

Daily Current Affairs

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India's Core Infrastructure Output Records 7.9% Growth in September 2026

Publication Date: October 23, 2026

India's core infrastructure output registered **7.9% year-on-year growth in September 2026**, according to provisional data released by the Ministry of Commerce and Industry. The growth accelerated from 5.9% in August 2026, reflecting stronger performance in iron ore, electricity, coal, refinery products, cement and steel.

The improvement indicates increased activity across several key industrial sectors, although three sectors—fertilisers, natural gas and crude oil—continued to record negative growth. The cumulative growth of core industries during April–September 2026 also improved compared with the corresponding period of the previous financial year.

What Is the Index of Core Industries?

The **Index of Core Industries (ICI)** measures changes in the production of key industries that form the foundation of India's industrial and infrastructure development.

The index is released by the Office of the Economic Adviser under the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.

Under the revised series with **2022-23 as the base year**, the index covers nine core industries:

1. Coal
2. Crude Oil
3. Natural Gas
4. Petroleum Refinery Products
5. Fertilisers
6. Steel
7. Cement
8. Electricity
9. Iron Ore

These industries supply essential inputs for manufacturing, construction, transportation, power generation and other economic activities.

Key Sector-Wise Performance in September 2026

The provisional data show that six of the nine core industries recorded positive year-on-year growth, while three contracted.

<Cite refs={["turn164869search0","turn164869search2"]} />

Core Industry	Growth in September 2026
Iron Ore	18.4%
Electricity	11.4%
Coal	10.7%
Petroleum Refinery Products	10.3%
Cement	9.8%
Steel	4.9%
Crude Oil	-1.4%
Natural Gas	-4.6%
Fertilisers	-11.7%

1. Iron Ore

Iron ore production recorded the highest growth among the nine core industries, increasing by 18.4%. This performance supported the overall expansion in core-sector output and reflected stronger activity in the mining and metals supply chain.

2. Electricity

Electricity production grew by 11.4% year-on-year. Electricity is an essential input for households, industries and commercial establishments, making its performance an important indicator of economic activity.

3. Coal

Coal production increased by 10.7%, recovering from a contraction in August. Coal remains an important source of energy for India's electricity generation and industrial operations.

4. Petroleum Refinery Products

Refinery products recorded growth of 10.3%. The expansion contributed to the overall improvement in the core industries index and indicated stronger output from petroleum refining.

5. Cement and Steel

Cement production grew by 9.8%, while steel production increased by 4.9%. Both industries are closely linked to construction, housing, manufacturing and infrastructure development.

6. Sectors Recording Negative Growth

Fertiliser production contracted by 11.7%, natural gas output declined by 4.6%, and crude oil production fell by 1.4%.

These contractions indicate that the improvement in core-sector performance was not uniform across all industries. Fertiliser production, in particular, remained under pressure.

Cumulative Performance During April-September 2026

The cumulative growth rate of the Index of Core Industries reached **5.1% during April-September 2026**, compared with 2.5% during the corresponding period of the previous year. <Cite refs=["turn164869search0","turn164869search1"]/>

This improvement suggests stronger overall industrial activity during the first half of the financial year.

However, core-sector growth should be interpreted alongside other economic indicators, including manufacturing output, inflation, employment, investment and demand conditions.

Why Is Core Infrastructure Growth Important?

1. Indicator of Industrial Activity

Core industries provide essential inputs to a wide range of economic sectors. Their performance helps assess the direction of industrial production.

2. Infrastructure Development

Growth in cement, steel, coal and electricity can support construction, transport infrastructure, power supply and industrial expansion.

3. Link with the Index of Industrial Production

The core industries contribute approximately 40.27% of the weight in India's Index of Industrial Production (IIP), under the established weighting framework. Their performance therefore has a substantial influence on the broader industrial production index. <Cite refs={["turn164869search1","turn164869search2"]} />

4. Investment and Economic Growth

Rising production in infrastructure-linked industries may reflect stronger demand and greater utilisation of industrial capacity. However, output growth alone does not establish the level of new investment or employment creation.

5. Energy Security

Coal, crude oil, natural gas, refinery products and electricity are closely connected with India's energy supply. Monitoring these sectors helps policymakers identify changes in domestic production and potential supply pressures.

Challenges and the Way Forward

Despite the strong headline growth, several issues require attention.

- **Uneven sectoral performance:** Negative growth in crude oil, natural gas and fertilisers highlights differences across industries.
- **Energy dependence:** India continues to face challenges associated with energy security and exposure to international commodity prices.
- **Sustainable development:** Expansion in mining, coal and industrial production must be balanced with environmental protection.
- **Infrastructure investment:** Continued investment in logistics, electricity, manufacturing and industrial facilities is important for sustaining growth.
- **Data interpretation:** Provisional figures may be revised, and year-on-year growth can be influenced by the base effect.

Policymakers should focus on improving industrial productivity, diversifying energy sources, strengthening domestic supply chains and encouraging investment in sustainable infrastructure.

Conclusion

India's core infrastructure output growth of 7.9% in September 2026 indicates stronger performance across several major industrial sectors. Iron ore, electricity, coal and refinery products were among the leading contributors, while contractions in fertilisers, natural gas and crude oil highlight continuing sectoral challenges.

The cumulative growth of 5.1% during April–September 2026 provides a broader picture of industrial performance in the first half of the financial year. Sustaining this momentum will require balanced industrial development, reliable energy supplies, investment and greater environmental sustainability.

UPSC Focus

- **GS Paper III:** Indian Economy — industrial growth, infrastructure development and energy security.
- **Key indicator:** Index of Core Industries (ICI), released by the Office of the Economic Adviser, DPIIT.
- **Base year:** 2022–23.
- **Key concept:** The relationship between core-sector output and the Index of Industrial Production (IIP).
- **Economic significance:** Core industries provide essential inputs for manufacturing, construction, electricity generation and infrastructure development.

Key Takeaways

- India's core infrastructure output grew by **7.9% year-on-year in September 2026**.
- August 2026 growth was revised to 5.9%.
- Iron ore recorded the highest growth at 18.4%.
- Electricity grew by 11.4%, coal by 10.7% and refinery products by 10.3%.
- Fertilisers, natural gas and crude oil recorded negative growth.
- Cumulative core-sector growth reached 5.1% during April–September 2026, compared with 2.5% a year earlier.
- The current ICI series uses **2022–23 as its base year** and covers nine core industries.

Source: Press Information Bureau, Business Standard, Reuters

India and Poland Expand Cooperation in Strategic Sectors

Publication Date: October 23, 2026

India and Poland have agreed to strengthen bilateral cooperation in defence, space and nuclear energy, while setting an ambitious target of doubling bilateral trade by 2030. The agreements were reached during talks between Indian Prime Minister Narendra Modi and Polish Prime Minister Donald Tusk in New Delhi on 22 October 2026.

The discussions also focused on defence industrial cooperation, emerging technologies, critical minerals, artificial intelligence and investment. The visit has given fresh momentum to the India–Poland Strategic Partnership, established in August 2024, and aims to translate diplomatic engagement into practical economic and technological cooperation.

1. Defence Cooperation

Defence cooperation emerged as a major component of the discussions. Both countries agreed to deepen engagement between their defence industries and explore commercially viable opportunities.

A Defence Industry Dialogue will provide a platform to identify opportunities for industrial cooperation, including:

- Joint development of defence technologies.
- Co-production of defence equipment.
- Greater business-to-business engagement.
- Cooperation in critical and emerging technologies.
- Cybersecurity and defence innovation.

The two countries also discussed the importance of an agreement on the mutual protection and exchange of classified information, which would support the secure exchange of sensitive information during defence cooperation.

2. Cooperation in Space and Nuclear Energy

India and Poland agreed to strengthen cooperation in the space and nuclear energy sectors.

Space cooperation

Both countries recognised space as an important component of their strategic partnership. They intend to encourage institutional and industry-level engagement and identify practical opportunities for mutually beneficial cooperation.

Potential areas for collaboration include space research, technological development and commercial partnerships, subject to future agreements.

Nuclear energy

The leaders agreed to deepen cooperation in nuclear energy as part of their broader engagement in strategic and advanced technologies.

Further details regarding specific nuclear projects, investment commitments and implementation arrangements would depend on subsequent agreements.

3. Target to Double Bilateral Trade by 2030

One of the major economic outcomes was the commitment to double bilateral trade by 2030.

According to reporting by Business Standard, bilateral trade stood at approximately US\$6.3 billion at the time of the announcement. The leaders aim to build on the complementary strengths of the two economies and expand commercial engagement.

Priority areas for business cooperation include:

- Industrial machinery and manufacturing.

- Pharmaceuticals and chemicals.
- Defence and infrastructure.
- Information and communication technology.
- Mining and critical minerals.
- Energy and advanced manufacturing.
- Food processing and biotechnology.

The leaders also encouraged businesses, including small and medium-sized enterprises, to explore investment opportunities in both countries.

4. Role of the India-European Union Free Trade Agreement

The India-European Union (EU) trade relationship featured prominently in the discussions.

The leaders welcomed progress on the India-EU Free Trade Agreement and called for its early signing, ratification and implementation. They recognised its potential to create new opportunities for trade and investment, strengthen supply chains and expand market access.

For India, Poland can serve as a gateway to Central and Eastern European markets. For Polish businesses, India offers access to a large consumer market, a skilled workforce and expanding manufacturing capabilities.

Note: The trade target is a bilateral commitment; it should not be interpreted as an automatic outcome of the EU trade agreement.

5. Cooperation in Critical Minerals and Emerging Technologies

India and Poland also identified opportunities to strengthen cooperation in strategic industries and emerging technologies.

The discussions covered:

Artificial Intelligence: Collaborative research and the development of applications that can improve productivity and innovation.

Semiconductors: Closer engagement in semiconductor technologies and associated industrial ecosystems.

Critical minerals: Cooperation in geology, mining and the processing of strategically important minerals.

Battery recycling: Exploring opportunities in the circular economy, including battery recycling and resource recovery.

Rare-earth minerals: Potential cooperation in refining and processing rare-earth materials, which are important for several advanced technologies.

An agreement on mining and critical minerals was under negotiation at the time of the joint statement.

6. Significance for India-Poland Relations

The developments are important for several reasons.

Strategic diversification

Closer cooperation with Poland can help India diversify its European partnerships in defence, technology, energy and industry.

Defence manufacturing

Joint development and co-production can create opportunities for technology exchange and strengthen industrial capabilities.

Economic growth

Doubling trade by 2030 would require stronger commercial links, investment and improved market access.

Supply-chain resilience

Cooperation in critical minerals, semiconductors and advanced manufacturing can contribute to more diversified supply chains.

India-EU relations

Stronger bilateral relations with Poland can complement India's broader engagement with the European Union.

7. Challenges and the Way Forward

Achieving the proposed goals will require sustained diplomatic engagement and effective implementation.

Key challenges include regulatory differences, market-access barriers, the need for investment and technology partnerships, and geopolitical uncertainty affecting Europe and global supply chains.

Both countries should prioritise practical projects, facilitate business engagement, strengthen research partnerships and establish clear mechanisms to monitor progress towards the 2030 trade target.

Defence and nuclear cooperation will also require appropriate regulatory safeguards, technical agreements and compliance with applicable international obligations.

Conclusion

India and Poland's agreement to deepen defence, space and nuclear energy cooperation marks an important step in their strategic partnership. The proposed Defence Industry Dialogue, collaboration in emerging technologies and target of doubling bilateral trade by 2030 provide a framework for expanding ties.

The success of this partnership will depend on translating political commitments into concrete projects, stronger commercial engagement and sustained cooperation across strategic sectors.

Prelims Pointers

- Indian Prime Minister: Narendra Modi.
- Prime Minister of Poland: Donald Tusk.
- Meeting: New Delhi, 22 October 2026.
- Trade target: Double bilateral trade by 2030.
- Strategic Partnership: Established in August 2024.
- New institutional mechanism: Defence Industry Dialogue.
- Major cooperation areas: Defence, space, nuclear energy, AI, semiconductors and critical minerals.
- Poland's regional significance: A potential gateway to Central and Eastern European markets.

Mains Practice Question

UPSC GS Paper II – International Relations

“India’s growing engagement with European countries reflects its efforts to diversify strategic and economic partnerships.”
Discuss with reference to the recent India–Poland agreements.

Road Ministry Proposes Advanced Emergency Braking Systems for New Cars

Publication Date: October 23, 2026

The Ministry of Road Transport and Highways (MoRTH) has proposed making **Advanced Emergency Braking Systems (AEBS) mandatory in new car models from 1 October 2030**, as part of efforts to improve road safety and reduce road accidents in India.

According to the draft amendment to the Central Motor Vehicles Rules, 1989, the requirement would apply to new car models from October 2030, while existing models continuing in production would have until **1 October 2032** to comply. The proposed rules were notified in October 2026 and invite public objections and suggestions before further consideration.

What Is an Advanced Emergency Braking System (AEBS)?

An Advanced Emergency Braking System is a vehicle safety technology designed to detect a potential collision and automatically apply the brakes when the driver fails to respond appropriately.

The system generally uses sensors and electronic controls to monitor the road ahead and identify possible collisions with vehicles or other detected obstacles.

When a dangerous situation is detected, AEBS may:

1. Identify a potential forward collision.
2. Alert the driver to the danger.
3. Apply the brakes automatically if the driver does not respond adequately.
4. Help avoid the collision or reduce its impact.

The technology is designed to assist drivers, not replace them. Its effectiveness can vary depending on visibility, road conditions, sensor performance and the type of obstacle detected. <Cite refs={["turn101465search7"]} />

Why Has the Road Ministry Proposed This Requirement?

1. Improving Road Safety

Automatic emergency braking can help reduce the risk of collisions when drivers fail to react in time, particularly in situations involving sudden braking by vehicles ahead.

2. Reducing Collision Severity

Even when a collision cannot be completely avoided, automatic braking may reduce the vehicle’s speed before impact, potentially lowering the severity of injuries and property damage.

3. Modernising Vehicle Safety Standards

The proposal would bring an advanced active-safety technology into India's regulatory framework for passenger vehicles, subject to finalisation of the rules.

4. Encouraging Advanced Automotive Technology

Mandatory safety standards can encourage vehicle manufacturers to incorporate more sophisticated safety technologies into their products.

What Is AIS-185?

Automotive Industry Standard AIS-185 specifies technical requirements for Advanced Emergency Braking Systems.

The standard provides a framework for assessing how the system detects potential collisions, warns the driver and activates braking when necessary. It also recognises that performance can be affected by vehicle condition, road conditions, weather and other real-world factors.

Challenges in Implementation

Several issues will need attention before and during implementation:

- **Vehicle costs:** Incorporating sensors, electronic controls and braking technology may increase manufacturing costs.
- **Testing and certification:** Manufacturers will need to demonstrate compliance with the prescribed technical standards.
- **Performance in Indian conditions:** Systems must be evaluated for diverse traffic patterns, road layouts, weather and mixed road-user environments.
- **Consumer awareness:** Drivers must understand the capabilities and limitations of automatic braking.
- **Consultation and implementation:** Manufacturers and other stakeholders need sufficient time to prepare for the proposed deadlines.

Way Forward

The government should establish clear testing and certification procedures, consult automobile manufacturers and safety experts, and ensure that the final standards are suitable for Indian road conditions.

Public awareness about ADAS technologies should also be strengthened. AEBS must complement, rather than replace, responsible driving, seat-belt use, enforcement of traffic rules and improvements in road infrastructure.

Conclusion

The Road Ministry's proposal to introduce Advanced Emergency Braking Systems in new car models from October 2030 represents a move towards stronger active-safety standards in India.

If finalised and implemented effectively, the requirement could help reduce certain types of collisions and encourage wider adoption of advanced vehicle safety technologies. Its success will depend on robust technical standards, reliable testing and public awareness.

Prelims Pointers

- **MoRTH:** Ministry of Road Transport and Highways.
- **AEBS:** Advanced Emergency Braking System.
- **ADAS:** Advanced Driver Assistance Systems.
- **AIS-185:** Technical standard for Advanced Emergency Braking Systems.
- **Proposed deadline for new car models:** 1 October 2030.
- **Proposed deadline for all covered existing models:** 1 October 2032.
- **Legislation being amended:** Central Motor Vehicles Rules, 1989.
- **Current status:** Draft proposal, not yet a final requirement for all covered cars.

Mains Practice Question

GS Paper III - Science and Technology

“Advanced vehicle safety technologies can contribute to reducing road accidents, but technology alone cannot ensure road safety.” Discuss in the context of India’s proposed Advanced Emergency Braking System requirements.

IIT Madras Pravartak Partners with Sri Lanka’s Dialog Axiata to Boost Research and Innovation

Publication Date: October 23, 2026

IIT Madras Pravartak Technologies Foundation has signed a Memorandum of Understanding (MoU) with Sri Lanka’s Dialog Axiata PLC to strengthen research, innovation and startup development. The agreement was signed by **Dr. M. J. Shankar Raman, CEO of IIT Madras Pravartak Technologies Foundation, and Supun Weerasinghe, Group CEO of Dialog Axiata PLC**, in the presence of **Santosh Jha, Indian High Commissioner to Sri Lanka**.

Announced on 22 October 2026, the partnership aims to connect universities and startups with technological expertise, business support and market access in Sri Lanka and beyond. It is expected to strengthen collaboration between academia and industry and promote innovation-led economic development.

About Dialogue Axiata PLC

Dialogue Axiata PLC, a subsidiary of Malaysia-based Axiata Group Berhad, is a major telecommunications and digital services provider in Sri Lanka.

Its business includes connectivity and digital services, making the company an important participant in Sri Lanka’s digital economy. Collaboration between technology research organisations and telecommunications companies can create opportunities to test new technologies, develop digital solutions and strengthen technical capabilities.

Significance of India-Sri Lanka Technology Cooperation

India and Sri Lanka have been expanding cooperation in technology, digital skills, research and entrepreneurship.

In September 2025, a delegation from IIT Madras Pravartak visited Colombo to explore opportunities in AI skills development, human-centric AI applications, technology-enabled education and innovation incubation. During the visit, IIT Madras Pravartak also signed a Memorandum of Understanding with the University of Kelaniya to promote academic enrichment, training, research and entrepreneurship. <Cite refs=[["turn230019search3","turn230019search4"]]/>

In February–March 2026, a 25-member delegation of Sri Lankan startup founders and business leaders participated in a specialised training and capacity-building programme at IIT Madras Pravartak. The programme included entrepreneurship, business strategy and practical applications of AI. <Cite refs=[["turn230019search0","turn230019search1"]]/>

These developments demonstrate the potential of cross-border partnerships to strengthen regional innovation and digital capabilities.

Potential Areas of Collaboration

Depending on the officially announced terms, a partnership between IIT Madras Pravartak and Dialogue Axiata could provide a platform for cooperation in areas such as:

1. **Artificial Intelligence:** Developing and applying AI-based solutions to business and societal challenges.
2. **Digital Innovation:** Exploring technologies that can improve digital services and connectivity.
3. **Research and Development:** Connecting academic expertise with industry requirements.
4. **Technical Skills Development:** Supporting training and knowledge exchange for professionals.
5. **Startup Ecosystem:** Encouraging entrepreneurship and the development of technology-based solutions.

These are potential areas of cooperation, not confirmed deliverables of the specific partnership.

Conclusion

Technology partnerships between India and Sri Lanka can contribute to knowledge exchange, digital capacity-building and innovation-led economic development. IIT Madras Pravartak’s work in technology and entrepreneurship, combined with Dialogue Axiata’s position in Sri Lanka’s telecommunications sector, offers a relevant context for examining the role of academia–industry collaboration.

The precise significance of this particular partnership will depend on its confirmed objectives, implementation arrangements and measurable outcomes.

Prelims Pointers

- **IIT Madras Pravartak:** Technology Innovation Hub hosted by IIT Madras.
- **Legal structure:** Section 8 company.
- **Nodal ministry:** Ministry of Science and Technology, through the Department of Science and Technology.
- **Key technology areas:** Sensors, networking, actuators and control systems.
- **Dialogue Axiata:** Telecommunications and digital services provider in Sri Lanka.
- **Axiata Group Berhad:** Malaysia-based parent group of Dialogue Axiata.

Mains Practice Question

“International academic–industry partnerships can accelerate digital transformation and innovation in South Asia.” Discuss with reference to India–Sri Lanka technology cooperation.

Home Minister Amit Shah Launches ₹8,941-Crore Yamuna Rejuvenation Projects in Delhi, Targets a Cleaner River by May 2029

Publication Date: October 23, 2026

India has taken a significant step towards river rejuvenation with the launch of 43 water supply and sewerage infrastructure projects worth **₹8,941.22 crore** in Delhi. The projects aim to reduce the discharge of untreated sewage into the Yamuna River, expand sewerage coverage, upgrade wastewater treatment facilities and improve water supply infrastructure.

Union Home Minister Amit Shah launched the projects on 22 October 2026 in the Najafgarh area of Delhi. Delhi Chief Minister Rekha Gupta and Water Minister Parvesh Sahib Singh Verma were also associated with the initiative.

The projects form part of Delhi’s efforts to address Yamuna pollution through improved sewage collection, treatment and reuse rather than relying solely on cleaning the riverbanks. The government has set a target of achieving substantial progress in river rejuvenation through coordinated action and infrastructure development.

Major Components of the Projects

1. New Sewage Treatment Plant at Okhla

A new sewage treatment plant (STP) with a capacity of **124 million gallons per day (MGD)** is a major component of the initiative.

- **Estimated cost:** ₹1,161 crore.
- **Purpose:** Treat wastewater before it can enter the river system.
- **Significance:** Increase the capacity to manage sewage generated in and around Delhi.

The plant is expected to serve a large population in the Okhla area and contribute to reducing the pollution load entering the Yamuna.

2. Upgradation of Eight Existing Sewage Treatment Plants

Eight existing sewage treatment plants will be upgraded to improve wastewater treatment capacity.

- **Existing combined capacity:** 78.2 MGD.
- **Proposed combined capacity:** 140.8 MGD.
- **Estimated cost:** ₹1,041 crore.
- **Expected beneficiaries:** Approximately 78.5 lakh people.

The proposed upgrades are intended to improve the city’s ability to treat sewage and reduce the amount of untreated wastewater entering drains connected to the Yamuna.

3. Twenty-Nine Decentralised Sewage Treatment Plants

The initiative includes 29 decentralised sewage treatment plants and sewage pumping stations in Outer Delhi.

- **Estimated cost:** ₹3,113.67 crore.
- **Coverage:** 358 unauthorised colonies and 113 villages.
- **Expected beneficiaries:** Approximately 36.29 lakh residents.

Decentralised sewage treatment plants are particularly useful in areas where constructing large centralised treatment plants is difficult because of land or space constraints. These facilities can help treat wastewater closer to where it is generated.

4. Expansion of the Sewer Network

The projects include the laying of approximately **1,034 kilometres of new sewer lines**, at an estimated cost of ₹1,691 crore.

The expansion is intended to extend sewerage connectivity to areas that are not adequately covered by existing networks.

Improved connectivity is essential because sewage treatment plants cannot effectively reduce river pollution if wastewater never reaches them.

5. New Water Treatment Plant at Chandrawal

A new water treatment plant with a capacity of **477 million litres per day (MLD)** is planned at Chandrawal.

- **Estimated cost:** ₹298.3 crore.
- **Expected beneficiaries:** Approximately 22 lakh residents.
- **Purpose:** Improve water treatment infrastructure and strengthen the city's water supply system.

The new facility is intended to replace older water treatment facilities established in 1935 and 1955.

6. Improvement of Drainage Infrastructure

The package also includes a 4.5-kilometre trunk drain at Mundka, estimated to cost ₹225.02 crore.

Drainage improvements can contribute to better wastewater management, although their environmental benefits depend on how sewage and other pollutants are intercepted, treated and managed.

Major Challenges in Yamuna Rejuvenation

Despite substantial investment, several challenges must be addressed.

- Ensuring adequate sewerage coverage in residential and urban areas.
- Preventing untreated sewage from entering drains.
- Maintaining the efficient operation of sewage treatment plants.
- Enforcing industrial wastewater discharge standards.
- Ensuring adequate environmental flows in the river.
- Coordinating pollution-control efforts across state boundaries.

- Monitoring the actual impact of projects on water quality.

Infrastructure development alone does not guarantee river restoration. The effectiveness of the initiative must be assessed through pollution levels, treatment performance and improvements in the river's ecological condition.

Way Forward

A sustainable strategy for Yamuna rejuvenation should focus on the following measures:

1. **Universal sewerage connectivity:** Extend sewer connections to uncovered households and settlements.
2. **Efficient wastewater treatment:** Ensure that sewage treatment plants operate consistently and meet prescribed standards.
3. **Pollution monitoring:** Regularly monitor water quality and industrial discharge.
4. **Wastewater reuse:** Promote the safe reuse of treated wastewater for suitable non-drinking purposes.
5. **Interstate cooperation:** Strengthen coordination among Delhi, Haryana, Uttar Pradesh and the relevant central agencies.
6. **Public participation:** Encourage responsible waste disposal, water conservation and community involvement in river protection.
7. **Transparent evaluation:** Publish project progress, expenditure, treatment capacity and water-quality results.

Conclusion

The launch of 43 Yamuna rejuvenation and water infrastructure projects worth ₹8,941.22 crore represents a substantial investment in Delhi's sanitation and water management systems. The initiative places emphasis on treating sewage, expanding sewer networks and improving the infrastructure required to prevent untreated wastewater from entering the Yamuna.

Its long-term success will depend on effective implementation, regular monitoring, enforcement of environmental standards and coordination among government agencies.

For India, Yamuna rejuvenation is not merely a river-cleaning exercise; it is an important component of sustainable urban development, public health protection and environmental conservation.

Prelims Pointers

- **River:** Yamuna.
- **Origin:** Yamunotri Glacier, Uttarakhand.
- **Confluence with the Ganga:** Prayagraj, Uttar Pradesh.
- **Project value:** ₹8,941.22 crore.
- **Number of projects:** 43.
- **Launch date:** 22 October 2026.
- **Launch location:** Najafgarh, Delhi.
- **Launched by:** Union Home Minister Amit Shah.

- **New Okhla STP capacity:** 124 MGD.
- **Proposed Chandrawal water treatment capacity:** 477 MLD.
- **Key implementing agency:** Delhi Jal Board.

Mains Practice Question

GS Paper III - Environment and Ecology

“River rejuvenation requires an integrated approach that combines infrastructure development, pollution control and public participation.” Discuss with reference to the Yamuna rejuvenation projects in Delhi.

Asian Games 2026 Wrap-up: India Finishes Fourth with 85 Medals

Publication Date: October 5, 2026

India concluded its campaign at the **2026 Asian Games in Aichi-Nagoya, Japan**, finishing **fourth in the overall medal tally with 85 medals**. India’s final haul comprised **21 gold, 27 silver and 37 bronze medals**.

The 2026 edition was marked by a strong late surge from the Indian contingent, with notable performances across **athletics, shooting, archery, boxing, wrestling and team sports**.

India’s Medal Tally

Medal	Number
🥇 Gold	21
🥈 Silver	27
🥉 Bronze	37
Total	85

Overall Rank 4th

India finished behind **China, Japan and South Korea** in the overall standings. China’s 169 gold medals and 341 total medals placed it at the top of the table.

India’s Strong Performance in Team Sports

One of the biggest highlights of India’s campaign was the **gold-medal sweep in cricket, kabaddi and hockey**.

Cricket

India retained both Asian Games cricket titles. The **women’s team defeated Sri Lanka**, while the **men’s team defeated Pakistan by 19 runs** in the final to retain the men’s gold medal.

Kabaddi

India won gold in **both men’s and women’s kabaddi**. The women’s team defeated Iran 37–34, while the men’s team came from behind to defeat Iran 40–34.

Hockey

India achieved a historic double in hockey.

- The **Indian women's hockey team won gold**, ending a 44-year wait for an Asian Games medal.
- The **men's hockey team defeated Malaysia 5-1** to retain its title.
- Both teams secured qualification for the **Los Angeles 2028 Olympic Games**.

Major Individual and Sport-wise Achievements

Athletics was India's biggest contributor in terms of total medals, with **24 medals**, while **shooting** contributed 15 and **archery** 9.

Archery

India won **nine medals in archery**, including **five golds**. Kumkum Anil Mohod created history by becoming the first Indian woman to win an individual recurve gold at the Asian Games. India's women's recurve team also ended South Korea's long-standing dominance in the event.

Shooting

Shooting produced **15 medals—3 gold, 8 silver and 4 bronze**. Shooter **Neeru Dhanda** was among India's standout performers, winning two gold medals and a silver. She also carried the Indian flag at the closing ceremony.

Boxing

India secured **six boxing medals**, including three golds. **Lovlina Borgohain** became only the second Indian woman to win an Asian Games boxing gold after Mary Kom.

Wrestling

Indian wrestlers won **six medals—2 gold, 2 silver and 2 bronze**. **Aman Sehrawat** and **Sujeet Kalkal** won gold medals in their respective categories.

Golf

Pranavi Urs created history by becoming the **first Indian woman to win an individual Asian Games gold medal in golf**.

India's Performance Compared with Hangzhou 2022

India's **85-medal haul** was below its record performance of **106 medals at the Hangzhou Asian Games**, where India won 28 gold, 38 silver and 40 bronze medals.

Nevertheless, the Aichi-Nagoya campaign remained significant because of its **historic firsts, Olympic qualification achievements and strong performances by emerging athletes**.

Why is the Asian Games 2026 Important for India?

The performance highlights India's growing depth across traditional and emerging sporting disciplines. The medal-winning performances in archery, shooting, boxing, wrestling and athletics demonstrate the country's expanding competitive base beyond a few traditional sports.

The success of both men's and women's teams in cricket, kabaddi and hockey also underlines India's continued strength in team sports.

Key Takeaways for UPSC

- **2026 Asian Games:** Aichi-Nagoya, Japan.
- **India's rank:** 4th.
- **Total medals:** 85.
- **Gold:** 21; **Silver:** 27; **Bronze:** 37.
- **Top three:** China, Japan and South Korea.
- **China:** 169 gold and 341 total medals.
- **India's strongest sport by total medals:** Athletics – 24.
- **Shooting:** 15 medals.
- **Archery:** 9 medals, including 5 gold.
- India achieved a **gold-medal sweep in cricket, kabaddi and hockey**.
- India's men's and women's hockey teams both won gold and secured **Los Angeles 2028 Olympic qualification**.
- **Pranavi Urs** became the first Indian woman to win an individual Asian Games golf gold.
- **Kumkum Anil Mohod** became the first Indian woman to win an individual recurve gold at the Asian Games.
- India finished with its **second-highest overall Asian Games medal tally**, behind the 106 medals won at Hangzhou.

Sources: News On AIR, Olympics.com, NDTV and Indian Express.

Nobel Prize in Physiology or Medicine 2026 Awarded for Breakthroughs in Optogenetics

Publication Date: October 5, 2026

The **2026 Nobel Prize in Physiology or Medicine** has been awarded jointly to **Karl Deisseroth, Peter Hegemann and Georg Nagel** for their pioneering discoveries concerning **light-gated ion channels and optogenetics**. The Nobel Assembly at Karolinska Institutet announced the award on **5 October 2026**.

The three scientists' work has fundamentally transformed neuroscience by enabling researchers to **control the activity of specific nerve cells using light**. This has provided unprecedented insights into how the brain controls **memory, emotions, behaviour and bodily functions**.

What is Optogenetics?

Optogenetics is a technique that combines **genetics and optics** to control specific neurons using light.

The breakthrough began with studies of the single-celled green alga **Chlamydomonas**, which can respond to light. **Peter Hegemann and Georg Nagel** discovered light-sensitive proteins called **channelrhodopsins**. These proteins function as **light-gated ion channels**—when exposed to light, they open and allow charged ions to flow across the cell membrane, generating an electrical signal.

Karl Deisseroth subsequently introduced the gene for channelrhodopsin into nerve cells. By exposing these genetically modified neurons to blue light, researchers could precisely activate them. His group later demonstrated that the technique could control specific nerve cells in the brains of living mice.

Why is the Discovery Important?

Before optogenetics, scientists could observe brain activity but had limited ability to establish whether particular neurons **caused** a specific behaviour or response.

Optogenetics changed this by allowing researchers to activate or inhibit selected neurons with exceptional **spatial and temporal precision**. It has therefore helped scientists investigate the neural circuits responsible for:

- Memory and learning
- Emotions and fear
- Movement
- Sleep and wakefulness
- Pain
- Appetite and reward
- Social behaviour
- Addiction

The technique has become an important tool for understanding neurological and psychiatric disorders, including **Alzheimer’s disease, Parkinson’s disease, epilepsy, schizophrenia and addiction** .

Potential Medical Applications

Although optogenetics is primarily a research technique, it is also being explored for therapeutic applications.

One promising area is **vision restoration**. Researchers are investigating whether light-sensitive proteins can be introduced into retinal cells to restore some visual function in people suffering from diseases such as **retinitis pigmentosa**. The technology is also being explored for improving the precision of **cochlear implants**. However, many of these applications remain under development and should not yet be considered established treatments.

Key Takeaways

Aspect	Details
Award	Nobel Prize in Physiology or Medicine 2026
Laureates	Karl Deisseroth, Peter Hegemann, Georg Nagel

RoDTEP Scheme Extended Till December 2026

Publication Date: October 3, 2026

The **Government of India has extended the Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme until 31 December 2026** . The extension was notified by the **Directorate General of Foreign Trade (DGFT)** through **Notification No. 41/2026-27 dated 30 September 2026** .

The decision provides continuity to exporters at a time when global trade is facing geopolitical disruptions, changing tariff structures and increased competition. Importantly, the **existing RoDTEP rates and value caps applicable on 30 September 2026 will remain unchanged** during the extended period.

What is the RoDTEP Scheme?

What is RoDTEP?

RoDTEP stands for **Remission of Duties and Taxes on Exported Products**.

The scheme aims to ensure that certain **embedded Central, State and local duties, taxes and levies that have not been refunded through other mechanisms are remitted to exporters**. This includes eligible cumulative indirect taxes incurred at earlier stages of production and distribution.

What is the RoDTEP Scheme?

Who Can Avail the Scheme?

The extended RoDTEP framework continues to cover eligible exports made by:

- **Domestic Tariff Area (DTA) units**
- **Advance Authorisation (AA) holders**
- **Special Economic Zone (SEZ) units**
- **Export Oriented Units (EOUs)**

This provides continuity across different categories of export-oriented businesses.

Why is RoDTEP Important?

1. Enhances Export Competitiveness

Taxes and duties that remain embedded in the cost of exported goods can make Indian products relatively expensive in international markets.

RoDTEP seeks to remove this disadvantage by remitting eligible un-rebated taxes and duties.

Embedded taxes → Higher export cost → Lower competitiveness

RoDTEP attempts to create:

Tax remission → Lower effective export cost → Greater competitiveness

2. Provides Policy Certainty

The scheme was earlier valid up to **30 September 2026**. Its extension provides exporters with continuity for the October–December period.

This is relevant because exporters need predictability while:

- Negotiating international contracts
 - Fixing export prices
 - Planning production
 - Managing working capital
 - Assessing overseas markets
-

3. Supports MSME Exporters

MSMEs constitute an important part of India's export ecosystem. For businesses operating with relatively narrow margins, even embedded taxes and levies can influence international pricing.

Continuation of RoDTEP can therefore help maintain the cost competitiveness of eligible MSME exporters.

4. Supports India's Manufacturing and Export Strategy

The scheme complements India's broader objectives of:

- Increasing merchandise exports
 - Strengthening domestic manufacturing
 - Integrating with global value chains
 - Supporting export-oriented industries
 - Improving India's competitiveness in international markets
-

RoDTEP and WTO

The WTO dimension makes RoDTEP particularly important for **UPSC GS Paper III**.

RoDTEP was introduced as part of India's transition towards a system focused on **remission of un-rebated taxes and duties**, rather than simply providing an export-linked incentive.

This distinction is important.

Export Subsidy

A government benefit specifically linked to exports.

Tax Remission

Refund or remission of eligible domestic taxes and duties that have already been incurred but have not otherwise been rebated.

Thus, RoDTEP is conceptually based on:

"Do not export domestic taxes and duties."

Significance Amid Global Trade Uncertainty

The extension comes amid continuing uncertainty in international trade, including geopolitical disruptions and tariff-related challenges.

The government has stated that the continuation is intended to support exporters and provide a **level playing field for Indian exporters vis-à-vis competing economies**.

For India, maintaining export competitiveness is important for:

- Foreign exchange earnings
- Employment

- Manufacturing growth
 - Industrial investment
 - Integration into global supply chains
-

Challenges

Despite its importance, RoDTEP is not a substitute for broader structural reforms.

Key challenges include:

1. Limited policy horizon

The latest extension is only until 31 December 2026, which may require exporters to continue planning around periodic policy decisions.

2. Logistics costs

High transportation and logistics costs can reduce India's export competitiveness even when embedded taxes are remitted.

3. Infrastructure constraints

Efficient ports, warehouses, roads and multimodal connectivity remain important for export growth.

4. Global competition

Indian exporters compete with producers from economies offering different cost structures, technologies and market-access conditions.

5. WTO considerations

Export-support policies need to remain consistent with India's international trade obligations.

UPSC Prelims Focus

Remember These Facts

1. RoDTEP stands for:

Remission of Duties and Taxes on Exported Products

2. Implementing authority:

Directorate General of Foreign Trade (DGFT)

3. Ministry:

Ministry of Commerce & Industry

4. Latest extension:

Up to 31 December 2026

5. Latest notification:

Notification No. 41/2026-27

6. Eligible categories:

- DTA units
- Advance Authorisation holders

- SEZ units
- EOUs

7. Existing rates and value caps:

Continue unchanged during the extended period.

UPSC Mains Perspective

GS Paper III - Indian Economy

RoDTEP can be linked with:

International Trade + Export Competitiveness + MSMEs + Manufacturing + WTO + Fiscal Policy + Globalisation

Possible Mains Question

“The RoDTEP scheme represents a shift from export incentives towards tax remission. Discuss its significance for India’s export competitiveness in the context of global trade uncertainties.”

Answer Framework

Introduction:

Define RoDTEP and mention its latest extension.

Body:

Significance

- Reduces embedded tax burden
- Improves price competitiveness
- Supports MSMEs
- Provides export-policy continuity
- Supports manufacturing and global value-chain integration

Challenges

- Short-term policy horizon
- Fiscal implications
- WTO compliance
- Structural logistics and infrastructure constraints

Way Forward

- Greater policy predictability
- Periodic evidence-based rate rationalisation
- Lower logistics costs
- Better port infrastructure
- Trade diversification
- Greater integration with global value chains

Conclusion:

RoDTEP can support India's export competitiveness, but sustainable export growth requires combining tax remission with improvements in productivity, logistics, infrastructure, technology and market access.

Source : Press Information Bureau

Samudra Manthan: India's Deep-Sea Oil & Gas Exploration Mission

Publication Date: October 3, 2026

Samudra Manthan: India's Deep-Sea Oil & Gas Exploration Mission

UPSC Current Affairs | GS Paper III - Energy Security, Blue Economy, Economy & Environment

India has taken a major step towards strengthening its **energy security** by approving "**Samudra Manthan**" - the **National Offshore Exploration Scheme**. Approved by the Union Cabinet on **31 July 2026**, the scheme has a total outlay of **₹84,084 crore up to FY 2030-31**. It seeks to accelerate exploration of India's offshore oil and natural gas resources through advanced seismic surveys, deepwater drilling, common infrastructure and domestic manufacturing.

The initiative is particularly significant because India remains heavily dependent on imported crude oil and natural gas while its energy demand continues to grow.

What is Samudra Manthan?

Samudra Manthan is the **National Offshore Exploration Scheme** of the Ministry of Petroleum and Natural Gas.

The mission aims to unlock India's **deepwater and ultra-deepwater hydrocarbon potential** and create an integrated offshore exploration ecosystem.

Its major objectives include:

- Expanding India's domestic oil and gas reserves
- Accelerating deepwater and ultra-deepwater exploration
- Reducing exploration risks for investors
- Improving India's energy security
- Increasing domestic oil and gas production
- Developing indigenous offshore technologies
- Creating common offshore infrastructure
- Promoting **Make in India and Atmanirbhar Bharat**

The government expects the scheme to potentially add **more than 600 Million Metric Tonnes of Oil Equivalent (MMTOE)** to India's hydrocarbon reserves.

Why Does India Need Deep-Sea Exploration?

India is among the world’s largest consumers of crude oil. A substantial proportion of its petroleum requirements is met through imports, making the country vulnerable to:

- International crude oil price fluctuations
- Geopolitical conflicts
- Supply-chain disruptions
- Exchange-rate pressures
- External energy shocks

Therefore, increasing domestic exploration and production is an important component of **energy security**.

India’s offshore sedimentary basins, particularly in the **Krishna-Godavari, Cauvery, Mahanadi and Andaman regions** , offer significant exploration potential. India’s eastern and western offshore areas extend to water depths of up to around **3,000 metres**.

Major Components of Samudra Manthan

Component	Allocation	Key Focus
Offshore seismic data	₹28,534 crore	2D & 3D seismic surveys, data processing and AI
Deepwater exploration	₹43,200 crore	60 deepwater exploration wells
Common offshore infrastructure	₹10,000 crore	Production & evacuation infrastructure
Oil & Gas Manufacturing and Services Zones	₹2,000 crore	Domestic manufacturing and services
Monitoring & support	₹350 crore	Digital management, capacity building etc.
Total	₹84,084 crore	National Offshore Exploration Scheme

1. Modern Seismic Data

The first step in finding offshore hydrocarbons is understanding what lies beneath the seabed.

The scheme provides **₹28,534 crore** for large-scale **2D and 3D seismic surveys**, re-processing of existing data in the National Data Repository and deployment of AI-based tools.

Better geological and seismic data can help identify promising drilling locations and reduce exploration uncertainty.

2. Deepwater & Ultra-Deepwater Drilling

Deepwater exploration is extremely expensive and technologically challenging.

The government has allocated **₹43,200 crore** for drilling **60 deepwater exploration wells**.

Government support can cover **up to 50% of eligible drilling costs, subject to a ceiling of ₹675 crore per well** , thereby sharing part of the exploration risk with operators.

A single deepwater exploratory well can cost approximately **US\$125-150 million**, highlighting why risk-sharing is important for attracting investment.

3. Common Offshore Infrastructure

Offshore discoveries require expensive infrastructure for production, storage and transportation.

The scheme provides **₹10,000 crore** for common offshore infrastructure hubs.

Shared infrastructure can reduce costs and facilitate faster commercialisation of discoveries, particularly in areas where individual operators may find infrastructure investment economically difficult.

4. Oil & Gas Manufacturing and Services Zones

Another **₹2,000 crore** is allocated for developing manufacturing and services zones.

The objective is to strengthen India's domestic ecosystem for:

- Offshore equipment
- Exploration technology
- Engineering services
- Drilling-related equipment
- Oil & gas services

This can contribute to **technological self-reliance and indigenous manufacturing**.

Expected Benefits

1. Strengthening Energy Security

Greater domestic production can reduce India's vulnerability to international oil and gas supply disruptions.

2. Reduction in Import Dependence

Subject to successful exploration, the government estimates that additional production could potentially reduce crude oil imports by **nearly ₹1 lakh crore annually**.

3. Expansion of Hydrocarbon Reserves

The scheme targets an addition of **over 600 MMTOE** to India's hydrocarbon reserves.

4. Higher Domestic Production

The government has indicated a potential increase in domestic oil and gas production from around **62 MMTOE to 80 MMTOE annually**, subject to exploration success.

5. Employment Generation

Deep-sea exploration requires highly skilled professionals such as:

- Geologists
- Geophysicists
- Petroleum engineers
- Ocean engineers

- Data scientists
- Drilling specialists
- Offshore technicians

Thus, the mission can create employment throughout the energy value chain.

6. Technology Development

Deepwater exploration requires advanced technologies for:

- Seismic imaging
- Subsea drilling
- Remote monitoring
- Artificial intelligence
- Underwater engineering
- Offshore production

This could strengthen India's technological capabilities.

Strategic Importance for India

Samudra Manthan is not merely an oil exploration programme. It has wider implications for India's economic and strategic interests.

Energy Security → Economic Security

A disruption in crude oil supplies can affect transportation, manufacturing, fertilisers, petrochemicals and inflation.

Therefore, domestic energy production has implications beyond the petroleum sector.

Blue Economy

The mission also fits into India's broader effort to utilise marine resources and develop the **Blue Economy**.

However, offshore hydrocarbon exploration must be balanced against marine ecological concerns.

Atmanirbhar Bharat

Development of indigenous offshore equipment, technology and services can reduce dependence on foreign technology and suppliers.

Private Sector Participation

By reducing exploration risk and improving infrastructure, the scheme seeks to encourage greater participation by private and international exploration companies.

Environmental Concerns

Despite its economic and strategic significance, deep-sea oil and gas exploration raises environmental questions.

Major concerns include:

- Disturbance to marine ecosystems
- Impact of seismic surveys on marine organisms
- Risk of oil spills
- Damage to sensitive coastal and marine habitats
- Carbon emissions from continued fossil-fuel use
- Challenges associated with offshore drilling accidents

Therefore, exploration should follow **strict environmental impact assessment, marine biodiversity safeguards, emergency-response mechanisms and sustainable offshore practices** .

For UPSC, it is important to remember that **energy security and environmental sustainability need to be addressed together**.

Samudra Manthan vs Deep Ocean Mission

A common UPSC confusion is to treat these as the same initiative. They are **different programmes**.

Feature	Samudra Manthan	Deep Ocean Mission
Ministry	Ministry of Petroleum & Natural Gas	Ministry of Earth Sciences
Primary focus	Offshore oil & gas exploration	Scientific and sustainable exploration of deep oceans
Main objective	Hydrocarbon exploration and energy security	Ocean science, technology and Blue Economy
Major activities	Seismic surveys, drilling, offshore infrastructure	Deep-sea mining technology, ocean climate studies, biodiversity etc.
Important project	National Offshore Exploration Scheme	Samudrayaan / MATSYA 6000

The **Deep Ocean Mission** was launched in 2021, while Samudra Manthan is the newer offshore hydrocarbon exploration initiative.

UPSC Significance

GS Paper I

- Geography of India’s offshore sedimentary basins
- Marine resources
- Oceanography

GS Paper II

- Government policy and institutional reforms
- Public-private partnerships
- Cooperative approach involving industry and government

GS Paper III

This is the **most important paper** for Samudra Manthan.

Relevant themes:

- Energy security
- Import dependence
- Oil and gas exploration
- Blue Economy
- Infrastructure
- Technology and innovation
- Atmanirbhar Bharat
- Environmental sustainability
- Resource security

Essay

Possible themes:

“Energy security is an essential pillar of national security.”

“India’s transition to a developed economy requires balancing energy security with environmental sustainability.”

Key Facts for Prelims

- ☐ **Name:** Samudra Manthan
 - ☐ **Official name:** National Offshore Exploration Scheme
 - ☐ **Ministry:** Ministry of Petroleum & Natural Gas
 - ☐ **Approved:** 31 July 2026
 - ☐ **Outlay:** ₹84,084 crore
 - ☐ **Implementation:** Up to FY 2030–31
 - ☐ **Deepwater wells:** 60
 - ☐ **Seismic data allocation:** ₹28,534 crore
 - ☐ **Exploration allocation:** ₹43,200 crore
 - ☐ **Common infrastructure:** ₹10,000 crore
 - ☐ **Manufacturing & Services Zones:** ₹2,000 crore
 - ☐ **Potential reserve addition:** Over 600 MMTOE
 - ☐ **Major prospective regions:** Krishna-Godavari, Cauvery, Mahanadi and Andaman
 - ☐ **Government drilling support:** Up to 50% of eligible cost, subject to ₹675 crore per well
-

UPSC Mains Conclusion

Samudra Manthan represents a shift from conventional hydrocarbon exploration towards data-driven, technology-intensive and risk-sharing offshore exploration. By combining seismic data, deepwater drilling, common infrastructure and domestic manufacturing, the scheme seeks to strengthen India’s energy security and reduce import

vulnerability. At the same time, its long-term success will depend on commercially viable discoveries, technological capability, private-sector participation and rigorous environmental safeguards.

For UPSC: Remember the core linkage:

Samudra Manthan → Offshore Exploration → Energy Security → Import Reduction → Technology → Atmanirbhar Bharat → Blue Economy + Environmental Concerns.

Source : Press Information Bureau

NSE Gets SEBI Nod to Launch Corporate Bond Index Futures

Publication Date: October 1, 2026

The **National Stock Exchange of India (NSE)** has received a **No-Objection Certificate (NOC)** from the **Securities and Exchange Board of India (SEBI)** to introduce **futures contracts linked to a Corporate Bond Index**. The proposed product is aimed at providing market participants with an exchange-traded instrument to manage risks associated with corporate bonds, hedge portfolios and improve price discovery. However, the launch is **still subject to the requisite approval of the Reserve Bank of India (RBI)**.

What are Corporate Bond Index Futures?

A **future contract** is a derivative instrument whose value is linked to an underlying asset or index. In this case, the underlying is a **Corporate Bond Index**.

Instead of directly buying or selling individual corporate bonds, market participants can use these futures contracts to take exposure to, or hedge against movements in, the broader corporate bond market.

Example:

Suppose a financial institution holds a large portfolio of corporate bonds and is concerned that bond prices may fall. Instead of immediately selling all its bonds, it could potentially use Corporate Bond Index Futures to hedge part of its market exposure.

Thus, these contracts can act as a **risk-management tool**.

Why is this important for India?

India's corporate bond market has expanded significantly as companies increasingly use debt markets to raise funds.

According to data cited from a recent SEBI bulletin, **outstanding corporate bonds stood at about ₹61.05 lakh crore as of August 2026**. At the same time, secondary-market liquidity can be uneven and the availability of hedging instruments remains relatively limited.

The introduction of an exchange-traded corporate bond derivative could therefore help create a more developed ecosystem around corporate debt.

A deeper and more liquid corporate bond market can be important because it:

- provides companies with an alternative source of financing;
- reduces excessive dependence on bank credit;
- provides institutional investors with more investment opportunities;
- improves mechanisms for transferring and managing market risk; and
- supports the development of India's overall fixed-income market.

SEBI's Regulatory Framework

This development is also connected to SEBI's earlier framework for derivatives based on corporate bond indices.

SEBI has permitted stock exchanges to introduce derivatives on indices of **corporate debt securities rated AA+ and above**. Initially, exchanges were permitted to introduce **futures contracts on corporate bond indices**.

The framework contains safeguards concerning the composition of the underlying index.

Important conditions include:

- The index should consist of **corporate debt securities**.
- The securities should have adequate liquidity and issuer-level diversification.
- Constituents should be reviewed periodically, at least **once every six months**.
- A **single issuer cannot constitute more than 15%** of the index.
- The index must contain **at least eight issuers**.
- A particular group of issuers generally cannot account for more than **25%** of the index, subject to specified exclusions for PSUs, PFIs and PSBs.

These requirements are intended to promote **diversification and reduce excessive concentration** in the underlying index.

SEBI and RBI: Why are both involved?

This is an important point for **UPSC Prelims**.

SEBI is the principal regulator of India's securities market, including stock exchanges and securities-market products.

The **RBI** has an important regulatory role in the financial system, particularly in areas connected with banking, monetary policy and aspects of debt and financial markets.

Key Takeaways

1. **NSE has received SEBI's NOC** to introduce Corporate Bond Index Futures.
2. The proposed futures will be linked to a **Corporate Bond Index**.
3. **RBI approval is still required before launch**.
4. The product is intended to facilitate **risk management and portfolio hedging**.
5. It can contribute to **better price discovery** in corporate bond markets.
6. It can help market makers manage risks associated with corporate bond portfolios.
7. The initiative aims to deepen India's **fixed-income and corporate bond markets**.
8. SEBI's framework permits derivatives on indices of corporate debt securities rated **AA+ and above**.
9. The underlying index must have adequate diversification, including **at least 8 issuers**.
10. **No single issuer can have more than 15% weight** in the index under SEBI's framework.
11. India's outstanding corporate bonds were around **₹61.05 lakh crore in August 2026**.
12. The development is significant for India's broader **corporate debt and financial-market infrastructure**.