

GS Mains Daily Answer Writing

Week 7 - Day 4

Model Structures

1. How far do you think greater participation of the private sector will help to address the challenges of India's logistics and supply chain management? (150 words)

Model Structure

Introduction

- Logistics and Supply chain management are sectors in the Indian economy that are worth almost \$200 billion and are rapidly growing at 10%.

Main Body

- **Challenges**

- High indirect costs such as pilferage,
 - High inventory cost
 - Lower utilization of assets.
 - Demand-side supply chain challenges:
 - Price and Variety due to diverse nature of India
 - Supply-side supply chain challenges in India mainly relate to-
 - poor infrastructure,
 - complex tax infrastructure,
 - weak distribution system, and
 - lack of technology adoption.
 - Organized retailing accounts for less than 10 percent of the country's total retail trade, resulting in an extremely fragmented market.
 - In logistics, a highly fragmented trucking industry makes it difficult for companies to manage the plethora of carriers required to handle shipment volumes.
- PARTICIPATION OF PRIVATE SECTOR IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

- Greater investments creating better infrastructure and bringing new technologies making the sector efficient and optimizing the cost of transport.
 - Disintermediation: Private sector companies can eliminate the web of intermediaries between the producer and the consumer to bring more revenues to the producer and better quality produce to the consumer. Eg. E-NAM can be much more impactful for farmers if logistics is better.
 - Evidence-based Logistics: Private sector can resolve deep-rooted supply-chain inefficiencies through analytics-enabled planning.
 - Innovations: e.g India faces a shortage of truck drivers. This is solved by the private firm Rovigo through Relay- Trucking, an operating model where drivers change over after hundred kilometres through change-over stops called “relay pit-stops” and then get back to the base. It ensures a 50-70% reduction in transit times, better assets utilization and safety.
 - Creating Multi-Modal Opportunities: Currently, the modal mix of logistics is very inefficient in India with roads having the bulk of traffic, with private sector entering in Railways in near future an optimal modal mix can be envisioned.
 - Refrigeration and Cold Chain Logistics: Currently the country lacks refrigerated transport which negatively affects the market
- Way forward
- The Government should facilitate the entry of the private sector by
- Providing viability gap funding to private companies
 - Boost startups in the sector through Start-Up India Mission.
 - Using PPP models in railway freight movement
 - Making credit availability easier through institutionalized long term lenders Eg: Pension Funds

Conclusion

- All this would ensure that our ranking in the World Bank's Logistics Performance Index would be higher and our products will be more competitive in the markets.

2. Recently the 5G Spectrum auction ended. In this context, how can 5G technology potentially bring about a digital revolution in India? Identify the challenges in adoption of 5G technology in India. (250 words)

Model Structure

Introduction

- 5G is the fifth generation wireless technology. It can provide higher speed, lower latency and greater capacity than predecessor networks.

Main Body

- 5G- Digital Revolution
 - Fast data would help speed up a range of applications such as enhanced consumer experience via high quality streaming, faster storage and access of cloud by businesses, better communication, etc
 - Greater realism in Virtual Reality, Augmented Reality and Extended Reality with lighter devices and immersive content will revolutionise education techniques, gaming, entertainment industries etc.
 - It will help in developing critical communications, such as drones would become a key tool to accelerate and support emergency situation response, connected sensors would be able to detect and warn about disasters quickly, road collisions would be prevented by use of connected vehicles sharing data.
 - Internet of Things (IoT): 5G would seamlessly connect a massive number of embedded sensors in virtually everything through the ability to scale down in data rates, power, and mobility—providing extremely lean and low-cost connectivity solutions.
 - It can be incorporated in areas like Smart City Infrastructure and Traffic Management, Industrial Automation, Wearables and Mobile devices, Precision agriculture etc.
- Challenges in adoption of 5G
 - Technical Challenges:
 - Availability of spectrum: conflict with ISRO for satellite services.

- Electronic Equipment Manufacturing: Complete 5G supply chain has high import dependency.
- Financial costs and high tax burden on telecom companies (which are already facing lot of troubles)
- Infrastructural challenges:
 - Backhaul Infrastructure: India lacks a strong backhaul to transition to 5G
 - Increasing role of memory and storage infrastructure: With 5G, the quantum of data generated from users' devices multiplies, resulting in more data that has to be stored, moved, processed and secured. This brings a need for large-scale enhancement in memory and storage infrastructure.
 - Lack of uniform policy framework: Delays due to complex procedures across states and non-uniformity of levies along with administrative approvals impact telecom service providers negatively.
 - Digital divide: Since 5G is feasible in more populated areas, it may widen the digital divide in urban and rural areas.
- Cyber security and privacy concerns

Conclusion

- Though 5G technology has the potential for ushering a major socio-economic transformation in India, it poses several challenges as well.