Centre for WTO Studies

INDUSTRIAL SUPPLY CHAIN SERIES

Nylon Filament Yarn in Global Value Chains

Trade Dynamics, Production Landscape, and India's Strategic Role

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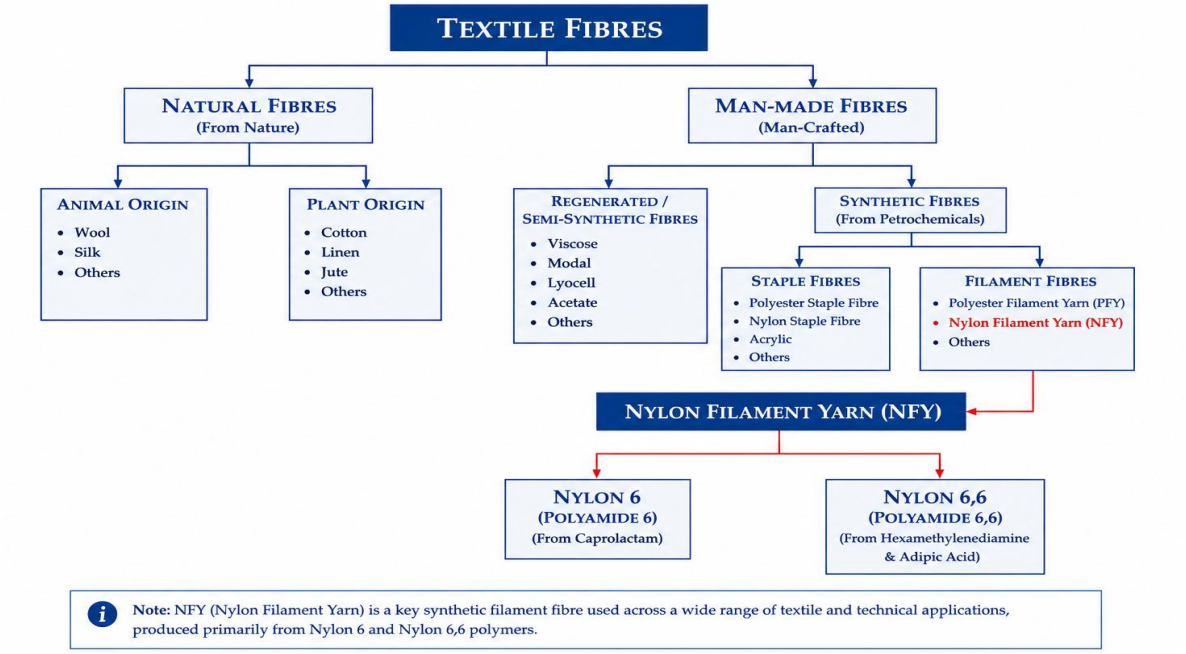
1. Introduction and context[1]

Nylon Filament Yarn (NFY) is a synthetic polymer-based textile intermediate produced from polyamide resins. Nylon 6 filament yarn is derived from Caprolactam and Nylon 6,6 yarn is derived from adipic acid, both originating from petrochemical feedstocks. Unlike regenerated fibres drawn from natural cellulose, NFY is manufactured entirely through chemical synthesis and melt-spinning processes, placing it firmly within the category of fully synthetic man-made fibres (MMF). The resulting filament structure imparts a distinctive combination of mechanical properties, exceptional tensile strength, high elasticity, abrasion resistance, and dimensional stability that distinguishes nylon from other synthetic fibres.

Within man-made fibres, NFY occupies a specialised, performance-oriented segment. Polyester filament yarn dominates synthetic fibre output by volume and price accessibility. NFY, by contrast, commands a premium position anchored in technical performance, making it the preferred input where structural resilience, load-bearing capacity, or extended product life cycles are required.

Figure 1: Classification of Man-Made Fibres and NFY's Position within the Synthetic Segment



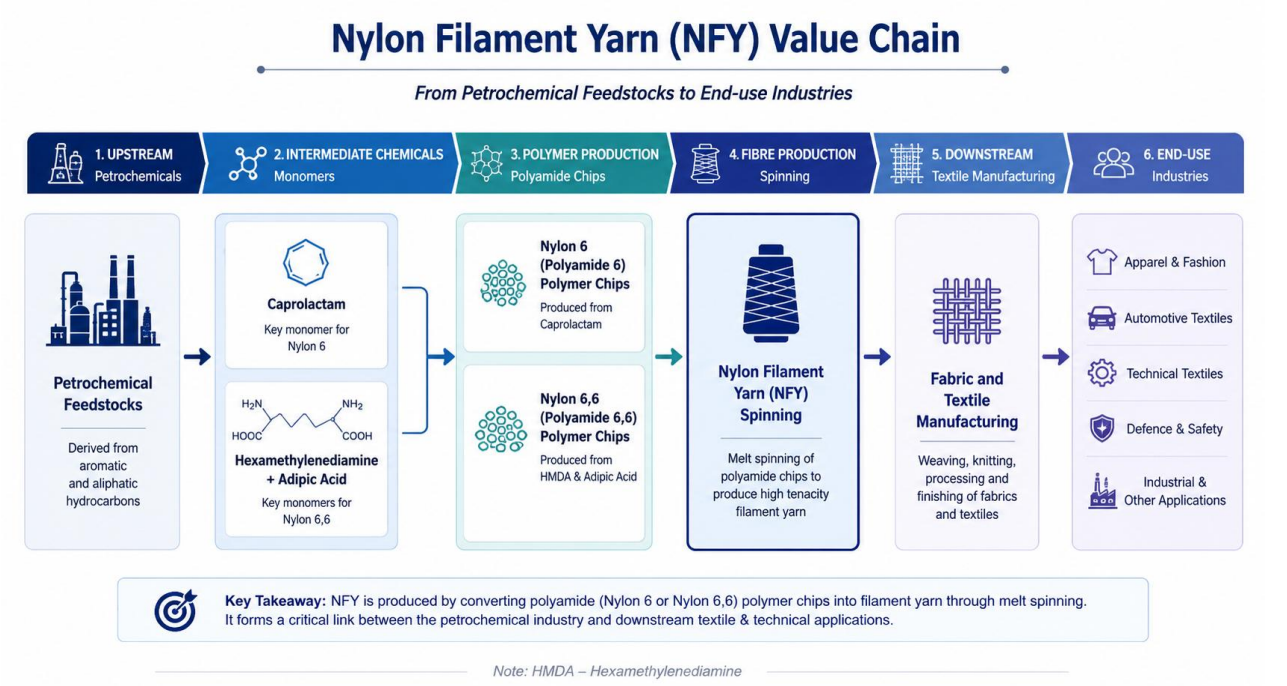
1.1 NFY in the Man-Made Fibre Value Chain

NFY plays a pivotal role in linking upstream petrochemical production to downstream textile and industrial manufacturing. The production sequence begins with petrochemical intermediates, Caprolactam for Nylon 6, adipic acid and hexamethylenediamine for Nylon 6,6, which are polymerised to yield polyamide chips. These chips are subsequently processed through high-speed melt-spinning operations to produce continuous filament yarn, which is then textured, twisted, or otherwise converted according to downstream application requirements. The resulting yarn is

[1] The authors sincerely acknowledge Dr. Pritam Banerjee, Head of the Centre for WTO Studies, for his guidance, encouragement, and continuous support throughout this research work.

consumed by weavers, knitters, and technical textile manufacturers to produce finished goods across apparel, industrial, and defence end-use categories.

Figure 2: The Nylon Filament Yarn Value Chain



1.2 Key End-Use Segments of NFY and Demand Drivers

Global nylon fibre production is estimated at approximately 6–7 million tonnes annually, distributed across a wide range of performance-driven applications. The principal end-use segments for NFY are:

1. **Apparel and hosiery:** Sportswear, swimwear, lingerie, socks, and high-performance athletic garments where stretch, moisture management, and durability are commercially critical. This segment has grown substantially in correspondence with the global expansion of activewear and athleisure categories.
2. **Technical and industrial textiles:** Airbags, seat belts, conveyor belts, industrial ropes, and filtration fabrics, applications in which performance specification compliance is non-negotiable and where domestic certified supply chains carry strategic significance.
3. **Automotive textiles:** Upholstery, carpets, and structural components that require abrasion resistance and thermal stability, a segment expanding in tandem with India's growing automotive manufacturing base.
4. **Fishing nets and marine applications:** Leveraging nylon's favourable strength-to-weight ratio and resistance to saltwater degradation, this segment is particularly relevant in India's coastal economy.
5. **Defence and para-military applications:** High-tenacity NFY is a critical input in parachutes, paracords, ballistic webbing, military harness systems, and specialised load-bearing equipment used by the armed forces, applications that require verified tensile performance, dimensional consistency, and lot-wise traceability that only domestically certified producers are reliably equipped to meet.

6. **Home furnishings and commercial flooring:** Carpets and upholstery textiles in which durability requirements are stringent and where nylon's abrasion performance remains unmatched by alternative synthetic fibres.

Figure 3: Downstream consumption of NFY in India

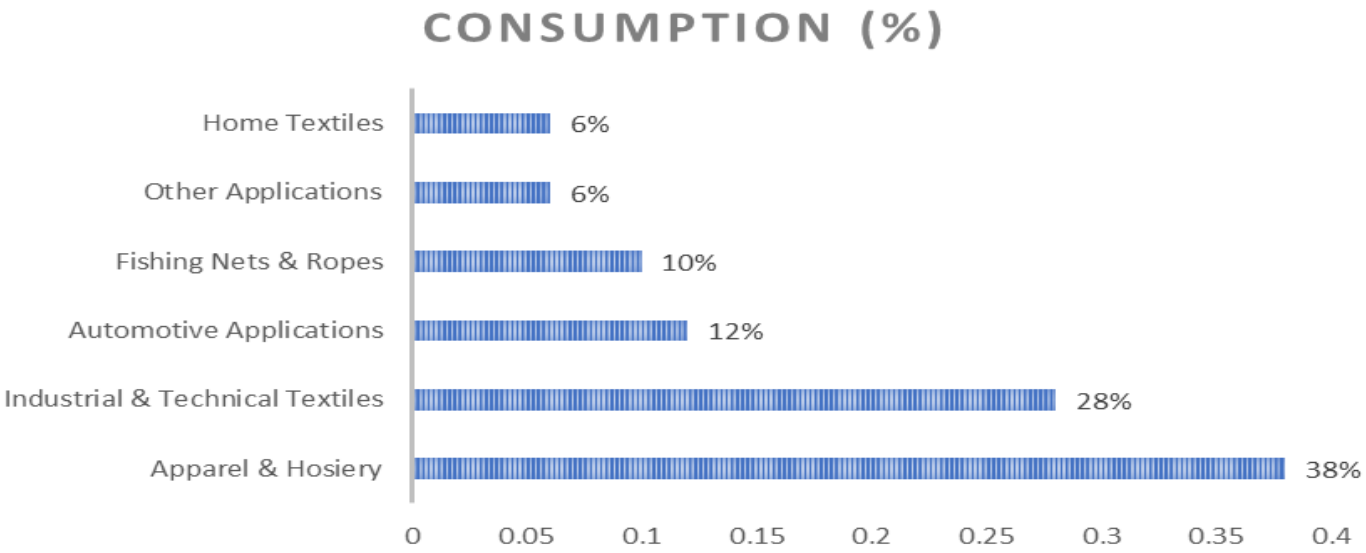
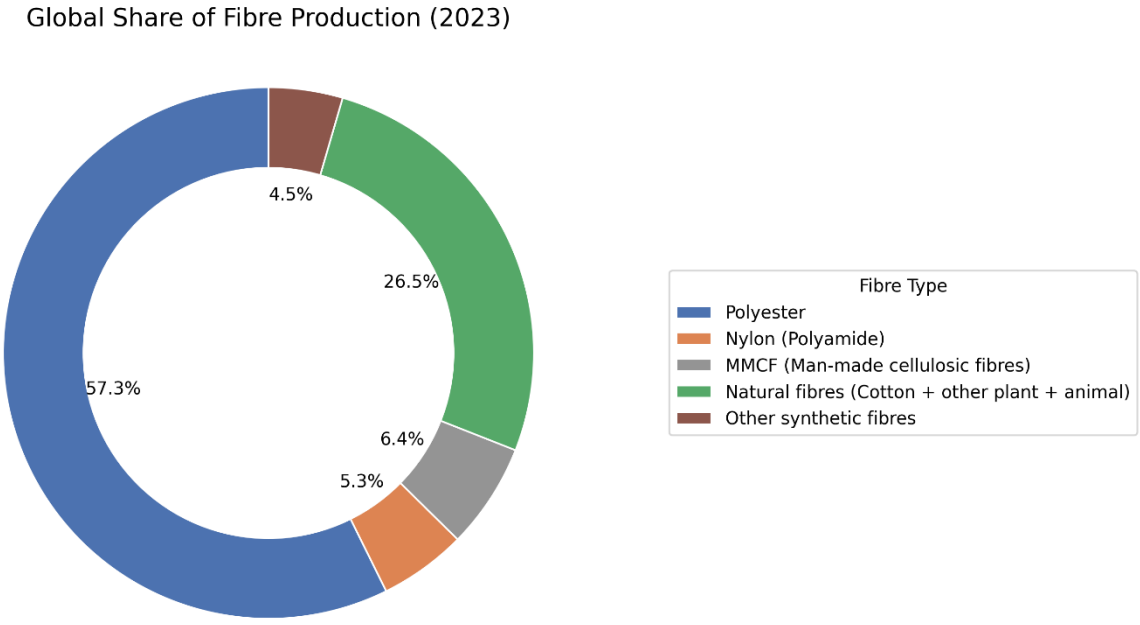


Figure 4: Global Consumption of Fibres

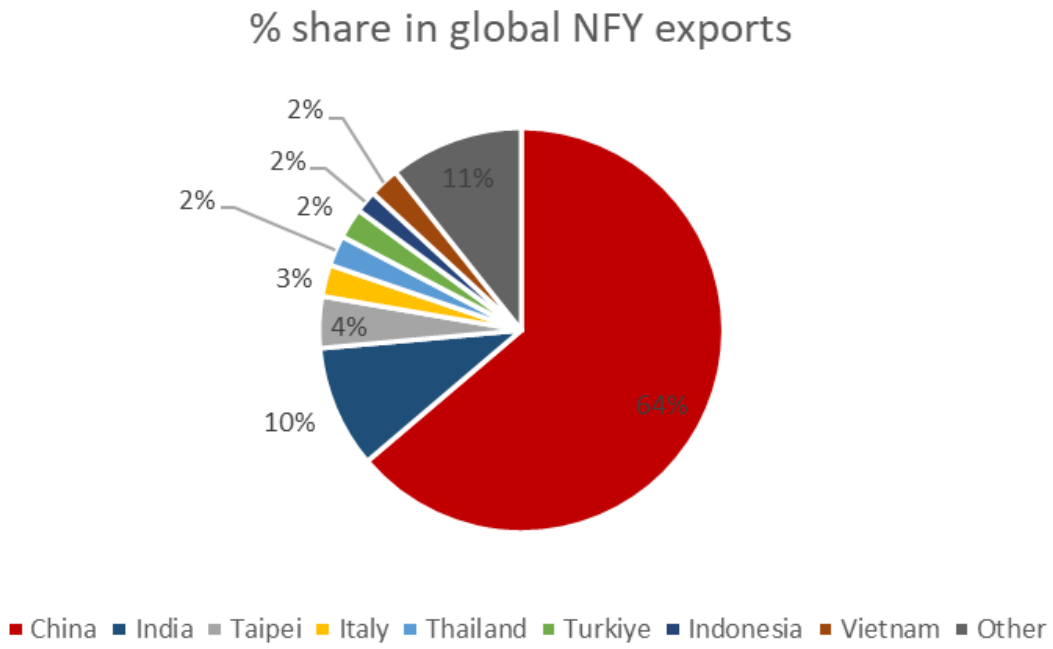


Source: Industry estimates

1.3 Global NFY Market Size and Structural Characteristics

The structural shift toward man-made fibres carries particular implications for India. The textile and apparel sector remain one of the country's largest manufacturing industries in terms of employment and export earnings. As global demand migrates progressively toward synthetic and performance-oriented fibres, the capacity of India's upstream synthetic fibre industries to cater to domestic demand becomes a determinant of sectoral competitiveness and of the country's long-run positioning within global textile value chains. NFY, as one of the technically advanced segments of this ecosystem, warrants policy attention commensurate with both its economic significance and its strategic role.

Figure 5: China is the leading exporter of NFY in the world



Source: ITC Trade Map, Ministry of Commerce

2. Global Trade Patterns in Nylon Filament Yarn

Global trade in synthetic fibres has expanded substantially over the past two decades, driven by the integration of textile manufacturing into international production networks and the rising share of man-made fibres in global fibre consumption.

2.1 Global Export Structure and Concentration

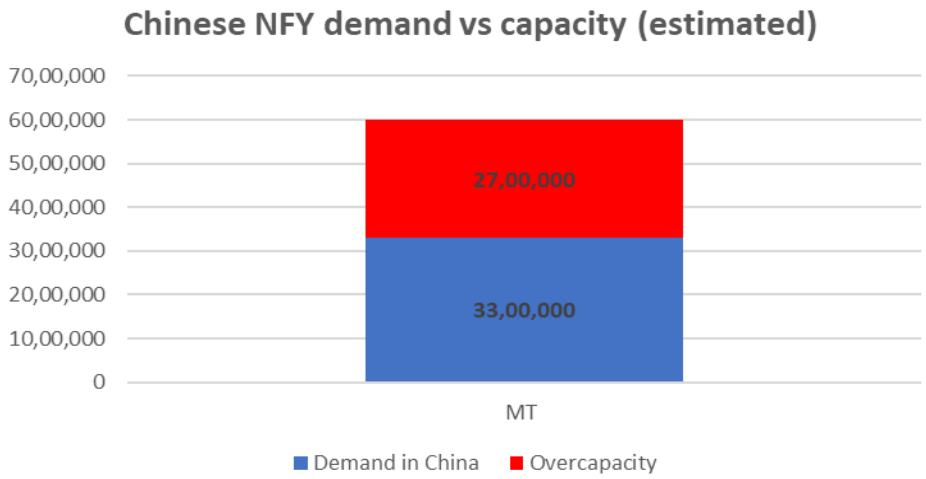
Other significant exporting countries include Chinese Taipei, South Korea, Japan, and select Southeast Asian economies, notably Vietnam and Indonesia, that host substantial synthetic fibre production capacity.

2.2 Chinese overcapacity in NFY

The defining feature of the current global NFY market is a significant and growing oversupply of capacity concentrated in China. China's installed Nylon filament yarn capacity is estimated over 6

million MTPA, with industry estimates indicating an overcapacity of 45–50% relative to domestic demand. This means China has a structural surplus of approximately 2.7–3 million tonnes of NFY production capacity that must find outlet in export markets.

Figure 6: China has significant surplus NFY capacity



Source: Industry estimates

Table 1: Nylon 6 Filament Yarn — China Capacity vs. India Demand (2024, Industry Estimates)

Parameter	Volume (MT)
China Installed NFY Capacity	~6,000,000
China Estimated Overcapacity (45–50%)	~2,700,000 – 3,000,000
India Total NFY Demand	~180,000
India Installed NFY Capacity	~210,000
China's surplus relative to India's entire demand	~15–17x

Source: Industry estimates; NSA; DGTR Final Findings, March 2026

To put this in context, China's structural surplus alone is approximately 15 to 17 times the size of India's entire NFY market. NFY production involves capital-intensive facilities with high fixed costs. Once built, these facilities must operate regardless of demand conditions, and surplus volumes are exported, even if at significantly lower than market prices, to ensure continuation of operations.

The consequences of this are visible globally. "Globally, nylon 6,6 is experiencing oversupply across the entire value chain driven by overexpansion in mainland China," according to Chemical Market Analytics by OPIS. Ascend Performance Materials, one of the United States' largest nylon producers with annual sales of USD 2.4 billion, filed for Chapter 11 bankruptcy in April 2025, having already closed plants in South Carolina and the Netherlands. European competitors including BASF and Domo Chemicals also announced closures of nylon-related assets during the same period.

Table 2: Global Firm Closures Attributed to Chinese NFY Overcapacity

Company	Country	Development	Year
Ascend Performance Materials	USA	Filed Chapter 11 bankruptcy; closed plants in South Carolina (USA) and Tilburg (Netherlands). Chinese overcapacity cited as primary cause; PA66 prices fell 45% from peak[2].	2025
BASF	Germany	Closure of nylon 6,6 related manufacturing assets announced; shifting operations to China[3]	2024–25
Domo Chemicals	Europe	Closure of nylon 6,6 related assets announced[4]	2024–25
Five domestic producers	India	Paras Petrofils, JCT, Prafull Overseas, Gupta Synthetics, GSFC permanently ceased NFY operations	2018 onwards

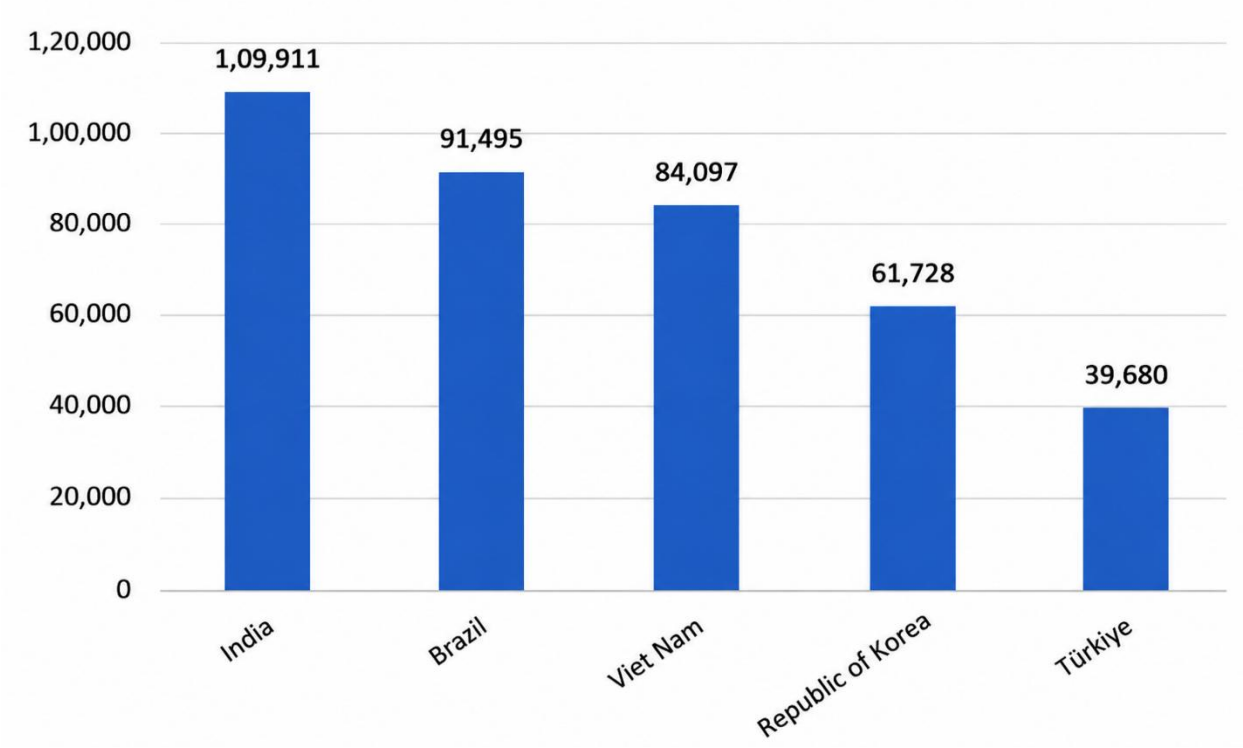
Sources: C&EN, April 2025; Chemical Market Analytics by OPIS; DGTR Final Findings, March 2026

China's capacity expansion programmes are expected to add further volume through 2028, making this a structural rather than cyclical condition. The trade policy implications for India are examined in section 7.

2.3 India's position in the global NFY value chain

India's domestic NFY consumption is expanding steadily, rising from 172,000 MT in 2020–21 to a projected 296,000 MT by 2027–28. This reflects a CAGR of around 8% and places India among the major NFY consuming markets globally.

Figure 7: India is the largest importer of NFY in the world.

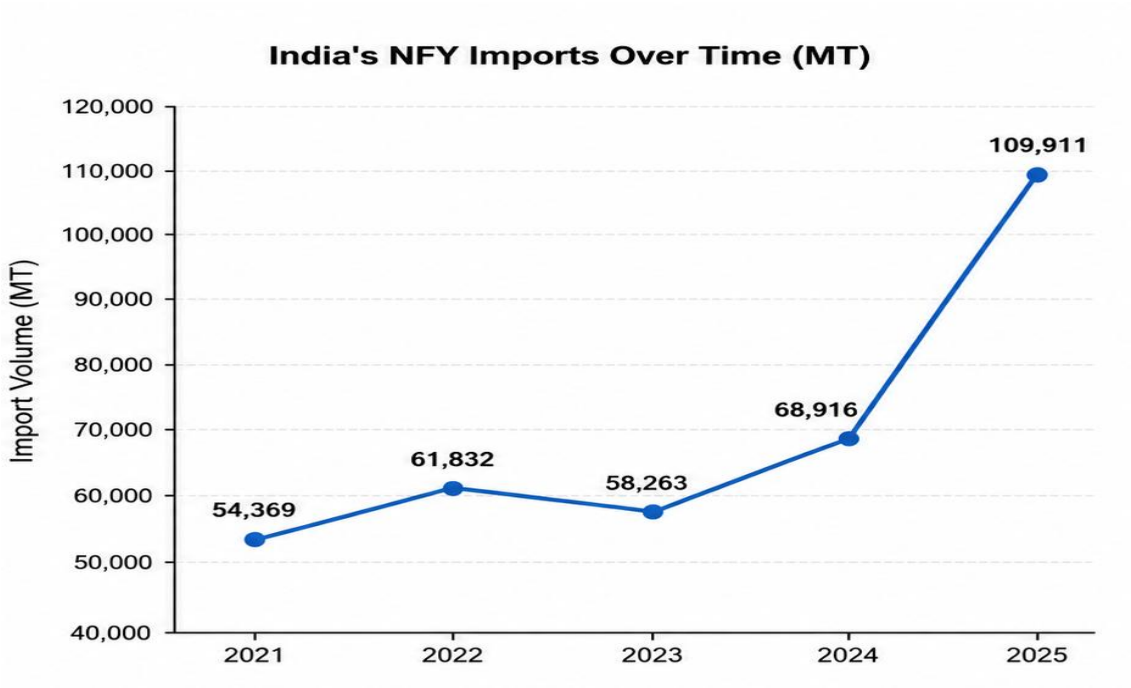


Source: ITC Trade Map

2 https://www.icis.com/explore/resources/news/2025/04/22/11094285/fire-winter-freeze-push-us-ascend-into-bankruptcy/
3 https://www.echemi.com/cms/2562036.html
4 https://www.domochemicals.com/en/media/news/past-future-and-present-polyamide-industry

India has become a significant NFY import market, with imports rising to around 109,911 MT in 2025. This increase is important because India is not an import-dependent market by design. Unlike countries such as Pakistan, Bangladesh and Egypt, which rely heavily on imports due to limited domestic production capacity, India has substantial installed NFY manufacturing capacity.

Figure 8: Spike in India's NFY imports



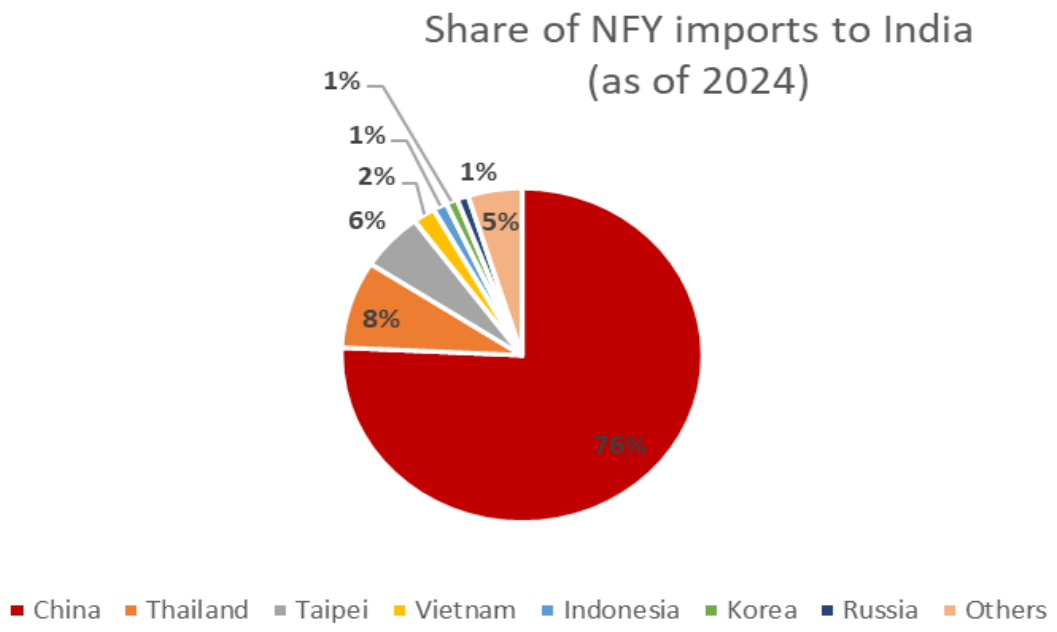
Source: ITC Trade map

Over five decades of investment, India's installed NFY capacity has increased from around 37,000 MT in 2007–08 to nearly 200,000 MT in 2024–25. This capacity has been built through investments of about INR 2,000 crore and remains certified, operational, and technically capable.

However, rising imports have affected domestic capacity utilisation. Indian NFY plants are currently operating at only around 60–65% utilisation, despite having the capacity to serve a large part of domestic demand. The import pressure is also highly concentrated. Chinese NFY accounts for around 88% of India's total NFY imports, while nearly 49% of China's NFY exports are directed to India. This indicates that India has become a key destination for Chinese NFY exports, even though domestic production capacity already exists.

Chinese NFY holds majority of the import share entering India, accounting for approximately 88% of all NFY imports into India. About 49% of Chinese NFY exports are directed to India, highlighting the importance of Indian market to China.

Figure 9: China is the leading exporter of NFY in the world.



Source: ITC Trade Map, Ministry of Commerce[5]

Although domestic NFY consumption is rising in India, increasing share of this demand growth is being captured by Chinese imports rather than by domestic producers. This is in sharp contrast to India's goal of achieving Atmanirbharta.

Table 3: India NFY — Capacity, Production, Imports and Unutilised Capacity (000 MT)[6]

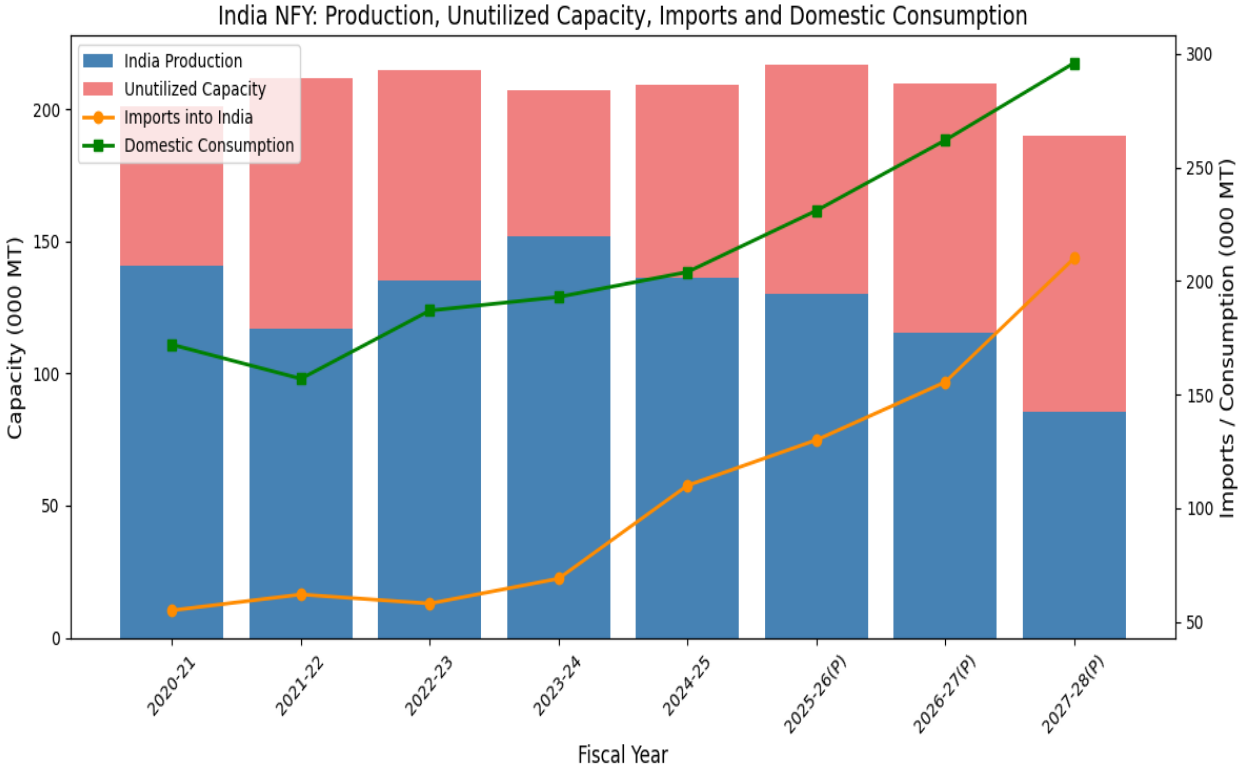
Parameter	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26(P)	2026-27(P)	2027-28(P)
Installed Capacity	201	212	215	207	209	**217**	**210**	**190**
Production	141	117	135	152	136	**130**	**115.5**	**85.5**
Capacity Utilisation (%)	70%	55%	63%	74%	65%	**60%**	**55%**	**45%**
Imports (000 MT)	55	62	58	69	110	**130**	**155.5**	**210**
Domestic Consumption	172	157	187	193	204	**231**	**262**	**296**

Source: Industry data; projections based on calculations

5 Note that these figures are as of 2024. China's import share in 2026 currently stands at 88%.

6 (P) = Projected under current trajectory

Figure 10: India NFY: Production, Imports, unutilized capacity, demand growth



Source: Industry estimates[7]

As the above graph suggests, if the current import pattern continues, India's NFY industry will be increasingly import dependent, without limited upstream manufacturing capabilities. A possible scenario of upstream capacities being completely wiped out is possible if current trajectory continues. The pressures on NFY producers are already starkly visible through falling capacity utilization rates. By 2027-28, imports are projected to reach 210,000 MT, equivalent to India's entire installed capacity today. But domestic utilisation rates could fall to as low as 45% which would eventually lead to shutting down of production in India. Such a situation warrants immediate policy attention, but before that a detailed overview on India's NFY production capacities and history is provided in Chapter 3.

3. India's production landscape: Evidence from Annual Survey of Industries (ASI)

India's domestic NFY industry has a history spanning over six decades. The first manufacturing facilities were established in the 1960s, and the sector expanded steadily over subsequent decades.

3.1 Capacity Building Under Trade Remedy Protection (FY2007-08 to FY2018-19)

The impact of anti-dumping duty safeguards on domestic investment is directly observable in the production data. Between FY2007-08 and FY2018-19, the period during which ADD measures were in force, installed capacity grew more than fourfold, from 37,000 MT to 1,55,000 MT, and production expanded correspondingly from 30,000 MT to 1,20,000 MT. Capacity utilisation remained consistently above 75–80%. This trajectory represents the domestic industry's response to a policy environment that permitted commercially viable long-run investment.

7 (P) = Projected under current trajectory

Table 4:Production Growth During policy period

Particulars	FY2007-08	FY2018-19	FY2024-25
Installed Capacity (MT)	37,000	1,55,000	2,00,000
Production (MT)	30,000	1,20,000	1,30,000
Capacity Utilisation (%)	~81%	~77%	~65%

Source: Industry estimates; DGTR Final Findings, March 2026

3.2 Post-2018 ADD withdrawal: Capacity Grows, Utilisation Falls

Following the withdrawal of ADD in 2018, the relationship between capacity and production has diverged. Installed capacity continued to grow modestly to approximately 2,00,000 MT by FY2024-25 as producers completed previously committed investments. Production has not kept pace. Utilisation has declined from ~77% in FY2018-19 to ~65% in FY2024-25 and is projected to fall to 45% by FY2027-28 on the current import trajectory.

This divergence is not a demand problem. India's total NFY consumption stood at approximately 1,80,000 MT in FY2023-24 against installed capacity of approximately 2,10,000 MT. Domestic producers are, in aggregate, capable of serving the market. The constraint is not technological, structural, or demand related. It is the commercial environment created by sustained below-cost imports, documented in Chapter 4.

3.3 What the ASI Data Reveals About Financial Stress

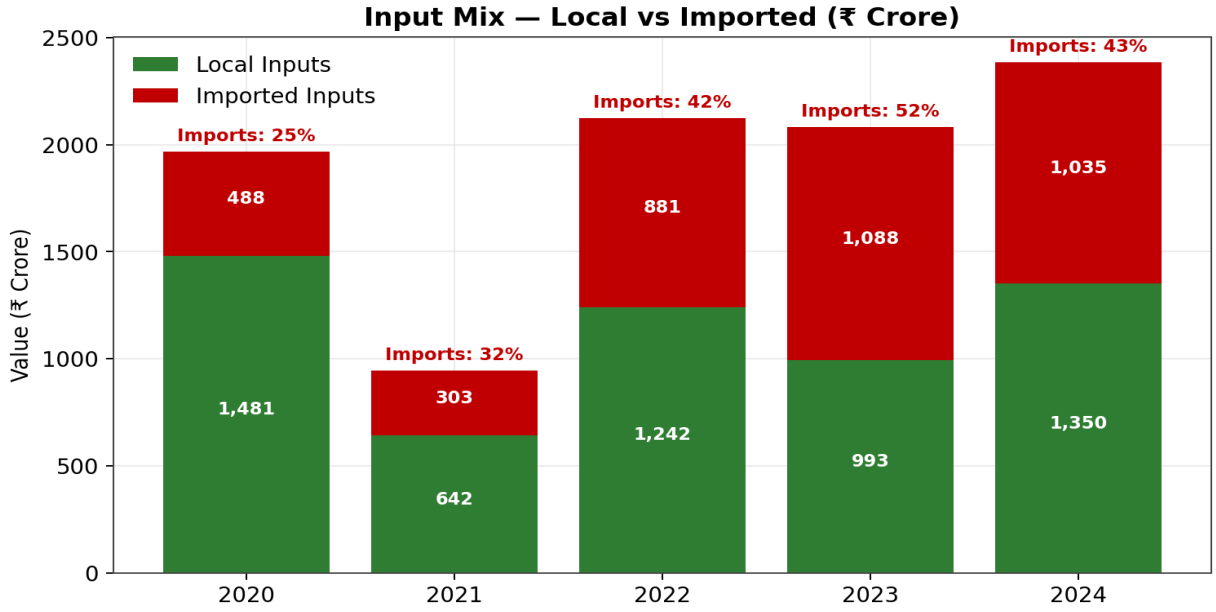
ASI unit-level data for the five years FY2020 to FY2024 provides a more granular view of the industry's financial condition than production volumes alone can capture. The headline figures, gross sales reaching a five-year high of ₹2,036 crore in FY2024, suggest a resilient sector. The underlying cost structure tells a different story.

Table 5: Rising input costs for manufacturers; stagnating selling prices

Variable (Industry Sum)	FY2020	FY2021	FY2022	FY2023	FY2024
Gross Sales (₹ Cr)	1,830	1,217	2,010	1,587	2,036
Local Inputs (₹ Cr)	1,481	642	1,242	993	1,350
Imported Inputs (₹ Cr)	**488**	**303**	**881**	**1,088**	**1,035**
Imported Inputs as % of total	**~25%**	**~32%**	**~41%**	**~52%**	**~43%**
Net Sales / Unit — Mean (₹)	240	217	264	264	257

Source: ASI unit-level data

Figure 11: Domestic NFY producers being squeezed due to rising imported inputs costs



Source: Annual Survey of Industries (ASI)

Input cost structure is deteriorating. Imported inputs, overwhelmingly caprolactam, the primary raw material for Nylon 6, along with PA6 and PA66 polymer chips, grew from approximately 25% of total input spend in FY2020 to over 50% by FY2023, before easing to 43% in FY2024. This is a structural shift and not a cyclical one. It reflects both India's near-complete dependence on imported caprolactam (which constitutes 70–75% of NFY production cost) and a growing tendency to import finished polymer chips as domestic polymerisation becomes less viable.

Table 6: Key imported inputs for NFY manufacturing in India

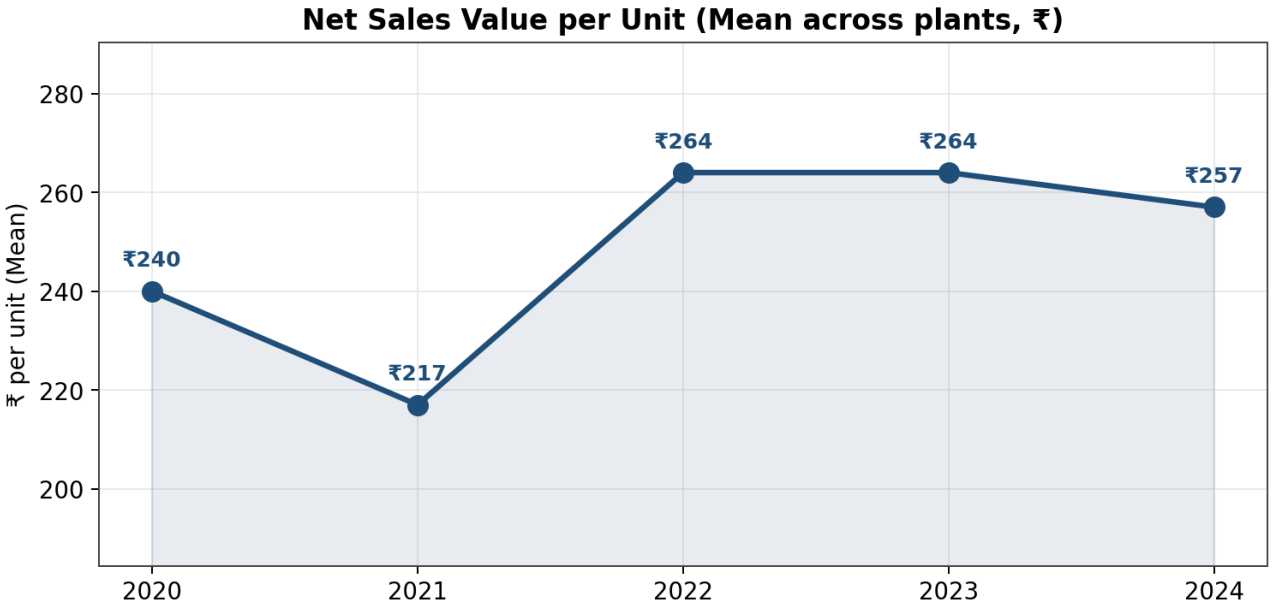
Imported Item	Primary HS	Role
Caprolactam	2933.71	PA6 monomer (core)
PA6 chips / granules	3908.10	Spinnable polymer
PA66 chips / granules	3908.10	High-grade polymer
Processed latex (incl. RFL)	4002 / 4005	Tyre-cord dip coating

Source: WCO Harmonized System Nomenclature, 2022 Edition

China accounts for approximately 74.5% of India's caprolactam imports and approximately 70% of nylon chip imports. Such dependence creates input-side exposure that compounds the finished-goods dumping pressure described in Chapter 4.

On the other hand, sales realizations are being squeezed against rising costs. Mean net sales value per unit has held within a narrow ₹217–₹264 band across the five-year window. Such pricing reflects an industry unable to pass through cost increases in a market where imported yarn consistently undercuts domestic pricing. The DGTR's injury indicators confirm what the ASI data implies. Cost of sales has risen persistently while net sales realisation has stagnated, with cash profits turning negative from FY2022-23 onwards.

Figure 12: While inputs costs are rising, selling prices of NFY remain stagnated



Source: *Annual Survey of Industries*

Taken together, the production data and ASI financials establish three facts that are directly relevant to the policy conclusions of this report.

Analysis of production data and ASI financials underscores three points central to the policy conclusions of this report.

First, India has, through sustained investment spanning two decades, established a domestic NFY manufacturing base with adequate capacity to serve a growing market, a strategic asset that cannot be rebuilt once decimated due to dumping as it impacts investor confidence.

Second, reportedly the domestic NFY industry is under financial stress, which is intensifying. The sector faces a dual challenge of increasing input costs due to heavy import dependence on caprolactam, and chips sourced predominantly from a single country and predatory trade practices restricting the market access of domestic industry due to dumped NFY imports. These pressures are interconnected, representing a coordinated, vertically integrated supply chain strategy by Chinese producers that spans from monomer production to finished yarn. The combined effect constrains domestic producers' economic viability, threatens capacity utilisation, and undermines the sustainability of the industry.

Third, timely remedial policy action is becoming increasingly critical. Five producers have already exited permanently, capacity utilisation is declining despite rising demand, and the remaining producers continue to absorb losses that, if unchecked, will trigger further closures.

4. Industry value chain challenges

India's nylon filament yarn industry operates within a value chain that presents structural challenges at multiple stages. NFY producers in India are completely import dependent on key input raw materials. For downstream industries of NFY, the policy framework provides higher duty safeguards to fabric manufacturers that does not extend to the yarn stage. Within this context, the domestic NFY industry has experienced sustained and increasing import pressure from countries whose producers

benefit from significantly different cost and policy environments. This chapter examines each of these dimensions in turn.

4.1 Cascading Import Dependence Across the NFY Value Chain

India's NFY industry is structurally dependent on imports at every upstream stage of its production chain, from the primary petrochemical feedstock through to the intermediate polymer chips from which yarn is spun. This layered dependence, concentrated overwhelmingly in a single source country, represents a supply chain vulnerability that compounds at each stage of the value chain.

Caprolactam

The primary raw material for Nylon 6 production is caprolactam, a petrochemical intermediate derived from cyclohexane. India's domestic production of caprolactam is estimated at approximately 120,000 MT, limited to a handful of producers, and is insufficient to meet the requirements of the NFY spinning industry at scale. Therefore, domestic NFY industry are almost fully import dependent on imports from Caprolactam to sustain production. Caprolactam constitutes approximately 70-75% of the total production cost of NFY, making imported feedstock pricing the single most significant determinant of domestic producer cost structures.

China accounted for approximately 74.5% of India's total caprolactam imports in FY2024-25, followed by Thailand at 12.2% and Russia at 10.9%.

Table 7: India Caprolactam Import Source Concentration (FY2024-25)

Source Country	Share of India's Caprolactam Imports
China	**74.5%**
Thailand	12.2%
Russia	10.9%
Others	2.4%

Source: MoC Tradestat for HSN 293371

Such upstream dependence creates a structural cost disadvantage relative to vertically integrated foreign competitors, particularly Chinese producers, who procure feedstock through captive supply chains or co-located integrated facilities. Indian producers, by contrast, procure caprolactam at international market prices and bear full exposure to petrochemical price volatility. For instance, caprolactam prices have risen by nearly 48% due the ongoing Middle East war, causing significant financial strain for producers.

Nylon Chips

Beyond caprolactam, the intermediate stage of the NFY value chain involves polyamide chips, which are produced from caprolactam through polymerisation and serve as the direct spinning input for NFY manufacturers who do not undertake in-house polymerisation. India's installed capacity for nylon chip production is estimated to be 25,000 MTPA, a fraction of domestic NFY industry requirements.

India's dependence on imported nylon chips has grown sharply in recent years: imports grew at a CAGR of 26.2% between FY21 and FY25, one of the steepest import growth rates across any textile input category. China accounts for approximately 70% of India's total nylon chip imports in FY2024-25, followed by Belgium at 4.4%, with no other single country holding a significant share.

The combination of near-complete import dependence on caprolactam and a rapidly growing dependence on imported nylon chips means that India's NFY producers are exposed to supply and price risks at two successive stages of their input chain, with China as the dominant supplier at both.

The aggregated picture across all three upstream stages of the NFY value chain is set out below.

Table 8: India's Import Dependence Across the NFY Value Chain (FY2024-25)

Stage	Product	India's Domestic Capacity	China's Share of India's Imports
Stage 1	Caprolactam	~120,000 MT (limited producers)	**74.5%**
Stage 2	Nylon Chips	~25,000 MTPA	**~70%**
Stage 3	Nylon Filament Yarn	~210,000 MTPA	**~88%**

Source: ASI

The concentration of import dependence on a single source country across all three stages of the upstream value chain is the defining supply chain vulnerability of India's NFY sector. Any disruption to the India-China trade relationship, would leave downstream textile, automotive, and defence manufacturers with no domestic upstream buffer of meaningful scale.

4.2 Tariff Structure Across the NFY Value Chain

In addition to complete import dependence for upstream raw materials, the current duty structure across the NFY value chain provides additional safeguards to downstream fabric and garment manufacturers that do not extend to the yarn stage.

Currently there is 20% Basic Customs Duty (BCD) on nylon fabric imports, providing meaningful insulation to downstream fabric and garment manufacturers against competing imports from Bangladesh, Vietnam, and China. NFY imports, by contrast, attract only 5% customs duty. Downstream fabric manufacturers also receive additional support through a Minimum Import Price on certain synthetic knitted fabrics.

This duty structure creates an asymmetry in the NFY textile value chain. While fabric and garment manufacturers are insulated from import competition through both higher duty rates and additional price-floor protections, the domestic NFY industry operates at the same 5% duty level that has been in place since the BCD was reduced from 7.5% in 2022, without equivalent safeguard mechanisms.

The NFY industry also faces a further cost burden arising from an inverted GST structure. Nylon 6 chips, the primary input for yarn spinning, attracts 18% GST, while NFY itself is subject to only 5% GST. This 13% differential accumulates as an input tax that domestic producers cannot fully offset through the GST credit chain, adding a structural cost disadvantage that sits on top of the import duty asymmetry.

A resilient textile value chain requires policy support that extends across the entire production chain. Domestic fabric and garment production is better served by a growing domestic yarn capacity alongside it. In the absence of comparable support at the yarn stage, downstream industries remain exposed to supply chain disruptions.

4.3 Dumping of Nylon Filament Yarn and Its Impact on the Domestic Industry

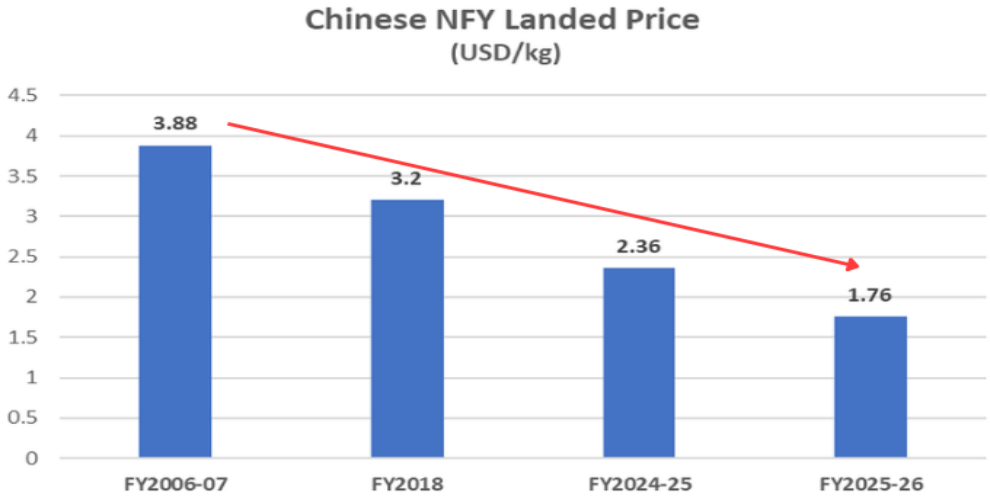
In addition to the upstream supply vulnerabilities and tariff asymmetry described above, domestic NFY producers have been contending with a sustained and well-documented pattern of dumped

imports, primarily from China and Vietnam, who has progressively displaced domestic output from the Indian market over the past decade.

Historical context: The 2018 inflection point post removal of Anti-dumping duties

Anti-dumping duties on NFY imports were in force between 2006 and 2018. During this period, India's domestic NFY industry maintained relatively stable operations. Capacity utilisation remained consistently above 80%, the domestic producer base invested approximately INR 2,000 crore in capacity modernisation and import market share remained contained in the range of 10-15%. In 2018, following a sunset review, the anti-dumping duties were not renewed. Imports from China, freed of any trade remedy constraint, surged by 334% between 2018-19 and 2025-26. China's share of India's NFY market, which stood at approximately 1% at the time duties lapsed, has since risen to over 85%.

Figure 13: Falling NFY import prices in India despite global inflationary pressures indicates predatory pricing behaviour



Source: Data provided by industry

The price trajectory of Chinese NFY imports to India over this period is particularly illustrative. When anti-dumping duties were first imposed in FY2006-07, the import price of Chinese NFY stood at USD 3.88/kg. By 2018, at the time of duty withdrawal, this had declined to USD 3.2/kg. By FY2024-25, it had fallen further to USD 2.36/kg and is estimated to reach USD 1.76/kg in FY2025-26. This sustained decline in nominal import prices, occurring across a period of broad global inflation in energy, labour, and petrochemical costs, points to a pricing strategy anchored in market capture rather than cost-reflective commercial pricing.

Differential pricing by destination

A particularly significant dimension of Chinese NFY export pricing is the differential applied across destination markets. The average price at which Chinese NFY is supplied to India is materially lower than the price at which the same product is supplied to other major importing countries.

Table 9: Average Price of Chinese NFY Exports by Destination (FY2024-25)

Destination	Average Price (USD/kg)
India	**2.36**
Brazil	3.00-4.30
Korea	3.00-4.30
Turkey	3.00-4.30
Vietnam	3.00-4.30
Italy	20.31

Source: NFY Industry data, FY2024-25

This differential pricing pattern is directly relevant to India's trade remedy context. India is being supplied Chinese NFY at prices significantly below those charged in comparable markets. The DGTR's Final Findings dated 19 March 2026 confirmed dumping margins of up to 55% for Chinese exporters and up to 150% for Vietnamese exporters.

Production cost asymmetry

Domestically produced NFY is priced at USD 2.64-2.66/kg, with a chips-to-yarn conversion cost of USD 1.23-1.25/kg. Chinese imports, by contrast, arrive at USD 2.36/kg in FY2024-25, with a conversion cost of approximately USD 0.35/kg. A conversion cost of USD 0.35/kg barely covers essential production expenses including utilities, financing, and labour, and is consistent with production economics that are supported by state-backed industrial policy rather than commercial market conditions.

4.4 The Quality Dimension of Imports from China and Vietnam

A further dimension of this competitive pressure, which the DGTR's findings brought to light, concerns product quality. Indian NFY producers operate under mandatory BIS (Bureau of Indian Standards) certification, producing predominantly AA-grade yarn subject to lot-wise traceability requirements. These are compliance obligations that carry real costs, in process infrastructure, testing, audit, and certification, which are embedded in domestic production economics.

The DGTR's Final Findings recorded that foreign producers participating in the investigation admitted to supplying non-prime, downgraded grades to India. Industry estimates indicate that approximately 65–70% of Chinese NFY imports fall into the non-prime category. This means that a direct price comparison between imported and domestic NFY is, in a meaningful sense, a comparison between products of materially different specification. Domestic producers bearing the full cost of quality compliance are effectively competing on price against product that does not meet equivalent standards. As China's market share in India has grown, the Indian NFY market has absorbed an increasing volume of downgraded yarn without the consumer-facing transparency or the regulatory framework that would make this quality differential visible and actionable.

4.5 Industry shutdown and Production Loss

The financial pressure resulting from this combination of below-cost pricing and quality-asymmetric competition has translated directly into production exits. The DGTR's Final Findings recorded the closure of multiple domestic NFY producers during the injury period, including Paras Petrofils, JCT Limited, Prafull Overseas Private Limited, Gupta Synthetics, and Gujarat State Fertilizers and Chemicals Limited. In addition to these exits, nearly 37,000 MT of domestic NFY capacity that is

certified, lies unutilized due to dumping. (A) List of domestic manufacturers that have shut down NFY production due to severe dumping since 2005

Table 10: Domestic companies whose NFY production was reportedly shut down due to rampant dumping pressures.

S. No	Name of company	Capacity in 2004-05 (in MT)
1.	Modipon Fibres Company	9,000
2.	JCT Limited	10,000
3.	Shree Synthetics	2,500
4.	Baroda Rayon Corporation	1,050
5.	Gujarat Nylon Limited	5,500
6.	SRF Limited	1,400
	Total loss of domestic capacity	**29,450 MT**

Source: Industry estimate, primary research

Table 11: List of domestic companies that shut operations whose capacity is not publicly available.

S. No	Name of company
1.	Gujarat State Fertilizers Corporation
2.	Gupta Synthetics
3.	Paras Petrofils
4.	Prafull Overseas Limited

The following table documents the trajectory of the domestic industry's financial and operational condition over the injury period, as established by DGTR findings.

Table 12: Key Injury Indicators, Domestic NFY Industry (Indexed)

Parameter	2020–21	2021–22	2022–23	POI (2023-24)
Production volume	100	107	97	94
Capacity utilisation (%)	~89%	~86%	~79%	~74%
Sales volume	100	108	98	95
Net sales realisation	100	109	103	99
Cost of sales	100	114	108	107
Cash profit / (loss)	**Positive**	**Positive**	**Negative**	**Negative**

Source: DGTR Final Findings, 19 March 2026

The pattern is consistent across all parameters. Rising costs against a backdrop of constrained realisations, declining volumes and utilisation, and financial positions that turned loss-making from 2022–23 onwards. The DGTR's own finding states: "A number of domestic producers including Paras Petrofils, JCT Limited, Prafull Overseas Private Limited, Gupta Synthetics and Gujarat State Fertilizers and Chemicals Limited have shut down their operation. The shutdown of producers is pushing India towards a demand-supply gap situation and is likely to make India import-reliant.

5. Minimal Cost Impact on Downstream Industries

An important consideration in assessing trade remedy measures on upstream inputs is their potential cost pass-through to downstream manufacturers. In the case of NFY, this question has been examined in detail, and the findings support a measured assessment.

Table 13: Negligible downstream impact of Anti-dumping duties

Category	Segment	Tentative Consumption (MT/Annum)	% Share	Avg Retail Price (in INR/MT)	Avg yarn Weight in gms / meter fabric	Item	Impact of Duty on sale price (Rs / meter)	%Impact on retail price
							Rs 15/kg	
Apparels	Saree	54,000	38.6%	160	60	Saree	0.9	0.56%
	Dupatta, Stolls	30,000	21.4%	70	35	Stoll	0.5	0.75%
	Dress material	27,000	19.3%	90	70	Kurti	1.1	1.17%
	Swim Wear, Lingerie	1,200	0.9%	300	80	Night gown	1.2	0.40%
	Suiting n Shirting	300	0.2%	140	120	Per metre	1.8	1.29%
Active Wear	Socks, Bottoms	1,500	1.1%	Rs 60/pcs	20	Per piece	0.3	0.50%
	T shirts, Tops	500	0.4%	Rs 300/mt	100	Per piece	1.5	0.50%
	Sweaters	500	0.4%	Rs 500/kg	200	Per piece	3.0	0.60%
Industrial	Elastics, Tapes	11,000	7.9%	Rs 6/ mt	6	One meter	0.1	1.50%
	Crochet, Labels, Velcro, Laces	7,000	5.0%	Rs 70/ mt	20	One meter	0.3	0.43%
	Rugs, Carpets, Packaging	2,000	1.4%	Rs 400/kg	250	per piece	3.8	0.94%
	Threads, Cosmetics, Fish Nets	2,400	1.7%	Rs 350/kg	70	One meter	1.1	0.30%
Automotive	Automotive Backing, Gloves	1,800	1.3%	Rs 600/kg	40	per piece	0.6	0.10%
	Bolting, Filters	800	0.6%	Rs110/mt	65	One meter	1.0	0.89%
	Total	**1,40,000**	**100.0%**				**Average**	**0.70%**

Source: Based on industry estimates and calculation

According to industry estimates, the cost impact of implementing the DGTR recommended ADD on NFY would be less than 0.7% on average for downstream industries. Such an impact is well within the range of normal market price variation and are unlikely to materially affect the competitiveness of downstream manufacturers in either domestic or export markets. The DGTR's Final Findings formally affirmed this characterisation, concluding that "imposition of anti-dumping duty on imports of subject goods from the subject countries will not have an adverse impact on the textile industry in general." The DGTR further confirmed that there is no demand-supply gap that would justify the existing volume of subject imports, and that alternative sources of supply are available, thereby addressing the concern that trade remedy measures might constrain downstream access to yarn.

The inflation concern, often cited as a reason for restraint on ADD implementation, does not find support in the data either. A C-DEP study[8] across 21 products pending ADD implementation found at the time of this study, showed that even assuming 50% cost pass-through to consumers, the aggregate inflation impact would be approximately 0.01%. For NFY specifically, given its position as an upstream intermediate rather than a final consumer good, the pass-through is likely to be lower still, as evidenced in Chapter 3. Therefore, competitiveness of downstream manufacturers in domestic markets is not materially at stake.

It also bears noting that the downstream industries most directly supplied by domestic NFY producers already benefit from the 20% import duty protection. The incremental cost implication of ADD at the yarn stage, estimated at under 0.7% at retail, is therefore modest in relation to the policy framework that already supports downstream manufacturers.

6. Global responses to Chinese NFY dumping

China's structural overcapacity in NFY, as mentioned in Chapter 2 and its consequence for India's domestic industry documented in Chapter 4, are not conditions unique to India. Multiple economies across different geographies have independently arrived at the same regulatory finding through their own trade remedy investigations in recent years. Their findings also conclude that Chinese NFY export pricing causes material injury to domestic producers operating under normal commercial parameters.

Table 14: Trade Remedial Measures Against Chinese NFY Exports

Country / Region	Measure	Status (as of April 2026)	Key Finding
Brazil	ADD on nylon filament yarn from China, South Korea, Chinese Taipei	Continuously maintained; renewed December 2025 for five years	Duties never lapsed; domestic industry retained; rates USD 167.98–1,860.68/tonne for China
European Union	ADD on polyamide yarns from China	Investigation initiated July 2025; import registration mandated October 2025	Dumping margins estimated 49–131% for 2024; preliminary ruling expected 2026
India	ADD on NFY from China and Vietnam	Final Findings issued March 2026; duty notification pending	Dumping margins confirmed up to 55% (China) and 150% (Vietnam)

Sources: DGTR Final Findings, March 2026; GECEX Resolution No. 828 of 2025; European Commission Implementing Regulation (EU) 2025/1984

8 https://c-dep.in/reports/detail/?id=ti1h63prcvpjmzqvj276p8x0

6.1 India as the Primary Residual Market

As Brazil and Europe continues to renew anti-dumping duties, India is increasingly becoming one of the principal open markets for Chinese NFY exports. India already absorbs approximately 40% of China's total non-elastic nylon filament exports, with shipments rising by 134% year-on-year in the first five months of 2025. This has placed domestic producers under severe stress.

In this context, timely consideration of the DGTR-recommended anti-dumping duties assumes significant importance. As per the DGTR findings, the domestic NFY industry has faced seven years of below-cost competition following the withdrawal of duties in 2018. Any further delay may accelerate the erosion of domestic capacity and deepen import dependence in a sector where India has established manufacturing capability.

7. Policy implications and way forward

The evidence across the preceding chapters highlights a compounding challenge for the domestic NFY sector. India has developed a domestic NFY manufacturing base over six decades, with recent investments of approximately INR 2,000 crore between 2005 and 2018—periods when anti-dumping duties were in place. This base provides sufficient installed capacity to meet the entire domestic market. However, global supply dynamics have contributed to pressure on domestic producers. Structural surpluses in certain exporting countries, most notably China, are over 15-17 times larger than India's entire NFY market, and other countries, including Vietnam, have followed similar strategies to increase market share in India. These developments, combined with below-cost imports, have contributed to declining prices over a decade of global inflation, with dumping margins recognised by India's trade remedy authority at up to 55% for China and 150% for Vietnam.

As a result, five domestic producers have permanently exited, and capacity utilisation is projected to fall to 45% by FY2027-28, even as domestic demand grows at 8% annually. India risks developing a structural reliance on imports for this critical upstream input, which enables the apparel, automotive, and defence value chains.

Therefore, to safeguard India's domestic NFY industry, policy measures consistent with established international trade remedies, such as anti-dumping duties, can be considered, as has been done in other jurisdictions. Brazil, for example, has maintained continuous anti-dumping safeguards on Chinese NFY imports since the original imposition of duties, and the European Union initiated investigations to implement similar measures in July 2025.

Therefore, to support the upstream NFY capacities in India, the following policy options may be considered:

7.1 Notify the DGTR-Recommended Anti-Dumping Duties

The DGTR's Final Findings of March 2026 conclude a 15-month quasi-judicial investigation conducted in full compliance with WTO procedures. The Findings establish the presence of dumping, causation, and material injury to the domestic NFY industry. The investigation also assessed the downstream impact on costs and found it to be minimal, averaging less than 0.7% at retail across all end-use segments. DGTR further confirmed that there is no domestic demand-supply gap that would justify the prevailing volume of imports.

This pattern of below-cost imports has implications beyond the NFY sector. Between 1991 and mid-2020, India implemented 99.5% of DGTR recommendations. In recent years, however, the

implementation rate has declined, with rejection rates reaching over 80% in certain periods, including mid-2025 to May 2026.

Anti-dumping duties are a WTO compliant remedy for a specific and legally established form of market distortion, available to every member country.

The three-month statutory timeline for the implementation of DGTR's recommended anti-dumping duties on NFY imports is 19 June 2026.

7.2 Reinstating the Quality Control Order on NFY

DGTR's findings show that an estimated 65–70% of NFY imports from China are of non-prime grade and do not conform to the BIS certification standards that are mandatory for domestic producers. Indian NFY sector incur the full compliance costs, including lot-wise traceability, testing, and audits, whereas imported yarn enters the market without equivalent quality verification.

This issue extends beyond marginal commercial considerations, as it directly impacts critical applications such as defence procurement, where adherence to performance specifications is non-negotiable. It also affects technical textiles, including airbags, seat belts, and industrial ropes, where substituting non-certified yarn for certified NFY can create safety risks that are not apparent at the point of use. Furthermore, it creates a structurally uneven competitive environment, with domestic producers required to comply with rigorous quality standards while competing against lower-cost imports that do not meet the same requirements. Reinstating the Quality Control Order on NFY, with mandatory BIS certification applied equally to domestic and imported products, can be considered as a measure to extend existing domestic quality standards to imports and ensure a level playing field.

7.3 Addressing Feedstock Vulnerability

The upstream supply dynamics reinforces the challenges faced by the downstream. Caprolactam, which accounts for approximately **70–75%** of NFY production costs, is sourced 74.5% from China, while nylon chips are sourced 70% from the same country. As a result, India's NFY producers face competition from Chinese finished yarn while remaining commercially reliant on imports for key upstream inputs. This reflects the structural dynamics of global supply chains, where certain overseas suppliers operate across multiple stages from monomer to finished yarn, leveraging cost structures that are difficult to replicate under international market pricing.

Facilitating access to caprolactam from alternative sources through tariff rationalisation would reduce input cost exposure while simultaneously diversifying supply risk. Bilateral supply arrangements with caprolactam-producing countries, such as Thailand and Russia, would offer greater price stability for Indian importers compared with reliance on spot-market procurement. Over the longer term, exploring the potential for domestic caprolactam production, including under the petrochemical PLI framework, merits consideration. The competitiveness of India's NFY industry is constrained by this upstream cost disadvantage, and addressing it will require policy measures at the feedstock level to run in parallel with downstream trade remedies.

7.4 Rationalise the Duty Structure Across the Value Chain

The current duty structure imposes 20% BCD on nylon fabric imports while NFY imports attract only 5%, a level reduced from 7.5% in 2022 without equivalent compensation at the yarn stage. Fabric and garment manufacturers receive additional insulation through Minimum Import Price (MIP) mechanisms, whereas NFY producers receive no equivalent safeguards. A value chain is only as

resilient as its weakest link. The current structure, as it stands, tilts in favour of downstream manufacturers while leaving the upstream vulnerable. A review of duty levels across the NFY value chain, with a view to ensure parity between stages, would help address this asymmetry and strengthen the overall competitiveness of domestic NFY producers.

The inverted GST structure further accentuates the challenge. Nylon chips are subject to 18% GST, while NFY itself is taxed at 5%, creating an input tax differential that domestic producers cannot fully offset through the input credit chain. Addressing this disparity alongside the review of customs duties would significantly enhance the operating economics and competitiveness of domestic NFY manufacturing.

Conclusion

India's NFY market is projected to reach USD 3.21 billion by 2033, with domestic demand estimated at 4.3 lakh tonnes by 2030. Meeting this demand from domestic production would require investment of over INR 1,000 crore. In the current operating environment, characterised by with reduced market access due to dumping, economic viability and declining capacity utilisation, such investment may be challenging to attract. Without adequate policy support, a portion of the projected demand growth may be met through imports, which could exert continued influence on domestic market prices in the coming years.

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ABOUT THE CENTRE

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