salary without any change in their gross wages. This created an unusually clean opportunity to study how women allocate additional income.

Using nationally representative household panel data, it was observed that female-led households that benefited from the policy reduced overall healthcare expenditure by roughly 11.6%. Spending on medicines and doctors' consultations declined, while expenditure on activities associated with improving health (including nutrition and physical fitness) increased.

The research also analysed electronic medical records from one of India's largest eye hospital systems. Even after accounting for women who were already accessing healthcare, expenditure remained lower among women receiving the income shock.

This does not imply that women value healthcare less. Instead, it suggests that women may be using their additional income to reorganise household priorities in ways that reduce future dependence on healthcare.

Women may be using their additional income to reorganise household priorities in ways that reduce future dependence on healthcare

Economists have long recognised that it matters who brings in the income. Research by Esther Duflo and Abhijit Banerjee has repeatedly shown that directing resources towards women changes household spending patterns. Transfers to women often generate greater investments in education, nutrition, and children's wellbeing. Banerjee and Niehaus have similarly shown that the identity of the income recipient influences how households allocate resources.

The new findings extend this insight into healthcare. Women appear to think about health over a longer horizon. Rather than waiting until illness occurs, they seem more likely to invest in reducing health risks before they become expensive medical problems. That behavioural shift has important implications for a country where out-of-pocket expenditure still accounts for a substantial share of total healthcare financing.

Why this matters for India

India's demographic dividend depends not only on creating jobs for women but also on ensuring that greater economic participation translates into healthier families. If increasing women's incomes changes household investments in nutrition, preventive care and healthier lifestyles, then employment policy becomes health policy. Policies that improve women's economic agency may generate benefits that extend well beyond labour markets. They may also reduce pressure on India's already stretched healthcare system.

For decades, economists have debated whether healthcare is a necessity or a luxury. Perhaps, a more relevant question is whether households are investing in creating health rather than merely purchasing healthcare. That separation matters because healthcare expenditure is an imperfect measure of health. Lower spending on medicines or consultations is not automatically a sign of neglect. Sometimes it reflects fewer illnesses requiring treatment. Other times it reflects better prevention.

India's development strategy emphasises preventive healthcare and healthier lifestyles. This new evidence suggests another ingredient belongs in that conversation: the economic empowerment of women. When women earn more, they may not simply spend more; they spend differently. And those different decisions could quietly become one of India's most important investments in public health.

GS Paper II – Governance

On the method for caste enumeration

After decades of debate, caste will be counted as part of the 2027 Census. It is significant to look at the ongoing 'pre-test' and questionnaire design, as well as past anomalies during 2011 Socio-Economic Caste Census, as Independent India prepares to enumerate caste for the first time as part of the Census exercise

EXPLAINER

Vijaita Singh

The story so far:

The rehearsal or the "pre-test" of the second phase of Census, which started in 16 States and Union Territories on July 6, 2026, has an "open column" for respondents to record their castes, several officials involved in the exercise told *The Hindu*. The pre-test is on till July 20, 2026, and the outcome will decide how Independent India enumerates caste for the first time as part of the Census. Other than the Scheduled Castes (SC) and Scheduled Tribes (ST), caste-wise population has not been enumerated in Independent India; the last time such data was collected was in 1931.

Background of caste Census

After repeatedly opposing caste enumeration, the Bharatiya Janata Party (BJP)-led National Democratic Alliance (NDA) finally announced on April 30, 2025 that caste would be counted during Population Census 2027. Before this, the Opposition parties, particularly Congress leader Rahul Gandhi, had consistently demanded that the caste of all people be counted in India.

A few alliance partners of the BJP too made the demand. Unlike the 2011 Socio-Economic Caste Census (SECC), which was done outside the purview of the Census, this time, caste will be enumerated with the second and final phase of the Census, giving it a statutory backing.

Significance of the ongoing pre-test

Though the ongoing rehearsal gives an indication of how caste is likely to be enumerated in the coming days, Census officials said the final methodology would be prepared based on the feedback received during the exercise. The pre-test exercise also allowed self-enumeration

The Opposition seeks wider consultations before the caste Census is conducted. C. VENKATACHALAPATHY

and the portal was accessible from July 1-5 only in the specific area where the rehearsal is being done.

The discourse on the methodology of caste enumeration has largely swung between either leaving an open column for caste, just as the 2011 SECC did, or preparing a list of castes for people to pick from – as the Bihar government did in its 2022-23 caste-based survey. The results of theSECC were neither released by the United Progressive Alliance (UPA) government nor by the NDA government after it came to power in 2014.

The open-column methodology had resulted in the 2011 SECC returning over 46 lakh different "caste names", largely owing to the difference in what people understand by caste. The total number of castes during the 1931 Census conducted by the British was 4,147. In 2021, the Union government informed the Supreme Court in an affidavit, "Assuming that some castes may bifurcate into sub-castes, the total number cannot be exponentially high to this extent," adding that the data cannot be relied on for reservation in education, employment or elections to local authorities.

Anomalies reported during 2011 SECC

Officials said the SECC threw up lakhs of caste names as it was kept open-ended. Respondents were asked to name their castes. For example, people wrote Gupta, Agarwal and so on for the Baniya caste, which increased the numbers exponentially. Though the method is not final, the pre-test is providing the same open-ended column for respondents to record their castes.

According to the latest government data, there are about 2,650 Other Backward Classes (OBCs) on the Central List, 1,170 in the Scheduled Castes category, and 890 in the Scheduled Tribes (ST) list. The State governments maintain their own OBC list.

Concerns about the methodology

The Opposition parties have demanded wider consultation with all stakeholders before the caste Census is undertaken. On December 2, 2025, Mr. Gandhi asked in the Lok Sabha if the government has any proposal to publish the draft Census questions and seek inputs from the general public or people's representatives and whether it will consider best practices such as caste surveys done in other States.

Responding to this, Minister of State for Home Nityanand Rai said, "The draft Census questionnaires are pre-tested in the field to assess their feasibility before finalisation of the same. Census has a history of more than 150 years. Learnings from previous Census are taken into consideration for conducting next Census. Before each Census, the inputs are also taken from stakeholders." Throughout 2025, the government repeatedly stated that the final caste questionnaire had not been settled. Parliament was informed in February 2026 that questions relating to caste would be notified before the commencement of the second phase of Census operations. The Union Home Ministry said representations had been received from various organisations and State governments regarding caste enumeration, and that the final questionnaire would be prepared according to established procedures.

Reason for delay in Census exercise

The Population Census exercise is done in two phases – the Housing and House Listing Operations (HLO) and Population Enumeration, spanning over 11 months. The last Census was completed in 2011. The next exercise , Population Census 2021, was initially delayed owing to the COVID pandemic that surfaced in India around March 2020, coinciding with the first phase enumeration that was to begin from April 1, 2020. While the restrictions related to the pandemic were over by 2022, government did not specify the reasons to delay the exercise till now. On June 4, 2025, the government announced that the population Census along with the enumeration of castes will be conducted in two phases by February 28, 2027. The reference date of the people's headcount will be 12 a.m., March 1, 2027.

THE GIST

- The BJP-led NDA government announced on April 30, 2025 that caste would be counted during Population Census 2027.
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GS Paper II – Social Issue

How India's life insurance sector funds government expenditure

A significant share of life insurance premiums is reinvested in securities that finance government expenditure. While the case for deeper insurance penetration is often made in terms of household financial protection, it is equally important for sovereign fiscal stability

T.C. Suseel Kumar
R. Sudhakar

When the government borrows, the question that follows is rarely asked aloud: who lends? A large part of the answer is the life insurance sector. Every year, millions of households across India pay premiums into life insurance policies. That money is reinvested, for decades, in the very securities that finance government expenditure – roads, railways, water supplies, hospitals, defence. The household protecting itself against the loss of its breadwinner is simultaneously, and unknowingly, lending to the sovereign [the Central government]. Life insurers collectively hold close to a quarter of India's outstanding central government dated securities, based on RBI and IRDAI data – a share that has remained stable even as the total sovereign debt stock expanded by around 40 per cent in three years. This is not a number that appears in budget speeches or parliamentary debates. It is, however, a number that matters.

Patient capital in a volatile world

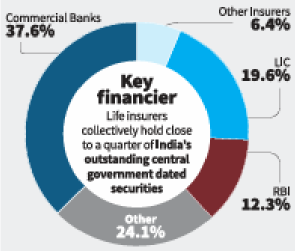
The stoic and resilient quality of the sector's sovereign support is as significant as its scale. Life insurers write policies with tenures of twenty, thirty, sometimes forty years. Government securities are the natural habitat of long-duration liabilities – the only asset class that absorbs this scale of funds at matching tenures without distorting the market. Unlike foreign portfolio investors, whose appetite fluctuates with global risk sentiment, insurance companies buy and hold. They do not exit when oil prices rise or when a geopolitical event triggers a reassessment of emerging market exposure. Their participation is counter-cyclical by design – stable precisely when other buyers become unreliable. A steady domestic base of long-horizon holders reduces rollover risk and moderates borrowing costs across the maturity spectrum.

Life insurers buy when others sell, hold when others exit, and reinvest when others pause. That is the structural consequence of writing long-duration promises to millions of policyholders.

The heavyweight within the sector

The sector's contribution is not evenly distributed. The Life Insurance Corporation of India carries the dominant share – a consequence of its scale, its predominantly participating product mix, and the duration of its in-force book. Its March 2025 regulatory filing with IRDAI (Form L-26) confirms that sovereign paper accounts for nearly 63 per cent of its non-linked policyholder corpus – well above the regulatory minimum, and a direct expression of what long-duration liabilities demand at scale.

LIC holds approximately 19 per cent of all outstanding central government dated securities – a figure confirmed by the RBI's Public Debt Management Quarterly



Unlike foreign portfolio investors, insurance companies do not exit when oil prices rise or geopolitical shocks trigger market reassessment.

Source: MoF Status Paper on Government Debt 2023-24.

Report for FY24, the most recently published data. LIC's IRDAI regulatory filings for March 2025 give the institutional reality in absolute terms: ₹20.2 lakh crore in central government securities alone, and ₹32.3 lakh crore in total government and government-guaranteed securities across all funds. These are not estimates. They are figures LIC files with its regulator every quarter and that any researcher can access on the IRDAI website. This makes LIC the single largest institutional holder of Indian government's debt.

Private life insurers, with a higher proportion of unit-linked and shorter-tenure products, contribute a smaller fraction today. As they grow and deepen their traditional offerings, their sovereign allocations will follow the same structural logic.

The regulator has already recognised the systemic dimension of this function: IRDAI designates LIC as a Domestic Systemically Important Insurer every year, describing it as an institution whose distress would cause significant dislocation in the financial system. That designation, rightly made on insurance-sector grounds, points toward a wider truth – the dislocation would extend into the sovereign borrowing programme itself.

Insurers in Japan, the United Kingdom, and South Korea are among the largest holders of their respective governments' long-dated securities, not because regulation mandates it but because their liability profiles demand it. India's life insurance sector is following the same path.

The fragility within the stability

India's life insurance penetration stood at 2.7 per cent of GDP in FY25, the third consecutive year of decline from a pandemic-era peak of 3.2 per cent, against a global life average of 3.0 per cent. Three regulatory interventions between 2023 and 2024 – restructured distribution economics, taxation on certain high-value policies, and mandatory product repricing, simultaneously, has compressed new businesses. While each was defensible in isolation, their cumulative effect was adverse. The sector is recovering. But the episode illustrates a risk worth noting: when multiple regulatory actions compress new business at once, the household savings that would otherwise have flowed into the sovereign debt market through insurance, reduce or find shorter-duration homes elsewhere. The sovereign borrowing programme may not notice this in the short term. Over a decade, it would.

The unacknowledged pillar

Banking commands policy attention in proportion to its systemic importance. Insurance, which quietly holds close to a quarter of outstanding central government dated securities, does not.

The case for deeper insurance penetration is most often made in the language of household financial protection – the uninsured family, the inadequate sum assured, a mis-sold product or an unsettled claim. These are legitimate concerns. But there is a parallel case, made in the language of sovereign fiscal stability, that has not been fully articulated in public policy discourse. If the reliability of India's domestic sovereign funding base is a macroeconomic priority given the scale of annual borrowing requirements, then the depth and health of the life insurance sector remain directly relevant to that priority.

(T.C. Suseel Kumar is a former Managing Director of LIC India. R Sudhakar is a former Chief Investment Officer and Executive Director of LIC India. The views expressed are personal.)

GS Paper II – Social Issue

HC upholds uniform legal marriage age for all religions

Ishita Mishra
NEW DELHI

The Allahabad High Court has held that the minimum age of marriage prescribed under the Prohibition of Child Marriage Act (PCMA), 2006, applies to all citizens irrespective of religion, observing that the Muslim personal law principle recognising puberty as the age of marriage cannot override the provisions of the Central law.

The observations were made in a judgment pronounced on July 1 by a Division Bench of Justice J.J. Munir and Justice Achal Sachdev while hearing a writ petition seeking to quash an FIR registered against 19 people in connection with the alleged attempt to solemnise the marriage of a 16-year-old girl in Bulandshahr district of Uttar Pradesh in February.

The petitioners argued that under the Muslim personal law, a girl who has attained puberty is competent to marry, and that the PCMA does not override the Shariat. They also relied on provisions of the Indian Majority Act, 1875, and the Muslim Personal Law (Shariat) Application Act, 1937.

The Bench acknowledged that High Courts across the country have taken divergent views on whether marriages involving Muslim minors are governed by Muslim personal law or by the PCMA, and the Protection of Children from Sexual Offences (POCSO) Act, 2012. However, it agreed with the reasoning adopted by the Kerala High Court in *Moidutty Musliyar v. Sub Inspector, Vadakkencherry Police Station*, which held that personal law cannot override the statutory prohibition on child marriage or dilute the operation of the POCSO Act.

"The age of marriage, in our considered opinion, for every citizen of the country, irrespective of religion, is that which is spelt out by the PCMA," the court said. It added that permitting the marriage of a person below 18 years would be inconsistent with the POCSO Act, which criminalises sexual relations with a child.

GS Paper II – Governance

School dropout rate falls across key stages: report

More schools get Internet; learner progression across stages grows stronger; teacher strength up by 8.3% compared with 2022-23; 55% women teachers bring 'gender balance' in sector, says govt.

The Hindu Bureau
NEW DELHI

The Union Education Ministry on Tuesday released the comprehensive report on the Unified District Information System for Education Plus (UDISE+) for the academic year 2025-26, which reflected a downward trend in dropouts.

The preparatory level (Classes 3 to 5) dropout rate fell from 2.3% (2024-25) to 1.8% this year. More notably, secondary level (Classes 9 to 12) dropouts dipped from 8.2% to 7.0%. Dropout rate tracks the rate at which students quit school. "The consistent decrease across all levels suggests that schools are becoming more supportive and responsive to students' needs," the Ministry said.

Women now form the majority of the nation's teaching force, accounting for 54.9% of total teachers, up from 54.2% in 2024-25. The government said this "marks a positive shift towards gender balance in the education sector".

Enrolment of girls across the country has seen a marginal increase to 48.4%, from 48.3% last year.

Enrolment of girls across the country grew marginally to 48.4% from 48.3% last year. S. S. KUMAR

The Gross Enrolment Level Ratio at the secondary level surged to 71.7% from last year's 68.5%

Student retention at the middle level (Classes 6 to 8) climbed to 83.7% (from 82.8%), while secondary level retention increased to 51.9%, up from 47.2% last year. Student retention is an educational metric that measures the percentage of students who continue their education at the same school or within the school system from one academic year to the next.

The Gross Enrolment Level Ratio (GER) at the secondary level surged to 71.7% from last year's 68.5%. GER is a statistical measure used in education to determine the percentage of students enrolled in a specific level of education (such as primary, middle, or secondary school), regardless of their age, relative to the total population of official school-age children for that same level.

Learner progression across transitional stages grew stronger, the report noted. Notably, the transition from middle to secondary school jumped from 86.6% to 88.3%.

Also, the total number of teachers in India has risen by 8.3% compared with 2022-23. Additionally, the Ministry's strategic rationalisation of teacher placement has resulted in a 3% reduction in single-teacher schools and a 29% drop in schools reporting zero enrolment, the Ministry said.

One of the most notable improvements is the increase in the number of schools with computer access, increasing from 64.7% in 2024-25 to 69.9% in 2025-26. Access to Internet facilities in schools has seen a considerable increase in the academic year 2025-26. The percentage of schools with internet connectivity increased from 63.5% in 2024-25 to 67.4% in 2025-26.

The report said that 95% of schools are powered with electricity, 98.5% have girls' toilets, and 97.2% have boys' toilets - ensuring dignity and hygiene for all students.

GS Paper II – Polity

BRICS nations call for timely exchange of information on drugs

The Hindu Bureau
GUWAHATI

The BRICS nations on Tuesday adopted the Guwahati Declaration, reaffirming their commitment to strengthen cooperation to prevent and combat illicit drug trafficking and related organised transnational crime.

BRICS, an intergovernmental organisation of major emerging markets and developing countries, is an acronym for Brazil, Russia, India, China, and South Africa. It expanded to include Egypt, Ethiopia, Iran, Saudi Arabia, the UAE, and Indonesia.

The joint declaration by the heads of anti-drug agencies of the participating nations brought the curtains down on a two-day meeting at a resort on the outskirts of Guwahati.

The BRICS nations underscored the need to boost the timely exchange of information, intelligence and best practices, consistent with national laws and international obligations. They expressed concern over the evolving nature of drug trafficking, the proliferation of synthetic drugs and new psychoactive substances, the diversion of precursor chemicals and the misuse of emerging technologies and virtual assets.

Anurag Garg, Director-General of the Narcotics Control Bureau, said India has adopted a zero-tolerance policy against drugs, and a three-year road map (2026-29) based on a network-centric approach. "The strategy focuses on dismantling entire criminal networks, preventing drug abuse through mass awareness campaigns, and strengthening treatment, de-addiction, and rehabilitation measures," he said.

Independence of the Bar is crucial for preservation of rule of law: Supreme Court

Krishnadas Rajagopal
NEW DELHI

The Supreme Court on Tuesday said independence of lawyers is just as important as independence of the judiciary. In fact, the court said the legal profession's independence from the Executive and Legislature formed the foundation of the rule of law and democracy in the country.

The court's observation is of significance as appointments to the Bench is made from the legal profession. "Independence of the Bar constitutes an indispensable condition for preservation of the rule of law," a Bench headed by Justice P.S. Narasimha observed in a judgment.

"The principle of self-regulation has historically been regarded as the defining feature of independence of the legal profession. The idea underlying such autonomy is that advocates, as officers of the court and participants in the administration of justice, must remain insulated from external pressures," Justice Narasimha wrote.

The court said pendency mounting up across courts was "one of the greatest challenges to the justice delivery system", but the judgment queried why backlog continued to be seen almost exclusively as a judicial responsibility.

"Despite frequent references to the Bar and Bench as the 'two wheels of the chariot of justice', the Bar is seldom called upon to share responsibility for reducing delays and improving efficiency. A paradigm shift is necessary. Tackling pendency must become a collaborative mission of the Bench and the Bar," the top court said.

Justice Narasimha proposed the establishment of a full-time "National Legal Academy" along the lines of the National Judicial Academy.

He highlighted the need for the "continuing legal education" of advocates, noting that there was a "glaring dearth in institutionalised learning for advocates after enrolment". The court directed the Bar Council of India to undertake a "comprehensive performance audit" of the disciplinary mechanisms administered by it and the State Bar Councils and submit a report.

It gave relief to a lawyer who was included in the "caution list" by the Indian Banks Association on the ground that he gave negligent legal advice to a bank, exposing it to financial risk.

GS Paper III – Science & Technology

India's EV transition cannot afford to ignore retrofitment

The country needs a comprehensive retrofitment framework which can democratise EV transition and support a circular mobility economy

DATA POINT

Jaideep Saraswat
Ashish Dokania

The conflict in West Asia has once again reminded the world of an uncomfortable truth – severe energy dependency is a structural vulnerability, not a temporary inconvenience. For emerging economies such as India, which imports more than 85% of its crude oil requirements, such events can quickly test energy security and economic resilience.

Over the past decade, the government has placed enormous emphasis on transport-sector decarbonisation, with multiple schemes rolled out to support Electric Vehicles (EVs) and create long-term demand.

These efforts are beginning to show results, with EVs now accounting for 8.5% of total new vehicle sales in India in FY25-26 **(Chart 1)**. However, the transition is happening in new vehicle sales, while the existing pool of over 30 crore Internal Combustion Engine (ICE) vehicles on Indian roads continue to run entirely on imported petroleum **(Chart 2 and 3)**.

That is where vehicle retrofitting enters the picture. It is the process of replacing a vehicle's engine, exhaust system, and related components with an electric battery pack, motor, and control systems to convert it into an EV.

The case for retrofitting is strongest when viewed through India's own cultural and economic lens. India has always valued repair, reuse, refurbishment, and life extension. Even when it comes to household appliances and electronics, the instinct has traditionally been to maximise utility before replacement. Retrofitment fits naturally within that ethos.

The logic is simple. Instead of forcing millions of functioning petified retrofit kits. The chassis remains. The identity remains. The emotional connection remains. Only the powertrain changes.

Many middle-class households do not see a vehicle that still works as scrap merely because policy language categorises it as "old". In many cases, the structure is sound, the frame is usable, and the vehicle still has years of service left. What becomes burdensome is the rising fuel cost, maintenance pressure, and declining reliability of an ageing engine. Retrofitment addresses this gap.

It is cheaper, not just compared to buying a new EV, but also compared to purchasing a new ICE vehicle. More importantly, it democratises the EV transition for consumers who may otherwise remain excluded from India's new-age electric market. So, retrofitment is more than a technical or economic solution. It is a social intervention. The environmental case is just as compelling. When functioning vehicles are discarded, the result is not merely lost utility, but also avoidable waste, disposal pressure, and resource intensity. Retrofitting extends the life of existing assets, reduces unnecessary scrappage, and supports a more circular mobility economy.

Moreover, a strong retrofit ecosystem can generate decentralised employment across technicians, service centres, electrical integration specialists, battery management services, software calibration, refurbishment supply chains, and rural mobility entrepreneurship. Unlike large centralised automotive manufacturing, retrofit ecosystems can scale through distributed employment models.

Scalable model

Globally, the idea is gaining traction. Countries across Europe are examining circular mobility models as part of their broader climate goals while Nepal has moved mainstreamed in India. The first Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme included retrofitment support, but it gradually disappeared from the conversation. Even so, some States have begun to acknowledge its potential.

Madhya Pradesh has taken steps toward building a more favourable ecosystem through upfront subsidies, a one-stop portal for subsidy access, and Statewide retrofitment agency registration instead of registrations via Regional Transport Offices (RTOs).

The market itself is maturing faster than the policy framework. Initial scepticism around legality, registration, insurance, safety, and reliability was understandable when the sector was nascent. But the ecosystem has evolved. Certified retrofit companies are now working alongside testing agencies, insurers, financiers, and transport authorities. Real-world adoption numbers are rising, and after the West Asia conflict, enquiries have reportedly doubled. The market is signalling confidence.

India needs a comprehensive national retrofitment framework. First, retrofit policies must be standardised across States. Second, financing institutions can formally recognise retrofitted vehicles as financeable assets. Third, India should create robust certification and safety standards to eliminate low-quality informal conversions that can erode consumer trust. Fourth, Goods and Services Tax (GST) treatment may be rationalised so that retrofitment kits are not taxed at a disadvantage compared with EVs. Fifth, retrofitment data has to be made publicly available. Finally, the latest PM E-DRIVE scheme that extends subsidy support to zero-emission trucks may also consider retrofitment.

As the world navigates oil vulnerability, India has an opportunity to think differently and choose

Discard or reinvent?

Data for the charts were sourced from the VAHAN database

CHART 1: This chart shows the growth in the sales of EVs in the past 10 years. Trucks are not shown in the chart. A total of 843 EV trucks were registered in 2025-26, compared with just 12 in 2016-17

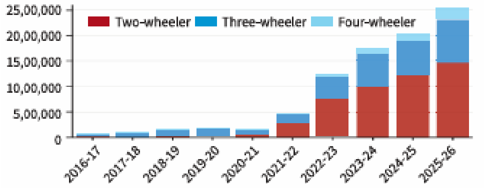
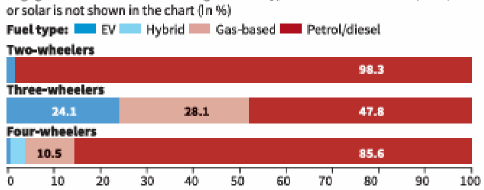


CHART 2: Despite the growth in sales of new EVs, this chart shows how vehicles running on petrol or diesel still dominate Indian roads (Numbers are in crore)

CHART 3: This shows the share of EVs in different categories of vehicles. The negligible share of vehicles running on other types of fuels like ethanol (E100) or solar is not shown in the chart (In %)



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GS Paper III – Environment

Plea claims 'silent compulsion' in E20 petrol roll-out

The Hindu Bureau
NEW DELHI

A petition has been filed in the Supreme Court claiming an element of "silent compulsion" in the E20 petrol roll-out, while seeking full disclosure on chemical composition and safeguards that may be in place in the case of legacy vehicles.

The petition, filed by Supreme Court advocate and petitioner-in-person Narendra Kumar Goswami, besides invoking the fundamental freedoms of equal treatment by the law, and the right to earn a livelihood and lead a dignified life, raised Article 300A (right to property) and the Consumer Protection Act of 2019 to contend that the right to know the composition, quality, standard, and compatibility consequences of a product was not a "decorative consumer slogan but a constitutional requirement when the state itself creates a nationwide compulsory market".

Mr. Goswami said ethanol was not an inert additive. "Ethanol is hygroscopic, may affect certain fuel-system materials, has lower energy density than petrol, and may have implications for fuel efficiency, engine performance, maintenance, warranty and long-term vehicle health," the petitioner contended.

Right to know the composition, quality, and compatibility effects of a product a constitutional requirement: petition

The Bureau of Indian Standards (BIS) had issued a separate E20 specification and the Ministry of Road Transport and Highways had created a staggered compatibility schedule, showing that E20 compatibility was "not universal but vehicle-specific", the lawyer said.

"The petition does not seek to roll back India's ethanol-blending policy. The contention in the petition is that a welfare policy cannot be implemented by keeping citizens in the dark about what they are buying, whether their vehicles can safely use it, and whether they have any meaningful alternative," Mr. Goswami said.

The petition has sought the constitution of an independent expert committee to examine "real-world E20 compatibility".

GS Paper III – Science & Technology

Contact lost with Drishti, world's first OptoSAR satellite

Hemanth C.S.
BENGALURU

The Bengaluru-based space start-up GalaxEye has lost contact with Mission Drishti, the world's first OptoSAR satellite, as it encountered an anomaly following a geomagnetic solar storm, the company said on Tuesday.

Mission Drishti, which was launched in May, is also India's largest privately developed earth observation satellite.

"In the final stage of LEOP (Launch and Early Orbit Phase), the maiden spacecraft encountered an anomaly following a geomagnetic solar storm. Initial root cause analysis indicates that radiation effects associated with the event likely impacted a critical onboard system," the company said.

It said subsequently, communication with the spacecraft became intermittent and was eventually lost. "While recovery efforts are ongoing, the likelihood of recovery currently appears low," it added.

Mission Drishti is also India's largest privately developed Earth observation satellite.

Mission Drishti was launched on May 3 aboard a Falcon 9 by SpaceX from Vandenberg, California. The satellite integrated electro-optical (EO) and synthetic aperture radar (SAR) sensors into a single operational platform.

GS Paper III – Economy

Grand ambitions

India's cooperative sector can serve as a worker-centric model of development

Hypercompetitive business models that dominate the economic lives of people have undesirable social consequences. The cooperative model offers an alternative, albeit with its own imperfections. India's Ministry of Cooperation, which completed five years on July 6, is a bold experiment in harnessing the potential of this approach. Traditionally confined largely to agriculture, cooperatives now have the opportunity and a requirement to expand into other sectors, particularly services. Cooperatives, by their very character, are relatively small-scale and fragmented; organising them, and connecting them to the broader economy that disproportionately rewards hyper-scalers is a balancing intervention – an economic, political and social imperative. The Ministry aims to transform the cooperative landscape by bringing policy coherence across agriculture, dairy, fisheries, banking, housing, consumer cooperatives, and exports. This requires collaboration with States and national federations, capacity building, wise use of digital technology, and market linkages. Primary Agricultural Credit Societies (PACS) are the foundation of rural cooperatives. Through a reformed legal framework, they have been empowered to undertake over 25 business activities, transforming them into multifaceted institutions delivering many economic services in rural India.

The Ministry has facilitated new national-level multi-State cooperative societies, expanding market access for members and strengthening cooperative value chains from production to global markets. Cooperative enterprises are being encouraged to grow and compete, and a National Cooperation Policy is in the making. But there are challenges amid the opportunities. Corruption and inefficiency eroded the potential of India's cooperative sector, and the fear of local communities and States losing control of cooperatives to a national-level mechanism needs to be assuaged. The task is in finding the sweet spot of consolidation and decentralisation; localisation and nationalisation; technology and human labour, for boosting the sector. Union Home Minister Amit Shah, who holds the portfolio, is pushing the cooperative sector to expand into production and marketing, beyond agricultural credit and input facilitation, which could help mitigate the sector's endemic crisis. A well-coordinated, yet federated, cooperative sector can offset the social, environmental and political costs of global capitalism, which is the default model of the economy. Government and business leaders worldwide are viewing cooperatives with renewed interest, as the pitfalls of hypercapitalism become pronounced. India can develop its cooperative sector as a global model.

GS Paper III – Economy

India's economic prospects after the West Asian crisis

C. Rangarajan

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D.K. Srivastava

Former Director, Madras School of Economics

Changing dynamics present opportunities and challenges for the economy

The United States and Iran agreed to a 14-point preliminary Memorandum of Understanding (MoU) towards ending the West Asian crisis and reopening the Strait of Hormuz. Although there have been initial hiccups, it is expected that, with the reopening of the Strait, global crude oil supply will stabilise and prices will normalise at a lower level. Following these developments, India should adjust its strategies, keeping in mind both the 2026-27 outlook and medium-term growth prospects.

The West Asian crisis had resulted in a period of relatively higher crude prices. The monthly average price of the Indian crude oil basket was \$114.5 per bbl in April 2026. It declined to \$106.2 per bbl in May 2026 and further to \$86.3 per bbl as of June 24, 2026. For the remaining three quarters of 2026-27, crude oil prices are expected to remain below this level, provided the truce continues.

2026-27 growth prospects

The National Statistical Office's provisional estimates of GDP growth of 7.7% for 2025-26 confirm India's strong post-COVID-19 pandemic recovery. This was preceded by real GDP growth rates of 7.2% and 7.1%, respectively, in 2023-24 and 2024-25 as per the new GDP series. Real Gross Value Added (GVA) growth was even more impressive at 7.9% in 2025-26, with the manufacturing, trade, transport, and financial and real estate sectors recording growth rates exceeding 10%. With nominal GDP growth at 8.9%, the implicit price deflator-based inflation rate stood at 1.1% in 2025-26.

For 2026-27, growth prospects are likely to be impacted because of the disruptions in crude supply and higher prices affecting the first quarter, and due to a deficiency in rainfall associated with the onset of El Niño. The India Meteorological Department has estimated a 10% shortfall (as compared with the Long Period average). Up to June 24, 2026, the estimated shortfall is nearly 43%.

The combination of El Niño and fertilizer shortages pose a potential risk to India's agricultural output in 2026-27. In particular, in the immediate term, the *kharif* crop is likely to be affected. There may also be an impact on the *rabi* crop which is to follow. Therefore, it is important to build up fertilizer reserves and address issues of potential shortages when it comes to important crops, which may warrant a reconsideration of crop-specific import and export policies. The Reserve Bank of India (RBI) has projected real GDP growth of 6.6% for 2026-27.

Fiscal prospects, petroleum economy

One important feature of 2026-27 growth is the likelihood of relatively higher nominal GDP growth as compared to 2025-26. This is because the implicit price deflator (IPD), which depends on Wholesale Price Index (WPI) and Consumer Price Index (CPI) inflation, is likely to be higher than the 2025-26 level of 1.1%. The RBI's June 2026 Professional Forecasters' median projections for WPI and CPI inflation for 2026-27 are 8% and 4.9%, respectively. With a resolution of the West Asian crisis, we consider WPI and CPI inflation rates for the full year to be lower at 6% and 4.5%; using weights of 60% and 40%, respectively, we can broadly estimate IPD-based inflation to be 5.4%. Combining this with a real GDP growth of 6.6%, we may have a nominal growth of about 12.4% in 2026-27, higher than the budgeted growth of 10.1%. This would have a positive impact on tax revenues. The Government of India should be able to realise its budgeted estimate of tax revenues absorbing the adverse revenue impact of any excise duty cuts. On the expenditure side, however, subsidies may be higher than budgeted.

The RBI has given a dividend of ₹2.69 lakh crore to the Government. This amount covers a significant portion of the budgeted 'Dividends and profits from RBI and Financial Institutions' in 2026-27 at ₹3.16 lakh crore. Given these developments, we expect the 2026-27 budgeted fiscal deficit at 4.3% of GDP to be either realised or only marginally exceeded.

The evolution of India's petroleum economy has been characterised by certain notable features. First, India's dependence on imported crude oil has increased to more than 90% in 2025-26 from 54.9% in 1998-99. Second, the volume of domestic production of crude oil has fallen over time to 26 million metric tons (MMT) in 2025-26 from a peak of 35.9 MMT in 2011-12. Third, demand for petroleum products/petroleum, oil, and lubricants (PoL) has increased, thereby generating the need for larger imports. Fourth, domestic consumption of PoL products has increased to 243.2 MMT in 2025-26 from 90.6 MMT in 1998-99. Fifth, India has developed an impressive capacity for refining crude to produce various PoL products. This capacity has improved over time. Sixth, the energy intensity of India's output, as well as the intensity of use of PoL products in GDP, has fallen over time. This augurs well for sustaining an energy-efficient growth at a reasonably high level for a relatively longer period.

India may continue to augment its refining capacity, which has helped save refining costs compared to the situation if it had directly imported refined petroleum products. The trend towards growing dependence on imported crude oil needs to be reversed by emphasising the exploitation of domestic crude resources while accelerating the transition to greener and alternative energy sources, including nuclear power.

Build reserves

With a lowering of global crude prices and normalisation of supplies, the government should shore up its fertilizer reserves and reserves for other critical primary commodities including crude. There is a need to further diversify sources of imported crude and also reduce reliance on imports through the Strait of Hormuz. A policy for building strategic reserves of key primary commodities, along with estimates of the required volumes and needed infrastructure, should be put in place.

The current account deficit was 0.6% of GDP in 2025-26, with the fourth quarter showing a surplus of 0.7% of GDP. Prospects for 2026-27 indicate a deterioration in this magnitude. The RBI's June 2026 Survey of Professional Forecasters had estimated a current account deficit of 2.1% of GDP for 2026-27, as per their median estimate. With normalisation of the global oil market and the opening of the Hormuz strait, we expect this to be lower at about 1.5% of GDP.

The prospects of the Indian economy outlined above is on the assumption that peace will prevail in West Asia from now on. If this assumption turns out to be incorrect and if the war continues, India along with many other countries will face an extremely difficult situation.

The views expressed are personal