INDUSTRIAL PRODUCTS – PLASTIC PIPES

Strong tailwinds for domestic plastic pipe industry

MARCH 2025

Highlights

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Domestic pipe industry is expected to grow at a CAGR of ~10-12% over the medium term driven by Government spending on infrastructure, robust real estate and agriculture demand.

- **Plastic pipe market size and growth:** The domestic plastic industry witnessed healthy CAGR of 9% between FY2020 and FY2024. This growth was driven by healthy Government investment in infrastructure, robust demand from real estate and agriculture sectors, increased urbanisation and healthy replacement demand.

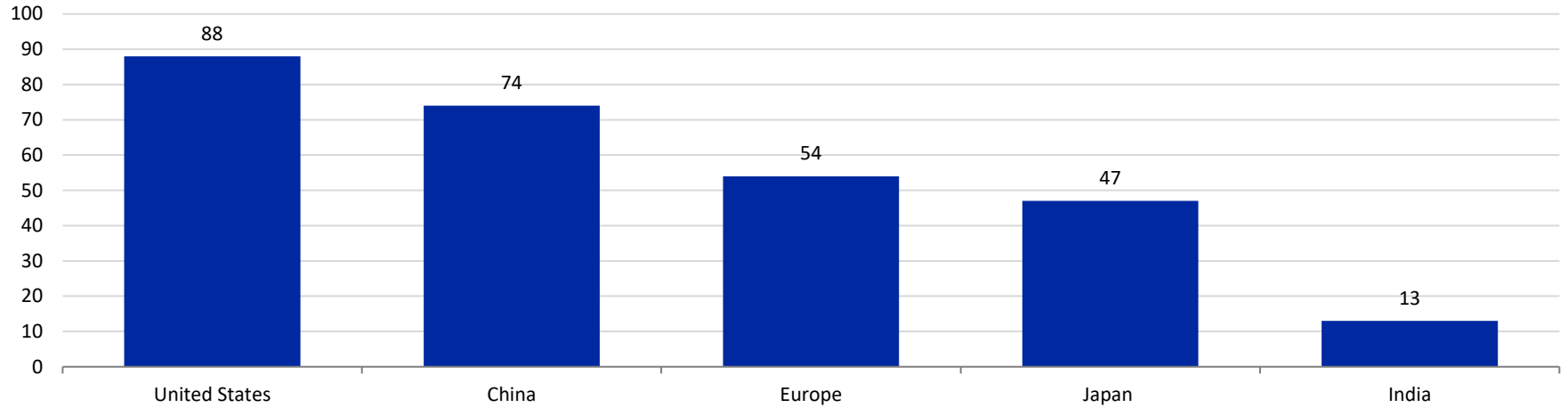
- **Key growth drivers:** Going forward, Government spending on infrastructure, robust real estate and agriculture demand, would remain the key drivers for growth of the plastic industry. Moreover, India's low per capita consumption of plastic (13 kg/person/year) compared to developed economies provides significant headroom for the growth of the plastic pipe industry.

- **Growth outlook:** In 9M FY2025, PVC price volatility, sluggish Government capital expenditure due to the General Elections impacted growth of the domestic pipe industry. ICRA expects growth to moderate in FY2025. Nevertheless, the sector to witness a robust growth of ~10-12% over the medium term between FY2026 and FY2027. While competitive intensity remains high, the market share of organised players is likely to increase due to benefits of branding and scale.

- **Capex:** Owing to the robust demand growth, the pipe industry is witnessing high capex intensity. As freight costs become high to reach distant geographies, domestic pipe manufacturers are building greenfield manufacturing sites in different parts of the country to increase their volume market share. Additionally, there are large capex announcements for manufacturing key raw material - PVC resin, which would ease import dependence once these plants are commissioned.

Substantial potential for growth of plastic products in India

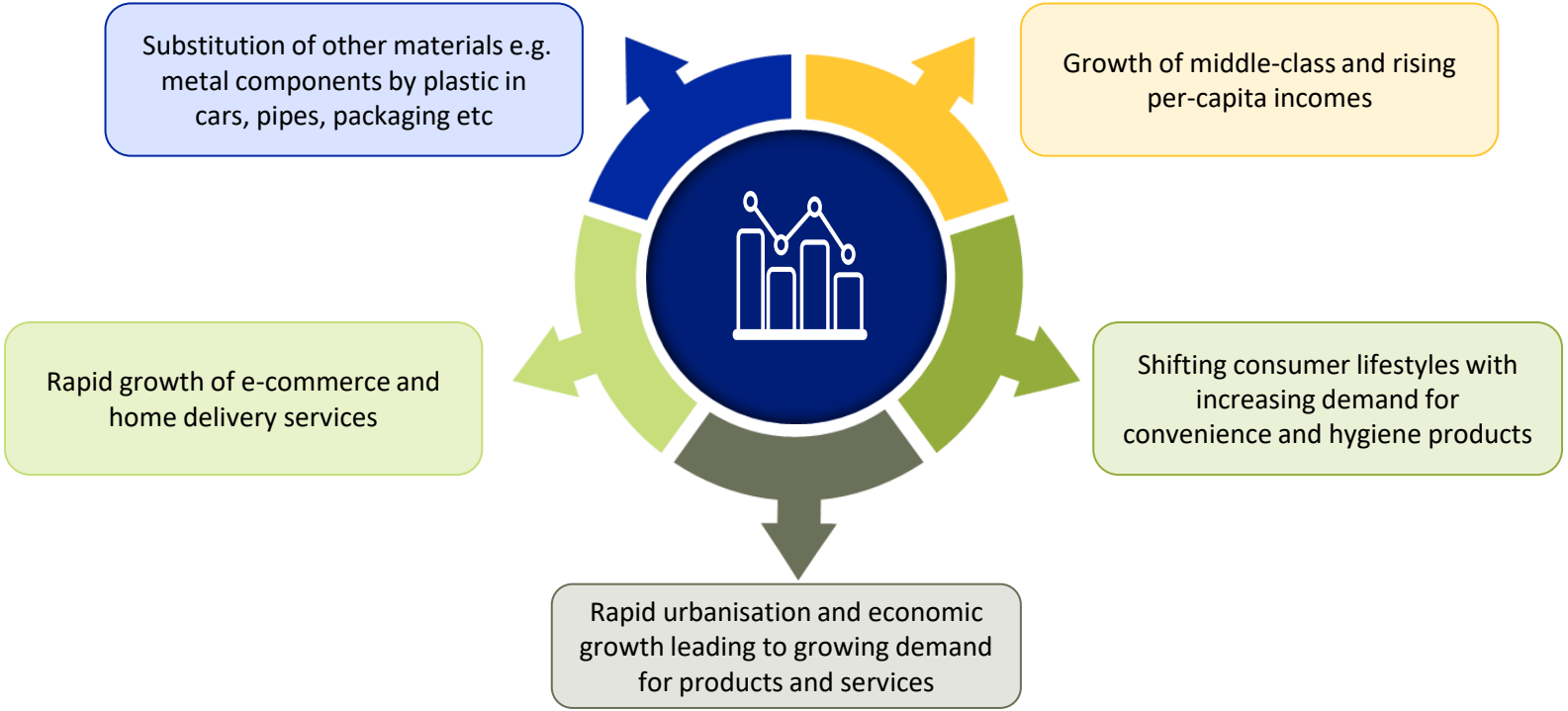
Exhibit : Per Capita plastics demand (kg/person/year)



Source: Industry, ICRA Research

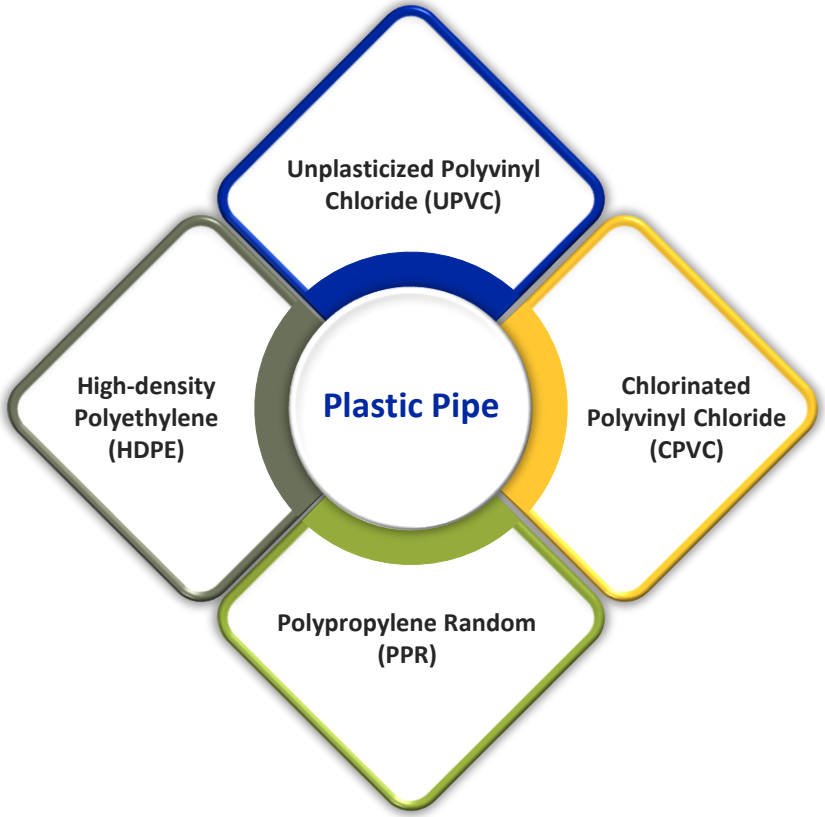
- India's per capita plastic products consumption is relatively low at 13 kg/person/year compared to other major economies in the world and global average indicating significant potential for growth as economic development continues and infrastructure spend increases.
- India's plastics consumption has been growing at a faster pace 7-8% compared to the global average of ~3%.
- The generation of plastic waste remains high, and many countries have banned single use plastics. However, due to the lack of viable alternatives the use of long service life plastic persists.

Growing middle class, one of factors, driving plastic consumption in India



India's plastic demand has grown ~3x from 8.3 MMTPA in FY2010 to 23 MMTPA in FY2023, whereas population has grown by 1.1x over this period

UPVC is the most affordable pipe material

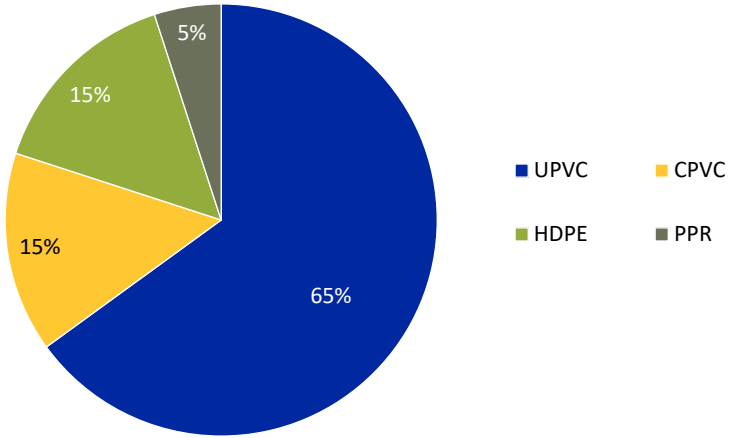


	UPVC	CPVC	HDPE	PPR
Life (years)	20-25	30-35	50	50
Cost	Cheaper than Galvanised Iron (GI)	Cheaper than GI, costlier than PVC	Cheaper than GI, costlier than PVC	Cheaper than GI, costlier than PVC
Installation	Cold welding	Cold welding	Cold welding	Fusion-welded system
Application	Cold water distribution, drainage, and sewage systems. UPVC pipes are preferred for their chemical resistance and long lifespan	Hot and cold-water distribution in residential, commercial, and industrial settings. CPVC pipes are known for their high-temperature resistance and durability	Water supply, gas distribution, and industrial processes. HDPE pipes are known for their flexibility, strength, and resistance to environmental stress	Industrial applications, particularly for transporting chemicals and hot liquids. Polypropylene (PP) pipes are known for their high chemical resistance and thermal stability

Source: Industry, ICRA Research

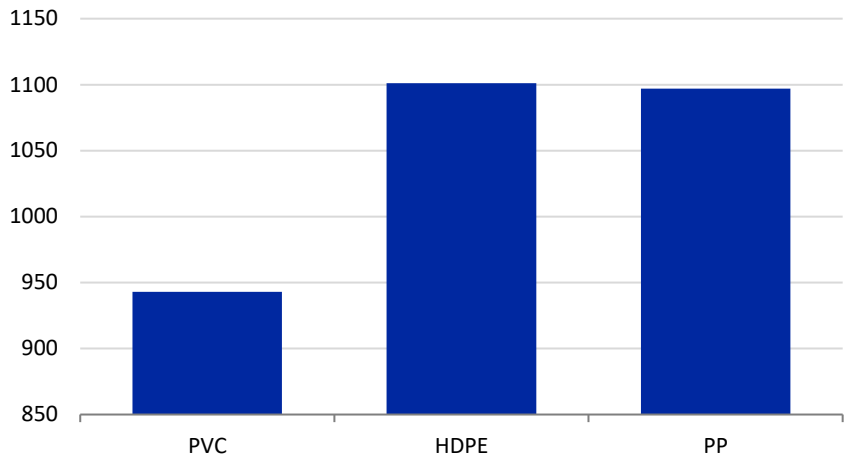
India is predominantly a UPVC market

Exhibit: Polymer wise sales mix of plastic pipes in India



Source: Industry, ICRA Research

Exhibit: Last 10 years average polymer prices (USD/tonne)

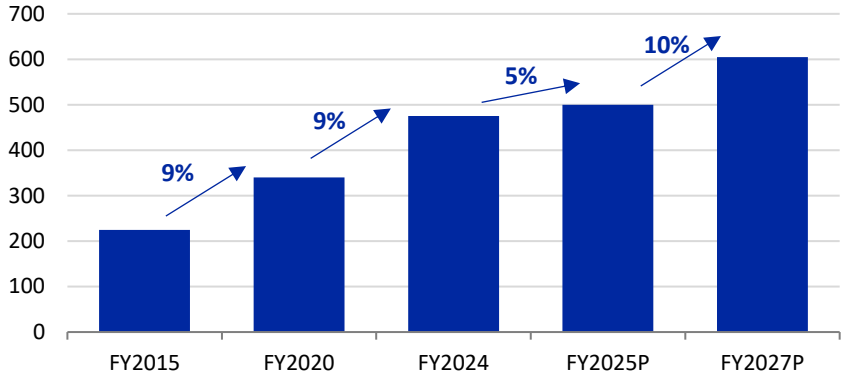


Source: CMIE, ICRA Research

India has been predominantly a UPVC market. This dominance of UPVC as a piping material stems from it having better rigidity and higher-pressure tolerance as compared to other plastics besides being more cost effective.

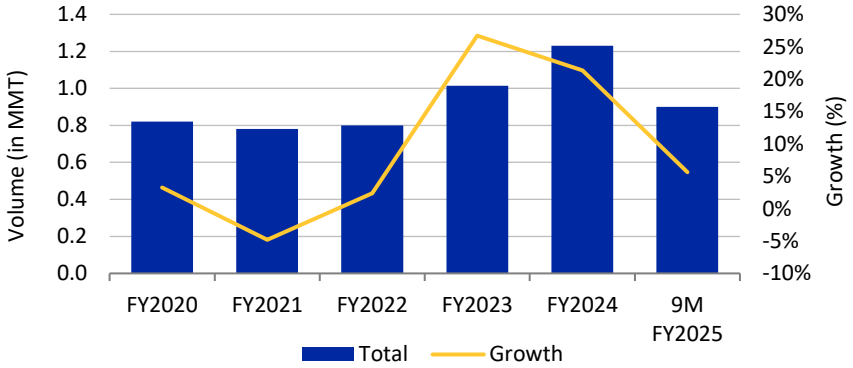
Market likely to cross Rs.500 billion in FY2025 and to grow at 10-12% in the medium term

Exhibit : Plastic pipe market size over the years (in Rs. billion)



Source: ICRA Research, Industry; Company Annual Reports

Exhibit : India plastic pipes volumes – major players* (in MMT)

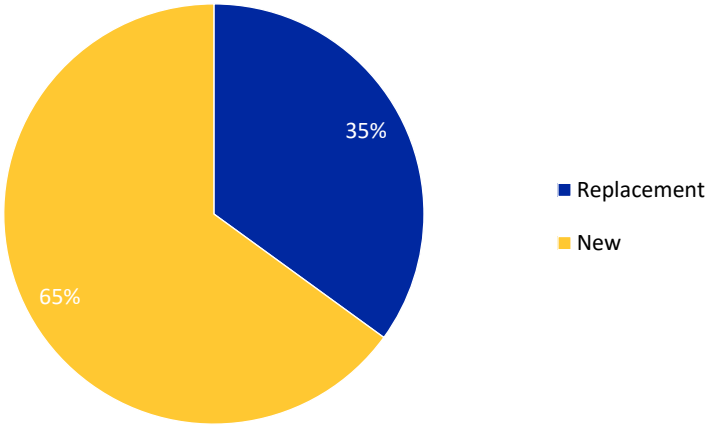


Source: Industry; ICRA Research; Combined volume of Supreme, Astral, Finolex, Prince pipe (peer set)*

- The revenues of the industry have grown at a CAGR of 9% between FY2020 and FY2024; they are likely to cross Rs.500 billion in FY2025 and ICRA expects them to grow at a CAGR of ~10-12% between FY2026 and FY2027.
- The sale volumes of major listed players have grown at healthy CAGR of 10.6% between FY2020 and FY2024.
- In 9M FY2025, PVC price volatility, sluggish Government capital expenditure due to the General Elections impacted the pipe industry growth. Nevertheless, ICRA expects the domestic pipe industry to report healthy growth in operating income going forward driven by elevated Government infrastructure capex and robust real estate and agriculture demand.

New demand accounts for most of domestic consumption

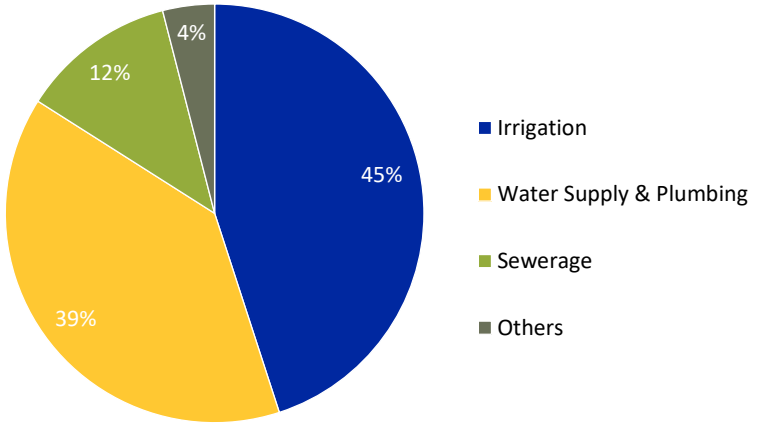
Exhibit: India plastic pipes industry demand – new demand vs replacement



Source: Industry, ICRA Research

- Almost a third of the domestic demand is from the replacement market. Replacement of GI pipes (whose average life is 20-25 years and is prone to corrosion) with PVC pipes has supported demand growth of PVC pipes.

Exhibit: Indian plastic pipes industry break-up by type

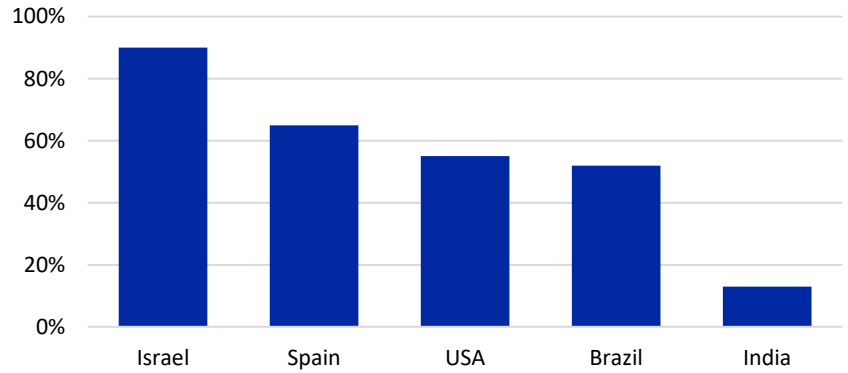


Source: Industry, ICRA Research

- Irrigation accounts for the largest chunk of demand driven by various Central and State schemes to increase the area under irrigation and improve water use efficiency.

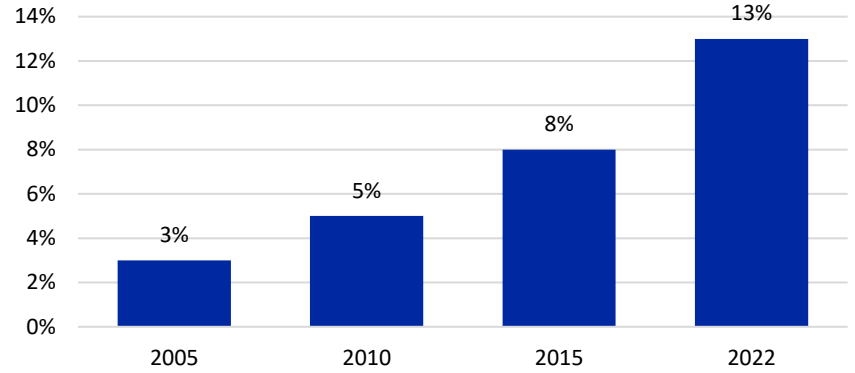
Rising food demand and shrinking areas under cultivation drive the need for precision farming solutions

Exhibit: Country wise micro-irrigation penetration (%)



Source: ICAR Report, ICRA Research

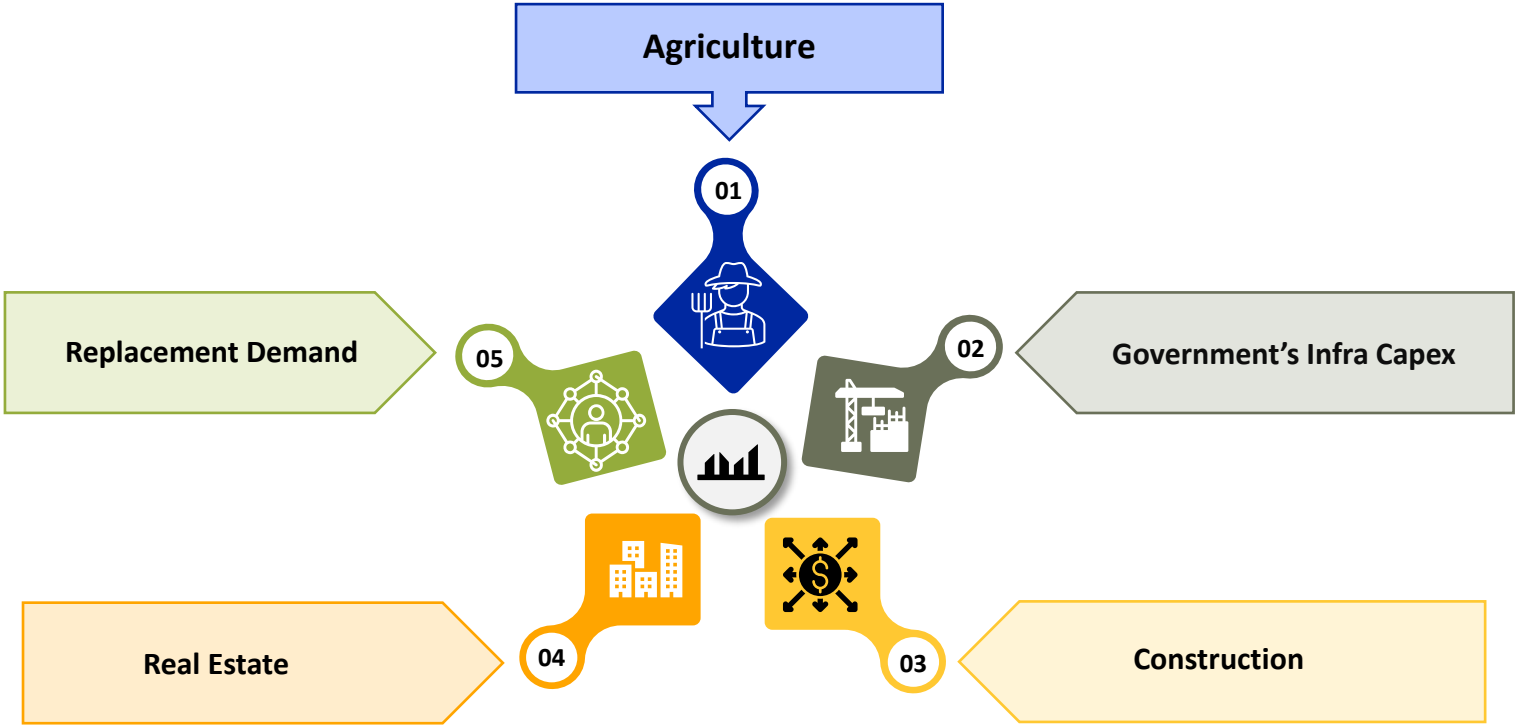
Exhibit: Increase in India's micro-irrigation penetration (%)



Source: ICAR, ICRA Research

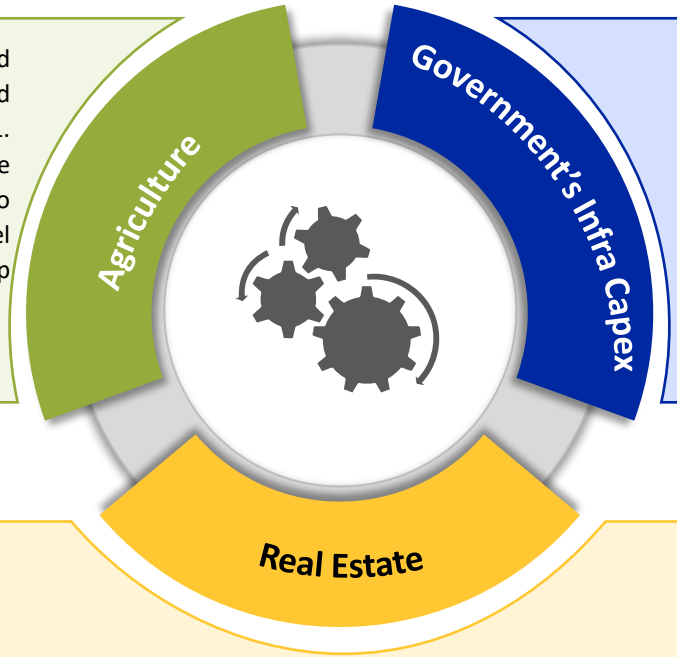
- Population growth combined with a rising middle class is expected to drive an increase in food demand even as area under cultivation reduces.
- Launched in 2015-16, the Per Drop More Crop (PDMC) scheme aims to enhance water use efficiency at the farm level through micro-irrigation technologies like Drip and Sprinkler systems. The scheme offers financial assistance of 55% to small and marginal farmers, and 45% to others, for micro-irrigation installation and has covered approximately 95 lakh hectares till December 2024.
- An evaluation by NITI Aayog in 2020-21 found the PDMC effective in improving water use efficiency (30%-70%), increasing farmer income (10%-69%), and creating employment opportunities.

Demand for pipes arises from a mix of end-users



Long-term growth prospects remain healthy

The PM Rashtriya Krishi Vikas Yojana and Krishonnati Yojana have a total proposed expenditure of ~Rs. 1000 billion over FY2025-31. Under the umbrella of these schemes there are schemes such as "Per Drop More Crop" to enhance water use efficiency at the farm level through micro-irrigation technologies like Drip and Sprinkler systems.



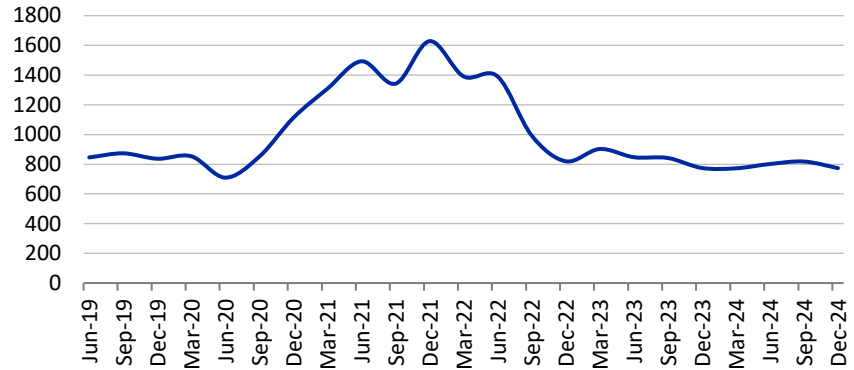
The Jal Jeevan Mission has been extended until 2028 with an enhanced total outlay of Rs. 670 billion.

The allocation towards PMAY-Urban has been increased by 54% to Rs. 233 billion for FY2026 BE from Rs. 152 billion for FY2025 RE. The continued focus on PMAY-Urban is likely to support the demand for affordable housing in the urban real estate segment.

Under the PM Awas Yojana Urban 2.0, the housing needs of 10 million middle-class and poor families will be addressed with central assistance of Rs. 2200 billion in the next 5 years. Because of rising income levels and increasing nuclear families the construction industry is expected to grow at a CAGR of ~10% over FY2024-28.

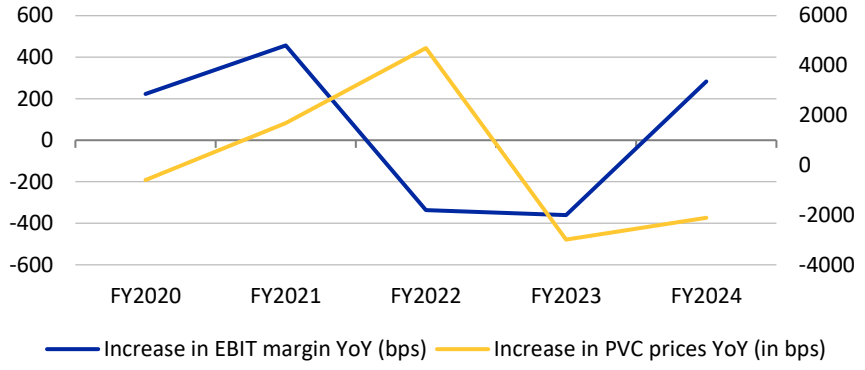
Margins remain vulnerable to volatility in PVC prices

Exhibit : PVC price SE Asia CFR (USD/tonne)



Source: CMIE; ICRA Research

Exhibit : Margins vulnerable to PVC prices

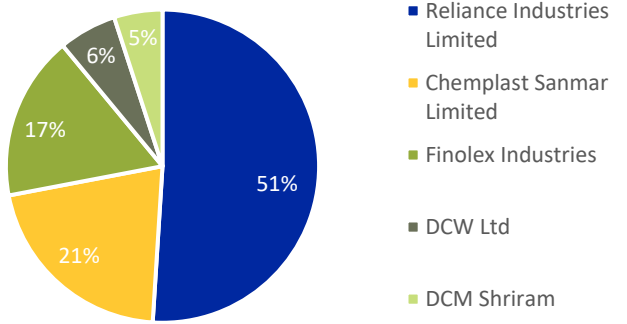


*Source: Industry; ICRA Research, *Combined EBIT of Supreme, Astral, Finolex, Prince pipe (peer set)*

- Raw material prices are linked to crude oil price movement as well as global demand supply dynamics.
- The operating margins remain vulnerable to volatility in PVC prices. Increase in raw material prices as a pass-through to end-users is limited to an extent as a sharp increase in prices will restrict the demand. Further, a sharp decline in prices leads to inventory losses as well as destocking by dealers and a consequent fall in sales volumes impacting the margins. PVC prices reached an all-time high during the pandemic due to supply challenges amid high demand for packaging etc. This was followed by significant correction in FY2023, impacted by the slowdown in the global housing market.
- The slowdown in the real estate sector in China increased dumping in India. On October 30, 2024, the Directorate General of Trade Remedies announced a preliminary decision to impose anti-dumping duties on Polyvinyl Chloride Suspension Resin imports, originating in, or exported from, China, Indonesia, Japan, South Korea, Taiwan, Thailand and the US.

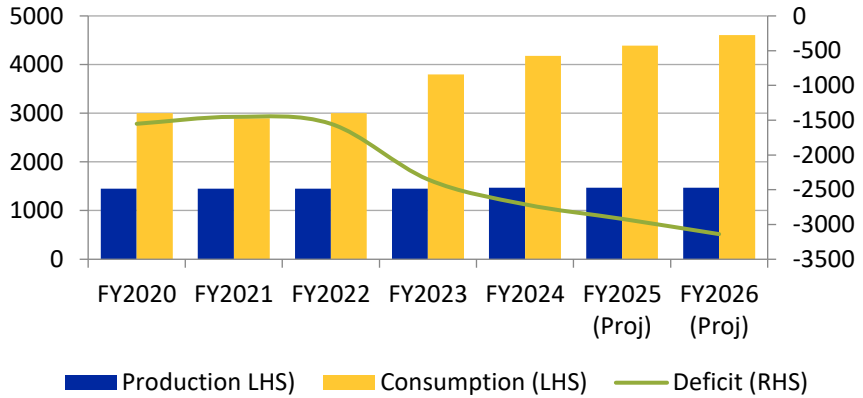
Significant PVC import dependence with limited domestic production

Exhibit: Polyvinyl chloride capacities in India (% share)



Source: Industry, ICRA Research

Exhibit: PVC domestic production and consumption (KTPA)



Source: Industry, ICRA Research

- The domestic demand for PVC grew at a CAGR of 5% over the last five years, with the country remaining a large net importer. RIL is adding around 1,500-KTPA capacity, thereby doubling India's total production capacity to around 3,000 KTPA by 2026. Apart from this, Mundra Petrochem Limited is also planning to set up a 1,000-KTPA plant, which is likely to be commissioned in 2027. With the commencement of production from these plants, Indian imports are likely to reduce.
- The demand for CPVC resin in India is ~ 0.2 MMT. Epigral Limited (erstwhile Meghmani Finechem Ltd) is the major domestic CPVC resin manufacturer, with an installed capacity of 75,000 MTPA. Global major CPVC manufacturers are Lubrizol, Kaneka Chemical, Sekisui Chemical and Arkema. Majority of Indian CPVC pipe manufacturers tie up with global manufacturers for supply of CPVC resins.

Large capex planned in PVC/CPVC resins and pipe manufacturing

Parameter	
Additional capacity announced for PVC/CPVC resins	
Reliance	1.5 MMTPA of PVC and CPVC at Dahej and Nagothane by FY2027
Adani	1 MMTPA -FY2028
Epigral Limited	CPVC Resin capacity to be expanded to 1,50,000 MTPA, by adding additional 75,000 MTPA by H1 FY2027
Additional capacity announced by pipe manufacturing	
Astral Limited	70,000 MTPA in Hyderabad by FY2026 and 60,000 MTPA in Kanpur (30,000 MT – FY2026 and 30,000 MT – FY2027)
Finolex	50,000 MTPA in Q4 FY2025 and Q1 FY2026
Prince Pipes	48,000 MT in Begusarai, Bihar by Q1 FY2026
Supreme Industries Limited	Installed capacities of plastic piping system business to increase to 9,00,000 MT per annum by March 31, 2025, as against existing installed capacities of 7,40,000 MT per annum as on March 31, 2024. Three new greenfield plants for plastic piping division at Jammu, Bihar and Madhya Pradesh would be set up in FY2026.

*Source: ICRA Research, Annual reports, investor presentations; *all segments*

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