



## In-Depth - PM Gati Shakti: Transforming Infra & Connectivity

**For Prelims:** [PM Gati Shakti National Master Plan](#), [Bharatmala](#), [Sagarmala](#), [Inland Waterways](#), [UDAN](#), [Renewable Energy](#), [Green Energy Corridor](#), [PM Shri Schools](#), [The Ministry of Skill Development and Entrepreneurship](#), [Pradhan Mantri Gram Sadak Yojana \(PMGSY\)](#), [Pradhan Mantri Awaas Yojana-Gramin \(PMAY-G\)](#), [PM JanMan Portal](#), [Particularly Vulnerable Tribal Groups \(PVTG\)](#), [Aspirational Districts](#), [National Logistics Policy \(NLP\)](#), [World Bank's Logistics Performance Index \(LPI\)](#), [RFID-Based System](#), [Dedicated Freight Corridors \(DFCs\)](#), [Gati Shakti Sanchar portal](#), [5G Services](#), [Poor multimodal connectivity](#), [E-commerce](#), [Carbon Emissions](#), [Artificial Intelligence \(AI\)](#), [Internet of Things \(IoT\)](#), [Public-private partnerships \(PPPs\)](#), [Electric Vehicles \(EVs\)](#).

**For Mains:** Significance and Achievements of India's Logistic Sector, Key Issues Related to India's Logistics Sector.

### Why in News?

Recently, the [PM Gati Shakti National Master Plan](#) marked its third anniversary, showcasing its infrastructure progress and renewed focus on India's logistics sector.

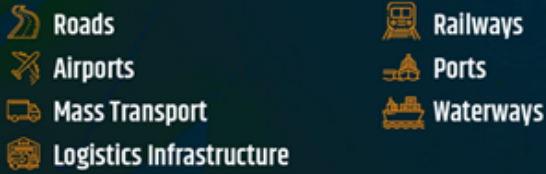
- This initiative has significantly impacted India's infrastructure and logistics sectors by **integrating multimodal connectivity** across various ministries and states.

### What has been the Progress of PM Gati Shakti National Master Plan?

- **Integrated Connectivity:** The **PM Gati Shakti National Master Plan** was launched in 2021 as a digital platform designed to integrate various ministries, such as Railways and Roadways, for coordinated planning and execution of infrastructure projects.
  - The initiative focuses on improving connectivity for people, goods, and services across different modes of transport, thereby enhancing last-mile connectivity and reducing travel time.

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## PM GATISHAKTI Driven by 7 engines :

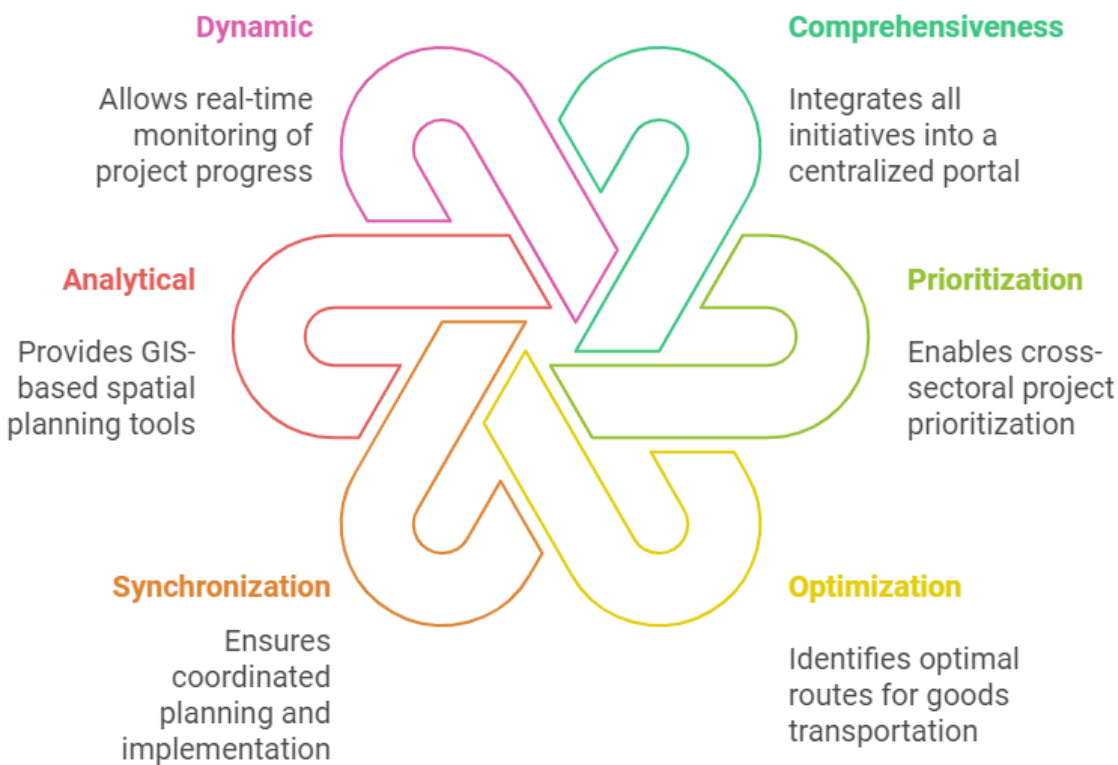


To Pull Forward the economy & provide more **jobs and opportunities for youth**

### ▪ Key Integrated Schemes:

- [Bharatmala](#): A national highway development project.
- [Sagarmala](#): A project focused on port infrastructure and coastal development.
- [Inland Waterways](#): For efficient movement of goods via rivers.
- [UDAN](#): A regional air connectivity scheme.

### 6 Pillars of PM Gati Shakti



- **Central Ministries and State Participation:** The PM Gati Shakti National Master Plan has brought together **44 Central Ministries and 36 States and Union Territories (UTs)**.
  - To ensure data accuracy and proper coordination, **Standard Operating Procedures (SOPs)** have been established for eight key infrastructure ministries and 15 social sector ministries, with more ministries and States/UTs being incorporated.
- **Notable Achievements:** The initiative has assessed **208 major infrastructure projects** worth **Rs 15.39 lakh crore** across various ministries, adhering to PM Gati Shakti's principles.
  - **Road Transport:** The **Ministry of Road Transport and Highways (MoRTH)** planned over 8,891 kilometers of roads using the Gati Shakti platform.

- **Railways:** The Ministry of Railways planned more than 27,000 kilometers of railway lines under the National Master Plan.
  - The completion of Final Location Surveys (FLS) increased significantly, with 449 FLS completed in FY 2022 compared to just 57 in FY 2021.
  - Additionally, **434 railway** projects under three economic corridors of the **Ministry of Railways** have been evaluated and shared with the PMO and they are [Energy](#), [Mineral](#), and **Cement Corridors, High Traffic Density Corridors and Rail Sagar**.
- **Petroleum and Gas:** The Ministry of Petroleum and Natural Gas (MoPNG) streamlined the **Detail Route Survey (DRS)** process, reducing the time required to generate reports from six to nine months to just one day using an electronic DRS system.
- **Renewable Energy:** A **13 GW renewable energy project** linking **Leh (Ladakh) to Kaithal (Haryana)** through a '[Green Energy Corridor](#)' achieved optimal alignment for inter-state transmission, boosting green energy capacity.
- **Disaster Management in Goa:** The state used the Gati Shakti platform to develop a disaster management plan for flood-prone areas along the Amona River.
- **Education:** The Department of School Education and Literacy used the **National Master Plan portal** to link [PM Shri Schools](#) with local industries for **district-specific skill training**.
  - The **Uttar Pradesh government** employed the **State Master Plan (SMP) portal** to identify locations for new schools in underserved areas through the **Pahunch Portal**.
- **Healthcare:** The **Ministry of Health and Family Welfare** used the platform to map internet shadow areas and identify locations for new healthcare facilities.
- **Skill Development:** The [Ministry of Skill Development and Entrepreneurship](#) identified suitable locations for new training institutes near economic clusters.
- **Rural Development:** The Ministry of Rural Development integrated its [Pradhan Mantri Gram Sadak Yojana \(PMGSY\)](#) and [Pradhan Mantri Awaas Yojana-Gramin \(PMAY-G\)](#) schemes for better asset planning.
- **Tribal Affairs:** The Ministry of Tribal Affairs utilized the [PM JanMan portal](#) to identify infrastructure gaps for [Particularly Vulnerable Tribal Groups \(PVTG\)](#).
- **District Master Plan (DMP) portal:** The initiative is also being extended to the district level through the development of a **District Master Plan (DMP) portal**.
  - This platform will assist district authorities in collaborative infrastructure planning, gap identification, and scheme implementation.
  - A beta version of this portal has been launched for **28 aspirational districts**, and user accounts were provided to these districts in September 2024.

## What are Other Key Initiatives Taken to Boost the Logistics Sector?

- **National Logistics Policy (NLP) 2022:** The [National Logistics Policy \(NLP\)](#), launched in September 2022, is a comprehensive plan to transform India's logistics ecosystem.
  - Its key goals are to reduce logistics costs, enhance infrastructure, and improve India's ranking in the [World Bank's Logistics Performance Index \(LPI\)](#).

# Objectives of National Logistics Policy

## LPI Improvement

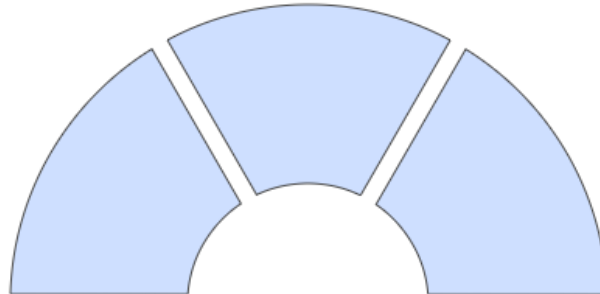
Targeting a top 25 rank in the Logistics Performance Index.

## CLAP Focus Areas

Emphasizing technology, standardization, and human resource development.

## Cost Reduction

Aiming to lower logistics costs to 8% of GDP.



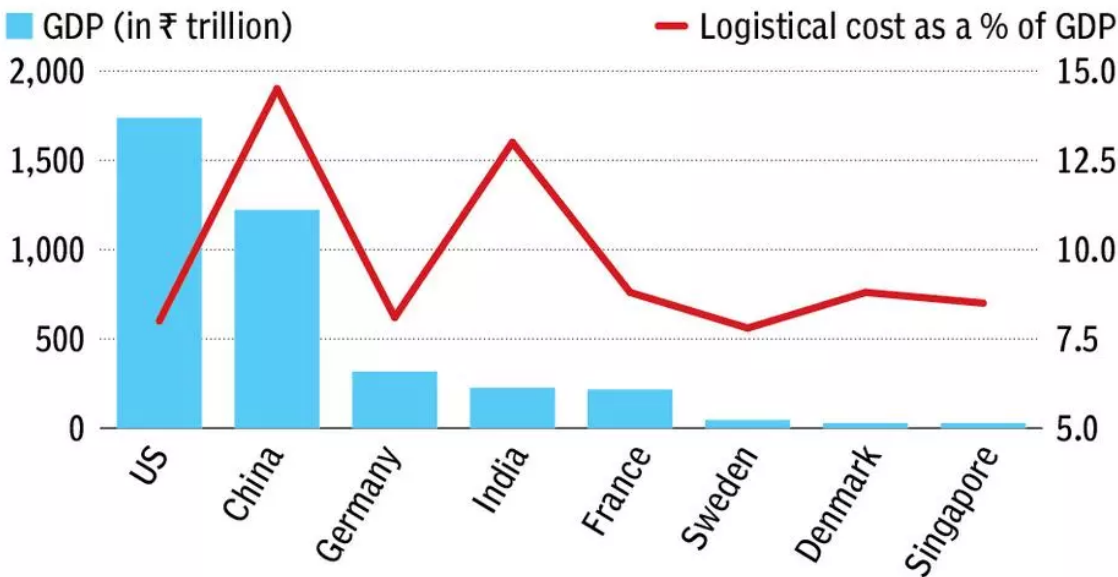
- **Unified Logistics Interface Platform (ULIP):** ULIP is a digital platform that integrates 33 logistics-related systems across 10 ministries to facilitate seamless data exchange.
  - It enables end-to-end cargo tracking and promotes transparency in logistics operations. Over 930 private companies are registered on ULIP, with numerous live applications for improved coordination.
- **Logistics Data Bank (LDB):** LDB is an [RFID-based system](#) that tracks the movement of containerized cargo in real-time, providing visibility into the transportation of **EXIM goods across ports, railways, and highways**.
  - This system enhances transparency and enables stakeholders to monitor and optimize their supply chains.
- **Multi-Modal Logistics Parks (MMLPs):** The government has initiated the development of MMLPs to facilitate seamless transfer between different modes of transportation.
  - These parks are designed to serve as hubs for freight movement, providing storage, warehousing, and value-added services under one roof.
- **Dedicated Freight Corridors (DFC):** India is developing [Dedicated Freight Corridors \(DFCs\)](#) to enhance the speed and efficiency of goods transport.
  - The Western and Eastern DFCs are designed to decongest existing rail networks and provide faster, more reliable freight movement, particularly for heavy industries.
- **LEADS (Logistics Ease Across Different States):** The [LEADS](#) survey ranks states based on the efficiency of their logistics ecosystem.
  - It encourages competition among states to improve infrastructure and services, driving overall improvement in logistics performance.
- **Gati Shakti Sanchar Portal:** The [Gati Shakti Sanchar portal](#) was launched to streamline **Right of Way (RoW) approvals**, essential for the rollout of telecom infrastructure.
  - This initiative has accelerated the deployment of mobile towers and fiber networks, crucial for the growth of digital logistics solutions.
- **5G Rollout:** The rapid deployment of [5G services](#) across India, with over 13 crore subscribers in its first year, will enhance real-time tracking, autonomous vehicle deployment, and the efficiency of logistics operations.
  - The government has sanctioned over 41,000 mobile towers for rural and remote areas to improve digital connectivity.

## What are Major Issues Related to India's Logistics Sector?

- **High Logistics Costs:** India's logistics costs are substantially higher compared to global standards, making its products less competitive.
  - While countries like **Japan and Germany** spend around **8-10%** of their GDP on logistics,

India's logistics costs are between **13-14%**, heavily impacting the cost structure of Indian goods.

## Logistical expenditure as a % of GDP has been higher for India for CY20



- **Fragmented and Unorganized Market:** Over **90%** of the logistics sector in India is **unorganized**, with numerous small players operating in silos.
  - This fragmentation makes it challenging to integrate advanced technologies, standardize services, and improve efficiency.
  - The sector lacks uniformity in regulations and coordination among various modes of transport.
- **Inadequate Infrastructure:** Despite significant strides, the Indian logistics infrastructure suffers from bottlenecks such as **poor road conditions, outdated rail networks, and congested ports**.
  - For example, the average turnaround time for ships at major Indian ports has improved but still lags behind global benchmarks. **These inefficiencies lead to delays, higher costs, and losses for businesses.**
- **Poor Multimodal Connectivity:** Seamless integration across different modes of **transport roadways, railways, airways, and waterways** is lacking.
  - [Poor multimodal connectivity](#) adds to inefficiency in moving goods. A large share of freight movement depends on roadways, which are prone to delays and higher costs, while railways and waterways remain underutilized.
- **Insufficient Warehousing and Cold Chain Facilities:** The Indian logistics sector suffers from a severe **shortage of modern warehousing** facilities, particularly in tier-2 and tier-3 cities.
  - Furthermore, **cold chain infrastructure remains inadequate**, impacting the storage and transportation of perishables such as food products and pharmaceuticals. This adds to wastage and increases costs.
- **Last-Mile Delivery Challenges:** Last-mile logistics costs contribute significantly to the total cost of delivery, particularly in urban centers where **traffic congestion, limited parking, and poor addressing systems add delays**.
  - For businesses like [e-commerce](#), this inefficiency has a direct impact on delivery timelines and costs.
- **Regulatory Complexities:** The sector is bogged down by **multiple regulatory frameworks** and approvals at both the central and state levels.
  - Delays in obtaining clearances, particularly for large-scale logistics projects, hinder infrastructure development.
  - A lack of coordination among ministries also contributes to delayed project execution.
- **Skill Gaps and Workforce Shortages:** The logistics sector in India is one of the fastest-growing

employment generators, yet it faces a severe **shortage of skilled manpower**.

- Supply chain management, warehousing operations, and technological proficiency are areas where the sector is lagging. Although initiatives have been launched to address these gaps, progress remains slow.
- **Environmental Impact:** The logistics sector is one of the largest contributors to [carbon emissions](#) in India.
  - With road transportation being the dominant mode of freight movement, emissions are significant. While India is committed to reducing carbon intensity, adopting greener logistics practices remains a challenge for the industry.

## Way Forward

- **Focus on Multimodal Transport Solutions:** India needs to emphasize the development of multimodal transportation solutions that seamlessly integrate road, rail, air, and water networks.
  - This requires continued investment in **Dedicated Freight Corridors**, inland waterways, and improving port infrastructure.
- **Enhance Technological Integration:** The logistics sector must adopt cutting-edge technologies such as [Artificial Intelligence \(AI\)](#), [Internet of Things \(IoT\)](#), and blockchain to improve supply chain visibility, streamline operations, and reduce costs.
- **Streamline Regulatory Frameworks:** The government should introduce single-window clearances for logistics projects and harmonize rules across states.
  - Streamlining regulatory processes will lead to faster infrastructure development and lower logistics costs.
- **Improving Cold Chain Infrastructure:** The government should promote investments in cold storage facilities and refrigerated transport to ensure the timely and safe delivery of perishables.
- **Increase Private Sector Participation:** Private sector participation is crucial for scaling up logistics infrastructure. [Public-private partnerships \(PPPs\)](#) should be encouraged in areas such as warehousing, cold storage, and transportation infrastructure.
- **Skill Development and Workforce Training:** The government must invest in skill development programs focusing on supply chain management, warehousing operations, and digital logistics. Strengthening **vocational training and creating certification programs** will help bridge the current skill gaps.
- **Environmental Sustainability:** The logistics industry must embrace greener practices to meet India's climate goals.
  - This includes promoting the use of [electric vehicles \(EVs\)](#) for last-mile delivery, developing green corridors for freight transport, and incentivizing the adoption of clean energy in warehouses and logistics hubs.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### Prelims:

**Q. With reference to 'National Investment and Infrastructure Fund', which of the following statements is/are correct? (2017)**

1. It is an organ of NITI Aayog.
2. It has a corpus of `4,00,000 crore at present.

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: (d)**

**Mains:**

**Q.** The Gati-Shakti Yojana needs meticulous coordination between the government and the private sector to achieve the goal of connectivity. Discuss. **(2022)**

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