



Date: 03/06/2026

LOGISTICS SECTOR

SYLLABUS:

GS 3 > Industry and infrastructure > Infrastructure & Investment models

REFERENCE NEWS:

- Recently, India launched the **Logistics Port Performance Index (LPPI) for FY 2024–25** under the **Sagar Aankalan framework** to benchmark port performance and improve maritime logistics efficiency. The index evaluates ports on indicators such as turnaround time, berth idle time, container dwell time and cargo handled, supporting India's broader logistics reforms under **PM Gati Shakti and Maritime Amrit Kaal Vision 2047**.

MORE ON NEWS:

- **PM Gati Shakti** is India's integrated infrastructure planning framework aimed at improving multimodal connectivity and reducing logistics bottlenecks.
- **Maritime Amrit Kaal Vision 2047** is India's long-term maritime roadmap to make ports, shipping and inland waterways globally competitive, while the **Sagar Aankalan framework** benchmarks Indian ports through indicators like turnaround time, cargo handling, berth idle time and container dwell time.

WHAT IS LOGISTICS?

- Logistics encompasses **planning, coordinating, storing, and moving resources**—people, raw materials, inventory, equipment, etc.—from one location to another, from the production points to consumption, distribution, or other production points.

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9966436875, 6309078111

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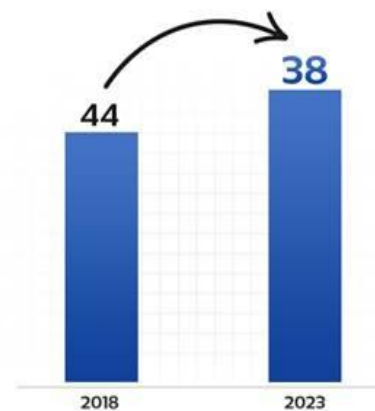
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LOGISTICS SECTOR IN INDIA:

- India's logistics market is estimated to be **USD 435.43 billion in 2023** and is expected to reach **USD 650.52 billion by 2028**, growing at a Compound Annual Growth Rate (CAGR) of 8.36%.
- India improved its ranking in **the World Bank's Logistics Performance Index, climbing six places to rank 38** out of 139 countries in 2023.
- A National Council of Applied Economic Research (NCAER) report (December 2023) highlighted a **decline in logistics costs by 0.8-0.9 percentage points of GDP** between FY14 and FY22.
- **Capital expenditure on infrastructure** increased by **11.1%**, signaling further growth opportunities.
- As per the **Economic Survey 2023-24**, the Goods and Services Tax (GST) has significantly reduced logistics costs by cutting truck waiting times at state borders, **lowering travel time by 30%**, and increasing average truck coverage from **225 km to 300-325 km daily**.

World Bank's Logistics Performance Index (LPI)



Source: World Bank

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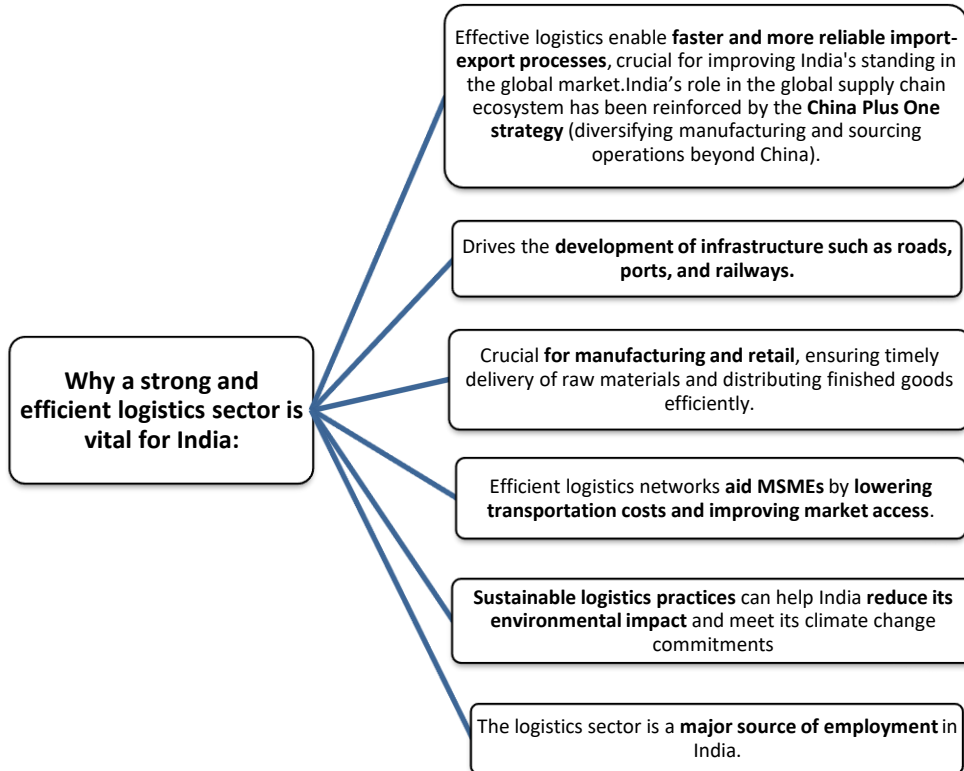
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Logistics Spearheading India's Economy



Source: IBEF and PIB

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CHALLENGES ASSOCIATED WITH INDIA'S LOGISTICS SECTOR:

- **Heavily dependent on roads:**
 - India's logistics sector predominantly depends on road transport, holding a **65% share compared to a global average of 25%**. Railways and waterways make up roughly 35%.
 - Road transportation is **more expensive**, costing Rs. 2.2 per tonne per kilometre, in contrast to Rs. 1.4 for rail and Rs. 0.7 for waterways.
- **Port Sector Challenges:**
 - Indian ports experience **prolonged ship turnaround times**, averaging **about 62 hours in 2020-21**, significantly higher than Japan's approximate 8 hours.
 - India's port inefficiencies arise from **congested berths, slow cargo handling, and lengthy customs processes**, impacting logistics. Coastal shipping is further limited by inadequate port facilities and depth, restricting large vessel operations.
- **High fuel prices:**
 - High fuel prices significantly burden the logistics sector, as they lead to **increased transportation costs** and additional freight surcharges, ultimately impacting the sector's profitability.
- **Regulatory and Bureaucratic Hurdles:**
 - The introduction of digital platforms like the e-way bill system has streamlined some administrative procedures and reduced paperwork. However, the sector still grapples with **complex and varied regulations across states, leading to delays and increased compliance costs**.
- **Fragmented Market Structure:**
 - India's logistics market remains highly fragmented with **numerous small players**, leading to service quality inconsistencies and inefficiencies.
- **Warehousing Challenges:**
 - The state of warehousing in India's logistics sector is problematic due to **inadequate facilities and limited location choices**. Also, a significant portion of the **larger storage facilities is owned by the government** and primarily used **for storing food grains**.
- **Technological Gaps:**
 - Despite advancements in AI, IoT, and automation, and the growing utilization of robotics and drone technology, a significant part of the sector still relies on traditional methods.
- **Structural issues with infrastructure development:**
 - **Land acquisition, litigation issues, alienation of local communities, environmental clearances** etc are some major hurdles that delays infrastructure development in the country.
- **Huge capital expenditure requirements:**
 - The creation of a robust infrastructure for an efficient logistic ecosystem requires **huge capital expenditure** with **relatively longer gestation periods**.
- **Slow pace of infrastructure creation in India:**
 - For ex: Only 30-35 km of roads are constructed in India per day as compared to 45km in China

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- **Skilled Manpower Shortage:**
 - The sector faces a shortage of trained and skilled manpower, which affects service quality and limits the adoption of advanced technologies.
- **Environmental Concerns:**
 - Sustainable logistics practices are in nascent stages in India, and the sector faces challenges in reducing its **carbon footprint and adopting greener practices.**
- **Supply Chain Disruptions:**
 - Global events, like the **COVID-19 pandemic**, have highlighted vulnerabilities in the supply chain network, underscoring the need for **more resilient and flexible logistics systems.**

GOVERNMENT INITIATIVES:

- **National Logistics Policy (NLP):**
 - The National Logistics Policy was **launched in September 2022.**
 - National Logistics Policy is an overarching **interdisciplinary, cross-sectoral, multi-jurisdictional and comprehensive policy framework** for the logistics sector. The policy complements the **PM GatiShakti National Master Plan.**
 - **Vision:**
 - The **vision of the policy** is to develop a **technologically enabled, integrated, cost-efficient, resilient, sustainable and trusted logistics ecosystem** in the country for accelerated and inclusive growth.
 - **Targets:**
 - **Reduce the cost of logistics** from **14-18 percent of GDP** to global best practices of **8 percent by 2030.**
 - **Improve** the country's **Logistics Performance Index (LPI) ranking** to be among **top 25 countries by 2030.**
 - Create **data-driven decision support systems (DSS)** to enable an efficient logistics ecosystem.
 - To ensure that **logistical issues are minimised**, exports grow manifold, and small industries and the people working in them benefit significantly.
 - **Key building blocks of the policy:**
 - **Unified Logistics Interface Platform (ULIP):** to integrate various logistics-related digital services into a single portal, aiming to enhance efficiency, transparency, and reduce logistics costs and time.
 - **Ease of Logistics Services (E-Logs)**
 - **The Comprehensive Logistics Action Plan**
 - **Logistics Data Bank (LDB):** an application developed to track and trace EXIM (export-import) cargo, providing greater predictability, transparency, and reliability in the logistics sector, thereby reducing costs and minimizing supply chain wastages.
 - **LEAPS:** LEAPS is a flagship **initiative of the Department for Promotion of Industry and Internal Trade (DPIIT)** under the Ministry of Commerce and Industry, aims to benchmark logistics excellence, strengthen India's

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competitiveness, and align with the vision of the **National Logistics Policy (NLP) and PM GatiShakti**.

- LEAPS 2025 has been conceptualized to **acknowledge and celebrate best practices, innovation, and leadership within India's logistics industry**. It covers a wide spectrum of logistics players — including **air, road, sea, and rail freight operators; warehousing; multimodal transporters; MSMEs; Startups; and Academia**.
- **Sagarmala**
- **Bharatmala**
- **Dedicated Freight Corridors**
- **e-way bills**
- **FASTag**
- **Paperless EXIM trade process through e-sanchit**
- **Faceless assessment for customs**

WAY FORWARD:

- **Promote Multimodal Logistics to Reduce Cost:**
 - Adopt a balanced transport mix by shifting freight from roads to **rail (Dedicated Freight Corridors), coastal shipping, and inland waterways (Jal Marg Vikas Project)**. This will reduce logistics costs from **currently ~8–10% of GDP toward the NLP target of 8% by 2030**.
- **Strengthen First Mile–Last Mile Connectivity:**
 - Accelerate **PM GatiShakti-driven infrastructure planning** for seamless port–road–rail connectivity. Expand **Multimodal Logistics Parks (MMLPs) and Freight Village Models** near industrial corridors.
- **Adopt End-to-End Digital Logistics Systems:**
 - Integrate **Unified Logistics Interface Platform (ULIP)** with private logistics firms to enable **real-time cargo visibility, predictive analytics, and AI-based route optimization**. Enforce **E-logistics standards** for interoperability.
- **Improve Rail Freight Efficiency:**
 - Increase freight train speeds using **Automatic Signalling, ETCS Level-2** systems and prioritise **Dedicated Freight Corridors Phase-II**. Rationalize rail tariffs to compete with road freight. Introduce **Roll-on-Roll-off (RoRo) trains** on more routes.
- **Reform Road Logistics Efficiency:**
 - Implement **National Highway Logistics Management System** for reducing transportation bottlenecks. Expand **Logistics Park Clusters** near major manufacturing regions. Promote **driver welfare schemes**, trucking credit access and enforce **National Logistics Workforce Policy** to solve driver shortages.
- **Warehousing Modernisation & Cold Chain Expansion:**
 - Promote **Grade A warehouses**, automated material handling, and **plug-and-play logistics zones**. Incentivize **cold chain expansion for agriculture, pharma and fisheries** via Viability Gap Funding under PM-PRANAM and Operation Greens.

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- **Encourage Green Logistics:**
 - Promote LNG/CNG truck fleets, **battery-operated commercial vehicles, solar-powered warehouses, and carbon accounting standards.** Integrate **Green Logistics Guidelines** under LEAPS 2025 and link incentives to ESG performance.
- **Skilling & Employment in Logistics:**
 - Launch **National Logistics Skill Mission** with ITIs, MSMEs, and NSDC to upskill 1 million youth in warehouse automation, robotic picking, drone delivery systems, freight planning and customs compliance.
- **Logistics Governance Reform:**
 - Provide **single-window logistics approvals** via standardised state logistics policies. Encourage **Competitive Federalism** by ranking states through the **Logistics Ease Across Different States (LEADS) Index** and **LEAPS 2025 Awards**.

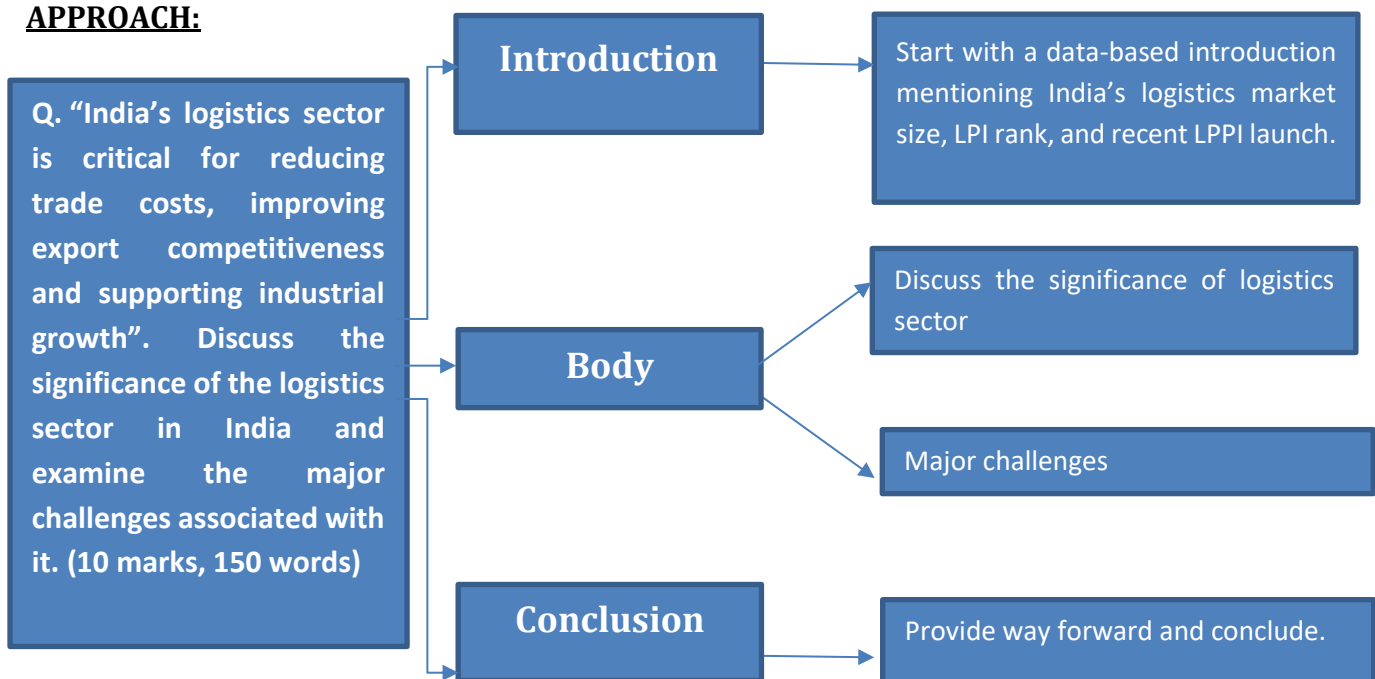
CONCLUSION:

- India's logistics sector is central to reducing trade costs, improving export competitiveness and enabling faster industrial growth. With reforms such as **PM Gati Shakti, National Logistics Policy, LPPI, LEAPS, ULIP, Sagarmala and Dedicated Freight Corridors**, India is moving towards an integrated, digital, multimodal and sustainable logistics ecosystem. However, achieving global standards will require faster infrastructure creation, greater rail-waterway share, modern warehousing, skilled manpower and green logistics adoption.

PRACTICE QUESTION:

Q. "India's logistics sector is critical for reducing trade costs, improving export competitiveness and supporting industrial growth". Discuss the significance of the logistics sector in India and examine the major challenges associated with it. (10 marks, 150 words)

APPROACH:



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MODEL ANSWER:

India's logistics sector is a key enabler of trade, manufacturing and export competitiveness. The sector was valued at **USD 435.43 billion in 2023** and is expected to reach **USD 650.52 billion by 2028**, while India improved its **World Bank Logistics Performance Index rank to 38 out of 139 countries in 2023**. Recently, India launched the **Logistics Port Performance Index under the Sagar Aankalan framework** to benchmark port efficiency, showing the growing focus on logistics reforms.

Significance of Logistics Sector:

- Reduces logistics cost:** Efficient logistics lowers transport, storage and inventory costs. NCAER noted that India's logistics cost declined by **0.8–0.9 percentage points of GDP between FY14 and FY22**.
- Improves export competitiveness:** Better port efficiency, cargo handling and paperless EXIM processes reduce delays and improve India's reliability in global trade.
- Supports industrial growth:** Manufacturing, e-commerce, agriculture, pharma and MSMEs depend on timely movement of raw materials and finished goods.
- Boosts transport efficiency:** GST reduced truck waiting time at state borders, lowered travel time by **30%**, and increased average truck coverage from **225 km to 300–325 km per day**.
- Promotes multimodal connectivity:** PM Gati Shakti, Dedicated Freight Corridors, Sagarmala and Bharatmala improve road–rail–port integration.

Challenges:

- Road dependence:** Around **65% of freight depends on roads**, compared to the global average of around **25%**, making logistics costlier and fuel-intensive.
- Higher transport cost:** Road transport costs around **₹2.2 per tonne-km**, compared to **₹1.4 for rail** and **₹0.7 for waterways**.
- Port inefficiencies:** Indian ports had ship turnaround time of around **62 hours in 2020–21**, much higher than Japan's nearly **8 hours**, due to congestion, slow cargo handling and customs delays.
- Fragmented market:** Numerous small logistics players lead to inconsistent service quality, weak standardisation and limited technology adoption.
- Warehousing gaps:** Inadequate Grade-A warehouses and cold chains affect agriculture, pharma and perishable goods movement.
- Skilling and technology gaps:** Shortage of trained manpower limits adoption of AI, IoT, automation, robotics and drone-based logistics.

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Way Forward:

- Shift freight from roads to rail, coastal shipping and inland waterways.
- Expand Dedicated Freight Corridors, Multimodal Logistics Parks and Freight Villages.
- Integrate ULIP with private logistics firms for real-time cargo visibility.
- Modernise warehousing, cold chains and automated storage systems.
- Promote green logistics through EVs, LNG/CNG trucks and solar-powered warehouses.
- Develop skilled manpower through logistics-focused training in ITIs, MSMEs and NSDC-linked institutions.

India's logistics sector can become a major driver of lower trade costs, export growth and industrial competitiveness. Initiatives such as **PM Gati Shakti, National Logistics Policy, ULIP, LEAPS, Sagarmala, Bharatmala, Dedicated Freight Corridors, FASTag, e-way bills and paperless customs reforms** provide a strong foundation, but success will depend on multimodal integration, faster infrastructure creation, digital adoption and green logistics.



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