

3. India's Economic Security – Economy

Recent geopolitical disruptions, particularly in West Asia, have highlighted India's vulnerability to global supply chain shocks and the urgent need for long-term resilience

1.Introduction

1. Supply chain resilience refers to the ability of an economy to anticipate, absorb, adapt, and recover from disruptions in the flow of goods, services, and inputs.
2. In an interconnected global economy, disruptions due to geopolitical conflicts, pandemics, or climate shocks can severely impact national economies.
3. For India, strengthening supply chain resilience is critical to ensure economic stability, strategic autonomy, and sustainable growth.

2.Why Supply Chain Resilience is Critical for India

Energy Dependence and Vulnerability

1. India imports a large share of its crude oil and natural gas, making it highly vulnerable to global price volatility.
2. Fluctuations in energy prices directly affect inflation, fiscal deficit, and current account balance.
3. Energy insecurity can disrupt industrial production and economic growth.

Food and Fertilizer Security Risks

1. India relies on imports of edible oils and pulses, exposing domestic markets to global supply shocks.
2. Dependence on imported phosphatic and potassic fertilizers increases vulnerability in agriculture.
3. Disruptions in these inputs can affect crop yields, food prices, and farmer incomes.

Pharmaceutical Sector Dependence

1. Despite being a global leader in generic drugs, India imports a significant proportion of Active Pharmaceutical Ingredients.
2. Concentration of API supply in a few countries creates strategic risks for healthcare security.
3. Supply disruptions can impact drug availability and affordability.

Critical Minerals and Strategic Resources

1. India depends on imports for key minerals such as lithium, cobalt, and rare earth elements.
2. These are essential for renewable energy, electronics, and electric mobility.
3. Global concentration of these resources increases geopolitical risks.

3.Initiatives to Strengthen Supply Chain Resilience

Supply Chain Resilience Initiative (SCRI)

1. A trilateral partnership between India, Japan, and Australia to diversify supply chains.
2. It focuses on reducing dependence on single-source suppliers and enhancing regional cooperation.
3. It promotes digitalisation and sharing of best practices.

Energy Security Measures

1. The National Green Hydrogen Mission aims to reduce fossil fuel dependence and promote clean energy.
2. Strategic Petroleum Reserves provide a buffer against supply disruptions.
3. Expansion of renewable energy capacity reduces reliance on imported fuels.

Food and Fertilizer Security Initiatives

1. The National Food Security Mission promotes domestic production of pulses, cereals, and oilseeds.
2. The National Mission on Edible Oils aims to reduce dependence on imported edible oils.
3. Promotion of nano and bio-fertilizers reduces reliance on imported chemical inputs.

Semiconductor and Technology Initiatives

1. Participation in global initiatives for silicon-based technologies strengthens technological resilience.
2. The India Semiconductor Mission aims to develop domestic manufacturing capabilities.
3. These initiatives reduce dependence on global supply chains for critical technologies.

Production Linked Incentive Scheme

1. The PLI scheme promotes domestic manufacturing in key sectors such as electronics, automobiles, and advanced batteries.
2. It encourages integration into global value chains and reduces import dependence.
3. It strengthens industrial competitiveness and resilience.

4.Key Challenges in Achieving Supply Chain Resilience

Geopolitical Risks and Concentration of Supply

1. Overdependence on specific countries increases vulnerability to geopolitical tensions.
2. Trade disruptions can have cascading effects across sectors.

Infrastructure and Logistics Constraints

1. Inefficient logistics and high transportation costs affect supply chain efficiency.
2. Limited storage and distribution infrastructure add to vulnerabilities.

Technological Gaps

1. Limited adoption of advanced technologies restricts real-time monitoring and risk management.
2. Lack of domestic capabilities in critical sectors increases dependence.

5.Way Forward

Strategic Diversification of Supply Sources

1. India must diversify import sources across regions such as Africa, Latin America, and Southeast Asia.
2. Long-term contracts and strategic partnerships can ensure stable supply.

Adoption of Advanced Technologies

1. Integration of artificial intelligence, Internet of Things, and blockchain can improve supply chain visibility and efficiency.
2. Predictive analytics can help anticipate disruptions and mitigate risks.

Strengthening Domestic Manufacturing

1. Enhancing domestic production capacity in critical sectors is essential for self-reliance.
2. Continued support through schemes like PLI can boost industrial growth.

Promoting Circular Economy Practices

1. Recycling of critical minerals such as lithium and rare earth elements can reduce import dependence.
2. Sustainable resource management can enhance long-term resilience.

Conclusion

Supply chain resilience is a strategic imperative for India in an era of global uncertainties and economic interdependence. Strengthening domestic capabilities, diversifying imports, and leveraging technology are key to building robust supply chains. A resilient supply chain framework will enhance economic stability, support sustainable growth, and strengthen India's global competitiveness.

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