Infomerics Analytics & Research

CIN: U74999DL2020PTC369018

Flat No.108, Golf Apartments, Sujan Singh Park New Delhi – 110 003
iar@infomerics.com, Phone: +9111 41410243, 4141 0244,

Industry Report On Tarpaulin Industry

Date: 25th Sept, 2025

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1. Global Macroeconomic Scenario

The global economy is projected to experience a deceleration in growth, with global GDP expanding by 2.8% in CY 2025, down from 3.3% in CY 2024. This slowdown is attributed to escalating trade tensions, particularly due to new U.S. tariffs, and heightened policy uncertainties. Global headline inflation is expected to decline to 4.3% in CY 2025 and further to 3.6% in CY 2026, as inflationary pressures ease across advanced economies, aided by tighter monetary policy, improved labour market conditions, and the resolution of supply disruptions. However, global trade growth is forecasted to slow significantly to 1.7% in CY 2025, reflecting the effects of escalating trade barriers and geopolitical instability.

In China, economic prospects remain constrained as the IMF downgraded its CY 2025 GDP growth forecast to 4.0%, due to persistent challenges in the real estate sector, weak consumer demand, and trade-related pressures. In Europe, growth is expected to stagnate, with Germany's GDP forecast at 0.0% in CY 2025, amidst trade disruptions and domestic weaknesses. The EU is actively seeking to address these challenges through renewed trade dialogue with the U.S.

Meanwhile, India continues to show resilience, with the IMF projecting stable real GDP growth of 6.2% in CY 2025, followed by a slight uptick to 6.3% in CY 2026. This is supported by robust rural consumption and sustained infrastructure investment. The IMF notes that India remains one of the fastest-growing major economies, driven by favourable demographics, expanding digital infrastructure, and rising investment activity. Consumer price inflation in India is projected to moderate to 4.2% in CY 2025, staying within the Reserve Bank of India's (RBI) target range of 2–6%, which helps maintain purchasing power and economic stability. The IMF also highlights the importance of continued structural reforms in India, particularly in labour markets, logistics, and capital formation, to sustain medium-term growth momentum.

Overall, while inflation is declining globally, the economic outlook remains clouded by geopolitical uncertainty, trade fragmentation, and region-specific structural challenges. However, India's relative macroeconomic stability, demographic advantage, and ongoing investment cycle place it in a strong position amid global headwinds.

1.1 Global GDP Growth Scenario

The global economy began to recover from its lowest levels following the lifting of lockdowns in 2020 and 2021. The pandemic-induced lockdown was a key factor that severely disrupted economic activities, leading to a recession in CY 2020, where global GDP contracted by -2.7%.

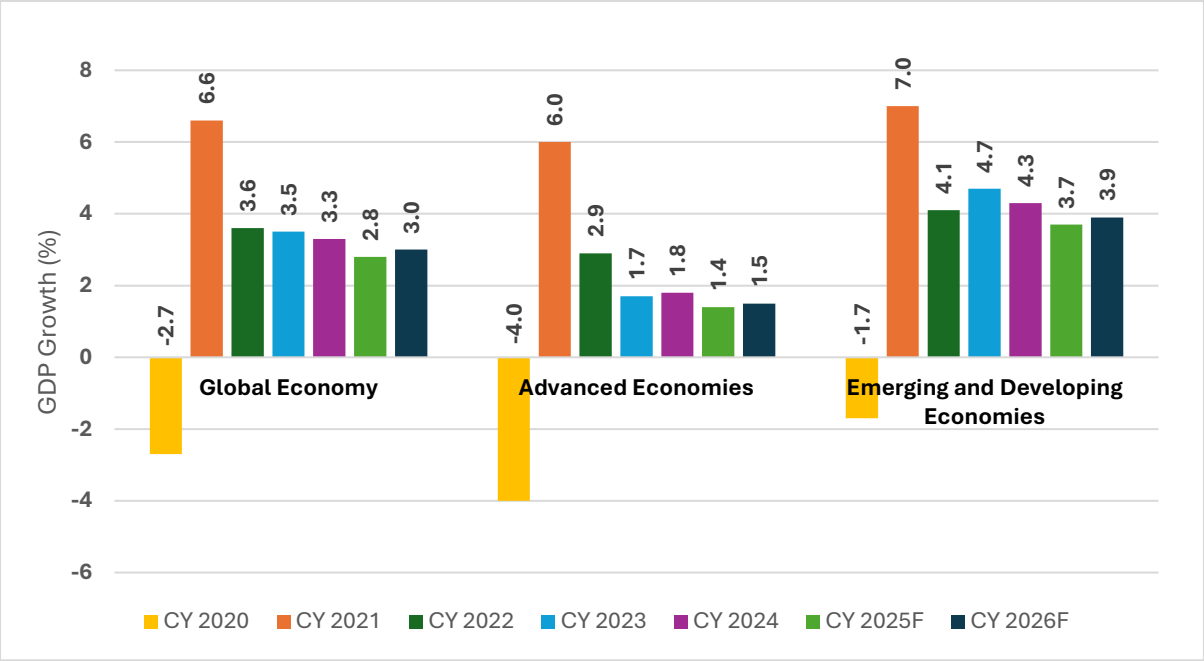
In CY 2021, supply chain disruptions significantly impacted both advanced economies and low-income developing economies. The rapid spread of the Delta variant and the threat of new variants in mid-2021 further heightened uncertainty in the global economic environment.

Global economic activity saw a sharper-than-expected slowdown in CY 2022. The highest inflation in decades, observed in 2022, forced most central banks to tighten their monetary & fiscal policies. Russia's invasion of Ukraine exacerbated global food supply issues, further increasing the cost of living.

Despite initial resilience in early CY 2023, marked by a rebound from the pandemic and progress in curbing inflation from the previous year's highs, the situation remained precarious. Economic activity continued to lag its pre-pandemic trajectory, especially in emerging markets and developing economies, leading to widening regional disparities. Several factors impeded recovery, including the lasting impacts of the pandemic, geopolitical tensions, tightening monetary policies to combat inflation, reductions in fiscal support amid high debt levels, and extreme weather conditions. As a result, global growth slowed from 3.6% in CY 2022 to 3.5% in CY 2023.

The global economy maintained moderate momentum in CY 2024, with real GDP growth estimated at 3.3%, supported by easing inflationary pressures, recovering supply chains, and resilient consumer demand in some major economies. Advanced economies, particularly the U.S., benefitted from strong labour markets and improved private consumption. However, growth remained uneven across regions, with emerging markets facing tighter financial conditions and subdued export demand. Inflation declined faster than anticipated in many regions, enabling some central banks to consider gradual monetary easing by the end of the year.

1.2 Historical GDP Growth Trends



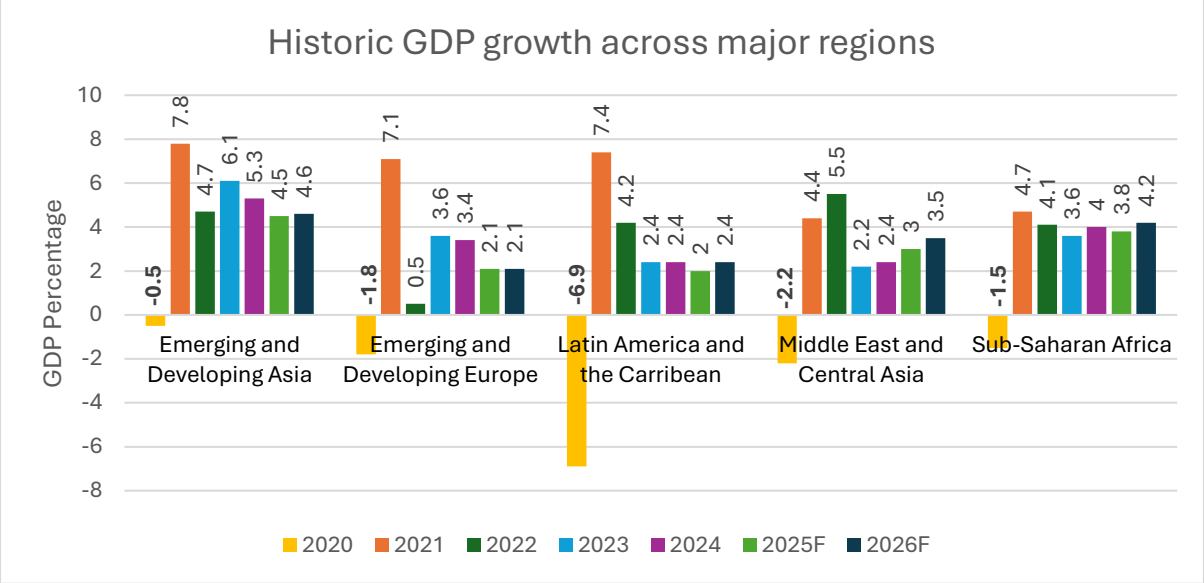
F – Forecast, Source – IMF World Economic Outlook April 2025

Note: Advanced Economies and Emerging & Developing Economies are as per the classification of the World Economic Outlook (WEO). This classification is not based on strict criteria, economic or otherwise, and it has evolved over time. It comprises of 40 countries under the Advanced Economies including the G7 (the United States, Japan, Germany, France, Italy, the United Kingdom, and Canada) and selected countries from the Euro Zone (Germany, Italy, France etc.). The group of emerging market and developing economies (156) includes all those that are not classified as Advanced Economies (India, China, Brazil, Malaysia etc.)

In the current scenario, global GDP growth is projected to decelerate to 2.8% in CY 2025, reflecting mounting economic pressures across both advanced and emerging markets. This marks a significant slowdown driven by intensifying trade fragmentation, the impact of new U.S. tariffs, and elevated geopolitical tensions. Structural weaknesses such as the ongoing real estate crisis in China, stagnant growth in the Eurozone, and tight financial conditions in major economies are expected to weigh heavily on global output. Additionally, stress in housing and banking sectors, coupled with subdued industrial activity, is contributing to a muted growth outlook. On the inflation front, the IMF projects global headline inflation to decline to 4.3% in CY 2025, continuing a disinflationary trend as energy prices stabilize and supply-side disruptions ease. The softening of labour markets—reflected in lower job vacancy rates and modest increases in unemployment—is also expected to help reduce core inflation. This provides room for some central banks to initiate cautious interest rate cuts, although the broader economic outlook remains uncertain due to persistent global risks.

1.3 GDP Growth Across Major Regions

GDP growth across major global regions—including Europe, Latin America & the Caribbean, Middle East & Central Asia, and Sub-Saharan Africa—continues to display varied trajectories. While some regions are stabilizing post-pandemic, others remain challenged by structural and cyclical issues. The global outlook presents a mixed scenario, with emerging economies continuing to outperform advanced economies.



Source-IMF World Economic Outlook April 2025 update.

In Emerging and Developing Asia, growth is projected to moderate from 5.3% in CY 2024 to 4.5% in CY 2025, before recovering slightly to 4.6% in CY 2026. India is expected to grow at 6.2% in CY 2025, supported by resilient rural consumption and sustained infrastructure investments, though lower than 6.5% growth recorded in CY 2024. In contrast, China's growth is likely to decelerate to 4.0% in CY 2025, amid persistent real estate concerns and weak domestic demand.

Sub-Saharan Africa is projected to grow at 3.8% in CY 2025, slightly below the 4.0% growth in CY 2024, with a further improvement to 4.2% in CY 2026. The recovery is being aided by improved weather conditions and better functioning supply chains.

In the Middle East and Central Asia, the economy is forecasted to expand at 3.0% in CY 2025, up from 2.4% in CY 2024, and further strengthen to 3.5% in CY 2026, driven by stabilization in oil production and ongoing economic reforms.

For Latin America and the Caribbean, modest growth of 2.0% is forecast for CY 2025, holding steady from CY 2024, with expectations of a rebound to 2.4% in CY 2026, helped by stronger macroeconomic management across key economies.

Emerging and Developing Europe remains subdued, with growth estimated at 2.1% in CY 2025, down from 3.4% in CY 2024, expected to be stable at 2.1% by CY 2026. The region continues to face structural manufacturing challenges, particularly in major economies like Germany.

Overall, while global growth is expected to remain steady, regional disparities persist, influenced by a combination of domestic challenges, external geopolitical tensions, and fluctuating commodity prices.

1.4 Global Economic Outlook

At the midpoint of the year, so far in 2025 the global economy continues to exhibit mixed performance, with divergence in outcomes across regions due to differences in economic growth, inflation dynamics, and policy responses. The global GDP growth is projected at 2.8% in CY 2025, down from an estimated 3.3% in CY 2024. While short-term prospects have improved since early 2024 due to easing inflation and gradual loosening of monetary policy in several regions, the broader environment remains challenging. Structural headwinds, such as tighter credit conditions, supply-side bottlenecks, and lingering geopolitical risks, are keeping global growth below historical averages.

The United States has continued to outperform other advanced economies, with growth projected at 1.8% in 2025, though slightly down from 2.8% in 2024, as the economy absorbs the lagged effects of previous monetary tightening and persistent inflation. In contrast, the Euro Area remains subdued, with GDP growth expected to 0.8% in 2025, supported by the European Central Bank's first-interest rate cuts since 2019 (implemented in June 2024) and stronger domestic demand. However, countries like Germany, France, and Italy continue to struggle due to weak manufacturing performance, whereas Greece and Spain have benefited from robust tourism activity.

In China, growth has held up at a projected 4.0% for CY 2025, supported by targeted stimulus and a gradual recovery in the real estate sector. Growth in the rest of Asia is also benefiting from a revival in global trade and domestic demand. India remains one of the strongest performers globally, with GDP growth forecasted at 6.2% in 2025, supported by robust consumption, capital investment, and favourable demographics.

In Latin America and the Caribbean, growth is more uneven. Larger economies like Brazil and Mexico are seeing moderate expansions, but the overall regional outlook is weaker, with GDP growth forecast at 2.0% in 2025, due to external headwinds, commodity price volatility, and political uncertainty. Meanwhile, Sub-Saharan Africa's growth is expected to slow slightly to 3.8%, as global financial conditions tighten, and oil-exporting nations face declining revenues. The Middle East and North Africa (MENA) region is also seeing tempered prospects, with growth revised down to 2.6%, influenced by lower oil prices and ongoing geopolitical pressures.

Globally, industrial production has remained sluggish through the first half of 2025, constrained by high interest rates, trade fragmentation, and lingering supply chain disruptions. However, a mild recovery is anticipated in the second half of the year as global trade stabilizes and domestic demand for goods strengthens. Central banks in several advanced economies—including the Eurozone, Switzerland, Sweden, and Canada—have begun cutting rates to support demand, though inflation trends remain uneven. Disinflation

has progressed slower than expected, particularly in services and wage-heavy sectors, making monetary easing cautious and data-dependent.

Overall, the global economy appears to be stabilizing, but growth in CY 2025 remains below historical averages. Advanced economies continue to grow modestly under the weight of tight policies and weak external demand, while emerging markets, particularly in Asia, show stronger but slowing momentum. The outlook for the remainder of 2025 depends significantly on geopolitical developments, the trajectory of inflation, and the pace of monetary easing.

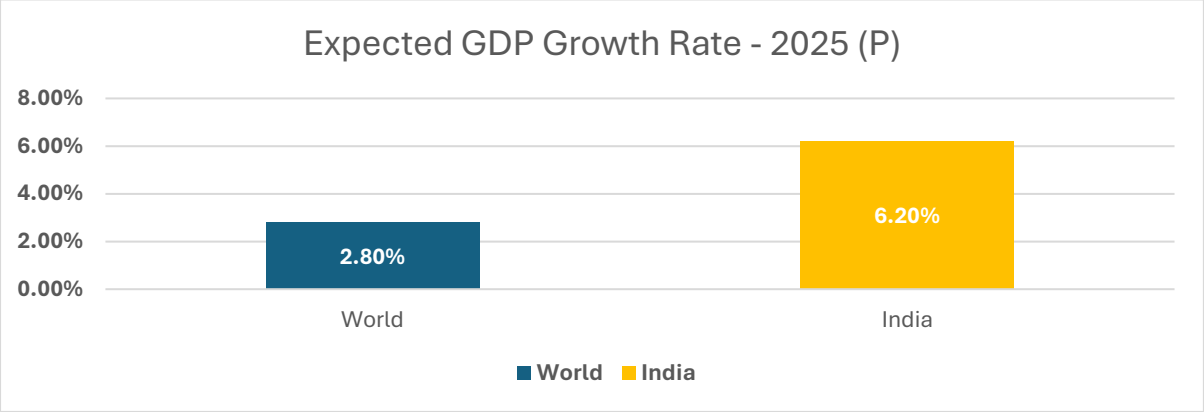
2. India's Macroeconomic Scenario

2.1 Gross Domestic Product (GDP)

India Expected to Grow at Twice the Pace of Global Economic Growth

The global economy continues to face persistent challenges, including the lingering effects of the COVID-19 pandemic, heightened geopolitical tensions, and climate-related disruptions that have affected energy and food supply chains. Global real GDP growth is projected at 2.8% in 2025, indicating a moderation in global momentum. In contrast, India's real GDP is projected to grow at 6.2% in 2025, continuing its trend of significantly outpacing global averages and reaffirming its position as the fastest-growing major economy. This implies that India is expected to grow at more than twice the pace of global GDP, supported by strong domestic demand, structural reforms, and increased infrastructure investment. India's resilience among the G20 economies further strengthens its role as a key driver of global economic growth in the coming years.

Global and India Growth Outlook Projections (Real GDP growth)



Notes: P-Projection; Source: IMF – World Economic Outlook, April 2025

India's Economic Growth Momentum Remains Strong - Surpassed USD 4 Trillion.

In FY 2024-25, India was the fifth-largest economy globally, with an estimated real Gross Domestic Product (GDP) at constant prices of INR 184.88 lakh crore, against the Provisional Estimate of GDP for the year 2023-24 of INR 173.82 lakh crore registering a GDP growth rate of 6.4% as compared to 8.2% in FY 2023-24. Since FY 2005, India's GDP growth has consistently outpaced global economic growth, often growing at nearly twice the global average, and this trend is expected to continue over the medium term.

Source: MOSPI, first advance estimates of GDP 2024-25 released on January 7th, 2025

In June 2025, India became the fourth-largest economy in the world and retained its position as the fastest-growing major economy. The country is projected to become the world's third largest economy by CY 2030, with an estimated GDP of USD 7.3 trillion.

Source: IMF, PIB, Press Release - India Becoming an Economic Powerhouse posted on June 16, 2025.

GDP Growth Rate Projections for India

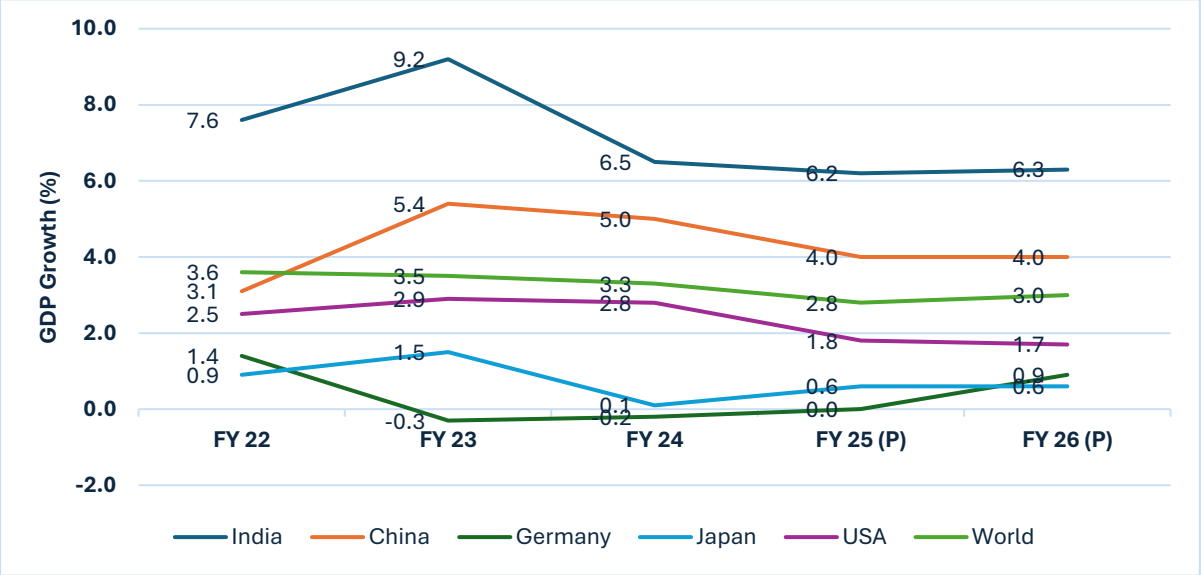
GDP growth projections by Government of India and other agencies are summarised below:

	Estimated GDP Growth Rate		
	FY 25E	FY 26E	FY 27E
Ministry of Finance, GOI	6.4%	6.3%-6.8%	N.A.
IMF*	6.2%	6.3%	N.A.
RBI#	6.6%	6.5%	N.A.
National Statistical Office (NSO)@	6.4%	N.A.	N.A.
PHDCCI@	6.5%	6.7%	6.7%
S&P Global@	6.8%	6.5%	6.8%
Morgan Stanley@	6.3%	6.5%	6.5%
Asian Development Bank#	6.5%	6.7%	N.A.
Moody's Agency	6.1%	N.A.	N.A.
Fitch Ratings@	6.3%	6.5%	6.3%

** Source: World Economic Outlook Update April 2025*

@ Data is updated as of 28th March 2025, #updated as of 10th April 2025

India, Top 4 Global Economies GDP Growth Forecast



Note: P = Projections, Source: IMF World Economic Outlook April 2025 update.

In September 2024, India achieved a significant milestone by overtaking Japan to become the third most powerful nation in the Asia-Pacific region, as per the Asia Power Index 2024. India's overall score rose to 39.1, reflecting a 2.8-point increase from the previous year, driven by growing influence across economic, military, and diplomatic dimensions.

Key factors behind India's rise include its strong economic performance, expanding and youthful workforce, and increasing strategic engagement across the region. India's Economic Capability improved significantly, supported by its position as the world's third-largest economy in terms of purchasing power parity (PPP). Additionally, a notable increase in its Future Resources score highlights the demographic advantage that is expected to sustain its growth trajectory in the coming years.

2.2 Gross Value Added (GVA)

Gross Value Added (GVA) is the measure of the value of goods and services produced in an economy. GVA gives a picture of the supply side whereas GDP represents consumption.

Industry and Services sector leading the recovery charge

- India's economy demonstrated robust growth across various sectors. The gap between GDP and GVA growth turned positive. The positive gap between GDP and GVA growth indicates robust tax collections contributing to GDP growth.
- India's sector-wise economic performance in FY 2024–25 reveals a shift in momentum across its primary, secondary, and tertiary sectors, with notable differences compared to the previous fiscal year.
- The Primary Sector—comprising agriculture, livestock, forestry, fishing, and mining & quarrying—registered a growth of 3.6% in FY25, showing a notable improvement from the 2.1% growth in FY24. This uptick can be attributed to stronger performance in agriculture and allied activities, along with moderate gains in mining and quarrying. However, erratic monsoon patterns and rising input costs may have constrained agricultural output during the year.
- In contrast, the Secondary Sector—which includes manufacturing, electricity, gas, water supply & other utilities, and construction—recorded a solid growth of 6.5% in FY25, though lower than the impressive 9.7% growth seen in the previous year. This resilient performance was primarily driven by a notable recovery in manufacturing and robust momentum in infrastructure-related segments like construction and utilities.
- The Tertiary Sector or services sector posted 7.2% growth in FY25, slightly lower than the 7.6% achieved in FY24, yet it remained a major pillar of overall economic growth. Strong performances were observed in trade, hotels, transport, financial services, real estate, and professional services. However, public administration and defence services saw more modest growth, slightly dampening the overall momentum in this segment.
- Overall, growth in India's real Gross Value Added (GVA) in FY25 was primarily driven by the resurgence of the secondary sector and sustained strength in key segments of the services sector, even as the primary sector showed signs of moderation.

Sectoral Growth (Y-o-Y % Growth) - at Constant Prices

Sector-wise growth in GVA at constant (2011-12) prices (in %)	FY 2024	FY 2025
Primary	2.1	3.6
Secondary	9.7	6.5
Tertiary	7.6	7.2

Source: MOSPI, First advance estimates of GDP 2024-25, released on January 7th , 2025

2.3 Consumer Price Index (CPI)

Inflation Stable Inflationary Environment

In fiscal year 2025 (FY25), India's General Index inflation, as measured by the Consumer Price Index (CPI), averaged 4.6%, marking the lowest annual inflation rate since 2018–19. This moderation in inflation reflects a significant improvement in the country's price stability post-COVID. In March 2025, CPI Inflation stood at 3.34%, the lowest monthly rate since August 2019, indicating sustained disinflationary momentum in recent months.

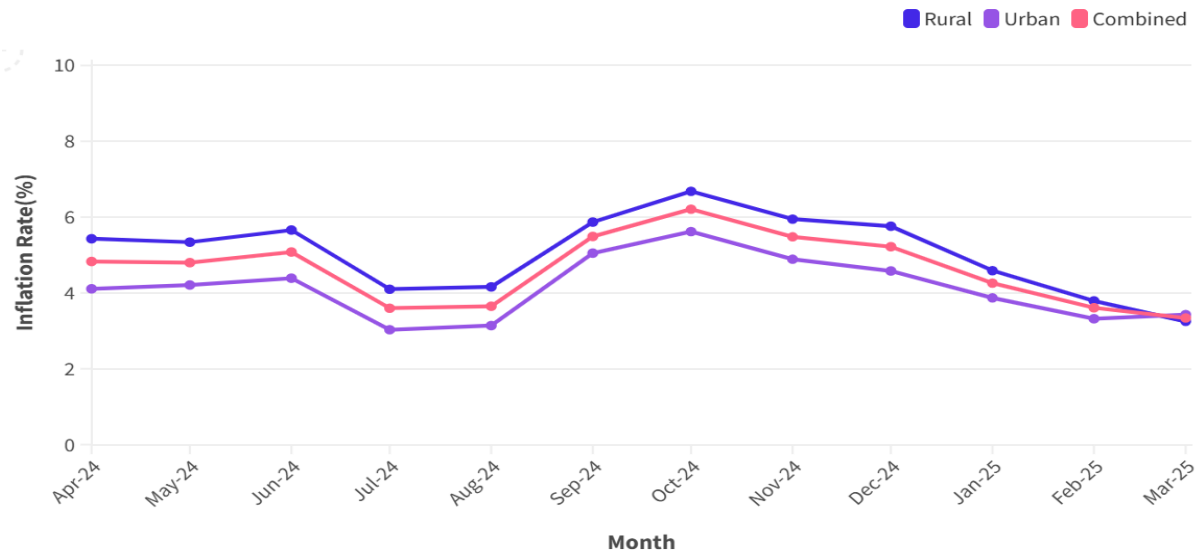
Source: - RBI, Annual Report-Inflation, Money and Credit Dated May 29th, 2025

Several key factors contributed to this decline in inflation:

The Reserve Bank of India (RBI) pursued a pro-growth monetary policy, aiming to strike a balance between supporting economic recovery and containing inflation. In parallel, the government actively intervened in food markets, particularly by augmenting buffer stocks of essential commodities and releasing them strategically to stabilize prices. These coordinated efforts helped ease supply-side pressures, especially on food inflation.

Looking ahead, projected CPI inflation for FY26 to average around 4%, signalling continued focus on maintaining price stability. In support of this trajectory, the RBI recently announced a cut in the repo rate, which is expected to result in a more accommodative monetary policy stance in the coming months. This environment of low inflation and easing interest rates may provide a favourable backdrop for economic expansion in the near term.

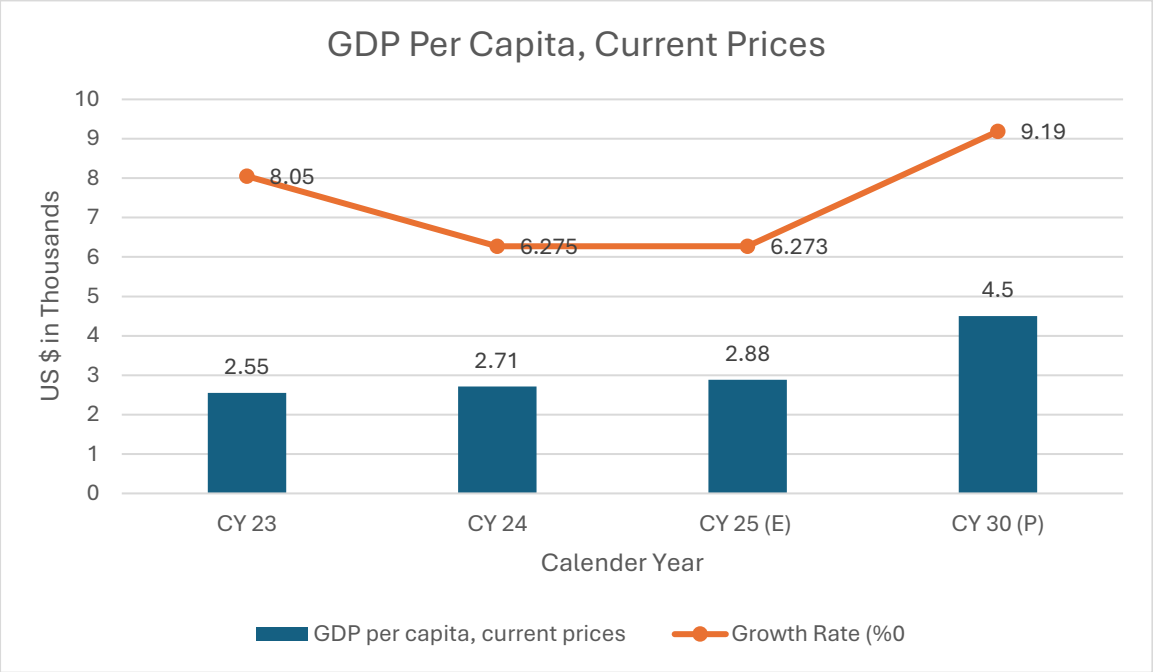
India's CPI Inflation Monthly



Source: MOSPI

2.4 India Per Capita GDP Forecast

Per capita GDP growth for India is estimated at 9.19 % CAGR between FY 2025-FY 2030. Increased individual incomes are expected to create additional discretionary spending, which may be beneficial for the sector.



Note: E = Estimated, P = Projected

Source: IMF Data Mapper, World Economic Outlook April 2025, India, GDP Per Capita

2.5 Private Final Consumption Expenditure (PFCE)

Private Final Consumption Expenditure (PFCE) represents the total spending by resident households on final consumption of goods and services, serving as a key indicator of consumer demand and overall economic well-being. It reflects the extent of household consumption and plays a crucial role in driving GDP growth. In FY2025, PFCE at constant prices rose to 56.7% of GDP, up from 56.1% in FY2024, indicating a gradual improvement in household spending patterns. This increase suggests stronger consumer confidence, supported by factors such as easing inflation, improving income levels, and a favourable consumption environment.

Source: - MOSPI, Second Advance Estimates of GDP 2024-25 dated February 28,2025

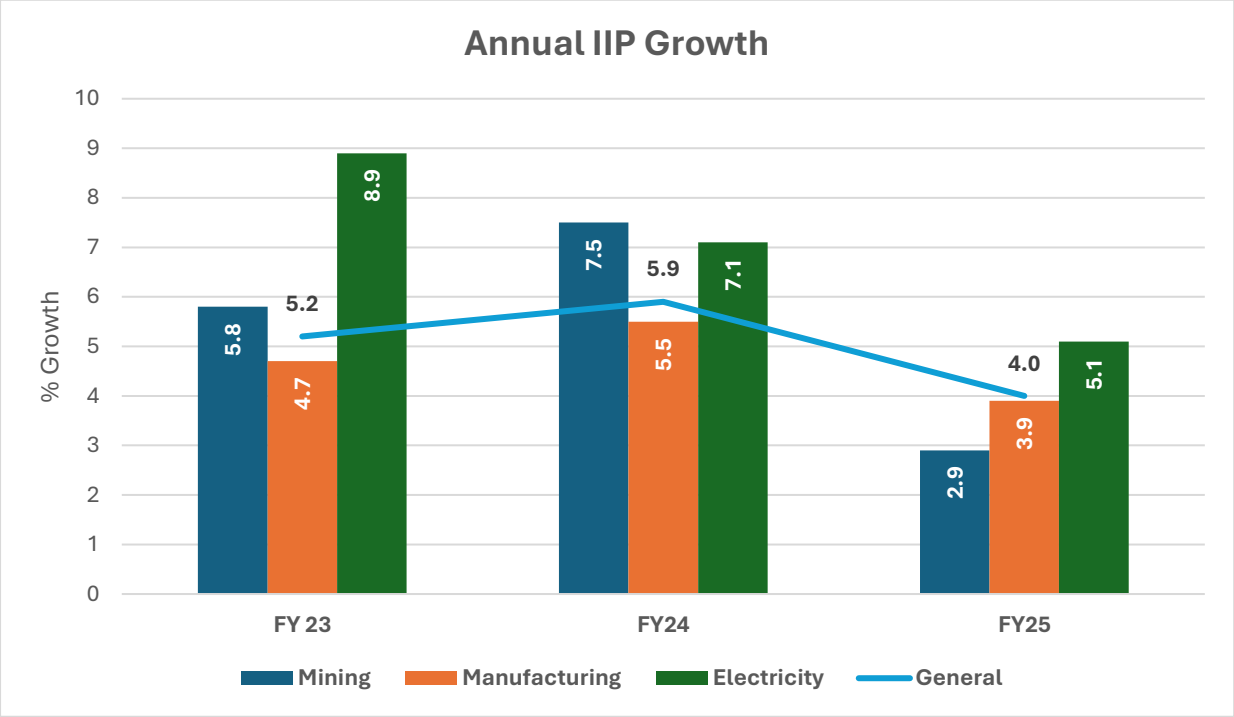
2.6 IIP Growth – Index of Industrial Production

As per the Index of Industrial Production (IIP), the industrial sector grew by 4.0% in FY 2025, moderating from 5.9% in FY 2024 and 5.2% in FY 2023. This deceleration in overall IIP growth in FY 2025 reflects a softening of industrial momentum amidst global headwinds and tighter financial conditions.

Among key components:

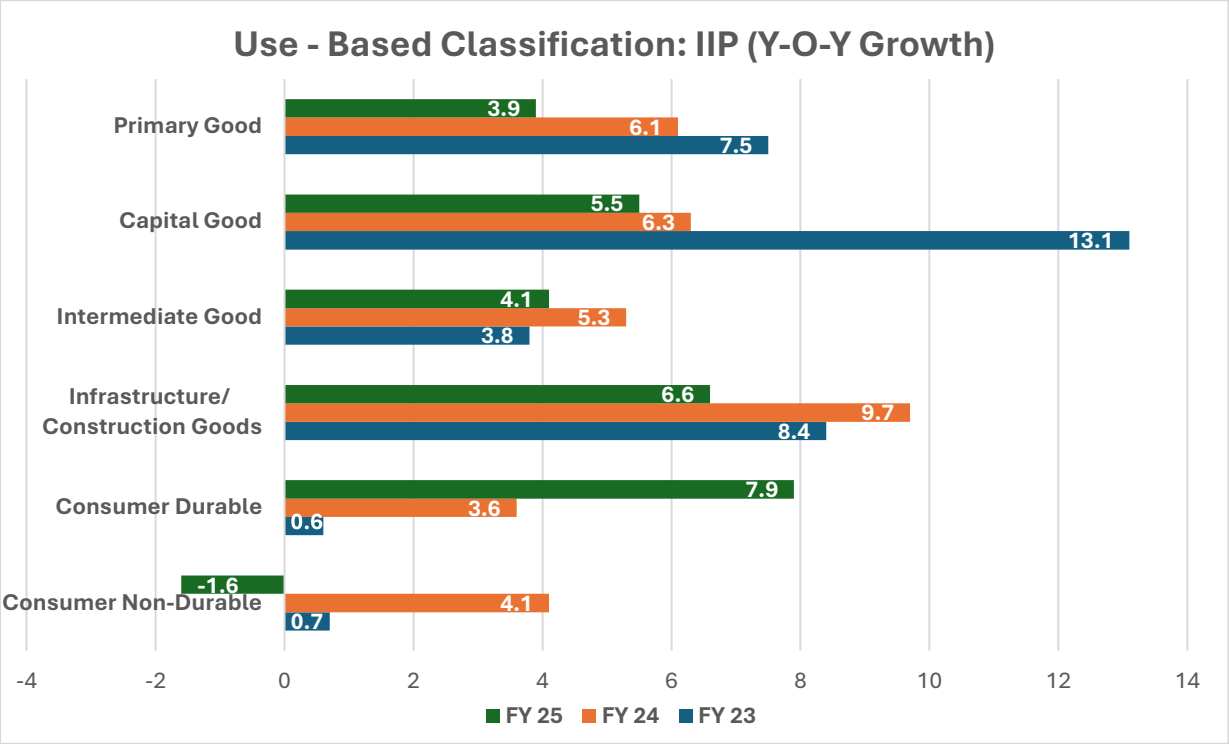
- **Manufacturing** (which holds a 77.6% weight in IIP) registered a slower growth of 3.9% in FY 2025, compared to 5.5% in FY 2024 and 4.7% in FY 2023.
- **Mining** growth also moderated sharply to 2.9% in FY 2025 from 7.5% in FY 2024 and 5.8% in FY 2023.
- **Electricity** growth remained relatively stable at 5.1% in FY 2025, slightly down from 7.1% in FY 2024 and significantly lower than 8.9% in FY 2023.

This slowdown indicates tightening domestic demand and spillover effects from a weaker global industrial cycle.



Source: Ministry of Statistics & Programme Implementation (MOSPI)

Use-Based Classification Trends:



Source: Ministry of Statistics & Programme Implementation (MOSPI)

According to the use-based classification:

- Capital Goods segment growth slowed to 5.5% in FY 2025, down from a high of 13.1% in FY 2023 and 6.3% in FY 2024, indicating a reduction in investment momentum.
- Primary Goods also witnessed slower growth at 3.9%, compared to 6.1% in FY 2024 and 7.5% in FY 2023.
- Intermediate Goods rebounded modestly to 4.1% in FY 2025, up from 3.8% in FY 2023, although still lower than 5.3% in FY 2024.
- Infrastructure/Construction Goods slowed to 6.6% in FY 2025 from 9.7% in FY 2024 and 8.4% in FY 2023, pointing to softening construction and infrastructure activity.
- Consumer Durables grew significantly by 7.9%, rebounding from 3.6% in FY 2024 and 0.6% in FY 2023, indicating improved demand in consumer electronics and appliances.
- In contrast, Consumer Non-Durables contracted by 1.6% in FY 2025, reversing the 4.1% growth in FY 2024, likely reflecting subdued rural and essential goods demand.

The divergence in growth across segments suggests an uneven industrial recovery in FY 2025. While certain consumer categories have rebounded, investment-related and primary sectors remain under pressure.

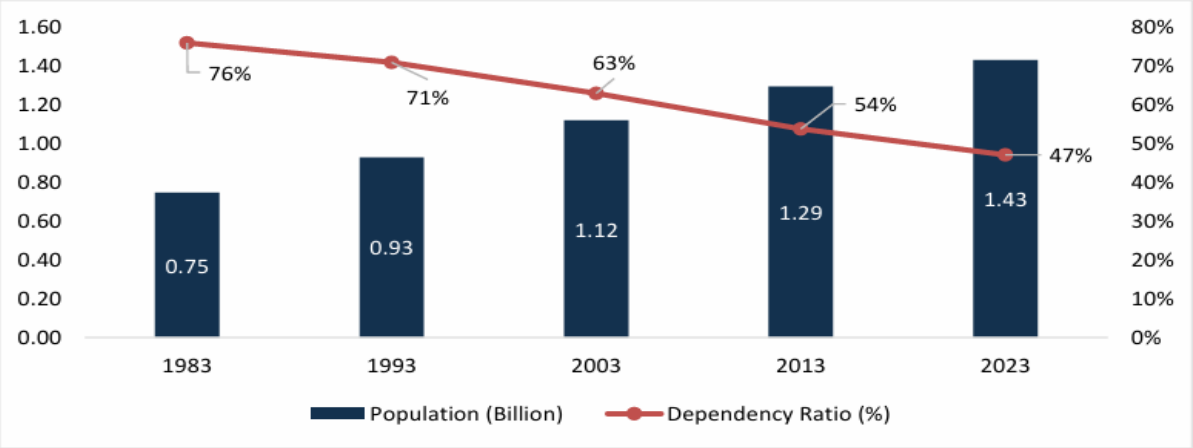
2.7 Overview on Key Demographic Parameters

2.7.1 Population growth and Urbanization

India's economic growth and expanding private consumption are intrinsically linked to its demographic and urbanization trends. According to the World Bank, India's population is estimated to have reached approximately 1.44 billion in 2024, reaffirming its position as the world's most populous country, ahead of China. This continued growth reflects an expanding labour force and consumer base, both of which are critical to sustaining long-term economic development.

A key metric in demographic analysis—the age dependency ratio, defined as the ratio of dependents (individuals aged below 15 or above 64) to the working-age population (15–64 years)—has been on a downward trajectory for several decades. From a high of 76% in 1983, the dependency ratio declined to 47% in 2023 and is estimated at 50.2% in 2024. This decline signifies that for every 100 working-age individuals, there are only about 50 dependents, indicating a favourable demographic dividend. A greater share of the population is now within the working-age group, potentially contributing to enhanced economic productivity and income generation.

Trend of India Population vis-à-vis dependency ratio



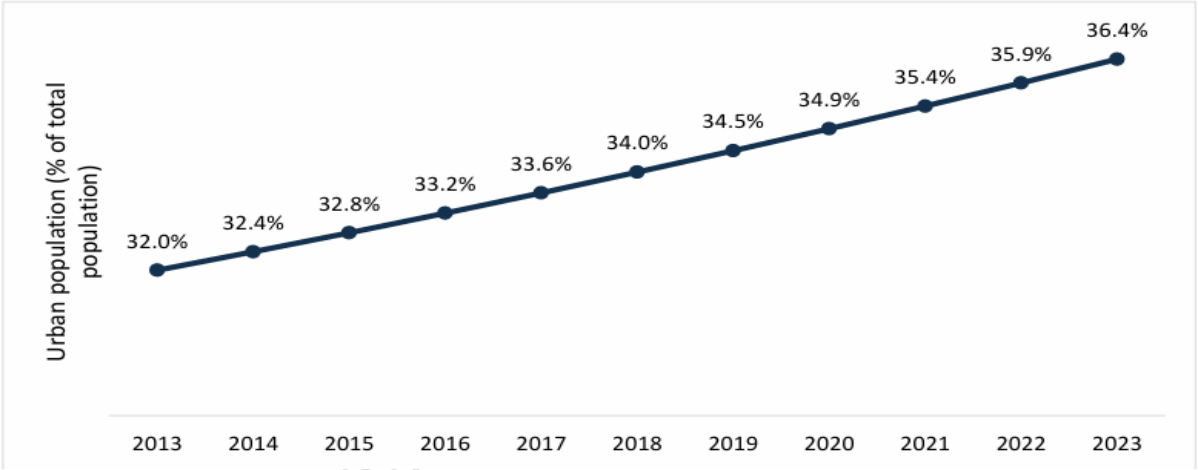
Source: World Bank Database

However, a parallel trend is emerging in the form of a rising old-age dependency ratio—the proportion of individuals aged 65 and above relative to the working-age population. This figure has gradually increased, reaching 10.4% in 2024, suggesting the onset of an aging demographic shift. This highlights the growing need for robust healthcare systems, pension reforms, and social security mechanisms to address future challenges associated with an aging population.

India's youthful demographic remains one of its most significant advantages. With a median age of around 29 years, India has one of the youngest populations globally. Nearly one-fifth of the world's youth resides in India, and as millions enter the workforce each year, this demographic bulge offers enormous potential—provided it is met with adequate job creation, education, and skills training.

Urbanization, too, is transforming India's socio-economic fabric. The urban population rose from 413 million in 2013 (32% of total population) to 519.5 million in 2023 (36.4%), and further to approximately 535 million in 2024 (36.9%), according to World Bank estimates. This rapid growth in urban areas underscores the need for sustainable urban planning, investment in infrastructure, and development of smart cities to accommodate and benefit from the shifting population dynamics.

Urbanization Trend in India



Source: World Bank Database

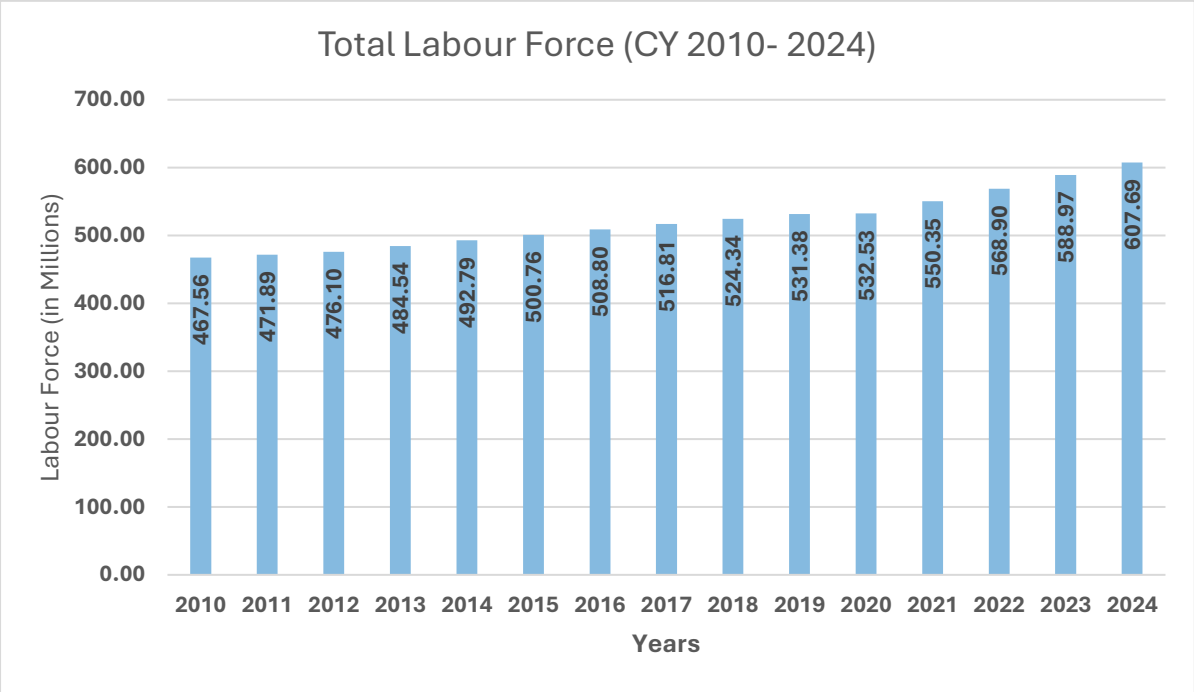
2.7.2 Labour Force in India

India's labour force has experienced significant growth over the past decade. In 2010, the total labour force was approximately 467.56 million. By 2024, this number had increased to 607.69 million, reflecting a Compound Annual Growth Rate (CAGR) of 1.89% over the 14-year period.

This upward trend underscores the expanding working-age population and the country's ongoing economic development. However, it also highlights the need for effective employment policies to ensure that the growing labour force is adequately absorbed into productive sectors.

The labour force participation rate (LFPR) has also seen fluctuations, influenced by various socio-economic factors. As of 2024, the LFPR stood at 45.1%, indicating the percentage of the working-age population that is either employed or actively seeking employment.

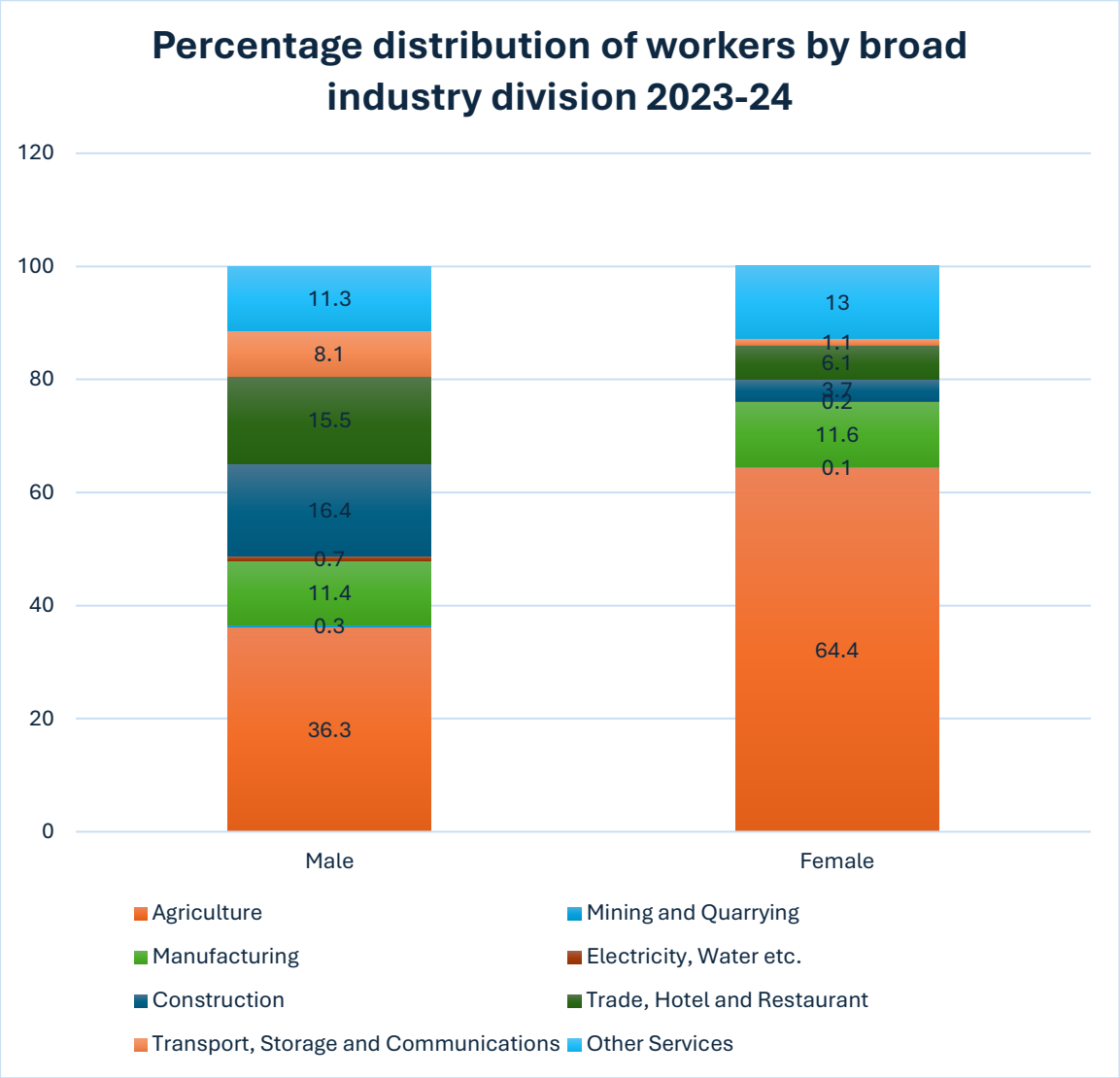
These statistics emphasize the importance of implementing strategies that not only create employment opportunities but also enhance the quality and inclusivity of jobs across different sectors of the economy.



Source: World Bank Database

2.7.3 Breakdown of Employment by Sector

According to the Periodic Labour Force Survey (PLFS) 2023–24, the employment distribution across various sectors exhibits distinct gender-based patterns. A significant portion of male workers are engaged in agriculture, followed by notable participation in construction, manufacturing, and trade-related activities. In contrast, female workers are predominantly employed in agriculture, with considerable involvement in manufacturing and other services sectors. While female representation in trade and construction is lower compared to males, Additionally, a substantial proportion of employed women are self-employed, often contributing as unpaid helpers in household enterprises or operating small businesses, indicating a reliance on informal employment avenues.



Source: Annual Report 2023-24, Periodic Labour Force Survey

2.7.4 Labour Laws in India

Labour is a subject under the Concurrent List of the Indian Constitution, enabling both the Central and State Governments to frame relevant legislation. In a major reform initiative, the Government of India has consolidated 29 existing central labour laws into four comprehensive Labour Codes to simplify compliance, reduce multiplicity of definitions, and promote transparency. These include:

- The Code on Wages, 2019
- The Industrial Relations Code, 2020
- The Code on Social Security, 2020
- The Occupational Safety, Health and Working Conditions Code, 2020

As of 31st December 2024, the Central Government and a majority of States/Union Territories had pre-published draft rules under all four Labour Codes. Regional consultations were held to align state-level rules with the central framework. Once fully implemented, these Codes are expected to harmonize the needs of workers and industry, facilitate ease of doing business, and support employment generation.

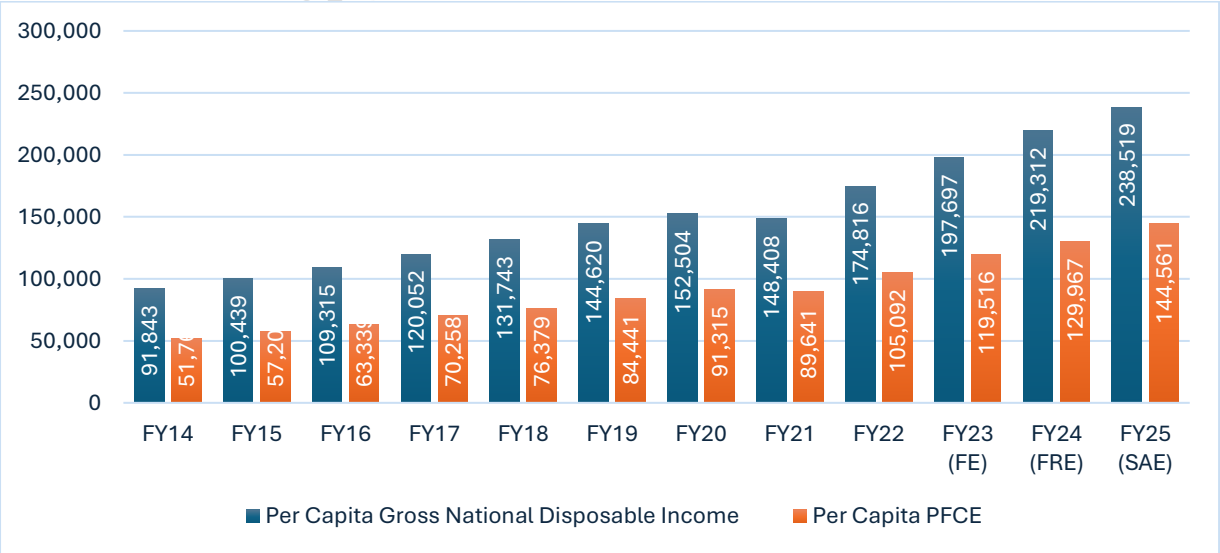
Additionally, the Ministry of Labour & Employment is revamping the Shram Suvidha Portal to improve regulatory compliance and has launched the e-Shram Portal to register workers from the unorganised sector. Over 30 crore registrations have been completed, and the portal has been integrated with 12 key social welfare schemes, enabling targeted delivery of benefits.

2.7.5 Disposable Income and Consumer Spending

Gross National Disposable Income (GNDI) represents the total income available to a nation's residents for consumption and saving after accounting for income transfers with the rest of the world. In FY24, Per capita GNDI grew by 9.85%, followed by a moderate growth of 8.05% in FY25. This steady increase indicates that households and businesses had more income at their disposal, which is critical for supporting both consumption and savings—key components of economic resilience and expansion.

The rise in GNDI has translated into higher consumer spending, as reflected in the growth of Private Final Consumption Expenditure (PFCE), which measures the total value of goods and services consumed by households. Per Capita PFCE grew by 8.04% in FY24 and further accelerated to 10.09% in FY25, highlighting strong consumer confidence and robust domestic demand.

Trend of Per Capita GNDI and Per Capita PFCE (Current Price)



Note: Data mentioned is in Rs. Crore, FE – Final Estimates, FRE – First Revised Estimates, SAE – Second Advanced Estimate; Source: MOSPI

2.8 Union Budget FY25-26 Highlights

The **Union Budget FY 2025–26**, presented by Finance Minister Nirmala Sitharaman, introduces a comprehensive set of measures aimed at stimulating economic growth, enhancing infrastructure, and fostering inclusive development. With a focus on sectors such as agriculture, MSMEs, infrastructure, innovation, and exports, the budget seeks to create a conducive environment for sustained economic expansion.

- **Capital Expenditure and Infrastructure Development**
  The government has earmarked a substantial ₹11.21 lakh crore (3.1% of GDP) for capital expenditure in FY 2025–26. This allocation is directed towards infrastructure projects, including rural development, manufacturing, and skill-building initiatives. Notably, the Urban Challenge Fund has been established with a corpus of ₹1 lakh crore, aimed at financing 25% of the cost of bankable urban infrastructure projects, thereby promoting sustainable urban development.
- **Support for MSMEs**
  Recognizing the pivotal role of Micro, Small, and Medium Enterprises (MSMEs) in India's economic landscape, the budget introduces several measures to bolster this sector. The Credit Guarantee cover has been enhanced to ₹10 crore, unlocking ₹1.5 lakh crore in additional funding for MSMEs over the next five years. Additionally, the establishment of a Fund of Funds with a ₹10,000 crore corpus aims to provide equity support to startups and potential MSMEs, focusing on high-growth sectors such as electronics and renewable energy.
- **Tax Reforms and Disposable Income**
  To stimulate consumption and investment, the budget introduces significant tax reforms. The tax-free income threshold has been raised to ₹12 lakh, and the new tax regime offers reduced rates for higher income brackets. These changes are expected to increase disposable income, thereby encouraging higher savings and investment among the middle class.
- **Focus on Agriculture and Exports**
  The budget prioritizes agriculture as a key engine of development, with increased allocations for agricultural credit and initiatives aimed at enhancing productivity. Furthermore, measures to promote exports include the reduction of customs duties on select goods and the introduction of policies to facilitate easier market access for Indian products.
- **Urban Development Initiatives**
  A significant increase in the budget allocation for the Ministry of Housing and Urban Affairs to ₹96,777 crore reflects the government's commitment to urban development. Key initiatives include the establishment of the Urban Challenge Fund, enhanced loans under the PM SVANidhi scheme, and substantial provisions for the Pradhan Mantri

Awas Yojana and Urban Rejuvenation Mission, all aimed at improving urban infrastructure and living standards.

The Union Budget FY 2025–26 presents a balanced approach to economic growth by addressing immediate consumption needs and laying the foundation for long-term sustainability. Through targeted investments in infrastructure, support for MSMEs, tax reforms, and sector-specific initiatives, the budget aims to foster an inclusive and resilient economy. These measures are expected to create new opportunities for financial institutions, as the growing demand for investment products will provide avenues for expansion and innovation in the financial services sector.

2.9 Concluding Remarks about Macroeconomic Scenario

The major headwinds to global economic growth remain significant, with escalating geopolitical tensions, volatile global commodity prices, high interest rates, inflationary pressures, instability in international financial markets, climate change, rising public debt, and the rapid evolution of new technologies. Despite these challenges, India's economy is relatively well-positioned compared to other emerging markets. According to the latest IMF forecast, India's GDP growth is expected to be 6.2% in 2025, maintaining its position as the fastest-growing major economy globally, well above the global growth projection of 2.8%. Key positive factors for the Indian economy include continued strong domestic demand, robust government support for capital expenditure, moderating inflation, growing investments in technology, and improving business confidence.

India's strategic position as a manufacturing hub is further strengthened by government initiatives, a skilled labour force, and a dynamic startup ecosystem, all of which bolster the country's economic outlook. The ongoing reforms and focus on innovation are enabling India to seize emerging opportunities, making it a growing player in the global manufacturing landscape. In addition, several high-frequency growth indicators—such as the Purchasing Managers' Index (PMI), E-way bills, bank credit, toll collections, and GST collections—have shown a positive trajectory in FY25. The normalization of employment post-economic reopening is expected to provide further support to consumption expenditure.

Public investment is also poised to grow, with the government allocating a significant ₹11.21 lakh crore for capital expenditure in FY25. The private sector's investment intentions are showing positive signs, as evidenced by increased new project investments and a strong import of capital goods. Furthermore, rural demand is likely to improve, bolstered by healthy sowing, better reservoir levels, and the positive progress of the southwest monsoon, coupled with the government's push for infrastructure investment and other policy measures. These factors are expected to further support the investment cycle and strengthen India's economic resilience in the coming years.

3. Industry Definition and Scope – Tarpaulin Industry

The tarpaulin industry is embedded within the broader petrochemicals–polymers–plastics value chain, which spans upstream feedstock processing (ethylene, propylene, benzene), polymer resin manufacturing (PE, PP, PVC), and downstream conversion into films, sheets, pipes, packaging, and woven materials. Tarpaulin manufacturing constitutes a key downstream application, converting polymer inputs into functional products for agriculture, construction, logistics, and disaster-management end-use markets.

Commercial tarpaulins are predominantly manufactured from High-Density Polyethylene (HDPE) woven fabrics, laminated with Low-Density Polyethylene (LDPE) coatings and enhanced through UV stabilizers. These engineered sheets combine tensile strength, water resistance, and durability under varied climatic conditions, positioning them as essential materials for crop protection, warehousing, transportation, and emergency relief. Once considered a commodity, tarpaulins have evolved into a strategic material supporting agricultural productivity, supply-chain continuity, and national disaster-preparedness initiatives.

The Tarpaulin and Woven fabric sector is characterized by a dual structure: fragmented regional converters on one side and organized polymer processors on the other. The industry is currently undergoing consolidation and structural change, driven by:

- Wider adoption of crop-protection solutions linked to organized agriculture and crop insurance.
- Expansion of logistics hubs, warehousing parks, and national transport corridors.
- Accelerated construction and infrastructure activity across Tier II and III cities.
- Policy incentives for agricultural modernization and disaster-relief infrastructure.

Manufacturers are progressively integrating with the petrochemical supply chain to secure stable access to HDPE/LDPE inputs, while diversifying into adjacent woven fabric applications such as Flexible Intermediate Bulk Containers (FIBCs), industrial packaging, and geotextiles. Increasing emphasis is placed on multi-layer laminated tarpaulins, customized sectoral solutions, and export-standard compliance (tensile strength, UV resistance, recyclability), which is enabling organized players to gain market share over unorganized participants.

Looking ahead, sustained industry growth will require investments in advanced weaving and lamination machinery, digital quality-control systems, polymer recycling technologies, and brand-building for both domestic and international markets. Sustainability imperatives are driving innovation in eco-friendly polymer blends, circular-economy practices, and regulatory compliance, in alignment with global plastics and packaging trends.

Positioned within the broader Chemicals & Petrochemicals → Plastics and Packaging Materials segment, tarpaulin manufacturing represents a vital downstream niche. Companies with integrated operations, strong research and development capabilities, and export orientation are best placed to scale and capture market leadership in this evolving industry.

3.1 Market Segmentation

The tarpaulin and polymer-based protective products industry, a critical segment within the broader petrochemicals, plastics, and polymers value chain, demonstrates extensive diversification across products, end-use applications, material types, manufacturing processes, and downstream industrial linkages. The segment plays a pivotal role in agriculture, construction, logistics, transportation, consumer goods, disaster management, and packaging, while reflecting the industry's emphasis on material innovation, sustainability, and end-user integration.

By Product:

The industry's portfolio includes heavy-duty tarpaulins, geotextiles, lumber and house wraps, pond liners, green/shade nets, HDPE/PP tapes, and reprocessed or traded polymer granules. Tarpaulins, geotextiles, and construction-related wraps account for most of the revenue, while reprocessed and traded granules serve niche and sustainability-focused demand.

Heavy-duty tarpaulins

HDPE/PP tapes

Geotextiles

Traded polymer granules

Pond liners

Green/ Shade nets

By Application / End-Use Sector:

- **Agriculture:** Crop protection, soil conservation, greenhouse management, mulching, silage and fodder preservation, post-harvest handling, temporary shelters, and rainwater harvesting.

- **Fumigation Covers**
  Widely used in rice and pulse mills, tobacco drying, cashew processing units, oil mills, flour mills, cotton mills, and sugar factories, fumigation covers safeguard food grains and raw materials stored in open spaces. They are also used in certain regions as hay covers.


- **Post-Harvest Handling and Storage**
  Tarpaulins provide a clean and dry surface for sorting and drying harvested crops such as grains and pulses, as well as protection from rain and pests, reducing post-harvest losses.



- **Temporary Shelters:**
  Farmers employ tarpaulins for quick, portable shelters for equipment, livestock, and workers. These can be assembled and dismantled with ease, offering flexible solutions.


- **Livestock Management:**
  Tarpaulins provide shade and weather protection for livestock and can be used to create pens and enclosures, especially during calving or lambing. This ensures animal welfare and farm productivity.


- **Mulching:**
  Used to conserve soil moisture, regulate soil temperature, suppress weeds, and improve fertility, tarpaulin sheets support plant growth and are particularly beneficial in water-scarce regions.


- **Silage and Fodder Management:**
  Tarpaulins cover silage pits, protecting fodder from spoilage and ensuring high-quality nutrition for dairy and beef cattle throughout the year.

- **Rainwater Harvesting:**
  Tarpaulins assist in collecting and storing rainwater for irrigation, washing, and other non-potable uses, and can be combined with filtration to yield emergency clean water.


- **Construction & Infrastructure:** Material and site protection, scaffolding coverage, debris and dust control, and temporary roofing.

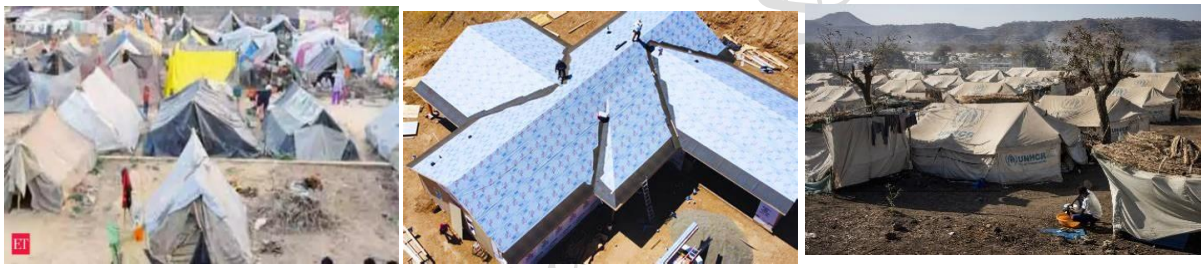


- Tarpaulins are employed to protect construction materials and partially built structures from rain and weather damage.
- They safeguard sites against debris and dust, improving worker safety and reducing material loss.

- **Logistics & Transportation:** Cargo protection, weatherproofing, dust and UV shielding, security enhancement, and sustainable logistics using reusable or recycled tarpaulins.


- **Lumber & Timber Wrapping:** Protection of timber and wood products during transit and storage; tear-resistant and abrasion-proof solutions.

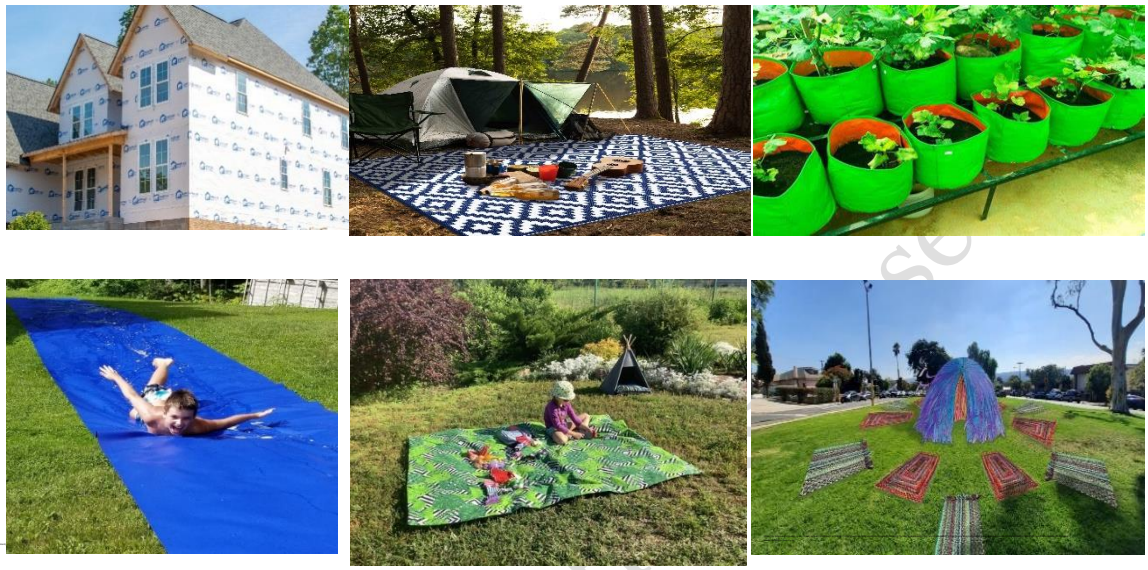
- **Disaster Relief & Emergency Applications:** Rapid-deploy shelters, debris coverage, ground barriers, temporary partitions for medical facilities, and protection of relief materials with rainwater collection support.



- **Flexible Intermediate Bulk Containers (FIBC):** Polypropylene-based bags for bulk storage and transport of grains, chemicals, pharmaceuticals, and construction materials, offering foldable, lightweight, recyclable, and export-ready solutions.

Tarpaulin sheets act as protective barriers against heavy rain, hail, frost, and intense sunlight, thereby mitigating crop damage. Their role is particularly critical for perishable and delicate crops such as fruits, vegetables, and flowers.

- **Outdoor, Recreational & Household Applications:** Beyond core industrial and relief uses, tarpaulin sheets also find application in outdoor, recreational, and household settings Covers for furniture, equipment, and firewood; waterproof bases for tents or recreational setups; and gardening or artistic uses.



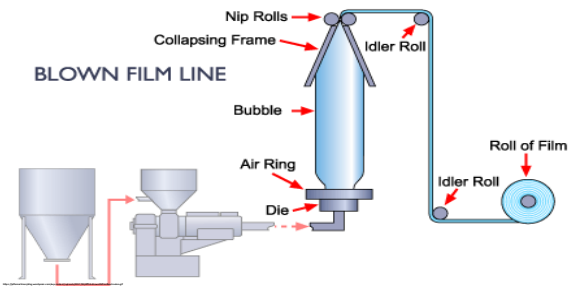
By Material:

- **HDPE:** High tensile strength, UV resistance, lightweight durability.
- **LDPE:** Flexible, transparent films suitable for silage, greenhouse, and fumigation applications.
- **Polypropylene Blends:** Cost-effective, water-resistant, and durable for industrial and multipurpose tarpaulins.

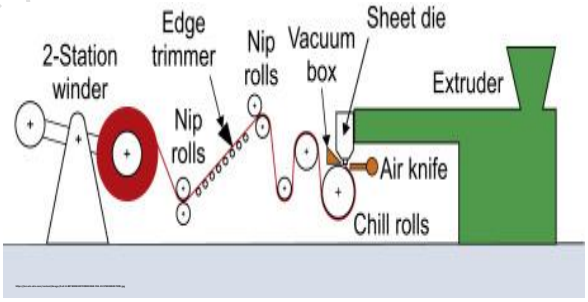
HDPE

LDPE - Fumigation Cover

By Manufacturing Process:



Blown Film Extrusion



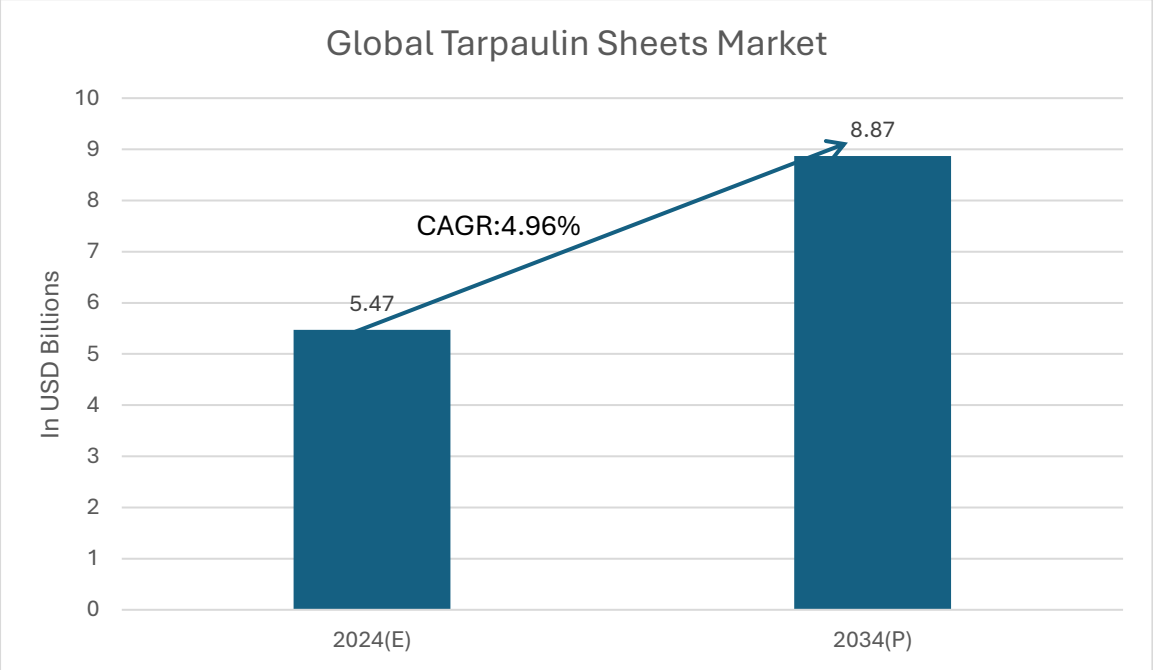
Cast Film Process

- **Blown Film Extrusion:** Multi-layer films with customizable thickness and UV protection.
- **Cast Film Process:** Produces uniform, high-clarity sheets for lamination and surface protection.
- **Laminated Tarpaulins:** HDPE/PP woven fabrics laminated with LDPE/HDPE for waterproof and heavy-duty applications.
- **Reprocessed / Recycled Tarpaulins:** Produced from polymer granules to meet ESG and circular economy standards.

Tarpaulin products extend far beyond traditional uses in agriculture, logistics, and construction. Their adaptability to specialized requirements such as lumber wrapping, disaster relief, and outdoor or recreational functions underlines their growing relevance in industrial supply chains, humanitarian operations, and consumer applications. The breadth of their usage positions tarpaulins as a critical material in both commercial and social infrastructure contexts.

3.2 Tarpaulin Sheet Market Landscape

Tarpaulin is a durable, water-resistant, and UV-stable fabric, primarily manufactured from HDPE/LDPE laminated sheets. It serves multiple applications including agriculture (crop protection, silos, greenhouses), construction (scaffolding covers, site protection), logistics & warehousing (cargo and goods protection), disaster relief (emergency shelters), and recreational uses (tents, boating, camping). Tarpaulins are also increasingly used in Flexible Intermediate Bulk Container (FIBC) manufacturing.



Source: *Infomerics Analytics & Research.* ***Note:*** *E – Estimated; P – Projected.*

The global tarpaulin market is estimated at USD 5.47 billion in 2024 and is projected to reach USD 8.87 billion by 2034, reflecting a CAGR of 4.96%. Growth is driven by expansion of agricultural infrastructure, urban construction, logistics modernization, disaster preparedness programs, and the adoption of lightweight polymer-based substitutes over traditional materials, leveraging the global chemicals and petrochemicals supply chain.

Export Potential

India exports woven fabrics and tarpaulins to the US, Europe, Middle East, and Africa. Free-trade agreements with the UAE and Australia enhance growth opportunities for exports.

Trade Dynamics:

Metric (USD Millions)	FY '24	FY'25	% Change
Total Export	291.32	324.77	11.48%
Total Import	383.96	423.77	10.37%
Trade Surplus	675.28	748.54	10.85%

Source: MEIDB, Infomerics Analytics & Research

Top 5 Countries Imports & Exports:

Export Countries	% Share	Import Countries	% Share
USA	63.16%	China	65.75%
UAE	6.53%	Vietnam	6.51%
Mexico	5.18%	Germany	5.54%
Canada	3.16%	South Korea	5.18%
South Africa	2.65%	U S A	3.38%

Source: MEIDB, Infomerics Analytics & Research

Sectoral Demand Share

- Agriculture: 40–45% – Crop protection, greenhouse films, silage covers.
- Construction: 25–30% – Temporary shelters, scaffolding, building material protection.
- Logistics/Transportation: 15–20% – Cargo covers, warehouse protection.
- Disaster Relief: 5–10% – Emergency shelters and disaster-response tarps.
- Recreational/Other: 5–10% – Consumer and leisure applications.

Manufacturing Process of HDPE Tarpaulins

The production of HDPE tarpaulins involves a series of integrated steps designed to transform petrochemical feedstock into a durable, weather-resistant end product widely used across agriculture, logistics, and construction. The process can be summarized as follows:

1. **Polymer Production:**
   High-Density Polyethylene (HDPE), the primary raw material, is produced through the polymerization of ethylene, a hydrocarbon derived from natural gas or petroleum refining. This resin exhibits high tensile strength, resistance to impact, and durability under varied climatic conditions, making it suitable for heavy-duty applications.

2. **Extrusion and Tape Formation:**
   The HDPE granules are fed into an extruder, where they are melted and extruded into thin sheets or tapes. These tapes are subsequently stretched to enhance their strength and flexibility. The extruded tapes form the fundamental input for weaving.

3. **Weaving of Fabric:**
   The stretched HDPE tapes are woven into fabric using circular or flat looms. This woven structure provides mechanical strength, tear resistance, and dimensional stability to the tarpaulin.

4. **Lamination and Coating:**
   To impart water resistance, UV stability, and protection against environmental stress, the woven HDPE fabric is laminated with a layer of Low-Density Polyethylene (LDPE) or Linear Low-Density Polyethylene (LLDPE). This process creates a composite structure that combines the strength of woven fabric with the impermeability of the laminate.

5. **Finishing and Customization:**
   The laminated sheets are cut to standardized or customized dimensions, depending on end-user requirements. Reinforcements, hems, and edges are heat-sealed or stitched to prevent fraying. Eyelets, grommets, or ropes are attached at regular intervals to facilitate secure fastening during usage.

This integrated process ensures that the final product delivers strength, flexibility, water resistance, and UV durability, making HDPE tarpaulins a critical protective material across diverse sectors. The manufacturing value chain also allows for customization in terms of thickness, size, color, and UV stabilization, enabling manufacturers to address both domestic and export market requirements.

Polymers as the Growth Driver

Polymers represent the single largest segment of petrochemical consumption, accounting for nearly 70% of total demand. They are indispensable to industries such as packaging, construction, automotive, consumer durables, electronics, and healthcare. Demand is underpinned by urbanisation, income growth, and consumer spending in emerging markets, alongside new-age industries such as EVs and solar PV, which require significant petrochemical inputs. The global polymers products industry is estimated at USD 692.01 billion in 2024 and projected to reach USD 1131.4 billion by 2033, reflecting a CAGR of 5.04% over the period.

The global plastics and plastic products industry is estimated at USD 594.93 billion in 2024 and projected to reach USD 880.24 billion by 2033, reflecting a CAGR of 4.01%. While traditional transportation fuels face structural headwinds from electrification, petrochemicals demonstrate relative resilience. Recycling penetration, though improving, remains insufficient to materially offset virgin polymer demand by 2030. In India, The production of Polymers (incl.

Polyethylene, PVC, Poly propylene) has increased from 71.96 Lakh Tonnes in FY 15 to 104.32 Lakh Tonnes in FY 25 registering a CAGR of 3.78%. Imports have grown at a faster pace, rising from 53.12 lakh tonnes in FY 2015 to 119.01 lakh tonnes in FY 2025, reflecting a CAGR of 8.40%, with the import bill expanding at a CAGR of 9.63% over the same period.

Total supply of polymers in the country expanded from 125.08 lakh tonnes in FY 2015 to 223.32 lakh tonnes in FY 2025, a CAGR of 5.97%, supported by both domestic production and rising import dependence. Exports have remained moderate, increasing from 15.65 lakh tonnes in FY 2015 to 21.75 lakh tonnes in FY 2025, with a CAGR of 3.34%, while export value grew at a CAGR of 5.86%.

Domestic consumption has risen consistently, from 109.43 lakh tonnes in FY 2015 to 201.58 lakh tonnes in FY 2025, reflecting a CAGR of 6.30%, underscoring strong demand growth from end-use industries such as packaging, construction, automotive, textiles, and tarpaulin/woven fabric applications.

Wholesale Price Index of Polymers: Base Year 2011-12

Year	Poly propylene (PP)	Polyethylene	Polystyrene, expandable
2011-12	100	100	100
2012-13	110	109.3	114.4
2013-14	126.4	117.9	135.4
2014-15	128	130.1	132.7
2015-16	107.1	123.7	124.1
2016-17	108.1	118.6	124.6
2017-18	108.6	118.9	125.9
2018-19	121.4	120.3	129.3
2019-20	114.3	111.1	122.7
2020-21	116.6	115.7	120.8
2021-22	140.8	142	141.7
2022-23	135.2	150	144.5
2023-24	124.8	136.1	139.2
2024-25	129.2	134.9	143.7

Source: CMIE Outlook, Infomerics Analytics & Research

Wholesale Price Index (WPI) trends for key polymers such as polypropylene, polyethylene, and expandable polystyrene reflect cyclical movements over the last decade, with a notable firming-up during FY 2021–22 and subsequent moderation in FY 2023–24. Even with such volatility, the index levels in FY 2024–25 remain materially above the 2011–12 base, underscoring a structural upward shift in polymer input prices. This sustained price environment, combined with steady growth in polymer consumption, reinforces the cost-push dynamics for downstream converters.

Transition to Sustainability

The industry is transitioning from a traditional volume-driven model toward sustainability-led growth. Key shifts include the adoption of circular economy practices, scaling of advanced recycling technologies, and increasing substitution of conventional plastics with bio-based alternatives. Regulatory frameworks, consumer preference, and corporate ESG commitments are reinforcing this trend, though virgin polymer demand remains the anchor for growth through 2030.

3.3 Shade Nets – Market Landscape:

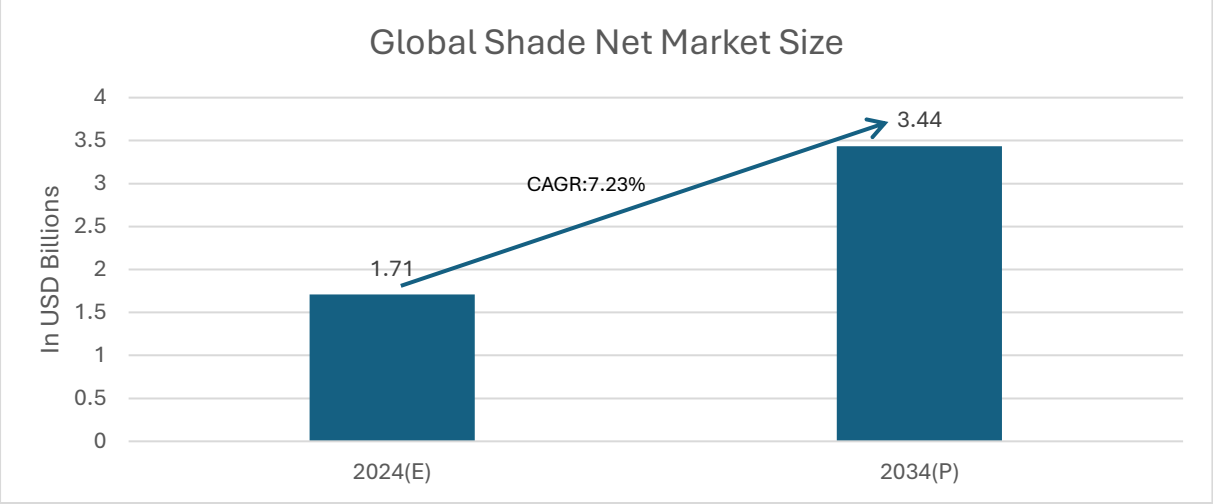
The shade net market is characterized by its diverse segmentation across shade percentage, product type, and application, reflecting its adaptability across agricultural and non-agricultural sectors. By shade type, 90%, 75%, and 50% nets dominate the market, with higher-density nets primarily deployed for crop protection under intense sunlight, while lighter variants are preferred in scenarios where partial shading supports plant growth. In terms of product design, Green × Black nets are widely adopted for UV protection, Black × Black nets for heat control, White × Black nets for optimizing light balance, and Green × Green nets to enhance photosynthesis in nurseries and greenhouses.

Shade Nets in Nursery, Greenhouses

Shade Type-90%,75%,50% Density

Applications of shade nets extend beyond conventional agriculture. They are extensively used in horticulture, floriculture, greenhouse farming, and animal husbandry, while adoption in terrace gardening, vermicomposting units, and poultry farms is rising steadily. Non-agricultural demand is also accelerating, particularly from the construction sector where shade nets serve as safety covers and debris-control solutions, as well as from urban lifestyle segments including resorts, restaurants, waterparks, swimming pools, and institutional landscaping. The breadth of segmentation highlights the dual role of shade nets as both agricultural inputs and multifunctional protective solutions across diverse industries.

Shade nets are primarily manufactured from HDPE or PP woven or knitted polymer fabrics, treated with UV stabilizers to regulate sunlight, temperature, moisture, and airflow. Their core function is to create controlled environments for enhanced plant growth and livestock protection, while their use in non-agricultural sectors, such as construction, warehousing, car parking, playgrounds, and urban landscaping, underscores their versatility.



Source: *Infomerics Analytics & Research.* ***Note:*** *E – Estimated; P – Projected.*

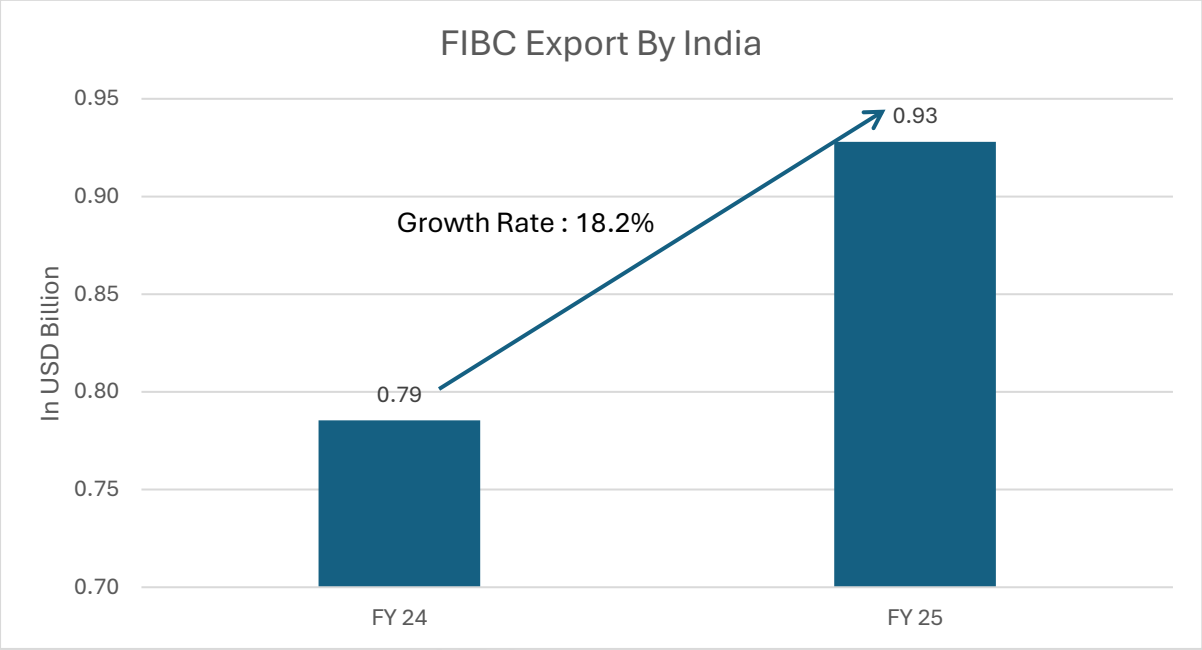
The global shade net market was valued at USD 1.71 billion in 2024 and is projected to reach USD 3.44 billion by 2034, expanding at a CAGR of 7.23%. Market growth is driven by increasing adoption of protected cultivation practices and climate-resilient farming techniques. Shade nets are increasingly recognized as a cost-effective alternative to glass or polyhouse structures, particularly in emerging economies. Beyond agriculture, demand is rising in construction safety (e.g., debris control and scaffolding covers), recreational shading (e.g., resorts, waterparks, swimming pools), and institutional landscaping.

India represents one of the fastest-growing shade net markets globally. Growth is supported by government initiatives promoting horticulture, agri-subsidies, and adoption of modern cultivation practices in key states including Maharashtra, Gujarat, Karnataka, and Tamil Nadu. The importance of shade nets is accentuated by India's climate variability, erratic monsoons, and the need for crop protection against heat, pests, and UV radiation. Beyond agriculture, usage has expanded to poultry farming, vermicomposting units, logistics yards, and construction applications, indicating a transition of shade nets from optional agricultural inputs to essential protective infrastructure across rural and urban environments.

Shade nets provide controlled light, temperature, and humidity conditions critical for high-value crops such as vegetables, fruits, and flowers, thereby enhancing yields and reducing post-harvest losses. Their applications have extended to allied sectors such as nurseries, animal husbandry, and fisheries, where they improve survival rates and product quality. Rapid urbanization has further broadened applications, with shade nets increasingly used for terrace gardening, fencing, shading of restaurants and resorts, playgrounds, and real estate projects. The convergence of modern agricultural practices, climate-resilient infrastructure, and urban lifestyle trends is expected to sustain growth in the shade net sector over the medium to long term.

3.4 Flexible Intermediate Bulk Containers (FIBCs)

The global Flexible Intermediate Bulk Container (FIBC) market was estimated at USD 5.64 billion in 2024, registering a CAGR of 5.9%. India plays a pivotal role in this industry, exporting approximately 40,000 metric tons of FIBCs per month during 2024–25 and accounting for more than 25% of global FIBC trade. Indian FIBC exports were valued at around USD 0.79 billion in FY24. In FY25, the country recorded its highest-ever exports of FIBCs, which grew by 18.2% to USD 0.93 billion.



***Source**: Infomerics Analytics & Research. Note: E – Estimated; P – Projected.*

India's competitive advantage in FIBCs stems from its strong value-added manufacturing base, cost-effective production systems, and a skilled workforce operating across established industrial clusters and large-scale integrated units. Most of these facilities are ISO certified, adhering to international environmental, health, and safety standards. Government support has further strengthened the sector, with liberal export policies, the Atmanirbhar Bharat (self-reliant India) initiative, and the adoption of Industry 4.0 practices, including automation and digital process integration, reinforcing the long-term growth trajectory. These initiatives have enhanced efficiency, improved compliance, and positioned India as a reliable global supplier.

The demand profile for Indian FIBCs is broad-based, with major end-use sectors including food products, chemicals, agriculture, pharmaceuticals, building and construction, mining, and waste management. International acceptance of Indian FIBCs is also driven by their lightweight structure, durability, reusability, and eco-friendly attributes. By offering significant logistics and warehousing cost advantages through efficient transport and storage solutions,

combined with recyclable and reusable designs, FIBCs have emerged as the preferred bulk packaging solution across global industries.

Looking ahead, the Indian FIBC industry is expected to sustain growth on the back of strong global demand, favourable trade policies, and continuing investments in modern manufacturing and technology. With its established market position and growing share of global trade, India is poised to retain its leadership as a critical supplier in the international bulk packaging ecosystem.

4. Market Dynamics

4.1 Key Growth Drivers

The Tarpaulin Industry is undergoing structural shifts driven by agri-logistics modernization, infrastructure expansion, sustainability imperatives, and substitution of low-quality imports. Between FY2026 and FY2033, the segment is expected to benefit from both cyclical demands linked to real estate and logistics, and secular demand levers tied to agricultural resilience and climate adaptation.

Market Drivers and Impact Assessment

Driver	Impact		
	1-2 Years	3-4 Years	5-7 Years
1. Growth in Agriculture & Agri-Infrastructure	High	High	High
2. Expansion of Logistics & Warehousing	High	High	High
3. Infrastructure & Construction Growth	High	High	High
4. Shift to Sustainable, Recyclable Polymers	Medium	High	High
5. Demand for Disaster Relief & Climate Resilience Materials	Medium	High	High
6. Rising Penetration of FIBCs & Industrial Packaging	Medium	High	High
7. Urban Housing & Rural Connectivity	Medium	Medium	High
8. Export Growth via Trade Pacts & Cost Competitiveness	Medium	Medium	High
9. Digitization & Automation in Polymer Processing	Low	Medium	High

Source: Infomerics Analytics & Research

1. Growth in Agriculture & Agri-Infrastructure

Expansion of irrigated land, mechanized farming, crop protection practices, and agri-infrastructure schemes (cold storage, pond liners, crop covers) boost direct consumption of tarpaulins, mulching films, and woven HDPE products.

Impact: Creates sustained demand for standardized, UV-stabilized tarpaulins as essential agri-inputs, positioning the segment as a recurring, non-discretionary expenditure for farmers and agri-supply chains.

2. Expansion of Logistics & Warehousing

Growth in e-commerce, FMCG distribution, and multimodal logistics requires protective coverings for goods in transit and long-term warehousing storage. **Impact:** Tarpaulins, pallet covers, and fumigation sheets become integral to supply chain reliability, driving formalized procurement from organized manufacturers that can ensure strength, weather resistance, and consistency.

3. Infrastructure & Construction Growth

Real estate, roads, bridges, and industrial projects need weatherproofing, scaffolding covers, curing sheets, and temporary roofing during construction. **Impact:** Tarpaulin adoption rises as a cost-effective solution for protecting construction assets and accelerating project timelines, embedding it in both public and private infrastructure workflows.

4. Shift to Sustainable, Recyclable Polymers

Global and domestic ESG mandates push producers toward recyclable HDPE/LDPE blends, circular economy models, and lower-carbon manufacturing. **Impact:** Fosters R&D investment in eco-friendly tarpaulins and flexible packaging, enabling manufacturers to secure premium positioning, regulatory approvals, and export acceptance in developed markets.

5. Demand for Disaster Relief & Climate Resilience Materials

Increased frequency of floods, cyclones, and droughts raises procurement of tarpaulins for emergency shelters, ground covers, and relief operations. **Impact:** Creates a stable institutional demand channel (government tenders, NGOs, disaster management authorities), insulating the industry from purely cyclical market shifts.

6. Rising Penetration of FIBCs & Industrial Packaging

Growth in global bulk commodity trade and industrial exports (cement, fertilizers, chemicals, grains) accelerates demand for FIBCs and liners, which often use woven HDPE/PP fabrics also employed in tarpaulin.

Impact: Provides backward integration and diversification opportunities for tarpaulin manufacturers, linking them directly to global logistics and export supply chains.

7. Urban Housing & Rural Connectivity

Affordable housing programs and rural connectivity projects generate demand for roofing sheets, site covers, and material protection tarpaulins.

Impact: Broadens the customer base from institutional to retail buyers, increasing penetration of branded tarpaulins in semi-urban and rural markets.

8. Export Growth via Trade Pacts & Cost Competitiveness

India's low-cost polymer processing and access to raw material feedstocks position domestic tarpaulin and woven fabric exporters to benefit from trade pacts like India–UAE CEPA and India–Australia ECTA.

Impact: Expands addressable global markets, reduces tariff barriers, and enhances India's competitiveness against China and Southeast Asia in HDPE fabric and tarpaulin exports.

9. Digitization & Automation in Polymer Processing

Adoption of automated looms, digital tensile testing, and AI-enabled quality control reduces defects, increases scale, and improves lifecycle tracking of tarpaulin products. **Impact:** Shifts the sector from fragmented, labour-intensive operations toward organized, technology-led manufacturing, enabling consistent export quality and stronger brand credibility.

4.2 Threats and Challenges

Despite its expanding role in agriculture, logistics, and infrastructure, the tarpaulin industry—faces multiple headwinds that could constrain long-term competitiveness. The industry's heavy reliance on crude oil–linked feedstocks, fragmented domestic market, and increasing sustainability compliance pressures create a challenging operating environment for both integrated players and standalone manufacturers.

Market Restraints and Impact Assessment

Restraint	Impact		
	1–2 Years	3-4 Years	5-7 Years
1. Volatility in Crude Oil & Polymer Resin Prices	High	High	High
2. Competition from Informal & Low-Cost Players	High	High	High
3. Rising ESG & Plastic Waste Compliance Costs	Medium	High	High
4. Capital-Intensive Machinery for Modernization	Low	Medium	Medium
5. Freight, Container, and Inland Transport Costs	High	High	Medium
6. Cyclical Demand in Agriculture & Monsoons	Medium	Medium	High
7. Dependency on Imported Additives & Masterbatches	Medium	Medium	High
8. Lack of Skilled Workforce in Polymer Processing	Medium	High	High
9. Environmental Regulations on Plastic Use	Medium	High	High
10. Price Competition from Global Suppliers	High	High	Medium
11. Fragmented Distribution in Tier 2/3 Cities	Medium	Medium	High
12. Recycling Infrastructure Deficit	Medium	High	High

Source: Infomerics Analytics & Research

Detailed Commentary

1. Volatility in Crude Oil & Resin Prices

- Polyethylene (HDPE, LDPE) and polypropylene prices are directly linked to global crude oil and naphtha trends.
- Price spikes strain margins for tarpaulin manufacturers without backward integration.
- Import dependencies for specialty resins exacerbate working capital pressures.

2. Competition from Informal & Low-Cost Players

- The tarpaulin market is fragmented, with numerous unorganized operators offering low-quality products at aggressive prices.
- These players often bypass quality and environmental norms, distorting pricing benchmarks and discouraging institutional buyers.

3. Rising ESG & Plastic Waste Compliance Costs

- Plastic Waste Management Rules (2016, amended 2022) mandate Extended Producer Responsibility (EPR) for collection and recycling.
- Compliance requires investment in recycling infrastructure and traceability, raising costs for mid-scale firms.

4. Capital-Intensive Modernization

- Advanced looms, extrusion laminators, and digital quality-control equipment are critical to meet export-grade standards.
- However, limited financing access and long payback cycles deter smaller manufacturers from upgrading.

5. Freight, Container, and Inland Transport Costs

- Logistics bottlenecks, container shortages, and high rail/road freight charges increase costs for both domestic and export shipments.
- Tarpaulins, being bulky but low in value-to-volume ratio, are particularly vulnerable to freight inflation.

6. Cyclical Demand in Agriculture & Monsoons

- Tarpaulin demand surges during crop cycles, storage seasons, and monsoon periods, but falls sharply in off-peak times.
- This cyclicality creates uneven capacity utilization for manufacturers.

7. Dependency on Imported Additives & Masterbatches

- Critical inputs like UV stabilizers, anti-fogging agents, and specialty color masterbatches are often imported.
- Currency fluctuations and supply chain disruptions pose cost and availability risks.

8. Skilled Workforce Shortage in Polymer Processing

- Dependence on semi-skilled labor for extrusion, lamination, and finishing leads to inconsistent quality.
- Attrition and lack of structured skilling programs worsen productivity challenges.

9. Environmental Regulations on Plastic Use

- Rising restrictions on single-use plastics and increasing public scrutiny of polymer products may spill over into tarpaulin demand.
- Export markets demand certification of recyclability, eco-labeling, and low-VOC compliance.

10. Price Competition from Global Suppliers

- Low-cost imports of tarpaulins, FIBCs, and polymer sheets from China, Vietnam, and Bangladesh intensify pricing pressures.
- Subsidized feedstock and economies of scale in competitor nations challenge Indian exporters.

11. Fragmented Distribution in Tier 2/3 Cities

- Awareness and formal distribution channels for quality tarpaulins remain underpenetrated in semi-urban and rural India.
- Informal networks dominate, limiting market access for organized players.

12. Recycling Infrastructure Deficit

- India's recycling ecosystem is highly unorganized, with limited advanced mechanical or chemical recycling facilities.
- Without scalable recycling, compliance with ESG mandates and circular economy models will remain a major hurdle.

5. Government Initiatives and Policy Support

India's Tarpaulin Industry — is benefitting from a wide spectrum of government initiatives focused on infrastructure expansion, industrial competitiveness, sustainability, and export growth. These policies are driving greater formalization, scale, and global alignment of the sector.

1. Union Budget FY2025–26 – Infrastructure, Manufacturing and Export Push

The Union Budget FY2025–26 allocated ₹11.21 lakh crore (3.1% of GDP) toward capital expenditure, sustaining the momentum of infrastructure creation. This directly expands downstream demand for polymer-based products such as tarpaulins, FIBCs, and HDPE/LDPE packaging used in agriculture, logistics, housing, and construction.

Relevant provisions impacting the plastics and tarpaulin segment:

- Continued funding for PMAY housing, Smart Cities, and rural connectivity, all of which require protective polymer sheets and coverings.
- Allocation toward warehousing, cold chain, and transport corridors, spurring institutional demand for tarpaulins and woven HDPE fabrics.
- Increased focus on export infrastructure (ports, container terminals) supporting outward shipments of plastic products and FIBCs.

  Source: Union Budget FY2025–26, Ministry of Finance

2. Plastic Parks and PLEXCONCIL Export Targets

The Plastic Export Promotion Council (PLEXCONCIL) has set a target of US$ 25 billion in plastic exports by 2027. To achieve this, the Government of India is establishing plastic parks across states, with funding support of up to 50% of project costs (capped at ₹40 crore per project).

Impact on tarpaulin manufacturing:

- Enhances availability of feedstock resins and common processing infrastructure.
- Promotes clustering of polymer processors, lowering input and logistics costs for tarpaulin producers.
- Strengthens export competitiveness through capacity scaling and quality improvements.

  Source: Ministry of Chemicals & Fertilizers, PLEXCONCIL

3. Make in India, Digital India, and Skill India Alignment

National flagship programs are fostering self-reliance and industrial scaling within the polymers ecosystem.

- **Make in India**: Encourages domestic production of polymer products, lowering import dependency and incentivizing backward linkages with petrochemicals.
- **Digital India**: Expands demand for protective plastics in electronics logistics and supports the digitization of manufacturing operations.
- **Skill India**: Strengthens workforce skills in polymer processing, weaving, and quality testing, directly benefitting labour-intensive tarpaulin clusters.

4. Centres of Excellence (CoEs) and CIPET Expansion

The government has launched Centres of Excellence (CoEs) to accelerate R&D in polymer technology and promote new applications of plastics, including durable and recyclable tarpaulin solutions. Additionally, 23 Central Institutes of Plastics Engineering & Technology (CIPETs) have been approved to build technical skills and foster innovation in polymer processing.

5. National Infrastructure Pipeline (NIP) and Smart Cities Mission

The ₹111 lakh crore NIP and expansion of the Smart Cities Mission are boosting demand for polymer-based construction materials and logistics enablers.

- HDPE tarpaulins are increasingly used for scaffolding, curing sheets, and weatherproofing at project sites.
- Smart Cities' emphasis on resilience and sustainability is accelerating adoption of recyclable polymer products.
- Large-scale warehousing and cold-chain projects under NIP strengthen institutional demand for tarpaulin-based storage and transport covers.

Source: MoHUA, Ministry of Chemicals & Fertilizers

6. Sustainability, ESG, and Circular Economy Frameworks

India's climate and sustainability commitments are reshaping the plastics ecosystem:

- Mandatory Extended Producer Responsibility (EPR) norms on plastic waste.
- Government-backed certifications such as GRIHA and IGBC that prioritize recyclable, low-VOC, and long-lifecycle materials.

- Tarpaulin manufacturers adopting recycled polymers, UV-stabilizers, and eco-compliant blends gain preferential procurement access in infrastructure and agriculture projects.

  Source: Ministry of Environment, Forest and Climate Change (MoEFCC), IGBC

7. Trade Facilitation and Export Incentives

Schemes such as RoDTEP, SEZ concessions, and bilateral trade agreements (India–UAE CEPA, India–Australia ECTA) are widening market access for processed polymer and woven fabric products.

Source: DGFT, Ministry of Commerce & Industry

8. Labour Formalization and Skilling Support

Implementation of labour code reforms, coupled with PMKVY skilling modules, is raising compliance and productivity levels across polymer clusters.

Source: Ministry of Labour & Employment, MSME Skill India

9. Public Infrastructure, Rural Connectivity, and Disaster Preparedness

Government investment in **Bharatmala, Sagarmala, PMGSY (Pradhan Mantri Gram Sadak Yojana)**, and disaster management schemes is creating large institutional procurement channels for tarpaulins.

- Used for roofing, shelters, ground covers, and storage protection in high-footfall infrastructure and relief projects.
- NGOs and disaster relief agencies procure standardized tarpaulin kits through government tendering.

  Source: Ministry of Road Transport & Highways, NDMA

Together, these initiatives — spanning export promotion, plastic park clusters, infrastructure spending, ESG frameworks, and labour reforms — create a structural policy tailwind for India's Petrochemicals, Polymers and Plastics Industry. For tarpaulin manufacturers in particular, the interplay of agri-infrastructure support, disaster relief procurement, export incentives, and sustainability mandates positions the sector for accelerated formalization, capacity scaling, and global integration.

6. Technology & Digital Transformation

India's Tarpaulin Industry —is undergoing rapid technological adoption to improve cost-efficiency, sustainability, and global competitiveness. The industry is moving beyond conventional extrusion and lamination toward digitally integrated, automated, and ESG-compliant processes that align with the needs of agriculture, infrastructure, logistics, and disaster relief markets.

1. Advanced Manufacturing & Processing Technologies

Producers are increasingly investing in advanced processing systems that enhance throughput, durability, and customization of tarpaulins:

- **Multi-layer blown film extrusion** for UV-stabilized agricultural films and pond liners.
- **Automated lamination and coating lines** delivering superior waterproofing and tensile strength.
- **High-speed circular looms and precision stitching units** for large-format HDPE/PP tarpaulins.
- **Surface treatment and corona discharge technologies** for better adhesion and printability.

These upgrades reduce defect rates, extend product life cycles, and ensure compliance with international quality standards.

2. Digital Integration & Smart Design Tools

Digital tools are being integrated into the design and production cycle to enable customization and better customer service:

- **CAD-based design platforms** for engineered tarpaulin dimensions.
- **Digital prototyping and simulation** to test tensile strength, wind resistance, and UV degradation before production.
- **Digital inventory management** for real-time tracking of grades, dimensions, and colour batches.

This allows manufacturers to offer tailor-made solutions for diverse applications—from farm ponds to container liners.

3. IoT-Enabled Factory Monitoring & Energy Optimization

IoT deployment is gaining traction in polymer and tarpaulin plants, with applications such as:

- **Real-time monitoring of extrusion temperatures, loom efficiency, and lamination quality.**
- **Predictive maintenance of extruders, looms, and stitching machines.**
- **Smart energy meters** to optimize power consumption, aligning with ESG targets.

These systems reduce downtime and enhance process consistency across high-volume manufacturing units.

4. Robotics and Automation in Material Handling

Automation is gradually being adopted to reduce labour dependency and increase productivity:

- **Robotic fabric handling and roll packing** for high-volume dispatches.
- **Automated cutting and welding machines** for large sheet customization.
- **Conveyor-linked barcode/QR tracking** for batch traceability.

This ensures process uniformity and speeds up delivery cycles in export and domestic markets.

5. Digital Sales & Customer Engagement Platforms

Tarpaulin manufacturers are also leveraging digital sales tools to strengthen B2B and export channels:

- **E-commerce and B2B platforms** for direct order placement.
- **AR/VR applications** that simulate tarpaulin applications in greenhouses, construction sites, and logistics hubs.
- **CRM-integrated digital portals** to manage client orders, approvals, and after-sales service.

These solutions are particularly relevant for institutional buyers and international distributors.

6. Analytics-Driven Decision Support

Data analytics is reshaping procurement, operations, and demand forecasting:

- **Predictive demand analysis** based on agriculture cycles, monsoon intensity, and infrastructure spending.
- **Procurement optimization** for polymer resins, masterbatches, and additives.
- **Throughput dashboards** to track machine-level productivity and reduce material wastage.

This supports better capital allocation and responsiveness to market fluctuations.

7. Digital Sustainability & ESG Monitoring

With global customers demanding environmentally responsible solutions, manufacturers are embedding digital ESG tools:

- **Water and effluent recycling systems** with automated monitoring.
- **Emission and VOC tracking sensors** aligned with international reporting standards.
- **Waste segregation and recycled granule usage tracking** under circular economy models.

These investments improve export readiness and compliance with EU/US regulatory expectations.

8. Emerging Technologies & Future Outlook

By 2030, the sector is expected to integrate several advanced technologies:

- **AI-based defect detection** in woven and laminated tarps.
- **Digital twins of production facilities** for real-time simulations.
- **Blockchain-enabled traceability** for polymer sourcing and recycling compliance.
- **Self-calibrating extrusion systems** that adjust film thickness automatically.
- **Smart recycling technologies** converting post-consumer waste into high-grade tarpaulin inputs.

Technology and digitization are no longer optional for India's tarpaulin manufacturers. Whether to achieve consistency in agricultural films, meet export specifications, or comply with ESG mandates, digital transformation is redefining the sector's competitiveness and positioning it for sustained global demand between 2025 and 2030.

7. PESTLE Analysis of the Industry

A comprehensive PESTLE (Political, Economic, Social, Technological, Legal, and Environmental) analysis of India's Tarpaulin Industry—highlights the macro-environmental forces shaping demand, competitiveness, and long-term operational strategies. This framework provides insights into opportunities and risks across domestic and export value chains.

Factor	Description	Impact on Tarpaulin Manufacturing
Political	• Government thrust on infrastructure under **PM Gati Shakti** and the **National Infrastructure Pipeline (NIP)** (₹1.11 lakh crore planned outlay). • **Plastic Park Schemes** and **Petrochemical Investment Regions (PCPIRs)** offering subsidies and shared infrastructure. • **PLEXCONCIL** targeting US$25 billion plastic exports by 2027. • Bilateral trade pacts (UAE CEPA, Australia ECTA) opening new export opportunities.	• Sustains strong demand for HDPE/LDPE tarpaulins in construction, logistics, and agriculture. • Subsidies and cluster-based manufacturing lower capex for SMEs. • Trade pacts provide access to high-value export markets for finished tarps. • Political stability builds investor confidence in scaling polymer processing capacity.
Economic	• India's GDP projected to grow ~6% CAGR (IMF, WEF), with strong momentum in **agriculture, logistics, and housing**. • Tarpaulin demand is closely linked to monsoon cycles, crop protection, and disaster relief spending. • Rising infrastructure and logistics investments expand demand for large-format industrial tarps. • Polymer resin prices (HDPE/LDPE/PP) remain volatile due to crude oil fluctuations.	• Agriculture-linked demand ensures steady baseline consumption. • Logistics and warehousing growth supports industrial-grade tarpaulin demand. • Resin price volatility requires hedging strategies and recycled inputs to stabilize margins. • Export potential strengthens as India positions as cost-competitive alternative to China and Vietnam.
Social	• Expanding middle class and Tier 2/3 city development drive demand for affordable protective materials. • Increased awareness of **climate resilience** fuels demand for tarps in disaster-prone regions.	• Social demand creates diversified use cases—from farm ponds to emergency shelters. • Skill development (via CIPET & Skill India) critical for sustaining workforce productivity.

	• Labour-intensive weaving, stitching, and lamination processes face skill gaps. • Rural housing and farm modernization programs integrate tarpaulins as low-cost roofing and water storage solutions.	• Rising climate events make tarps a frontline relief material, boosting government procurement.
Technological	• **Blown film extrusion, lamination, and recycling technologies** advancing quality and sustainability. • IoT-enabled extrusion monitoring, automated looms, and robotic cutting improving efficiency. • Digital platforms for B2B procurement and AR visualization of tarpaulin applications emerging. • R&D focus on UV-resistant, fire-retardant, and bio-based polymers.	• Enhances product durability and compliance with export standards. • Automation reduces defect rates and labour intensity. • Digital sales enable penetration into institutional and global markets. • Specialty tarps (fire-retardant, UV-stabilized) open premium market niches.
Legal	• Governed under the **Environment Protection Act**, **Plastic Waste Management Rules (PWM 2016, amended 2022)**, **Factories Act**, and **Occupational Safety Codes**. • BIS standards for HDPE/LDPE tarpaulins ensure quality compliance. • Increasing global restrictions on single-use plastics create both risks and opportunities. • SEZ exporters governed by customs, GST, and HS code compliance.	• Compliance with PWM rules pushes shift to recyclable/reusable tarps. • BIS certification builds trust with institutional buyers. • Legal preparedness around EPR (Extended Producer Responsibility) becomes a competitive differentiator. • Exporters benefit from predictable SEZ/GST frameworks but must adhere to stricter ESG disclosures abroad.
Environmental	• Rising ESG scrutiny on plastic waste and carbon emissions. • Government and global buyers pushing **circular economy models** and use of recycled polymers. • Tarpaulins increasingly being designed for **longer life cycles, UV stability, and recyclability**. • Push for renewable energy in manufacturing clusters (solar adoption in plastic parks).	• Drives manufacturers toward recycled and eco-friendly tarps. • Creates premium market positioning for sustainable, ESG-compliant products. • Increases upfront investment in recycling, effluent treatment, and energy-efficient machinery. • Strengthens export competitiveness in Europe and North America, where green compliance is mandatory

8. Competitive Landscape

India's Tarpaulin Industry underpins a vast plastics ecosystem, with tarpaulin manufacturing emerging as a specialized yet rapidly scaling sub-segment. The industry is transitioning from fragmented, unorganized production to organized, technology-enabled facilities capable of serving agriculture, logistics, infrastructure, and disaster-management needs. The evolution is marked by increasing product customization, higher compliance with sustainability norms, and growing demand from both domestic and export markets.

8.1 Key Factors Shaping Competition

1. Product Innovation and Application Versatility

Tarpaulin manufacturers increasingly compete by offering specialized variants — UV-resistant, flame-retardant, laminated, or reinforced with advanced polymers. Application-specific tarpaulins for agriculture (crop covers), logistics (truck and container covers), and infrastructure (temporary shelters, pond liners) are reshaping buyer preference. The ability to tailor durability, weight, and recyclability has become central to customer stickiness.

2. Advanced Manufacturing and Polymer Integration

Shift toward multi-layer extrusion, high-density polyethylene (HDPE) weaving, lamination technologies, and automated cutting-stitching units is redefining scale and quality benchmarks. Players adopting digital controls, material testing protocols, and inline defect detection achieve superior consistency, reduced wastage, and faster turnaround times — positioning themselves competitively against unorganized players.

3. Export Market Opportunities and Trade Leverage

Indian tarpaulin exports are gaining traction as cost-competitive alternatives to Southeast Asian suppliers. Trade access through FTAs (e.g., India–UAE CEPA) and export incentives like RoDTEP have improved market reach, particularly in the Middle East, Africa, and South Asia. Disaster-relief procurement by multilateral agencies also presents recurring opportunities for organized players.

4. Distribution Reach and Market Penetration

Domestic demand growth is supported by strong dealer-distributor networks, regional stocking points, and adoption of e-commerce platforms for institutional and SME buyers. Organized manufacturers are leveraging brand-backed assurance, quick delivery cycles, and digital catalogues to capture Tier 2 and Tier 3 markets where informal players traditionally dominated.

5. ESG Alignment and Sustainable Materials

Growing scrutiny of single-use plastics has created both challenges and opportunities. Manufacturers differentiating through recyclable, low-carbon, and biodegradable tarpaulins are aligning with ESG requirements of export markets and public tenders. Certifications under ISO 14001, recyclable polymer compliance, and green packaging initiatives are becoming critical filters in vendor selection.

6. Backward Integration and Polymer Security

Price volatility in polymers like HDPE and LDPE, derived from crude-linked petrochemicals, makes raw material security decisive. Vertically integrated players with tie-ups or captive access to polymer producers enjoy cost stability and assured quality, reducing dependence on volatile spot markets. This integration provides resilience against crude price swings and supply-chain shocks.

7. Compliance with Global Standards

International buyers increasingly demand compliance with standards such as ISO 9001, CE certification, REACH (EU), and ASTM testing protocols. Adherence to fire-safety norms, tensile strength benchmarks, and eco-compliance enhances eligibility for institutional orders and global supply contracts. Manufacturers investing in testing laboratories and certifications are at a strategic advantage.

8. Logistics Efficiency and Regional Clusters

Proximity to polymer hubs (e.g., Gujarat, Maharashtra) and ports (Kandla, Mundra, Chennai) is driving competitive advantage. Efficient freight handling, container availability, and reduced lead times enhance export competitiveness. Clusters within SEZs or near petrochemical complexes offer tariff advantages and integrated supply chain efficiency.

8.2 Competitive Strategies in Tarpaulin Manufacturing Industry

Leading Indian tarpaulin manufacturers are deploying multifaceted strategies to strengthen market positioning, capture domestic demand from agriculture, logistics, and infrastructure, and expand into export-ready industrial and disaster-relief markets.

1. Application-Driven Product Diversification

- Firms are developing specialized tarpaulin variants, including UV-stabilized, flame-retardant, laminated, and reinforced HDPE/LDPE blends to cater to diverse end-use applications.
- Product innovation is aligned with sector-specific requirements, such as multi-layered tarps for logistics, breathable covers for agriculture, and weatherproof sheets for construction and emergency relief.
- Customization of tensile strength, weight, coating, and dimensions allows manufacturers to address differentiated needs across B2B, institutional, and export markets.

2. Export Market Expansion and Client Customization

- Export-oriented players are targeting regions such as the Middle East, Africa, Southeast Asia, and Australia, leveraging India's cost competitiveness and trade agreements (e.g., UAE CEPA, Australia ECTA).
- Strategies include long-term partnerships with distributors, participation in global trade fairs, and delivery of export-ready formats optimized for containerization and on-site usage.
- Modular, pre-cut, or roll-format tarpaulins improve freight efficiency and client-specific customization capabilities.

3. Technology-Led Manufacturing and Process Optimization

- Smart factories with automated weaving, lamination, cutting, and sealing systems enhance throughput, quality consistency, and process flexibility.
- IoT-enabled monitoring of energy, polymer usage, and machine performance reduces waste and operational costs.
- Inline quality control systems, including tensile testing and UV/tear resistance measurement, ensure compliance with international standards.

4. Sustainability and ESG Integration

- Manufacturers are adopting recyclable polymers, low-VOC coatings, and water-efficient lamination processes to meet growing global ESG expectations.
- Compliance with standards such as ISO 14001, REACH, and other international environmental benchmarks is becoming essential for institutional buyers and export contracts.
- Initiatives include circular economy practices like reprocessed polymer incorporation, reducing carbon footprint while strengthening market credibility.

5. Agile Fulfillment and On-Demand Fabrication

- Flexible inventory management, containerization of multiple SKU types, and rapid dispatch mechanisms enable faster lead times for B2B and institutional clients.
- On-demand cutting, lamination, and finishing in proximity to logistics hubs reduce transit risks and improve customer satisfaction.
- Digital platforms for order tracking, sample approvals, and delivery confirmations enhance transparency and responsiveness.

6. Regional Market Penetration and Omnichannel Presence

- Organized manufacturers are expanding into Tier 2 and Tier 3 cities to capture rising demand from agriculture, warehousing, and construction sectors.
- Dealer education programs, branded point-of-sale materials, and digital configurators allow clients to visualize tarpaulin specifications in real-time.
- Omnichannel engagement, including e-commerce, direct B2B portals, and institutional partnerships, strengthens local market adoption.

Competitive differentiation in India's tarpaulin sector is driven by application-specific product innovation, technology adoption, ESG-aligned practices, and flexible fulfillment models. Manufacturers integrating operational scale, polymer security, and sector-specific customization are best positioned to capture both domestic and export opportunities in agriculture, logistics, construction, and climate-resilient infrastructure.

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8.3 Barriers to Entry in Tarpaulin Manufacturing Industry

India's tarpaulin manufacturing sector presents structural and operational barriers that constrain new or small-scale entrants. These barriers favor organized players with capital-backed scale, integrated polymer sourcing, process standardization, and compliance infrastructure.

1. Capital-Intensive Manufacturing and Compliance Requirements

- Setting up modern tarpaulin facilities requires substantial investment in high-speed weaving looms, multi-layer lamination lines, extrusion systems, coating units, and automated quality control equipment.
- Compliance with environmental regulations (e.g., effluent treatment, polymer emission standards, and waste recycling), SEZ infrastructure requirements, and safety protocols adds to upfront capital demands.
- Entry into export zones or industrial parks necessitates working capital for bulk polymer procurement, storage, and finished goods inventory, raising the financial threshold for new entrants.

2. Complex Regulatory and Quality Standards

- Manufacturing is subject to multi-tiered regulations under the Environment Protection Act, Plastic Waste Management Rules, and labour and occupational safety codes.
- Export-oriented players must comply with international quality and safety certifications (ISO 9001, ISO 14001, REACH, CE, and ASTM standards), necessitating dedicated compliance systems and periodic third-party audits.

3. Established Buyer Relationships and Long-Term Contracts

- Tarpaulin procurement in agriculture, logistics, construction, and disaster relief is highly relationship-driven, with buyers valuing consistent tensile strength, waterproofing, and UV durability.
- High switching costs in institutional or large-scale applications—where product consistency and reliability are critical—favor incumbents with proven delivery and after-sales track record.

4. Customization Capabilities and Product Design Expertise

- Modern applications require tailored tarpaulins with specific tensile strength, layer composition, UV resistance, and dimensions.
- Offering design-led solutions, pre-cut formats, or branded industrial tarps requires in-house R&D, digital visualization tools, and agile manufacturing processes.
- New entrants often lack the technical infrastructure or polymer-processing expertise to meet these specifications at scale.

5. Distribution, Logistics, and Export Complexity

- Efficient delivery demands experience in bulk logistics, container optimization, storage, and intermodal transportation.
- Export markets, particularly in high-regulation geographies like the EU, Middle East, or Australia, require compliance with product testing, labeling, and polymer-specific certifications.
- Navigating customs, trade documentation, and cross-border regulatory checks poses significant operational hurdles for newcomers.

6. Skilled Workforce and Technical Talent Availability

- Tarpaulin manufacturing requires trained personnel for extrusion, weaving, lamination, coating, cutting, and quality inspection.
- Retaining skilled staff, formalizing labor contracts, and implementing vocational training programs remain critical bottlenecks, especially for medium-scale players lacking structured HR and training systems.

The combination of high capital requirements, regulatory complexity, technical specialization, and distribution sophistication creates a defensible moat for established manufacturers. New entrants must overcome these barriers through scale, backward integration with polymer suppliers, technology adoption, and compliance readiness to compete effectively in domestic and export markets.

8.4 Consolidation Trends in the in-Tarpaulin Manufacturing Industry

The Indian tarpaulin manufacturing sector is witnessing accelerated consolidation driven by rising export demand, regulatory compliance, and increasing capital intensity. The industry is transitioning from fragmented, regional producers to organized players with integrated polymer sourcing, advanced manufacturing capabilities, and pan-India distribution networks.

1. Mergers & Acquisitions for Capacity Expansion and Vertical Integration

- Larger manufacturers are acquiring weaving units, lamination and coating facilities, or captive polymer compounding plants to consolidate operations and secure upstream inputs.
- Vertical integration enables cost optimization, quality standardization, and faster production cycles across multiple tarpaulin grades.

2. Export-Driven Scale Consolidation

- Rising global demand in sectors like agriculture, logistics, disaster relief, and industrial packaging is prompting manufacturers to consolidate capacity for consistent volume, tensile strength, and UV-resistance standards.
- Consolidation allows alignment with large OEM and institutional buyers requiring long-term supply assurance and standardized product specifications.

3. Private Equity and Institutional Investment

- Visibility of long-term export contracts, along with supportive trade policies (RoDTEP, SEZ benefits), is attracting private equity and strategic investors.
- Capital infusion is being directed toward automation upgrades, multi-layer lamination lines, warehouse expansion, and sustainability-driven processes (recycled polymers, energy-efficient extrusion).

4. Backward Integration with Polymer and Raw Material Sources

- Organized players are entering into captive polymer compounding, long-term resin sourcing contracts, or recycled plastic procurement agreements to mitigate price volatility and ensure quality consistency.
- Upstream integration strengthens cost control, process reliability, and product uniformity across HDPE, LDPE, and polypropylene-based tarpaulins.

5. Entry of Industrial Conglomerates and EPC Players

- Select logistics, construction, and infrastructure companies are integrating backward into tarpaulin manufacturing to secure customized protective solutions for transport, warehousing, and project execution.
- This trend blurs traditional supplier–buyer roles and intensifies competition for large-scale contracts.

6. Digital Interface and Platform Consolidation

- Manufacturers are adopting digital platforms for inventory visualization, online order tracking, specification management, and AR-based product previews.
- These initiatives enable omnichannel expansion, improve B2B engagement, and streamline export and domestic distribution simultaneously.

7. Environmental and Compliance-Driven Consolidation

- Stricter enforcement of environmental regulations—wastewater treatment, polymer recycling mandates, and ESG-aligned operations—is driving smaller, non-compliant producers to exit or merge.
- Players with ISO, REACH, ASTM, or CE certification gain procurement preference from global buyers and institutional clients, further consolidating market share among organized manufacturers.

The combined effect of export orientation, regulatory compliance, capital-intensive technology adoption, and upstream integration is creating a structurally consolidated Indian tarpaulin industry. Organized manufacturers that leverage scale, backward integration, and digital supply-chain capabilities are well-positioned to capture both domestic and international growth opportunities.

8.5 Key Industry Players

1. Gujarat Raffia Industries Ltd. (GRIL)

Established in 1984, Gujarat Raffia Industries Ltd. is a prominent manufacturer based in Gujarat, specializing in a diverse range of products including PE Tarpaulin, plastic sheeting, geomembranes, tents, shelters, pond and canal linings, fumigation covers, HDPE and PP woven bags, vermibeds, and ropes. The company operates state-of-the-art manufacturing facilities equipped with advanced machinery to ensure high-quality production standards. GRIL's products cater to various industries such as agriculture, construction, and disaster relief. The company is listed on both the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE), reflecting its significant presence in the Indian market.

2. Time Technoplast Ltd.

Founded in 1992, Time Technoplast Ltd. is a multinational conglomerate with operations across multiple countries, including India, Bahrain, Egypt, Indonesia, Malaysia, the UAE, Taiwan, Thailand, Vietnam, and the USA. The company's diverse product portfolio encompasses industrial packaging solutions, lifestyle products, automotive components, and infrastructure-related products. Time Technoplast has a robust research and development team, with approximately 35 experts, each possessing over 20 years of experience, driving innovation and product development. The company is listed on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE), underscoring its strong market position.

3. TPL Plastech Ltd.

TPL Plastech Ltd., part of the Time Technoplast Group, is a leading plastic processing company in Asia. Established in 1995, the company operates multiple manufacturing units across India, including locations in Jammu, Gadarpur, Kutch, Ratlam, and Visakhapatnam, with an installed capacity of 28,000 MT. TPL Plastech specializes in the production of bulk packaging materials such as drums, containers, and other plastic products. The company's state-of-the-art blow molding machines are capable of producing barrels that comply with UN-certified quality standards, ensuring durability and safety for various applications.

4. Shree Tirupati Balajee Agro Trading Co. Ltd.

Established in 2001, Shree Tirupati Balajee Agro Trading Co. Ltd. is a leading manufacturer and supplier of Flexible Intermediate Bulk Containers (FIBC), woven sacks, and fabrics made from polypropylene (PP) and high-density polyethylene (HDPE). The company operates from three integrated facilities, all within close proximity to each other, ensuring efficient production and logistics. Shree Tirupati Balajee Agro Trading Co. Ltd. is certified with ISO 9001:2015 and ISO 14001:2018 for Units I and II, and ISO 9001:2015, ISO 45001:2018, ISO 14001:2015, ISO 14064-1:2018, and SEDEX SMETA four-pillar certification for Unit III, demonstrating its commitment to quality and environmental management.

5. Commercial Syn Bags Limited

Syn Bags Limited, located in Indore, Madhya Pradesh, is a member of the Choudhary Group, which has a diverse range of business interests spanning over 50 years. With more than three decades of experience, Syn Bags Limited specializes in manufacturing FIBC, tarpaulins, woven sacks, and BOPP bags. The company produces approximately 4-5 million big bags annually, with a manufacturing capacity of 21,000 MT per annum. Syn Bags Limited is committed to social responsibility, employing around 2,000 individuals who are considered the backbone of the company.

8.6 Company Positioning : Shakti Polytrap Limited

Shakti Polytarp Limited is positioned as an emerging manufacturer in India's petrochemicals, polymers, and protective materials value chain, with a clear specialization in tarpaulins and allied plastic-based products. Through its flagship brand 'Dinotarp', the Company has built market recognition as a provider of durable, versatile, and quality-certified protective solutions that cater to diverse industrial and consumer needs. Its integrated, end-to-end manufacturing facility at Nimrani, Madhya Pradesh, enables production of tarpaulins, shade nets, HDPE/PP tapes, woven fabrics, and reprocessed granules, allowing it to serve both institutional and retail customers.

The Company's positioning is anchored in four strategic dimensions:

1. **Sectoral Relevance** – Tarpaulins and protective polymer materials form critical inputs across agriculture, construction, logistics, automotive, infrastructure, and consumer goods. With India's agricultural base expanding its reliance on protective covers, and infrastructure and logistics activity scaling rapidly, Shakti Polytarp operates at the intersection of structural demand drivers. The essential nature of these products ensures recurring demand, reduced cyclicality, and applicability across multiple end-markets.

2. **Operational Integration** – Shakti Polytarp has consolidated the production cycle under a single integrated platform, covering extrusion, weaving, lamination, fabrication, finishing, and packaging. This not only ensures consistency in quality but also allows the Company to produce a wide spectrum of GSM grades, colors, and specifications tailored to client requirements. The ability to control the entire value chain strengthens cost competitiveness, enhances speed to market, and mitigates dependence on external vendors — a key differentiator in a fragmented industry dominated by unorganized players.

3. **Geographic Positioning** – The Company derives its market strength from its established base in Madhya Pradesh, while gradually expanding into western states such as Maharashtra, Gujarat, and Rajasthan, and southern markets including Karnataka and Tamil Nadu. This evolving geographic mix demonstrates a model of regional dominance complemented by progressive penetration into new territories, thereby laying the foundation for pan-India scalability.

4. **Competitive Edge** – The Company's ability to address diversified end-use applications, coupled with its integrated manufacturing base, enables it to respond flexibly to varied customer segments. Supported by an experienced management team with technical expertise and industry knowledge, Shakti Polytarp has positioned itself as a reliable supplier offering both standardised and customised solutions. These attributes provide

resilience, scalability, and the ability to capture incremental demand in high-growth sectors.

Shakti Polytarp Limited is positioned as a scalable player in India's protective polymer-based materials industry. By combining sectoral relevance, operational integration, geographic expansion, and organizational expertise, the Company has established itself as a resilient participant in an otherwise fragmented market, with the capacity to evolve into a nationally recognized brand within the protective materials ecosystem.

8.7 Financial Performance Analysis

This section reviews the Company's financial performance over recent years, covering revenues, profitability, capital structure, and key return metrics. The analysis highlights operating efficiency, liquidity position, and leverage profile, providing insights into financial strength and sustainability.

Key Indicators (in INR Lakhs)	Shakti Polytarp Limited		
	FY 2023	FY 2024	FY 2025
Revenue from operations	4621.53	6201.12	16623.57
Total Income	4622.67	6222.50	16649.52
EBITDA	311.85	386.54	1068.78
EBITDA Margin	6.75	6.23	6.43
PAT	58.45	87.32	496.62
PAT Margin	1.26	1.40	2.98
Current Ratio	1.08	1.07	1.44
Net worth	748.85	1086.17	1778.58
Total Debt	1676.62	2366.21	4799.70
Debt Equity Ratio	0.89	0.80	1.41
Return on Capital Employed (%)	16.92	9.39	18.54
Return on Net Worth (%)	15.61	9.52	34.67

Note: Data as per company's Audited Financials. Key financial ratios and their formulas used in this report are as follows:

- ***EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortisation)**: Total Operating Income- Operating Expenses (excluding Depreciation & Amortisation, Interest, and Taxes)*
- ***EBITDA Margin:** (EBITDA/ Total Operating Income) *100*
- ***PAT Margin:** (Profit after Tax/Total Income) *100*
- ***Current Ratio:** Current Assets /Current Liabilities*
- ***Tangible Net Worth:** Share Capital + Reserve & Surplus – Intangible Assets -Deferred Tax Assets –Misc Expenditure not written off – Revaluation Reserves*
- ***Return on Net Worth (RONW)**: (Profit After Tax /Average Tangible Net Worth) *100*
- ***Total Capital Employed**: Fixed Assets + Intangible Assets +Net Working Capital*
- ***Return on Capital Employed (ROCE):** (Earnings before Interest & Taxes/Average Capital Employed) *100*

Shakti Polytarp Limited has demonstrated a significant scale-up in operations over the last three fiscal years, with revenues from operations rising from ₹4,621.53 lakhs in FY 2023 to ₹16,623.57 lakhs in FY 2025. This represents a compound growth trajectory, with FY 2025

marking a substantial jump in topline, largely driven by higher sales volumes and product diversification. Total income has mirrored this trend, increasing from ₹4,622.67 lakhs in FY 2023 to ₹16,649.52 lakhs in FY 2025.

EBITDA has improved from ₹311.85 lakhs in FY 2023 to ₹1,068.78 lakhs in FY 2025, indicating better operating leverage as scale expands. However, EBITDA margins have remained largely stable in the range of 6.2–6.7%, reflecting consistent cost structures despite higher turnover. PAT has increased from ₹58.45 lakhs in FY 2023 to ₹496.62 lakhs in FY 2025, with PAT margins improving from 1.26% to 2.98% over the period. This indicates early signs of profitability strengthening as operational efficiency improves.

The company's balance sheet reflects rising leverage in line with business expansion. Total debt increased from ₹1,676.62 lakhs in FY 2023 to ₹4,799.70 lakhs in FY 2025. Consequently, the debt-to-equity ratio moved from 0.89 in FY 2023 to 1.41 in FY 2025, signaling a higher reliance on borrowings to fund growth. Liquidity position, as indicated by the current ratio, improved from 1.08 in FY 2023 to 1.44 in FY 2025, suggesting a more comfortable short-term coverage despite elevated debt levels.

Net worth has strengthened from ₹748.85 lakhs in FY 2023 to ₹1,778.58 lakhs in FY 2025, reflecting internal accruals and retained earnings. Return on Net Worth (RoNW) improved from 15.61% in FY 2023 to 34.67% in FY 2025, primarily driven by higher earnings. Similarly, Return on Capital Employed (RoCE) recovered from 9.39% in FY 2024 to 18.54% in FY 2025, underscoring improved efficiency in capital utilization.

The company is in a growth phase, characterized by rapid revenue expansion, improving profitability, and enhanced return ratios. However, the growth has been accompanied by higher debt levels, which may necessitate prudent financial management to maintain balance sheet strength. Sustained improvement in margins, cash flows, and debt servicing ability will be critical to support the company's future growth trajectory.

Peer Benchmarking Table (FY2024–25)

All financials are consolidated unless stated otherwise. Figures are in ₹ lakhs.

Key Indicators	Shakti Polytrap	Gujarat Raffia Industries	Time Technoplast	Shree tirupati Balajee agro	Commercial SynBags	TPL Plastech
Revenue from operations	16623.57	3004.14	545704.00	57940.39	34781.95	34933.51
Total Income	16649.52	3057.43	546231.00	59515.50	35184.82	34933.51
EBITDA	1068.78	179.81	78496.00	5767.32	3556.26	4058.12
EBITDA Margin	6.43	5.99	14.38	9.95	10.22	11.62
PAT	496.62	52.24	39445.00	3209.27	1712.07	2359.29
PAT Margin	2.98	1.71	7.22	5.39	4.87	6.75
Current Ratio	1.44	7.17	2.68	2.09	1.36	1.79
Tangible Net worth	1778.58	2117.87	289190.00	29253.42	15004.65	14760.22
Total Debt	4799.70	250.05	64719.00	20124.39	10709.69	4785.31
Debt Equity Ratio	1.41	0.12	0.05	0.03	0.13	0.03
Return on Capital Employed (%)	18.54	3.46	32.24	18.27	19.60	33.99
Return on Net Worth (%)	34.67	4.93	27.28	21.94	22.82	31.97

Note: Data is as per FY25 Consolidated Financials as available on BSE.

Shakti Polytrap recorded revenue from operations of ₹16,623.57 lakhs in FY 2024–25, which is significantly higher than Gujarat Raffia Industries (₹3,004.14 lakhs) but materially smaller in scale compared to larger players such as Time Technoplast (₹5,45,704.00 lakhs) and Shree Tirupati Balajee Agro (₹57,940.39 lakhs). Commercial SynBags (₹34,781.95 lakhs) and TPL Plastech (₹34,933.51 lakhs) also operate at more than double Shakti's topline.

In terms of profitability, the Company achieved an EBITDA of ₹1,068.78 lakhs, translating into an EBITDA margin of 6.43%. This is broadly in line with Gujarat Raffia (5.99%) but lags behind

the peer group average, with stronger operating efficiency demonstrated by Time Technoplast (14.38%), TPL Plastech (11.62%), and Commercial SynBags (10.22%). Shree Tirupati also outperformed with a margin of 9.95%. At the net level, Shakti reported a PAT of ₹496.62 lakhs, translating into a PAT margin of 2.98%, which is higher than Gujarat Raffia (1.71%) but below other peers such as Time Technoplast (7.22%), TPL Plastech (6.75%), Shree Tirupati (5.39%), and Commercial SynBags (4.87%).

On the balance sheet front, Shakti Polytrap has a tangible net worth of ₹1,778.58 lakhs. Its total debt stood at ₹4,799.70 lakhs, resulting in a debt-to-equity ratio of 1.41 times — materially higher than all peers, where gearing remains conservative in the 0.03 times–0.13 times range. Liquidity as measured by the current ratio was 1.44 times, which is adequate for near-term obligations but lower than Time Technoplast (2.68 times) and Shree Tirupati (2.09 times), and significantly below Gujarat Raffia (7.17 times).

Despite its smaller operating scale and higher leverage, Shakti Polytrap has delivered superior return metrics. Its Return on Net Worth (RoNW) stood at 34.67%, the highest among peers, while its Return on Capital Employed (RoCE) was 18.54%, broadly in line with Shree Tirupati (18.27%) and Commercial SynBags (19.60%), though below Time Technoplast (32.24%) and TPL Plastech (33.99%). This underscores the Company's ability to generate strong shareholder returns despite moderate operating margins and elevated debt levels.

8.8 SWOT Analysis:

Strengths	Weaknesses
✅ Strong backward linkages with domestic petrochemical majors (Reliance, GAIL, IOCL) ensure reliable HDPE/LDPE/PP resin availability for downstream converters. ✅ Established role in critical end-use sectors – agriculture (40–45% share), logistics (15–20%), and construction (25–30%) – anchoring steady demand. ✅ Cost competitiveness of Indian manufacturers supports global export growth, with established presence across the U.S., EU, Middle East, and Africa. ✅ Broad product spectrum – heavy-duty tarpaulins, fumigation covers, geotextiles, pond liners, FIBCs – enabling diversification beyond commodity tarps. ✅ Increasing adoption of UV stabilizers, multi-layer lamination, and digital quality-testing systems enhances durability and compliance with international standards. ✅ Government initiatives – plastic parks, PLI schemes, SEZ incentives, and EPR frameworks – provide policy tailwinds and export facilitation	❌ High dependence on crude oil and polymer price cycles leads to cost volatility and margin compression. ❌ Fragmented industry structure with dominance of unorganized players results in pricing pressure and limited brand premium. ❌ Limited penetration of advanced automation in weaving and lamination among mid-tier players; reliance on semi-skilled labor constrains productivity and scale. ❌ Working capital-intensive model – inventory buildup of polymers and long credit cycles in export markets – strains liquidity. ❌ ESG compliance and recycling adoption remain uneven across small-scale units, impacting global competitiveness.
Opportunities	**Threats**
🌱 Rising demand for crop protection, greenhouse covers, silage and fodder management solutions under India's agricultural modernization drive. 🌱 Expansion of logistics hubs, warehousing parks, and transportation corridors creating sustained tarpaulin and FIBC demand. 🌱 Growing disaster preparedness budgets and climate-resilience programs boosting demand for emergency shelters, debris coverage, and relief tarps. 🌱 Export upside from free trade agreements (UAE, Australia) and global supply-chain diversification (China+1). 🌱 Sustainability-led product innovation –	⚠️ Regulatory tightening on single-use plastics and polymer recycling mandates may increase compliance costs. ⚠️ Volatility in ocean freight rates and container shortages disrupt export margins and delivery schedules. ⚠️ Competitive cost pressures from China, Vietnam, and Southeast Asia in global woven fabrics and tarpaulin trade. ⚠️ Import dependence for select additives (e.g., UV stabilizers, specialty coatings) exposes manufacturers to forex risk and supply bottlenecks. ⚠️ Climate-linked raw material supply shocks (cyclones, floods disrupting

recycled polymer blends, biodegradable coatings, and circular-economy alignment – can differentiate Indian players in mature markets (EU, U.S.). 🌱 Potential forward integration into branded consumer-grade products (outdoor, recreational, household tarps) offering higher margins.	petrochemical hubs) could impact resin availability. ⚠️ Domestic demand cyclicality tied to monsoons, agricultural output, and infrastructure spending creates short-term revenue volatility.

9. Future Outlook

The tarpaulin industry in India is positioned for strong growth, supported by a combination of resilient demand drivers, upstream polymer availability, and policy reforms. Once considered a low-value commodity, tarpaulins have now become a critical material across agriculture, construction, logistics, and disaster management, making the segment a direct beneficiary of India's macroeconomic expansion.

In agriculture, tarpaulins are increasingly used for crop protection, silage covering, grain storage, and water conservation. Government-backed agri-infrastructure schemes, crop insurance penetration, and the shift toward organized farming practices are expected to significantly expand rural demand. In construction, rising urbanization and infrastructure development in Tier II and Tier III cities will sustain demand for scaffolding covers, site protection sheets, and geotextiles. The logistics and warehousing sector, strengthened by e-commerce and corridor-led growth, is driving consumption of heavy-duty, UV-stabilized tarpaulins for cargo protection and storage. Additionally, the rising frequency of extreme weather events has positioned tarpaulins as an indispensable material in disaster management and emergency relief operations.

India's polymer expansion programs in Gujarat, Andhra Pradesh, and Odisha are expected to improve raw material security for tarpaulin manufacturers, reducing import dependence and ensuring stability in supply. Organized players are also moving toward backward integration and diversifying product offerings into multi-layer laminated tarpaulins, advanced geotextiles, and specialized industrial covers, strengthening value-chain resilience.

Sustainability is becoming a decisive competitive factor. Compliance with Extended Producer Responsibility (EPR) norms and growing preference for recyclable tarpaulins are reshaping the market. Organized manufacturers with the ability to produce eco-friendly, UV-stabilized, and recyclable variants are expected to gain share over fragmented players who struggle with compliance.

On the global front, India has emerged as a leading exporter of woven products and tarpaulins, with double-digit growth in FY2025. Free trade agreements with the UAE and Australia and increasing access to high-value markets in the US and EU, are enabling Indian tarpaulin exporters to scale globally, provided they adhere to international standards on tensile strength, weather resistance, and recyclability.

Technology adoption and process upgrades are accelerating industry transformation. Modern automated looms, advanced lamination lines, and IoT-enabled quality testing are reducing costs, enhancing efficiency, and improving product consistency. This shift is enabling tarpaulin

manufacturers to move up the value chain and cater to specialized applications with higher margins.

Overall, the Indian tarpaulin industry is projected to sustain growth, well above the global average of 4.96%. With demand anchored by agriculture, construction, logistics, and disaster relief, coupled with strong export competitiveness, tarpaulin is emerging as a high-potential industrial material. Companies with integrated operations, sustainable product innovation, and advanced manufacturing capabilities are best positioned to consolidate leadership in this fast-evolving sector.

For Infomerics Analytics & Research Pvt Ltd

Uday TG
Digitally signed by Uday TG
Date: 2025.09.25 20:25:11 +05'30'

Uday TG
Director – Ratings
Place: Bangalore