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The Hindu Important News Articles For UPSC CSE

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Page 01:GS III :Indian Economy / Preliminary Examination

Recently, the Ministry of Commerce and Industry (DPIIT) released a new and updated series of the Index of Core Industries (ICI). In June 2026, India's core industrial sectors recorded a growth rate of 5%, which is the fastest growth in the last five months. The most prominent feature of this new index is the change of its Base Year from 2011-12 to 2022-23 and the inclusion of Iron Ore as the 9th core industry.

Key Points and Deep Analysis

Core sectors grow at five-month high of 5%

Sharp uptick

The Index of Core Industries grew by 5% in June 2026 compared with June 2025

T.C.A. Sharad Raghavan
NEW DELHI

India's core industrial sectors grew at 5% in June 2026, the fastest in five months, as per the inaugural release of the new and updated series of the Index of Core Industries (ICI).

The Ministry of Commerce and Industry on Monday released the new series of the ICI, with an updated base year of 2022-23 from the earlier 2011-12. Further, the updated index has an additional sector of iron ore added to it, taking the total number of sectors it covers to nine. The sectoral weights and methods of estimation have also been updated.

Within the index, the fastest growth was recorded by iron ore, which grew 43.9% in June 2026 against 19% in May.

Statistical base effect

This growth, however, was likely due to a statistical base effect, since the sector contracted 16.4% in June last year.

Electricity, cement, steel, and coal grew 9.8%, 9.8%, 4.6% and 1.4% respectively.

"The Index of Core Industries grew by 5% in June 2026 [provisional estimate] on a year-on-year basis, compared with June 2025," the Office of Economic Adviser in the Department for Promotion of Industry and Internal Trade (DPIIT) said.

"This marks an improvement over the growth rate of 3.2% recorded in May 2026 [final estimate]."

The Index of Core Industries last grew faster in January 2026 when it hit a growth of 5.2%, as per the new series. "Owing to intensive use of iron ore in the production process, and its contribution to industrial development, it has been included in the list of core industries as a new item in the revised series of ICI (base year 2022-23)," the Ministry said in a statement.

Nearly all the sectors relating to hydrocarbon energy and its products, such as crude oil (-4.2%), natural gas (-7.4%), refinery products (-4.7%), and fertilisers (-3.3%) contracted in June 2026.

"The entire crude oil related sectors – crude oil, gas, refinery products and fertilizers – witnessed negative growth in June which can be attributed to higher imports with global crude prices cooling off," Madan Sabnavis, chief economist at the Bank of Baroda said.

"The export of refinery products had slowed down this month. In case of fertilizers, imports tended to increase."

- **Changes in Base Year and Structure:**
  - **Inclusion of 9th Sector:** Considering its significant contribution to industrial development and steel manufacturing, Iron Ore has been added as a new core industry. Now there are a total of 9 core sectors.
  - **Revision of Weights and Methodology:** The weightage of sectors and estimation techniques have been updated to accurately reflect the structural changes in the economy.
- **Positive Growth Drivers:**
  - **Unprecedented Growth in Iron Ore (43.9%):** A massive growth was recorded in iron ore in June compared to 19% in May.
  - **Other Major Sectors:** Positive growth was also recorded in Electricity (9.8%), Cement (9.8%), Steel (4.6%), and Coal (1.4%), indicating an improvement in infrastructure and construction activities.
- **Impact of Statistical Base Effect:**
  - According to experts, a major reason for the massive 43.9% growth in iron ore is the 'Base Effect', as a contraction of 16.4% was recorded in this sector in June of the previous year (2025).
- **Contraction in Hydrocarbon and Energy Sector:**
  - A decline was observed in almost all sectors related to hydrocarbons:
    - Crude Oil (-4.2%)
    - Natural Gas (-7.4%)

- Refinery Products (-4.7%)
- Fertilizers (-3.3%)

  - **Reason:** High imports due to lower global crude oil prices and a slowdown in exports of refinery products.

Static Dimensions Related to UPSC Mains

A. Importance of Core Industries in IIP

- **Index of Industrial Production (IIP):** Core industries refer to those basic sectors that lay the foundation for all other industrial sectors of the economy.
- **Weightage in IIP:** Core industries together constitute more than about 40% of the total value of the IIP. Performance in core industries directly affects overall industrial and economic growth.

B. Need for Base Year Revision

- **True Picture of the Economy:** Over time, due to changes in production structure, consumption patterns, and the arrival of new technologies, the old base year (such as 2011-12) fails to correctly reflect the current economic situation.
- **Accurate Policy Formulation:** The new base year (2022-23) provides more accurate data to the government and policymakers, thereby reducing statistical distortions.

C. Concept of Base Effect

- **Base Effect** refers to the impact that a low or high base level of data from the corresponding period of the previous year has on the current growth rate figures.
- If production was very low in the previous year, even a small improvement this year appears very large in percentage terms (as happened in the case of iron ore).

D. Import Dependency & Energy Security

- The contraction in hydrocarbon sectors and rising imports clearly indicate that India's energy security is still highly dependent on global crude oil prices and supply chains.

Way Forward

- **Sustaining Infrastructural Investment:** Continuous government and private investment in infrastructure projects (Capex/Capital Expenditure) is essential to maintain growth in cement, steel, and electricity.
- **Import Substitution and Domestic Production:** To reduce dependence on imports in the fertilizer and hydrocarbon sectors, domestic exploration and green fertilizers must be promoted.

- **Data-Driven Policies:** Targeted policies should be formulated for MSMEs and manufacturing sectors using the data from the new 2022-23 base year.

Conclusion

The 5% growth in core industries is a positive signal of infrastructural improvement and strong industrial demand in the Indian economy. However, it is important to keep in mind the role of the base effect in rapid growth like that of iron ore. Along with this, the continuous contraction in hydrocarbon sectors warns that there is a need to make the Indian manufacturing sector more resilient to global price fluctuations and to accelerate energy diversification.

UPSC Prelims Exam Study Questions

Question:'Base Effect' means—

(a) An increase in the basic production cost of an industry

(b) The current growth rate appearing higher or lower due to the base figures of the previous year

(c) Changing the base year of an industry

(d) A change in production cost due to inflation

Ans: b**)**

Page 06:GS II :Social Justice/ Preliminary Examination

Recently, the Drugs Controller General of India (DCGI) granted market authorization in India for the dengue vaccine QDENGA (TAK-003) by the Japanese pharmaceutical company 'Takeda'. Approved for the 4 to 60 age group, it is India's first anti-dengue vaccine. Around one-third (33%) of total dengue cases globally are reported in India. In such a scenario, this approval is being considered a major milestone in India's public health framework against infectious diseases.

Key Features of QDENGA Vaccine

- **Live-Attenuated Tetravalent Vaccine:** It provides protection against all four serotypes of the virus (DENV-1, DENV-2, DENV-3, DENV-4).
- **No Pre-vaccination Screening:** Unlike the previous dengue vaccine 'Dengvaxia', it is not necessary to test whether a person has previously been infected with dengue before administering QDENGA.
- **Two-Dose Regimen:** It is administered in two doses (Subcutaneous injection) at an interval of 3 months.
- **High Efficacy:** In Phase III trials, it demonstrated up to 80.2% efficacy in preventing dengue infection and 90.4% efficacy in preventing hospitalization.

India approves first dengue vaccine for persons aged 4-60

The Hindu Bureau
CHENNAI

The Drug Controller General of India (DCGI) has granted market authorisation to Takeda Biopharmaceuticals India's QDENGA (TAK-003), making it the first dengue vaccine to be approved in the country, according to a press release from the company.

The vaccine has been approved for the prevention of dengue in individuals aged four to 60. QDENGA is a live-attenuated tetravalent vaccine designed to provide protection against all four dengue virus serotypes and is administered as a two-dose regimen, with doses given three months apart.

According to the company, the vaccine can be administered irrespective of whether an individual has had a previous dengue infection, and does not require pre-vaccination screening.

The approval comes as dengue continues to pose a significant public health challenge in India, where reported cases have increased nearly 11-fold over the past two decades. India accounts for nearly one-third of the global dengue burden, although modelling studies suggest the actual number of infections is substantially higher than reported.

India accounts for one-third of the global dengue burden.

Clinical trials

The approval is based on Takeda's global clinical development programme comprising 19 Phase I, II and III clinical trials involving over 28,000 participants in dengue-endemic and non-endemic regions.

The company's pivotal Phase III trial enrolled more than 20,000 participants across eight dengue-endemic countries.

According to Takeda, the vaccine demonstrated an efficacy of 80.2% against virologically confirmed dengue 12 months after the second dose, and 90.4% efficacy against dengue-related hospitalisation at 18 months.

The approval in India was also supported by a Phase III clinical trial conducted among participants aged 4 to 60 years. The company said the study found the vaccine to be safe, well tolerated and immunogenic in children, adolescents and adults.

Takeda said QDENGA has been approved in 43 countries across Asia, Latin America and Europe, with more than 32 million doses distributed through public and private immunisation programmes.

Significance of this Approval for India

- **Control over High Disease Burden:** Dengue cases in India have increased 11-fold over the last two decades. This vaccine will reduce the burden on public health.
- **Economic Savings:** Relief will be provided to middle- and low-income groups from out-of-pocket expenditure on hospitalization and loss of productivity.
- **WHO Pre-qualification:** It is recognized by the World Health Organization, which could pave the way for its inclusion in India's Universal Immunization Programme (UIP).

Challenges & Concerns

- **Cost & Accessibility:** If the price of the vaccine remains high in the private market, its reach to the poorer sections of society may be limited.

- **Public vs. Private Vaccination:** Including it immediately in the national Universal Immunization Programme (UIP) will pose a budgetary challenge for the government.
- **Fear of Neglecting Mosquito Control Strategies:** Over-reliance solely on the vaccine poses a risk of laxity in vector control (stopping mosquito breeding) and sanitation drives.
- **Cold Chain & Logistics:** Efficiently maintaining the two-dose vaccination system in rural and remote areas.

Related Static Dimensions

A. Biology & Health

- **Dengue Virus:** It is a single-stranded RNA Flavivirus.
- **Vector:** Primarily transmitted by female *Aedes aegypti* and *Aedes albopictus* mosquitoes.
- **Antibody-Dependent Enhancement (ADE):** When a person recovers from one serotype and is later infected with a different serotype, the secondary infection can be more severe (Dengue Hemorrhagic Fever).

Policy & Regulatory Framework

- **CDSCO and DCGI:** Under the Central Drugs Standard Control Organization (CDSCO), the DCGI is the apex body approving new drugs and vaccines in India.
- **National Center for Vector Borne Diseases Control (NCVBDC):** The nodal agency responsible for the prevention of diseases like dengue and malaria in India.

Way Forward

- **Phase-wise Rollout:** Initially, it should be implemented in highly endemic urban areas and vulnerable age groups.
- **Local Manufacturing:** Prices can be reduced by increasing production in collaboration with Indian pharma companies (such as Biological E) through technology transfer.
- **Integrated Vector Management:** The vaccine should be viewed as an additional weapon, not as a replacement for sanitation and mosquito control.
- **Pharmacovigilance:** Continuous monitoring of the vaccine's impact and any potential adverse effects must be maintained after large-scale usage.

Conclusion

DCGI's approval of QDENGA is a transformative step toward strengthening India's public health security. However, a vaccine alone cannot be the complete solution to the complex problem of dengue. India needs to adopt a 'One Health' approach,

implementing an integrated model of clean urban planning, effective mosquito control, a robust surveillance system, and affordable vaccination to achieve the goal of a dengue-free India.

UPSC Prelims Practice Questions

Question: What is 'Antibody-Dependent Enhancement (ADE)' related to?

(a) Waning immunity after vaccination.

(b) The disease becoming more severe upon infection with a second serotype following infection with a first serotype.

(c) Antibiotic resistance.

(d) Genetic mutation of the virus.

Ans: b)

UPSC Mains Practice Questions

Question: Why is vaccination alone insufficient for dengue control? Explain in the context of the 'One Health' approach. **(10 Marks, 150 Words)**

Page 07 :GS III :Environment / Preliminary Examination

India is rapidly moving toward its ambitious goals of achieving net-zero emissions by 2070 and 500 gigawatts (GW) of non-fossil energy capacity by 2030. However, maintaining grid stability remains a major challenge due to the intermittent nature of solar and wind energy.

In May 2024, India recorded a peak demand of 270.8 GW. Solar energy is available during the day, but electricity demand peaks during intense heatwaves and at night (when air conditioner usage increases). In such scenarios, short-duration batteries alone are not sufficient. Long-Duration Energy Storage (LDES)—which can store and discharge energy continuously from 8 hours up to several days—could prove to be a main pillar of India's green energy transition.

India's green transition is missing long-duration energy storage

Longer-term energy storage is needed to ensure that the grid remains reliable during prolonged periods of low solar and wind generation; the longer the time over which a technology discharges energy, the better its economics; at the same time, storing more energy is also expensive

Aedna Kurian
Ammu Susanna Jacob

On May 21, India recorded its highest peak demand of 270.8 gigawatt (GW) during the day, an increase of approximately 90 GW from the same window in 2019. While power generators often meet India's summer peak, the demand again increases at night, especially due to the use of air conditioners. This underscores the need for longer-term energy storage to ensure the grid remains reliable during prolonged periods of low solar and wind generation.

India's current energy storage roadmap only offers a partial solution. The 2026 Long-Term National Resource Adequacy Plan envisages 80 GW of battery energy storage and 94 GW of pumped hydroelectric energy storage (PHES) by FY2035-36. This translates to average discharge durations of roughly 4 and 6 hours, respectively.

This could be enough to address short-term fluctuations but may not suffice during adverse weather conditions, such as heatwaves.

In this context, long-duration energy storage (LDES) technologies, which are capable of delivering power for days rather than hours, could turn out to be the missing pillar of India's green energy transition.

A pumped hydroelectric storage power plant in Tasmania. The plant stores electricity by pumping water uphill when power is abundant. Later, the water flows downhill through turbines, generating electricity during periods of high demand. GETTY IMAGES

Diverse landscape

LDES refers to technologies that store energy and discharge it as power or thermal energy over extended periods, from 8 hours to days, weeks, or seasons. By storing energy when renewable generation is abundant and supplying it during periods of peak demand or low generation, LDES can provide the reliability and flexibility to support a renewable-heavy grid.

Further, unlike short-duration energy storage systems, which discharge energy for less than 8 hours and smooth intra-day demand fluctuations, LDES provides the endurance needed to balance supply and demand for prolonged periods, ease grid congestion, and provide grid resilience and stability.

Several LDES technologies are available today, each at different stages of development and commercial readiness, including PHES, compressed-air energy storage (CAES), thermal storage, hydrogen-based storage, and flow batteries.

Of these, PHES remains the benchmark because of its mature infrastructure and a high energy efficiency of 70-80%. CAES has a similar level of market readiness but a slightly lower efficiency of 40-70%. Thermal storage stands out for its long discharge duration – around 200 hours – and an energy efficiency of 55-90%. However, researchers are still developing it.

Costs of long-term storage

Although chemical energy storage, such as with hydrogen, has even higher discharge durations of up to 1,000 hours, it is not efficient. Vanadium flow batteries – an example of electrochemical energy storage – are commercially ready, come in different sizes, and have an efficiency of 80-85% across durations of 10-24 hours.

Scientists are also working on more cutting-edge solutions like iron-air batteries. In all, the LDES landscape is diverse and worth looking forward to.

The longer the time over which a technology discharges energy, the better its economics. At the same time, storing more energy also costs more. So for discharge durations beyond six hours, short-duration energy storage systems are unlikely to prove cost-effective.

The LDES Council is an international body that brings together industry leaders, technology developers, investors, policymakers, and other stakeholders to accelerate the innovation and commercialisation of LDES technologies. It has projected a significant decrease in LDES costs by 2030, making it an economically feasible storage solution.

According to a study by Pacific Northwest National Laboratory, a research body under the U.S. Department of Energy, PHES and CAES are the most cost-effective and commercially viable technologies at present, at $0.12/kWh and $0.10/kWh, respectively.

However, both technologies need specific site conditions. PHES requires two water reservoirs at different heights so that water can be pumped to the upper reservoir when surplus electricity is available and released downhill to generate power when needed. Thus, the site must have enough land for the reservoirs, an optimal height difference for the water to flow down with force, and of course water.

Likewise, CAES needs large underground spaces, such as salt caverns or depleted gas fields, that can safely hold high-pressure air without major leaks.

Where such sites are not available, other LDES options, such as hydrogen, thermal storage or vanadium flow batteries – which depend less on specific land, water, and subterranean conditions, may be more suitable.

India's position on LDES

The California Public Utilities Commission, California's primary utility regulator responsible for overseeing electricity, natural gas, telecommunications, and other public utility services, has set an LDES procurement target of 2 GW. It has said this capacity will be deployed between 2031 and 2037.

Long-duration energy storage (LDES) technologies, which are capable of delivering power for days rather than hours, could turn out to be the missing pillar of India's green energy transition

Similarly, to unlock investments and accelerate deployment, the U.K. has launched a financial framework for LDES that provides a safety net for investors. Among other measures, it will ensure LDES projects have a minimum revenue, even in poor market conditions.

Per a 2026 report by the Central Electricity Authority, India's PHES potential is about 267 GW. The report also said India plans to install PHES projects with an aggregate capacity of 100.8 GW by 2035-2036. Of this, 11.6 GW is currently under construction.

In early 2025, India also launched a 160-MWh carbon dioxide battery storage system at the National Thermal Power Corporation (NTPC) in Kudgi, Karnataka. It works by cycling carbon dioxide between liquid and gas phases and has an operational life exceeding 25 years. This was followed by inaugurating the country's first MWh-scale vanadium redox flow battery system – a 3-MWh facility installation at NTPC in Greater Noida.

Proposed roadmap

While the Long-Term National Resource Adequacy Plan acknowledges the role of energy storage in maintaining power grid reliability, it does not specifically recognise the need for LDES.

To address this gap, LDES should be incorporated into the Ministry of Power's National Framework for Promoting Energy Storage Systems, accompanied by guidelines on its deployment and integration into grid operations.

Similarly, while the National Electricity Plan outlines projected capacities for battery ESS and PHES, it does not provide technology-specific assessments or deployment pathways for LDES.

Given the growing importance of LDES in a renewable-rich power system, future planning exercises should include estimates of LDES requirements and identify technologies best suited to India's extreme weather and geographical conditions.

Faster environmental and land clearances, transmission alignment, and clear regulatory classification are also important to unlock investments.

The incentive structure, including subsidies and viability-gap funding, must be technology-agnostic and incentivise co-location opportunities with data centres. As the market matures, the focus must shift to long-term revenue contracts, tariff structures, and procurement frameworks.

Intense efforts should be made to build awareness among all stakeholders of the available LDES solutions, and their grid use cases should be presented. As part of this effort, dispatch centres should be directed to post staff for skill enhancement and training to support optimal dispatch, multi-day charge-discharge decisions, state-of-charge management across seasons, and coordination across storage assets with proper guidelines and protocols for LDES.

Without planning to include LDES, however, India's clean energy future could be forced to rest on favourable weather and market conditions.

Aedna Kurian is an analyst and Ammu Susanna Jacob is a senior research scientist in the Energy Storage group, at the Center for Study of Science, Technology and Policy (CSTEP), a research-based think-tank.

What is LDES and how is it different from Short-Duration Storage?

- **Long-Duration Energy Storage (LDES):** This is a group of technologies that can store excess renewable energy and supply it continuously as electricity or thermal energy for 8 hours up to days, weeks, or seasons.
- **Difference (Short vs. Long Duration):**
    - **Short-Duration (Less than 8 hours):** Such as lithium-ion batteries. These only balance day-to-day fluctuations.
    - **Long-Duration (More than 8 hours):** This protects the grid from blackouts during prolonged adverse weather conditions (such as heatwaves or low sunlight/wind during the monsoon).

Major Technologies of LDES and Their Characteristics

1. **Pumped Hydroelectric Energy Storage (PHES):**
    - **Efficiency:** 70–80% (most mature technology).
    - **Cost:** ~$0.12/kWh (affordable).
    - **Limitation:** Requires specific topography (elevation difference and two water reservoirs) and abundant water.
2. **Compressed-Air Energy Storage (CAES):**
    - **Efficiency:** 40–70%.
    - **Cost:** ~$0.10/kWh.
    - **Limitation:** Requires underground caverns (such as salt caverns or depleted gas fields).
3. **Thermal Storage:**
    - **Discharge Duration:** Approximately 200 hours.
    - **Efficiency:** 55–90%.
    - **Status:** Still in the Research & Development (R&D) phase.
4. **Flow Batteries (e.g., Vanadium Redox):**
    - **Efficiency:** 80–85% (for a duration of 10–24 hours).
    - **Advantage:** Lower dependence on geographical location constraints. India has installed a 3-MWh system of this type at NTPC in Greater Noida.
5. **Chemical and Other Modern Technologies (Hydrogen & CO2 Batteries):**
    - **Hydrogen-based:** Storage possible up to 1,000 hours, but current efficiency is low.
    - **CO2 Batteries:** Testing of a 160-MWh CO2 battery has started at NTPC in Kudgi, Karnataka.
    - **Iron-Air:** New and promising technology.

Limitations and Challenges of Current Indian Policy

- **Short-term focus:** India's '2026 Long-Term National Resource Adequacy Plan' targets 80 GW of battery storage and 94 GW of PHES by FY2035-36, which cover average discharges of only 4 and 6 hours respectively.
- **Lack of policy and financial frameworks:** Unlike the UK and California, India does not have a dedicated Revenue Support Mechanism for LDES.
- **Geographical and environmental bottlenecks:** The cheapest technologies like PHES and CAES require specific locations and involve long turnaround times for land/environmental clearances.
- **Cost and efficiency trade-off:** Storing energy for longer durations is technically expensive, and using short-duration batteries for more than 6 hours is economically unviable.

Static Dimensions for UPSC Mains

This topic is deeply connected to GS Paper 3 (Renewable Energy, Infrastructure, Environment, and Disaster Management):

- **Constitutional and Policy Framework:**
  - National Electricity Policy (NEP) & National Energy Storage Framework.
  - COP26/COP28 Commitments: Target for non-fossil fuel capacity by 2030.
- **Economics:**
  - 'Levelized Cost of Storage' (LCOS) and Viability Gap Funding (VGF) in grid infrastructure.
  - Monetization of 'Ancillary Services' in power exchanges.
- **Geography & Environment:**
  - Ecological impact of pumped-storage projects in the Western Ghats or Himalayan regions.
  - Impact of extreme weather events on grid demand.

Way Forward / Policy Recommendations

- **Inclusion of LDES in National Framework:** The Ministry of Power should clearly define and include LDES in the 'National Framework for Promoting Energy Storage Systems'.
- **Technology-Agnostic Incentives:** Viability Gap Funding (VGF) and subsidies should not be restricted to lithium batteries alone, but should also be available for flow batteries, thermal, and CAES.
- **Co-location with Data Centers:** Policies should be framed to connect data centers—which require uninterrupted power supply—with LDES projects.
- **De-risking Investments:** A framework similar to the UK model should be prepared to assure investors of a Minimum Revenue Guarantee.

- **Fast-track Clearances and Grid Alignment:** A 'Single Window Clearance' system should be established for land, environmental, and transmission line linkages.
- **Human Resource and Grid Operations Training:** Personnel at State Load DespatchCentres (SLDCs) and the National Load Despatch Centre (NLDC) should be trained to manage multi-day charge-discharge decision operations.

Conclusion

India's renewable energy transition cannot be limited to installing solar and wind panels alone; it will depend on how efficiently we can deliver that energy to the grid during adverse weather and non-solar hours. LDES is not just an alternative, but the "last-mile insurance" for 24x7 clean energy and India's energy security. If India fails to include LDES in its long-term energy strategy in a timely manner, the country's green future will remain dependent on favorable weather and volatile market conditions.

UPSC Prelims Exam Study Questions

Question: Which of the following technologies utilizes underground caverns or depleted gas fields for energy storage?

(a) Pumped Hydro Energy Storage

(b) Compressed Air Energy Storage (CAES)

(c) Flow Battery

(d) Thermal Storage

Ans:b)

UPSC Mains Exam Study Questions

Question: Analyze the key limitations of India's current energy storage policy and suggest necessary improvements.**(10 Marks, 150 Words)**

Page 08 :GS II :Indian Polity/ Preliminary Examination

Recently, the Supreme Court, in a landmark judgment in the case of **Maniyar Elias v. P. Ayyappan (2026)**, clarified that walking safely on marked footpaths is a fundamental constitutional right under **Article 19(1)(d)** [Right to Freedom of Movement] and **Article 21** [Right to Life and Personal Liberty].

The disappearance of or encroachment on footpaths in Indian cities is not merely a civic issue; rather, it represents a public health crisis, a major lapse in road safety, and a significant imbalance in urban governance.

Reclaiming footpaths, taking cities back from cars

Few sights are more ordinary in an Indian city than a pedestrian being pushed off a footpath and onto the road. A mother, holding a school bag in one hand and a child in the other, walks around a parked car. An elderly man tests a broken footpath before stepping down onto the road. A wheelchair user gives up before the journey has even begun. A vendor, debris, an open drain, a two-wheeler, and a signboard together form what is still, with bureaucratic optimism, called a pavement. The citizen is then forced to walk on a road designed as though only vehicles possess rights.

Chandrakant Lahariya
Practising specialist in 'preventive and cardiometabolic medicine' with nearly 18 years of work experience with the World Health Organization and the United Nations system

Upholding walkability

In June 2026, the Supreme Court of India gave constitutional language to this daily indignity, in *Maniyar Iliyaz @ Shaik Riyaz vs P. Ayyappan* (2026). It held that walking on demarcated footpaths is a fundamental constitutional right, protected under Article 19(1)(d) and Article 21 of the Constitution. It observed that pedestrians have a right to safe footpaths and footways, and directed States and Union Territories to frame policies and guidelines for their provision and maintenance. This is not a minor municipal instruction. It is a public health intervention, a road safety measure, and a democratic test of whether Indian cities are built for people or merely for machines.

The timing could not be more urgent. India is becoming less active precisely when it needs movement the most. Health risk factors and diseases such as diabetes, hypertension, fatty liver disease, and obesity are rising rapidly, as reported by every newly available population health dataset.

Walking and increased physical activity are among the low- and no-cost interventions that can halt and reverse this rise in metabolic diseases. Yet, the World Health Organization (WHO)'s India Physical Activity Profile 2024 estimates that 49.4% of Indian adults do not meet the recommended levels of physical activity; among women, the figure is 57.2%. Among children and adolescents aged 11 to 17 years, it is 74%. WHO recommends at least 150 minutes of moderate-intensity physical activity each week for adults. For most citizens, this does not mean gym memberships or elite fitness routines. It means having the ability to walk safely to a bus stop, school, market, clinic, metro station, or park.

These are not failures of willpower alone; rather, they are exacerbated by the built environment. A city that makes walking difficult quietly prescribes sedentary living. Footpaths, therefore, are not decorative strips of cement added after roads have been designed. They are preventive medicine laid in stone. A usable pavement allows children to walk to school, office-goers to use public transport, older adults to remain mobile, and women to move safely. Walking improves blood pressure, insulin sensitivity, weight control, mood, sleep, and joint function. It is the simplest health habit available to the largest number of citizens. Yet, we in India have made it difficult and dangerous. Many Indians would prefer to use cars and scooters less if cities offered safe, continuous, shaded footpaths.

Safe, accessible footpaths are a test of governance, revealing whether India's cities truly serve their people

The road safety argument is equally compelling. The Union Ministry of Road Transport and Highways (Transport Research Wing) 'Road Accidents in India 2024' report found that two-wheeler riders and pedestrians together accounted for nearly 67% of road fatalities, with 1.28 lakh deaths among these vulnerable groups. The National Crime Records Bureau's 2024 data place the number at more than 1.1 lakh and the share at at least 60%. The exact totals differ across official sources, but the message is unambiguous: pedestrians and two-wheeler riders remain India's most vulnerable road users. Every time a footpath disappears, the road becomes a contest between flesh and metal.

Orderly shared streets

The solution cannot be episodic anti-encroachment drives, in which a few carts and cars are removed before the same disorder returns the following week. Nor can it be a punitive war on street vendors, who are workers with legal protections and legitimate economic claims. The answer lies in planned allocation: footpaths for walking, vending zones for vendors, parking spaces for vehicles, utility corridors for public infrastructure, and meaningful penalties for violations. A humane city organises the street so that livelihoods and mobility can coexist without endangering lives.

Citizens, too, have a role, though not the only one. First, walk deliberately: begin with 10 to 15 minutes after two major meals, or build towards 30 minutes at a fixed time each day. Second, convert short errands into walking errands; distances under one kilometre should not automatically require a scooter or car. Third, combine walking with public transport by using the metro, bus, or shared mobility for part of the commute. Fourth, make walking social: families, resident welfare associations, and workplaces can create walking groups and car-free morning routines. Fifth, reclaim walking as a health check. If breathlessness, knee pain, fear of falling, or unsafe streets prevent walking, treat that as a signal to seek medical advice, improve strength, or demand civic correction. Most importantly, the recent Supreme Court decision has given citizens and resident welfare associations an opportunity to demand their right to walk on encroachment-free footpaths.

Yet, citizens cannot easily walk their way out of poor urban planning. Civic bodies and governments must act with seriousness. Every road project should include continuous, shaded, well-lit, and barrier-free footpaths, along with safe crossings. Footpaths must be wide enough for two people or a wheelchair, with ramps and clear passageways near bus stops. Encroachment control should be continuous, transparent, and fair. Parking on footpaths must invite stringent action, with penalties that change behaviour. Street design should prioritise schools, hospitals, bus stops, markets, and metro stations, where pedestrian volumes are high. Tree cover, benches, public toilets, and lighting are not embellishments; they determine whether women, children, persons with disabilities, and older people can walk.

Policy action

India also needs a national active-mobility mission linking urban development, transport, health, and education. Cities and urban planning should be assessed not by the length of flyovers built, but by the number of safe walking kilometres created. Municipal commissioners should publish ward-level footpath maps and annual audits of encroachment-free footpaths. School zones should have traffic calming measures and protected crossings. Employers should encourage active commuting. Doctors should prescribe walking advice to nudge behaviour, but governments must provide the pavements on which those prescriptions can be followed.

The Supreme Court has moved the footpath from the margins of municipal housekeeping to the centre of constitutional rights. The next task is to move it from judgment to habit, budget, design, and enforcement. A country battling diabetes, hypertension, obesity, stress, and road deaths cannot treat walking as an afterthought. India does not merely need more roads; it needs more rights of way for ordinary citizens. The footpath is where public health, dignity, and democracy meet. We need to take our cities back from cars. We need to rebuild our cities for people. The proportion of encroachment-free footpaths should become a barometer of whether elected governments value citizens' fundamental rights in every ward and on every major road.

Key Issues & Analysis

(A) Public Health Dimension

- **Sedentary Living:** Urban infrastructure prioritizes cars and motor vehicles, naturally depriving citizens of walking.
- **Rise in NCDs:** The rapid increase in non-communicable diseases (Diabetes, Hypertension, Obesity, Fatty Liver) is directly linked to the lack of physical activity.

- **WHO Data:** According to the 'WHO India Physical Activity Profile 2024', approximately 49.4% of Indian adults and 74% of children/adolescents (aged 11–17) do not meet the recommended physical activity levels.
- **Preventive Medicine vs. Restrictive Solutions:** Walking on footpaths acts as "preventive medicine," which can reduce large-scale health risks at no extra cost.

(B) Road Safety & Vulnerability

- **Victims of Accidents:** According to data from the Ministry of Road Transport and Highways (MoRTH) and NCRB (2024), nearly 60% to 67% of total road accident fatalities consist solely of pedestrians and two-wheeler riders.
- **Unequal Struggle on the Road:** When vehicles are parked on footpaths or when encroachments occur, pedestrians are forced to walk on the main road, where they face heavy and high-speed vehicles.

(C) Urban Planning Deficit

- **Car-Centric Urban Planning:** The development of Indian cities is being measured by the construction of flyovers and wide roads, rather than safe Walkable Kilometers.
- **Temporary and Punitive Action vs. Permanent Solutions:** Occasional "anti-encroachment drives" or punitive actions against street vendors do not yield permanent solutions. There is a need for systematic and inclusive planning.

Related Static Dimensions

1. Constitutional & Legal Dimension

- **Article 21:** Right to a dignified life, clean environment, and safe transit.
- **Article 19(1)(d):** Right to move freely throughout the territory of India.
- **Directive Principles of State Policy (DPSP - Article 47):** Improving public health is a primary duty of the State.
- **Street Vendors Act, 2014:** Provides protection to the livelihood rights of street vendors, provided they are organized into designated "vending zones."

2. Urban Governance & Policies

- **74th Constitutional Amendment Act, 1992:** Empowers Urban Local Bodies (ULBs) with the authority to plan roads, bridges, and civic amenities.
- **National Urban Transport Policy, 2006 (NUTP 2006):** This policy explicitly states that "roads should be planned for the movement of people, not vehicles."
- **Sustainable Development Goals (SDGs):**

- **SDG 3:** Good Health and Well-being.
- **SDG 11:** Sustainable Cities and Communities.

Way Forward & Recommendations

- **National Active-Mobility Mission:** Establish a national mission connecting the ministries of Urban Development, Transport, Health, and Education to promote walking and cycling.
- **Complete Streets Concept:** Mandate continuous, shaded, well-lit, and barrier-free footpaths in every new road project.
- **Orderly Allocation:**
  - Footpaths for pedestrians.
  - Dedicated vending zones for street vendors.
  - Designated parking spaces for vehicles.
  - Heavy fines for those illegally parking on footpaths.
- **Ward-Level Transparency and Audit:** Municipal Commissioners should publicly publish ward-level footpath maps and annual "Encroachment-free Footpath Audits."
- **Inclusive Infrastructure:** Provide sloped ramps, public toilets, and seating benches for the elderly, children, women, and persons with disabilities (wheelchair users).
- **Civic Participation and Behavioral Change:** 'Car-free mornings', traffic-calming measures near schools, and promoting walking habits for distances under 1 kilometer.

Conclusion

This court judgment elevates footpaths from being a minor municipal cleaning checklist item directly into the core of fundamental constitutional rights. A country grappling with the dual challenge of diabetes, hypertension, and road accidents cannot afford to treat walking as an afterthought.

The true mark of urban democracy is not defined by how many cars or flyovers a city has, but by how safely and with how much dignity an ordinary citizen, child, or elderly person can walk on the streets. India does not just need more roads; it needs to re-establish the "rights of free movement" for its citizens.

UPSC Prelims Exam Study Questions

Ques: Consider the following statements:

1. Article 19(1)(d) grants the right to move freely throughout the territory of India.

2. Under Article 21, the Supreme Court has developed an expansive interpretation of the right to a dignified life.

Select the correct answer:

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

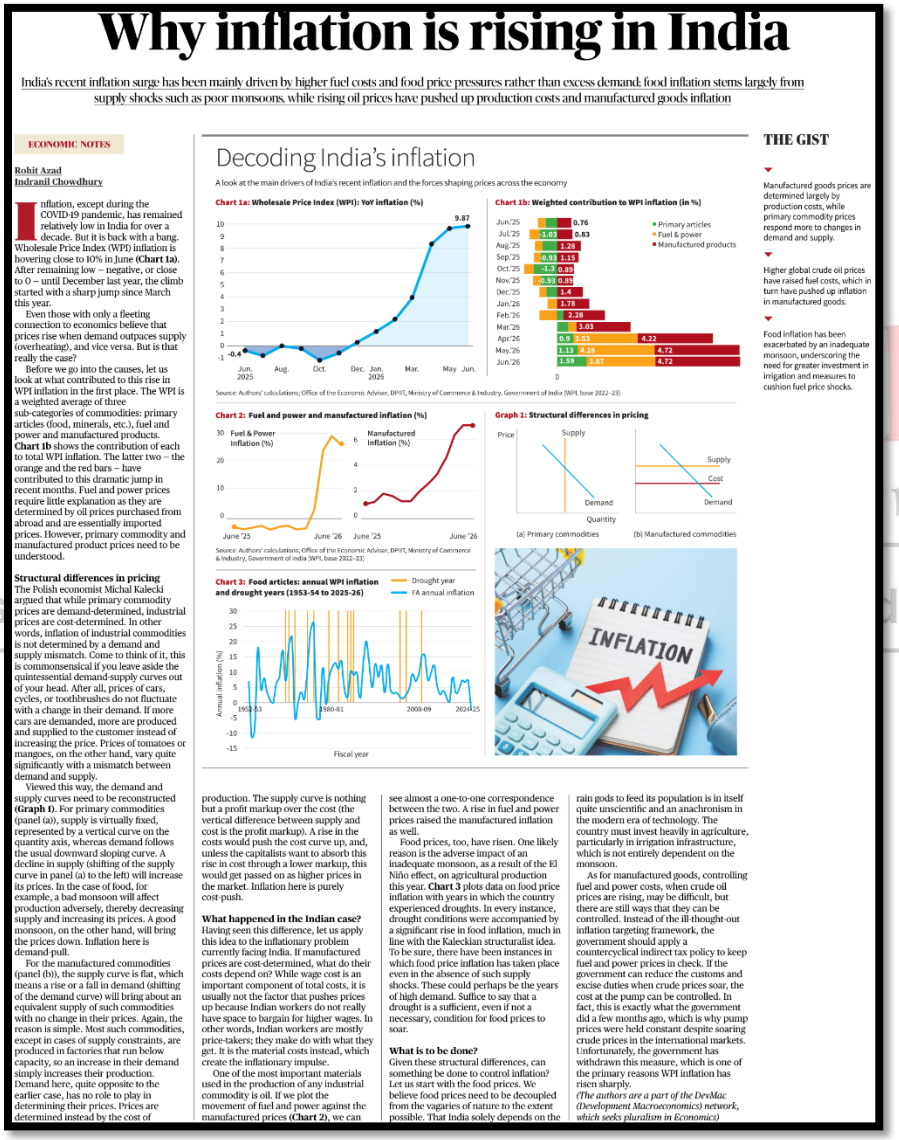
Ans: c)

UPSC Mains Exam Study Questions

Ques: Encroachment on footpaths in Indian cities is not merely an issue for urban administration; it is also a matter of public health and road safety. Explain.**(10 Marks, 150 Words)**

Page 10 :GS III : Indian Economy / Preliminary Examination

In recent years, India has observed a sharp surge in Wholesale Price Index (WPI)-based inflation, which has drawn the attention of policymakers. The traditional economic concept holds that inflation occurs solely due to demand and supply imbalances (Overheating). However, according to Michal Kalecki's theory of Structural Economics, current inflation in India is not primarily due to excessive demand (Demand-Pull), but mainly due to cost-push factors and supply shocks. This article clarifies how rising fuel prices and monsoon uncertainties in the agricultural sector are impacting the prices of wholesale and manufactured goods in the Indian economy.



Why inflation is rising in India

India's recent inflation surge has been mainly driven by higher fuel costs and food price pressures rather than excess demand; food inflation stems largely from supply shocks such as poor monsoons, while rising oil prices have pushed up production costs and manufactured goods inflation

ECONOMIC NOTES

Rohit Azad
Indranil Chowdhury

Inflation, except during the COVID-19 pandemic, has remained relatively low in India for over a decade. But it is back with a bang. Wholesale Price Index (WPI) inflation is hovering close to 10% in June (**Chart 1a**). After remaining low – negative, or close to 0 – until December last year, the climb started with a sharp jump since March this year.

Even those with only a fleeting connection to economics believe that prices rise when demand outpaces supply (overheating), and vice versa. But is that really the case?

Before we go into the causes, let us look at what contributed to this rise in WPI inflation in the first place. The WPI is a weighted average of three sub-categories of commodities: primary articles (food, minerals, etc.), fuel and power and manufactured products. **Chart 1b** shows the contribution of each to total WPI inflation. The latter two – the orange and the red bars – have contributed to this dramatic jump in recent months. Fuel and power prices require little explanation as they are determined by oil prices purchased from abroad and are essentially imported prices. However, primary commodity and manufactured product prices need to be understood.

Structural differences in pricing

The Polish economist Michal Kalecki argued that while primary commodity prices are demand-determined, industrial prices are cost-determined. In other words, inflation of industrial commodities is not determined by a demand and supply mismatch. Come to think of it, this is commonsensical if you leave aside the quintessential demand-supply curves out of your head. After all, prices of cars, cycles, or toothbrushes do not fluctuate with a change in their demand. If more cars are demanded, more are produced and supplied to the customer instead of increasing the price. Prices of tomatoes or mangoes, on the other hand, vary quite significantly with a mismatch between demand and supply.

Viewed this way, the demand and supply curves need to be reconstructed (**Graph 1**). For primary commodities (panel (a)), supply is virtually fixed, represented by a vertical curve on the quantity axis, whereas demand follows the usual downward sloping curve. A decline in supply (shifting of the supply curve in panel (a) to the left) will increase its prices. In the case of food, for example, a bad monsoon will affect production adversely, thereby decreasing supply and increasing its prices. A good monsoon, on the other hand, will bring the prices down. Inflation here is demand-pull.

For the manufactured commodities (panel (b)), the supply curve is flat, which means a rise or a fall in demand (shifting of the demand curve) will bring about an equivalent supply of such commodities with no change in their prices. Again, the reason is simple. Most such commodities, except in cases of supply constraints, are produced in factories that run below capacity, so an increase in their demand simply increases their production. Demand here, quite opposite to the earlier case, has no role to play in determining their prices. Prices are determined instead by the cost of production. The supply curve is nothing but a profit markup over the cost (the vertical difference between supply and cost is the profit markup). A rise in the costs would push the cost curve up, and, unless the capitalists want to absorb this rise in cost through a lower markup, this would get passed on as higher prices in the market. Inflation here is purely cost-push.

What happened in the Indian case?

Having seen this difference, let us apply this idea to the inflationary problem currently facing India. If manufactured prices are cost-determined, what do their costs depend on? While wage cost is an important component of total costs, it is usually not the factor that pushes prices up because Indian workers do not really have space to bargain for higher wages. In other words, Indian workers are mostly price-takers; they make do with what they get. It is the material costs instead, which create the inflationary impulse.

One of the most important materials used in the production of any industrial commodity is oil. If we plot the movement of fuel and power against the manufactured prices (**Chart 2**), we can see almost a one-to-one correspondence between the two. A rise in fuel and power prices raised the manufactured inflation as well.

Food prices, too, have risen. One likely reason is the adverse impact of an inadequate monsoon, as a result of the El Niño effect, on agricultural production this year. **Chart 3** plots data on food price inflation with years in which the country experienced droughts. In every instance, drought conditions were accompanied by a significant rise in food inflation, much in line with the Kaleckian structuralist idea. To be sure, there have been instances in which food price inflation has taken place even in the absence of such supply shocks. These could perhaps be the years of high demand. Suffice to say that a drought is a sufficient, even if not a necessary, condition for food prices to soar.

What is to be done?

Given these structural differences, can something be done to control inflation? Let us start with the food prices. We believe food prices need to be decoupled from the vagaries of nature to the extent possible. That India solely depends on the rain gods to feed its population is in itself quite unscientific and an anachronism in the modern era of technology. The country must invest heavily in agriculture, particularly in irrigation infrastructure, which is not entirely dependent on the monsoon.

As for manufactured goods, controlling fuel and power costs, when crude oil prices are rising, may be difficult, but there are still ways that they can be controlled. Instead of the ill-thought-out inflation targeting framework, the government should apply a countercyclical indirect tax policy to keep fuel and power prices in check. If the government can reduce the customs and excise duties when crude prices soar, the cost at the pump can be controlled. In fact, this is exactly what the government did a few months ago, which is why pump prices were held constant despite soaring crude prices in the international markets. Unfortunately, the government has withdrawn this measure, which is one of the primary reasons WPI inflation has risen sharply.

(The authors are a part of the DevMac (Development Macroeconomics) network, which seeks pluralism in Economics)

Decoding India's inflation

A look at the main drivers of India's recent inflation and the forces shaping prices across the economy

Chart 1a: Wholesale Price Index (WPI): YoY inflation (%)

Chart 1b: Weighted contribution to WPI inflation (in %)

Source: Authors' calculations; Office of the Economic Adviser, DPIIT, Ministry of Commerce & Industry, Government of India (WPI, base 2022-23)

Chart 2: Fuel and power and manufactured inflation (%)

Source: Authors' calculations; Office of the Economic Adviser, DPIIT, Ministry of Commerce & Industry, Government of India (WPI, base 2022-23)

Graph 1: Structural differences in pricing

Chart 3: Food articles: annual WPI inflation and drought years (1953-54 to 2025-26)

THE GIST

Manufactured goods prices are determined largely by production costs, while primary commodity prices respond more to changes in demand and supply.

Higher global crude oil prices have raised fuel costs, which in turn have pushed up inflation in manufactured goods.

Food inflation has been exacerbated by an inadequate monsoon, underscoring the need for greater investment in irrigation and measures to cushion fuel price shocks.

Kalecki's Structuralist Approach and the Indian Context

Based on economist Michal Kalecki's model, the article categorizes commodities into two types:

(A) Primary Commodities (e.g., food items, minerals)

- **Basis of Price Determination:** Their prices are completely demand-determined.
- **Supply Curve:** In the short run, their supply is almost fixed (vertical).
- **Cause of Inflation:** If there is a poor monsoon or drought (El Niño), the supply decreases and prices rise rapidly. For example, when the production of crops like tomatoes or mangoes declines, reduced supply leads to higher prices.

(B) Manufactured Commodities (e.g., cars, bicycles, toothbrushes)

- **Basis of Price Determination:** Their prices are cost-determined, not demand-determined.
- **Supply Curve:** Most factories operate below full capacity. If demand increases, production is increased without raising prices.
- **Cause of Inflation:** Prices of manufactured goods are set by adding a profit margin (Profit Markup) to the cost of production (raw materials, fuel, etc.). If crude oil or fuel prices rise, production costs increase, and manufacturers pass this cost directly on to consumers.

Main Causes of Current Inflation in India

1. **Fuel and Power Inflation:**
    - India imports nearly 85% of its crude oil requirements.
    - Rising crude oil prices in the global market directly cause "Imported Inflation."
2. **Cost-Push Inflation in Manufactured Goods:**
    - Due to weak labor bargaining power in India, wage increases do not drive inflation.
    - On the contrary, crude oil and fuel prices are key raw inputs for manufactured goods, causing the index for manufactured items in the WPI to rise rapidly.
3. **Food Inflation and Supply Shocks:**
    - El Niño and unpredictable monsoons adversely affect agricultural output.
    - Drought conditions in Indian agriculture are the biggest contributor to rising food inflation.

Related Static Dimensions (for UPSC)

(A) WPI vs CPI (Wholesale vs Retail Inflation)

- **WPI (Wholesale Price Index):** It covers wholesale rates of goods. Manufactured items (64.2%) and fuel (13.15%) carry higher weightage. Services are not included.
- **CPI (Consumer Price Index):** It reflects prices paid by the final consumer. Food and beverages (45.86%) carry higher weightage, and services (e.g., education, health) are included.

(B) Inflation Targeting Framework

- The Reserve Bank of India (RBI) targets CPI (4% ± 2%).
- **Limitation:** Monetary policy (increasing interest rates) can control demand, but it cannot fix supply-side shocks such as global fuel prices or monsoon deficits.

(C) Countercyclical Tax Policy

- When global crude oil prices rise, the government should reduce excise duty and customs duty on fuel to keep domestic pump rates stable.
- When oil becomes cheaper, taxes can be increased to collect revenue.

Solutions and the Way Forward

1. **Expansion of Agricultural Infrastructure:**
    - Massive public investment in irrigation infrastructure is required to decouple Indian agriculture from monsoon uncertainty.
    - Accelerating 'Per Drop More Crop' and micro-irrigation schemes.
2. **Effective Use of Fiscal and Tax Policy:**
    - Instead of relying solely on the RBI's monetary policy (raising interest rates), the government should adopt a countercyclical policy by cutting indirect taxes on fuel.
3. **Supply Chain and Buffer Stock Management:**
    - Better management of buffer stocks for essential food items and expansion of cold storage infrastructure to prevent supply shocks.
4. **Reducing Fuel Dependency:**
    - Promoting renewable energy (solar, wind) and ethanol blending to insulate the domestic economy from international oil price shocks.

Conclusion

The nature of inflation in India is predominantly structural and cost-push. Suppressing demand merely by raising interest rates can hamper production while having a limited impact on food and fuel-driven inflation. Therefore, India must adopt a balanced path involving countercyclical tax management (fiscal tax cuts) in the short term, and structural investments in agricultural irrigation and renewable energy in the long term.

UPSC Prelims Exam Study Questions

Ques: Which of the following situations is an example of cost-push inflation?

(a) An increase in consumer demand due to rising income.

(b) Excessive public expenditure by the government.

(c) An increase in production costs due to a rise in crude oil prices.

(d) An increase in the demand for loans due to a reduction in interest rates.

Ans:c)

UPSC Mains Exam Study Questions

Ques: Why is the nature of current inflation in India primarily considered to be cost-push? Explain with suitable examples.**(10 Marks, 150 Words)**

Page :08 : Editorial Analysis

Canada-India defence collaboration for a secure future

Chris Cooter
High Commissioner for Canada to India

Canada is seeing an historic shift for our country – one that opens new opportunities for relations between Canada and India. Speaking at CANSEC 2026, Canada's leading defence, security and emerging technology event, on May 27, 2026, Prime Minister Mark Carney said: "The very nature of war is rapidly evolving, driven by the proliferation of drones, autonomous systems, and weapons in orbit. Conflicts could emerge closer to our borders than before, and new weapons are reducing the distance that separates us from them. The world has changed, and Canada must change with it. That is why, six weeks after forming the government, we announced our ambitious plan to rebuild, rearm, and reinvest in the Canadian Armed Forces."

This is at a time when the world is changing, and Canada-India defence collaboration can translate into a strategy for a secure future.

The good news is that we are already walking on this path. In 2025, Mr. Carney announced that Canada is on track to spend 5% of its GDP on defence by 2035. In March, we already surpassed 2% of the GDP, placing Canada among one of the 10 largest economies in the world.

As Mr. Carney said during his speech in January 2026 at the World Economic Forum's Annual Meeting in Davos, there has been a rupture in the world order. Or as Prime Minister Narendra Modi has said, we are living through a decade of crisis.

Bilateral defence engagement

In this changing world, defence cooperation between Canada and India has become crucial and we have already taken steps to bolster it.

Most recently, we accredited Defence Advisers in both Ottawa and Delhi. Mr. Carney and Mr. Modi agreed to establish a Defence Dialogue to prioritise cooperation on shared interests and align capacities. Canadian and Indian navies participated in the Rim of the Pacific exercises and Talisman Sabre exercises. In June this year, a delegation from India's National Defence College visited Canada. This will allow Indian officers to have direct exchanges with military colleges and bases in Canada.

We have established a national Defence Investment Agency to streamline military procurement. We have also launched a defence Industrial Strategy to diversify supply chains so Canada does not rely on just one country. That is why we are calling on natural partners such as India to participate in co-development, subsystem manufacturing, and sustainment. We are investing in innovation, including through a half billion-dollar investment in next generation aerospace technologies, including a drone innovation hub.

Shared interests drive Canada and India toward a stronger strategic defence partnership

Strategic technology cooperation

Canada's strengths in advanced technologies can complement India's scale, manufacturing capacity, and expanding industrial base. Canada is one of only a few countries with a full-spectrum aerospace sector, while India's domestic aviation industry is the third largest domestic market in the world. Canada is a research and development powerhouse, while India is focused on advancing innovation capacity and high-end manufacturing.

Canada and India are part of a small group of countries with advanced space capabilities. The importance of civilian space cooperation was highlighted in the joint statement between our two Prime Ministers. Canada's strengths in advanced components for satellite technology and space robotics can complement India's strengths in low-cost platforms. Canada's RADARSAT constellation system can have application in meeting India's aim of advancing its naval capacity in the region. Critical minerals are the building block of defence technologies – another area where Canada and India can expand their partnership. Amid the crisis in West Asia, national security and economic security are inextricably linked. Here, a critical partnership between Canada and India can take shape.

Canada has vast geological reserves of 31 critical minerals from cobalt to helium. Canada holds the tenth largest reserves of rare earth elements; the third largest recoverable resources of uranium; and 5% of the world's tungsten reserves. Additionally, Canada is the second largest producer and exporter of uranium globally, with 24% of global production in 2024. Canada has embarked on a strategy to diversify its trusted partners. For India, there is a need for reliable partners such as Canada to reach its own economic and national security goals. The Canada-India memorandum of understanding on Critical Minerals Value Chain, signed during Mr. Carney's visit to India in February-March 2026, laid the groundwork for the integration of stable, resilient supply chains between the two countries.

Building on shared legacy

As we look forward, it is worth recalling our shared history and common sacrifice. Recently, I visited the Kirkee War Cemetery in Pune where members of the Royal Canadian Air Force killed during the Second World War were laid to rest. As I walked through the memorial site, I was reminded that our countries have stood shoulder to shoulder in the past, not just on the battlefield but for common causes and for the shared security of our countries. Let us continue that long-standing tradition as we reshape the defence cooperation between our two countries.

GS Paper II: International Relations

UPSC Mains Exam Practice Questions: "In a multipolar world order, India-Canada relations are not limited merely to bilateral interests but are also linked to global supply chains and Indo-Pacific security." Discuss.(**10Marks, 150 Words)**

Context : Recent global turmoil, technological transformations, and the emerging multipolar world order are leading to significant shifts in international relations. This editorial published in *The Hindu* highlights the emerging strategic and defence partnership between India and Canada.

Written by Canadian High Commissioner Chris Cooter, this article emphasizes that in this 'rupture in the world order' and 'decade of crisis', the coming together of natural partners like India and Canada in the fields of defence, technology, and critical minerals is vital for the security and economic stability of both nations.

Deep Analysis of the Editorial

1. Changing Global Security Landscape and Defence Priorities

- **Changing Nature of Warfare:** The proliferation of drones, autonomous systems, and space weaponry has transformed traditional warfare.
- **Canada's Defence Budget Expansion:** In a historic shift in its defence policy, Canada has raised its defence spending to over 2% of GDP by March 2026 and set a target to take it to 5% by 2035.
- **Rearmament Plan:** Canada's new government has prepared a comprehensive investment framework for the modernization and rearmament of its armed forces.

2. Strengthening Bilateral Defence Engagement

- **Establishment of Institutional Mechanisms:**Defence Advisers have been appointed in both Ottawa and Delhi, and an agreement has been reached to establish a dedicated 'Defence Dialogue'.
- **Joint Military Exercises:** The Indian and Canadian navies have jointly participated in major naval exercises such as Rim of the Pacific (RIMPAC) and Talisman Sabre.
- **Academic and Military Exchanges:** The visit of a delegation from India's 'National Defence College' (NDC) to Canada facilitated a direct exchange of experiences between the military colleges and academies of both countries.

3. Defence Industrial and Technological Cooperation

- **Diversification of Supply Chains:** Canada has launched a 'National Defence Investment Agency' to streamline defence procurement and a 'Defence Industrial Strategy' to diversify supply chains.
- **Co-development and Co-production:** Canada views India not merely as a buyer, but as a crucial partner in co-development, sub-system manufacturing, and sustainment.
- **Aerospace and Drone Innovation:** An investment of half a billion dollars in aerospace technologies and a Drone Innovation Hub opens up new opportunities for Indian defence startups and MSMEs.

4. Strategic and Space Cooperation

- **Space and Satellite Technology:** Canada's RADARSAT constellation system can prove instrumental in strengthening India's Maritime Domain Awareness and naval capabilities in the Indo-Pacific region.

- **Complementary Capabilities:** Canada possesses advanced aerospace and R&D capabilities, which create an excellent balance with India's manufacturing scale and the world's third-largest domestic aviation market.

5. Critical Minerals and Supply Chain Security

- **Strategic Resource Abundance:** Canada holds vast reserves of uranium (world's 3rd largest reserve), cobalt, helium, rare earth elements (10th largest reserve), and tungsten (5%).
- **Integration of Supply Chains:** The 'Canada-India Critical Minerals Value Chain MoU' signed in February-March 2026 protects both countries from single-country dependence (China-centric supply) and provides a sustainable and secure supply chain.

6. Shared Historical Heritage

- **Historical Links:** Historical references such as the sacrifice of Royal Canadian Air Force personnel at the Kirkee War Cemetery (Pune) during World War II symbolize the emotional and strategic connection between the two nations.

Related Static Dimensions for UPSC

1. GS Paper-2: International Relations (IR)

- **India's Foreign Policy and Strategic Autonomy:** Security and defence dialogue with Canada helps India maintain the balance of power in the Indo-Pacific region.
- **Supply Chain Resilience Initiative:** Coming together of like-minded democracies to end the dominance of a single country in global supply chains.
- **Soft Power and Diaspora Links:** The vast Indian community (Indo-Canadians) in Canada serves as a major socio-economic pillar of relations between the two countries.

2. GS Paper-3: Internal Security, Defence& Economy

- **Make in India in Defence:** India's defence policy emphasizes technology transfer and joint manufacturing rather than just imports, in which Canada's 'Defence Industrial Strategy' can be helpful.
- **Critical Minerals Security:** Canada is a reliable partner for initiatives like India's KABIL (KhanijBidesh India Limited), ensuring the supply of raw materials for EVs, semiconductors, and advanced defence systems.
- **Civil Nuclear Cooperation:** A stable supply of uranium (such as the 'Cameco' agreement) plays a vital role in India's green energy transition and nuclear capacity expansion by 2047.

Challenges & Way Forward

Challenges:

- **Diplomatic Stalemate and Trust Deficit:** Completely resolving the tensions that have arisen in bilateral relations over the past few years due to political and extremism-related issues.
- **Execution Gap:** Rapidly converting agreements and Memorandums of Understanding (MoUs) into practical projects and commercial contracts.

Way Forward:

- **Pragmatic Reset:** Moving beyond differences to focus on mutual economic, defence, and energy interests.
- **Comprehensive Economic Partnership Agreement (CEPA):** Early finalization of CEPA negotiations to give new momentum to bilateral trade and investment.
- **Cooperation in the Indo-Pacific:** Deepening naval cooperation for anti-piracy operations, disaster management, and maritime domain awareness.

Conclusion

The emerging defence and technological cooperation between Canada and India is not merely a bilateral agreement, but a strong pillar of stability in an uncertain global landscape. From critical minerals to aerospace, and joint naval exercises to space technology, both nations can complement each other's capabilities. If backed by political will and sustained dialogue, this defence partnership will prove to be a milestone in building a 'secure future'.