

Issue Brief

October 2026
No: 558

Snakes and Ladders
*Redefining India's Supply
Chain Strategy in the Changing
World Order*

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Redefining India's Supply Chain Strategy in the Changing World Order

Abstract

Supply chains have emerged as an important element of national power. For India, the increasing integration of its economy with global production networks has generated significant gains in efficiency, access to technology and markets. It has also created vulnerabilities arising from geographical concentration, dependence on critical minerals and technologies, maritime chokepoints and hidden dependencies within apparently diversified supply chains. Recent disruptions, including the COVID-19 pandemic, the Russia-Ukraine conflict and instability along major maritime routes, have demonstrated that an economically efficient supply chain may not necessarily be strategically secure. This article examines India's supply-chain vulnerabilities through the metaphor of the traditional Indian game of "Snakes and Ladders". The 'snakes' represent vulnerabilities that can abruptly reverse economic and strategic gains, while the 'ladders' represent alternative sources, routes, technologies, reserves and partnerships that provide strategic options. The article argues that India must move beyond the conventional objectives of efficiency and resilience towards redundancy and, ultimately, strategic optionality. It introduces the idea of 'supply-chain multiplication'—the creation of multiple viable pathways from source to end-user rather than merely increasing the number of suppliers. The article recommends the establishment of a 'National Supply Chain Security Framework', identification of single points of failure, strategic reserves beyond petroleum, alternative international and domestic routes, end-to-end supply-chain visibility, national supply-chain war-gaming and greater integration of supply-chain considerations with national security planning. The central argument is that India should not attempt to build one perfect supply chain. It should build a system of alternative supply chains capable of absorbing disruption, adapting to changing

circumstances and sustaining national power. This article seeks to simplify complex supply-chain dynamics and examine their implications for India's strategic interests for thinkers and practitioners in the domain.

Keywords: Supply Chain Security, Strategic Resilience, Critical Minerals, Logistics, National Security

Introduction

“For every ladder you climb, a snake is waiting just around the corner; and for every snake, a ladder will compensate”

— Salman Rushdie

Salman Rushdie's observation, drawn from the metaphor of ‘Snakes and Ladders’, captures a fundamental feature of strategic competition: progress is rarely linear. The game, known in one of its traditional Indian forms as *Gyan Chaupar*, was originally associated with moral and philosophical ideas in which movement upwards represented virtues and movement downwards represented human failings (Royal Asiatic Society, 2017). Over time, the game evolved into the familiar contest of advancements and reversals. Its enduring relevance lies not merely in the unpredictability of the next move, but in the fact that progress creates no guarantee of permanence.

The same logic increasingly applies to global supply chains.

For several decades, supply-chain design was dominated by the pursuit of efficiency. Production was geographically specialised, inventories were reduced, transportation networks were optimised and firms concentrated on their comparative advantages. Such arrangements delivered lower costs and greater access to global markets. Yet the same optimisation also created concentrations of risk. A product assembled in one country may depend upon components from several others, critical minerals from a handful of producing

states, specialised machinery from another, software from elsewhere and a maritime route passing through a narrow chokepoint. The apparent diversity of the final product can therefore conceal a highly concentrated system underneath.

India's economic transformation has taken place within this global architecture. Integration with international markets has helped expand manufacturing, services, pharmaceuticals, electronics, telecommunications and infrastructure. At the same time, India's dependence on external sources for selected raw materials, components, technologies and energy inputs has created vulnerabilities that can become strategically significant during crisis.

The COVID-19 pandemic demonstrated how quickly apparently distant disruptions could travel across continents. The Russia-Ukraine conflict exposed the interconnectedness of energy, food, fertilisers, metals, shipping and financial systems. Disruptions in the Red Sea demonstrated how a regional security crisis could alter shipping routes, transit times, insurance costs and inventory requirements across the global economy. These experiences have reinforced an important lesson: a supply chain can be economically efficient and strategically fragile at the same time.

The question for India, therefore, is not whether globalisation should be accepted or rejected. Nor is the answer to manufacture everything domestically. The strategic question is more precise: how can India ensure that critical goods, technologies and resources continue to reach their intended destinations when the international environment becomes uncertain, contested or hostile?

This requires a shift in thinking. Efficiency must remain important, but it cannot be the sole objective of supply-chain design. Resilience—the ability to absorb and recover from disruption—must be supplemented by redundancy,

and redundancy must ultimately create strategic optionality. Strategic optionality means having more than one viable answer to a critical supply-chain problem.

The objective should be simple: no single vulnerability should be capable of becoming strategically decisive.

This article examines India's supply-chain vulnerabilities through the metaphor of “Snakes and Ladders”. The “snakes” represent concentrations, chokepoints, dependencies and hidden weaknesses capable of reversing economic or strategic gains. The “ladders” represent alternative sources, routes, technologies, reserves, domestic capabilities and partnerships that provide India with additional choices. The central argument is that India must move from merely securing individual supply chains to developing a national architecture of supply-chain security.

A resilient supply chain survives disruption. A redundant supply chain offers alternatives. A strategically secure supply system ensures that those alternatives remain available when they are most needed.

India's Supply Chain: From Routes to Networks

The relationship between logistics and national power is not new. Kautilya recognised, more than two thousand years ago, that routes were instruments of statecraft. He observed that roads and routes enabled armies, spies, weapons and other resources to move between territories {Kangle, R.P. [trans.] 1965}. Roads were therefore not merely commercial infrastructure; they were part of the strategic architecture of the state.

India's historical experience reflects the same understanding. The *Uttarapatha* and *Dakshinapatha* connected different regions of the subcontinent, while maritime routes connected Indian ports with West Asia, Southeast Asia and

beyond. Ports such as Bharukachchha, Sopara, Muziris and Tamralipti became nodes in extensive commercial networks. Long-distance trade involved not merely the movement of commodities but the movement of information, people, capital and influence (Olivelle, P. 2020).

The strategic significance of these networks was determined by their accessibility, reliability and protection. A route that could not be used during crisis had limited strategic value, regardless of its economic importance during peace.

The colonial period introduced a different logic. Railways, roads and ports expanded rapidly, but much of the infrastructure was designed to connect resource-producing regions with ports and external markets. Infrastructure thus became an instrument for integrating the Indian hinterland into a wider economic system whose priorities were not necessarily aligned with India's future strategic requirements.

After independence, India adopted a different approach. Food security, industrialisation, public-sector capacity, domestic defence production and infrastructure development became central national objectives. The emphasis was on building domestic capacity and reducing vulnerabilities to external pressures. The experience of food shortages and external dependence reinforced the importance of strategic self-reliance.

The economic reforms of 1991 subsequently transformed this model. Liberalisation increased India's integration with global production and financial networks. Imported components, foreign technology, international capital and global manufacturing ecosystems became increasingly important. The resulting gains were substantial. The Indian industry gained access to larger markets, specialised technologies and globally competitive production systems.

However, global integration also changed the nature of dependence.

A modern product rarely has a single geographical origin. A mobile telephone, pharmaceutical formulation, electric vehicle, missile component or telecommunication system may contain inputs originating in several countries. The finished product may be assembled in India while its critical components, raw materials or specialised equipment are produced elsewhere. The supply chain therefore becomes a network of interdependencies rather than a simple linear sequence.

This creates a strategic paradox. Greater integration can increase efficiency while simultaneously increasing vulnerability.

A state may possess natural resources, industrial capacity and financial strength, but these assets provide strategic power only to the extent that they can be moved, protected, processed and sustained. In this sense, logistics is not merely an economic function. It is a determinant of national power.

The distinction between a supply chain and a secure supply chain therefore becomes critical. The former seeks to move goods efficiently. The latter must continue to function when assumptions of normality break down.

This distinction is particularly important for a country such as India. Its geographical scale, growing economy, extensive coastline, dependence on maritime trade and demanding security environment require a supply-chain system capable of supporting both economic growth and national defence.

The strategic challenge is consequently moving from routes to networks, and from networks to alternatives.

The Snakes: Vulnerabilities In India's Supply Chains

Martin Christopher's observation that “supply chain competes with supply chain” captures the changing nature of global competition (Christopher, M. 2016). States and corporations increasingly compete not only through individual products or platforms but through the ability of their wider production and logistics ecosystems to remain functional under pressure.

The **first major vulnerability** is concentration.

China occupies a significant position in several of India's industrial supply chains. This does not mean that every Chinese-linked supply chain represents a strategic vulnerability. The concern arises where a single country, supplier ecosystem or processing centre dominates a critical input for which viable alternatives are limited.

India's pharmaceutical industry provides an important illustration. India's pharmaceutical sector is a major global supplier of generic medicines, yet its production depends substantially on imported active pharmaceutical ingredients (APIs) and intermediates. Government data in March 2026 identified several APIs for which China accounted for 70 per cent or more of India's imports during FY2023-24 and FY2024-25. At the same time, domestic manufacturing capacity had been developed for 28 of 41 critical products, with capacity of approximately 56,800 tonnes per annum (PIB, 2026).

The strategic lesson is broader than pharmaceuticals. Manufacturing strength at the final-product level does not automatically imply supply-chain security. If a critical upstream input remains concentrated, the apparent strength of the downstream industry can be misleading.

The **second vulnerability** is critical minerals.

Lithium, cobalt, nickel, graphite, copper and rare earth elements are increasingly important to batteries, electronics, renewable energy, telecommunications, advanced manufacturing and defence technologies. Possessing mineral reserves is not sufficient. Security requires the ability to explore, mine, refine, process, recycle and transport these minerals.

India's National Critical Mineral Mission, approved in January 2025, recognised this requirement by providing for exploration, mining, beneficiation, processing, recycling and overseas acquisition of mineral assets. The Mission envisages government expenditure of ₹16,300 crore and an expected investment of ₹18,000 crore over the next seven years (PIB, 2025).

The lesson is that mineral security is a supply-chain problem rather than merely a mining problem.

Energy represents another strategic vulnerability. India is a major energy-consuming economy and remains dependent on external supplies for a significant part of its energy requirements. The vulnerability is not limited to the availability of energy. It also concerns the routes through which energy moves.

The Strait of Hormuz, Bab-el-Mandeb, Suez Canal and Strait of Malacca illustrate the strategic importance of maritime chokepoints. A disruption at any one of these locations can increase transit times, freight costs, insurance premiums and inventory requirements. A route that is commercially optimal during peace may become strategically expensive during crisis.

This introduces an important distinction between supplier diversification and route diversification. Ten suppliers using the same port, shipping lane, processing facility or financial mechanism do not necessarily create ten independent supply chains.

The **third vulnerability** is technology.

Semiconductors are a particularly important example because they are embedded in virtually every modern economic and military system. Their supply chain involves design, intellectual property, fabrication, specialised equipment, chemicals, materials, packaging and testing. A disruption at any one stage can affect downstream industries.

India's approval of Semicon 2.0 in July 2026, with a total outlay of ₹1,27,500 crore, reflects an acknowledgement of this strategic requirement. The programme addresses areas including semiconductor fabrication, packaging, equipment and materials, design, research and development and talent (PIB, 2026).

The objective should not be interpreted as an ambition to reproduce the entire global semiconductor industry domestically. The strategic objective is to ensure that India possesses secure access to the technologies and capabilities that are indispensable to its national interests.

The most dangerous vulnerability, however, may be the invisible one.

Supply chains are often represented as a sequence of independent suppliers: Tier 1, Tier 2 and Tier 3. In reality, several Tier-1 suppliers may depend upon the same Tier-2 manufacturer. Several Tier-2 manufacturers may depend upon the same processor, chemical, specialised machine, technology

provider or shipping route. A supply chain that appears diversified at the surface may therefore converge at a deeper level.

This creates what may be termed a hidden single point of failure. The challenge is compounded by limited visibility. Governments may know the identity of major importers and exporters but may not possess sufficient visibility into the complete upstream architecture of critical products. A disruption therefore becomes visible only after inventories begin to fall or production stops.

This is where the metaphor of the ‘snake’ becomes particularly useful. The ‘snake’ does not necessarily appear at the point where the disruption occurs. It may be located several stages upstream.

The objective of supply-chain security must therefore be to identify the snake before it becomes strategically decisive.

The Ladders: Multiplying Strategic Options

If the ‘snake’ represents vulnerability, the ‘ladder’ represents choice.

A country may have five suppliers but remain dependent on one processing country. It may have several shipping companies but only one viable maritime route. It may have multiple manufacturers but all may use the same imported component. Supply-chain multiplication therefore requires independence at critical stages of the chain.

The **first ladder** is domestic capability.

India's initiatives under Atmanirbhar Bharat and the Production Linked Incentive schemes have encouraged domestic manufacturing across several

sectors. The next stage should be to move beyond assembly towards components, materials, equipment, specialised manufacturing and eventually intellectual property (GoI, 2020).

Domestic capability does not mean complete autarky. No modern economy can efficiently manufacture everything. The objective should instead be to identify those capabilities where external dependence would create unacceptable strategic risk.

The **second ladder** is source multiplication.

The familiar concept of “China+1” is useful but insufficient. India should move towards “China+multiple”, particularly for critical inputs. This requires developing relationships with multiple producing and processing countries across different geographies.

Such diversification should include countries in Southeast Asia, the Gulf, Europe, North America, Africa, Latin America and other resource-rich regions. Partnerships must be judged not merely by commercial attractiveness but by reliability during periods of geopolitical stress.

The **third ladder** is strategic international partnership.

India's growing engagement with the United States, Japan, Australia, Europe, the Association of Southeast Asian Nations (ASEAN) and Gulf partners provides opportunities to develop trusted technology and resource networks. The US-India Transforming the Relationship Utilising Strategic Technology {TRUST} initiative, for example, focuses on areas including semiconductors, critical minerals, artificial intelligence, quantum technologies,

biotechnology, energy and space (GoI, 2025). The objective should be to convert diplomatic partnerships into resilient supply-chain partnerships.

The **fourth ladder** is alternative routes.

India's logistics transformation through Prime Minister GatiShakti National Master Plan (PM GatiShakti) and the National Logistics Policy provides an important foundation for improving domestic connectivity and logistics efficiency (GoI, 2022). Internationally, initiatives such as the India-Middle East-Europe Economic Corridor offer possibilities for additional connectivity and diversification of trade routes (GoI, 2023).

However, alternative routes should be assessed not simply on the basis of cost. Their strategic value depends on whether they remain usable during crisis, how quickly capacity can be scaled, and whether they are vulnerable to the same geographical or political disruption as the primary route.

The **fifth ladder** is strategic reserves.

India already recognises this principle through strategic petroleum reserves. The same logic should increasingly apply to other critical materials, components and industrial inputs where disruption could have national consequences.

The appropriate measure should not simply be tonnes or monetary value. Strategic reserves should be assessed in terms of “days of national autonomy”—how long essential economic or military functions can continue if the principal source is disrupted.

The **sixth ladder** is recycling and substitution.

A resource that can be recovered from waste is effectively an additional source of supply. Recycling of critical minerals, recovery of industrial materials, repair and remanufacturing can therefore contribute directly to supply-chain security.

Similarly, design choices can reduce dependence. Modular systems, interchangeable components and open standards can allow one component to be substituted for another without redesigning an entire platform.

The **seventh ladder** is trusted technology.

Technology dependence can be more difficult to identify than physical dependence. A country may manufacture a system domestically but remain dependent on foreign software, intellectual property, firmware, specialised equipment or updates. Technology security therefore requires attention to the complete technological ecosystem.

The ultimate objective is to create a ladder system: domestic manufacturing, multiple suppliers, overseas resource assets, alternative corridors, strategic reserves, recycling, interchangeable designs, trusted technologies and strategic partnerships.

India does not need a snake-free board. It needs enough ladders to ensure that no single snake can end the game.

Beyond Resilience: Towards a Supply Chain Security Architecture

Andreas Wieland and Christian Durach define supply-chain resilience as “the capacity of a supply chain to persist, adapt, or transform in the face of change” (Wieland, A. and Durach, C.F. 2021). This definition is important

because resilience is not merely the ability to return to the previous state. In a strategic environment, resilience may require adaptation and transformation.

The COVID-19 pandemic demonstrated the speed with which disruption can travel through interconnected systems. The Russia-Ukraine conflict showed that supply-chain consequences can extend far beyond the immediate theatre of conflict. The Red Sea crisis demonstrated how a relatively localised security problem can force ships to take longer routes, increase fuel consumption and insurance costs, delay deliveries and require higher inventories.

These experiences suggest that supply-chain security should become an element of national security planning.

The economic crisis in Sri Lanka provides another lesson. The country possessed productive sectors and access to international trade, but a combination of foreign-exchange constraints, import-financing difficulties, shortages and economic dislocation severely affected its ability to maintain essential supplies (Takshashila Institution, 2022). The lesson is that supply security depends upon more than physical availability. Finance, infrastructure, energy, transport and institutional capacity are equally important.

Venezuela provides a different illustration. Large natural-resource endowments did not guarantee economic security. Production capacity, infrastructure, technology, finance and access to markets were all essential to converting resources into sustained national capability (World Bank, 2026).

The Russia-Ukraine conflict further demonstrated how disruption can spread through energy, food, fertilisers, metals, shipping and financial systems

(CFR, 2026). The Red Sea disruption reinforced the same principle in maritime trade.

These examples point towards a broader concept of supply-chain security architecture.

China's experience offers one important lesson. Its manufacturing strength is not based only on low-cost production. It has developed depth across several stages of industrial production— from raw materials and processing to components, manufacturing equipment and final products. It has also pursued strategic stockpiles, overseas resource access and strong state-industry coordination.

India need not replicate the Chinese model. It should, however, recognise the strategic value of industrial depth.

The United States offers another lesson. The semiconductor shortages experienced during the pandemic highlighted the vulnerability created by excessive concentration of critical production outside the country. The CHIPS and Science Act subsequently sought to strengthen domestic semiconductor manufacturing, research and workforce capabilities (US Congress, 2022).

India should adopt the same principle. Its supply-chain security architecture should rest on the following requirements:

- ***National Supply Chain Security Framework.*** A national framework should identify critical sectors, dependencies and vulnerabilities, assign clear institutional responsibility for supply-chain security, and integrate supply-chain considerations into national-security planning.
- ***Single Point of Failure Index.*** A national Single Point of Failure Index should identify concentrations in countries, suppliers, processing facilities, technologies, ports, routes and financial systems.

- ***Strategic Reserves Beyond Petroleum.*** Reserves should be considered for selected critical minerals, pharmaceutical ingredients, defence components, electronic components, industrial chemicals and other strategically significant inputs. The size of each reserve should be based on the consequences and expected duration of disruption rather than on arbitrary inventory targets.
- ***Overseas Supply Chain Access.*** India's strategic interests increasingly extend beyond its borders. Overseas mineral assets, processing partnerships, logistics agreements and technology partnerships can provide additional security. Such arrangements should be treated as components of national resilience rather than purely commercial investments.
- ***End-to-End Visibility.*** Supply-chain mapping should extend from Tier 1 to Tier 2 and Tier 3 suppliers, raw materials, processing facilities, specialised equipment, transport networks, ports and markets. Digital technologies, satellite imagery, shipping data, customs information, commodity-price movements and artificial intelligence can increasingly be used to identify abnormal patterns before they become crises.
- ***National Supply-Chain War-Gaming.*** Military organisations routinely conduct operational and logistical exercises to test assumptions before conflict. The same principle should be applied to national supply chains.

A national supply-chain war game could examine scenarios such as closure of a maritime chokepoint, loss of a major supplier, cyber disruption of a port, sanctions affecting a critical technology, sudden energy-price escalation, a pandemic-related manufacturing shutdown or simultaneous disruption of several routes.

The purpose would not be to predict the future. It would be to expose assumptions.

- **Route Redundancy.** Alternative ports, railways, roads, inland waterways, air routes and maritime corridors should be identified for strategically important commodities. Redundancy should not be measured only in terms of whether an alternative exists, but whether it possesses sufficient capacity to be activated quickly.
- **Decentralisation of Critical Logistics Infrastructure.** Excessive concentration of warehouses, fuel storage, processing facilities, ports or distribution centres can create strategic vulnerabilities. Critical infrastructure should therefore be distributed geographically where feasible, particularly when disruption at one location could affect national military or economic functions.
- **Integration of the Armed Forces.** Military logistics depends upon civilian infrastructure, commercial transportation, fuel, communications, energy, medical supplies and industrial production. During prolonged crisis, the distinction between civilian and military supply chains can become increasingly blurred.

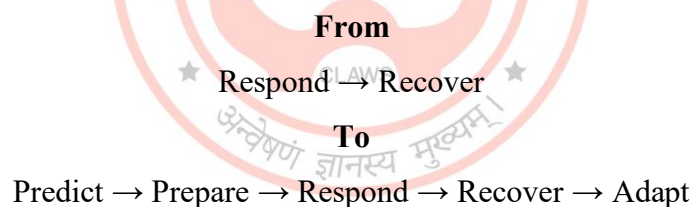
The Armed Forces should therefore participate in national-level supply-chain resilience exercises and planning, particularly for sectors that have direct implications for operational sustainability.

- **Second- and Third-Source Validation.** An alternative supplier is useful only if it has actually been tested. Contracts, specifications and vendor lists do not guarantee resilience. Alternative sources must be technically validated, financially viable and capable of scaling during disruption.
- **Minimum Strategic Inventory.** For critical items, India should determine how many days of national requirement can be sustained after failure of the primary source. This “days of national autonomy” metric would provide policymakers with a more meaningful measure than inventory value alone.
- **Design for Substitution.** Where possible, defence systems, industrial equipment and strategic infrastructure should incorporate modularity

and interchangeable components. A system that can accept components from multiple qualified suppliers is inherently less vulnerable than one designed around a single proprietary component.

- ***Repair, Recycling and Remanufacturing.*** The ability to repair an existing system may be strategically more valuable than the ability to replace it. Extending equipment life, recovering materials and remanufacturing components can reduce dependence on fresh imports during crisis.
- ***National Supply-Chain Early-Warning System.*** Such a system should integrate information from shipping movements, ports, commodity prices, customs, weather, satellite imagery, energy markets, corporate data and geopolitical intelligence. Artificial intelligence can assist in identifying anomalies, but human strategic assessment must remain central.

The desired cycle should therefore evolve



The purpose of such an architecture is not to eliminate uncertainty. It is to prevent uncertainty from becoming paralysis.

Recommendations

At the strategic level, India should establish a National Supply Chain Security Framework that identifies critical sectors, dependencies and vulnerabilities and integrates them into the national-security planning.

The national Single Point of Failure Index should be periodically reviewed as supply-chain vulnerabilities change as technology, markets and geopolitics change.

India should move from “China+1” towards “China+multiple” for strategically important inputs. Diversification should be pursued across suppliers, processing locations and routes rather than merely across trading partners.

Strategic reserves should be extended beyond petroleum to selected critical minerals, pharmaceutical inputs, electronic components, defence-related items and other strategically important materials. These reserves should be measured in terms of days of national autonomy.

India should strengthen overseas access to critical resources through partnerships, investments, long-term agreements and processing arrangements. Such initiatives should be assessed for strategic reliability as well as commercial viability.

At the operational level, end-to-end supply-chain visibility should become a national capability. Mapping should extend beyond Tier-1 suppliers to the deeper levels where common dependencies may exist.

National supply-chain war-gaming should be institutionalised to test the consequences of major disruptions and expose hidden assumptions before a crisis occurs.

Alternative domestic and international routes should be identified for strategically important commodities, with particular attention to maritime chokepoints and critical logistics nodes.

Critical logistics infrastructure should be geographically diversified where practical. Redundancy in storage, transportation, communications and distribution can provide essential resilience during disruption.

The Armed Forces should be integrated into the national supply-chain resilience planning, particularly in sectors that affect mobilisation, operational sustainability, energy security, communications and defence production.

At the tactical level, second- and third-source suppliers should be technically validated rather than merely identified on paper. Minimum strategic inventory levels should be established for critical items based on the likely duration and consequences of disruption.

Defence and strategic industrial systems should increasingly incorporate modularity, interoperability and component interchangeability. Repair, recycling and remanufacturing should be treated as elements of national supply security.

Finally, India should establish a national supply-chain early-warning mechanism capable of integrating commercial, technological, logistical and strategic information. The objective should be early identification of emerging vulnerabilities rather than merely responding after disruption has occurred.

Conclusion

The ancient Indian game of *Gyan Chaupar* provides an unexpectedly useful framework for understanding the modern supply-chain environment. The 'snake' represents vulnerability. The 'ladder' represents opportunity. The movement between them represents the non-linear nature of strategic competition.

India's supply chains have evolved from traditional trade routes to highly interconnected global networks. This transformation has delivered enormous economic benefits, but it has also created dependencies that may not become visible until a crisis occurs. The answer is not isolation. Nor is it an attempt to manufacture everything within India. The strategic requirement is to distinguish between ordinary economic dependence and strategically dangerous dependence.

Where dependence is benign, efficiency and commercial logic should continue to dominate. Where dependence concerns strategically indispensable materials, technologies, routes or capabilities, security considerations must become equally important.

India therefore needs to build domestic capability where external dependence creates unacceptable risk; diversify sources where concentration is excessive; develop overseas access to critical resources; create alternative transport corridors; maintain strategic reserves; strengthen recycling and substitution; and develop trusted technology and diplomatic partnerships.

A country with only one supply-chain solution is vulnerable even if that solution is highly efficient. A country with several viable solutions possesses greater freedom of action.

This distinction is particularly important for national security. Military power ultimately depends upon the ability to sustain people, platforms, fuel, ammunition, communications, medical support and industrial replenishment. Economic power depends upon the continued movement of energy, raw materials, components and finished products. In both cases, the ability to move and sustain becomes a strategic capability.

India should therefore move beyond the conventional understanding of supply-chain resilience. Resilience enables a system to absorb disruption and recover. Redundancy creates alternatives. Strategic optionality gives the state freedom of action when the environment changes.

The objective is not to create a snake-free board. That is impossible. The objective is to ensure that no snake is capable of ending the game. The strategic wisdom of Kautilya remains relevant even after more than two millennia:

“The roads of traffic are a means to overreach an enemy; for it is through the roads of traffic that armies and spies are led (from one country to another); and that weapons, armour, chariots, and draught-animals are purchased; and that entrance and exit (in travelling) are facilitated” {Shamasastri, R. 1915}.

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