Industry Report on Fruits & Fruit Concentrate

August 2026

Prepared For

MKC Agro Fresh Ltd

Disclaimer

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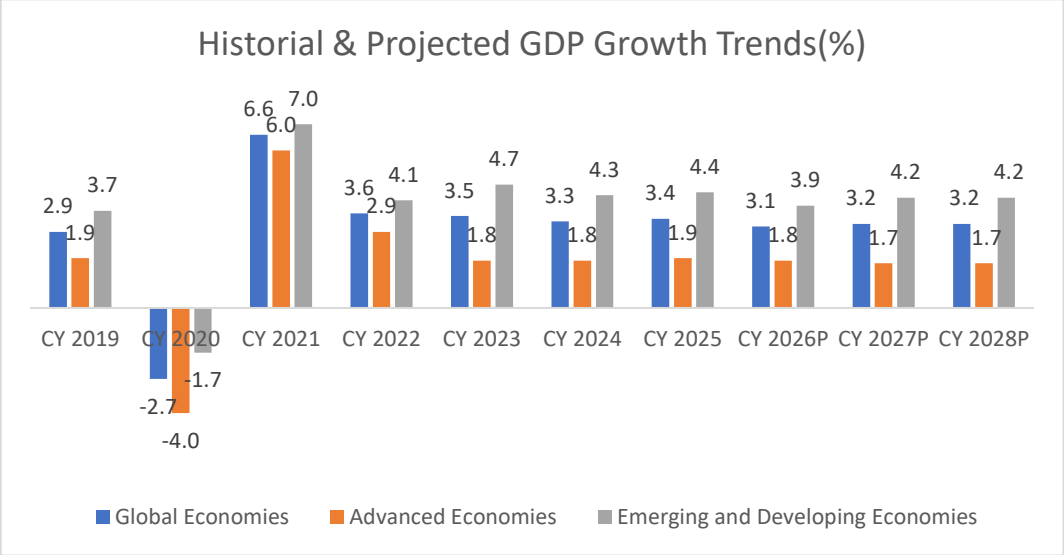
Global Economic Overview

According to World Economic Outlook, global growth is projected at 3.1% in 2026 and at 3.2% in 2027 and 2028, slower than the recent pace of about 3.4% in CY 2024–25 and is expected to settle at approximately that rate over the medium term, below the historical average of 3.7% during 2000–19. The forecast for 2026 has been revised downward by 0.2 percentage point, while the forecast for 2027 and 2028 remains unchanged compared with the January 2026 WEO Update. Global headline inflation is expected to rise to 4.4% in 2026 and decline to 3.7% in 2027, reflecting upward revisions for both years.

The conflict involving US, Isreal and Iran is increasingly functioning as a global supply and confidence shock. The International Energy Agency (IEA) describes the current situation as the largest oil supply disruption on record, with flows through the Strait of Hormuz reduced to a trickle and the resulting effects spreading across refined fuels and liquefied natural gas (LNG). At the same time, aviation disruptions and elevated risk premia are weakening services activity and increasing uncertainty around investment decisions. A significant share of global energy flows through the Strait of Hormuz, and shipping disruptions and insurance constraints are therefore translating directly into higher landed costs, supply chain delays, and greater output risks for energy-intensive manufacturing. As a result, the policy environment has increasingly become challenging, while growth support is required but renewed cost-push inflation across energy, freight, and eventually food inputs is limiting the scope for faster monetary easing.



Source – IMF Global GDP Forecast Release, April 2026

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 economic criteria and has evolved over time. It comprises 40 countries in the Advanced Economies category, including the G7 (the United States, Japan, Germany, France, Italy, the United Kingdom, and Canada) and selected Eurozone members (Germany, Italy, France, etc.). The group of emerging and developing economies (156) comprises all economies not classified as Advanced Economies (e.g., India, China, Brazil, Malaysia).

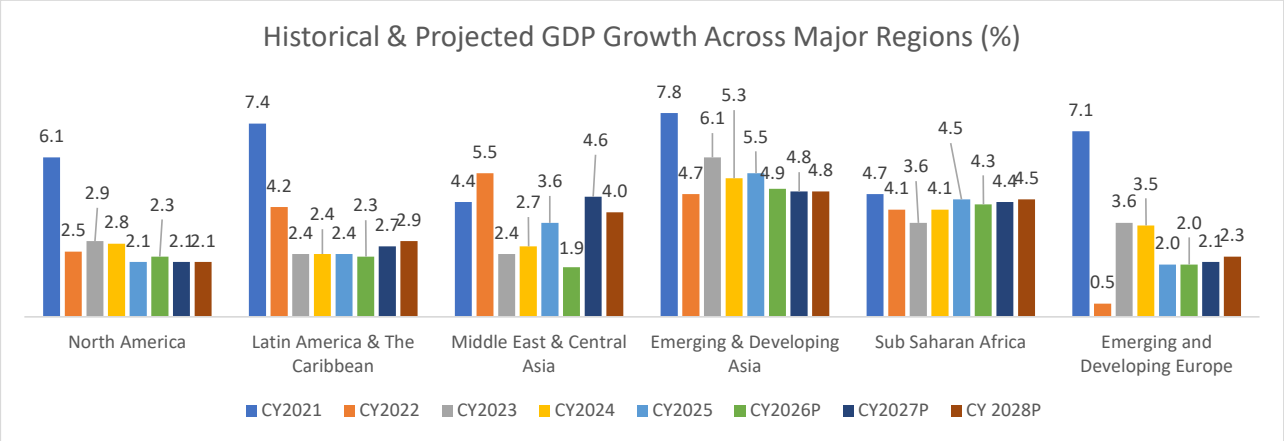
Historical and Projected GDP Growth

GDP growth across major regions showed a mixed trend during 2024–25. While growth in several regions—including Middle East & Central Asia, Emerging and Developing Asia, Sub-Saharan Africa as well as Latin

America and the Caribbean—is expected to slow further in 2026, performance remains uneven across geographies.

In the Middle East and Central Asia, economic growth is projected to decline from **3.6% in 2025** to **1.9% in 2026**, before recovering to **4.6% in 2027 and 4.0% in 2028**, reflecting the region's direct exposure to the conflict and the anticipated rebound thereafter. For commodity-exporting economies directly affected by the conflict, reduced production and export activity are expected to result in a significant downward revision to 2026 GDP growth projections.

Growth in emerging and developing Asia is projected to moderate from **5.5% in 2025** to **4.9% in 2026** and is further estimated to grow at **4.8% in 2027 and 2028**. Within the region, China's 2026 growth forecast has been revised upward by **0.2 percentage point** relative to the October estimate, to **4.4%**, despite a **0.1 percentage point downward revision** from January. This upward adjustment reflects the impact of lower effective U.S. tariff rates on Chinese goods, along with stimulus measures that are expected to offset the negative effects of the shock arising from the Middle East conflict. However, China's growth is projected to slow to **4.0% in 2027**, as structural headwinds continue to weigh on the economy, including the prolonged slowdown in the housing sector, a shrinking labor force, declining returns on investment, and weaker productivity growth.



Source- IMF World Economic Outlook, April 2026

In Latin America and the Caribbean, economic growth is projected to remain broadly stable at 2.3% in 2026 before strengthening to 2.7% in 2027 and 2.9% in 2028. The effects of the Middle East conflict across the region are expected to be uneven, with smaller economies likely to experience a more pronounced negative impact due to their relatively greater vulnerability to external shocks.

Growth in sub-Saharan Africa is projected to remain relatively stable at 4.3% in 2026 and 4.4% in 2027 and 4.5% in 2028. However, this regional outlook masks significant variation across countries, with some economies expected to face more pronounced challenges than others. In particular, oil-importing and non-resource-intensive economies are likely to be adversely affected by the conflict in the Middle East, as heightened external pressures may weigh on economic activity and weaken growth prospects. In emerging and developing Europe, economic growth is expected to slow sharply to 2.0% in 2025 and recover only

marginally thereafter, with the region projected to expand at an average rate of 2.0% in 2026, 2.1% in 2027 and 2.3% in 2028.

Global Economic Outlook

The conflict between Israel/the United States and Iran, which began in February, has developed into a global shock to transport, trade, and security planning. As a result, periodic airspace closures across Israel and parts of the Gulf, together with severe disruption to shipping through the Strait of Hormuz, have affected the movement of oil, oil products, and LNG. Consequently, businesses have faced longer and less reliable supply lines, higher freight and insurance costs, and more frequent "stop-go" operating conditions.

The near-term growth outlook has softened as the conflict is affecting both demand and costs. Disruption to the oil channel is coinciding with pressure on the non-oil outlook as travel and services weaken and risk premia rise. Airspace disruption has increased operating costs and reduced travel reliability, while higher jet fuel costs have added to pressure on carriers and freight forwarders.

Investment conditions have also tightened as higher regional risk premia have increased insurance, shipping, hedging, and working capital costs. At the same time, logistics disruption and higher input costs are raising inflation risks. Fertilizer and related input disruption is also creating a lagged risk to food prices.

Asia-Pacific: In Asia-Pacific, the conflict has created sustained stress for business continuity. Even with fighting paused, energy availability, shipping disruption, and insurance costs are expected to continue weighing on operations over the next quarter. Oil prices remain well above January levels despite easing from March peaks, while war-risk insurance, tighter tanker availability, and rerouting costs remain elevated. As a result, several fuel-importing economies—including Japan, South Korea, India, and parts of Southeast Asia—have faced power-conservation measures and fuel rationing, increasing the risk of operational downtime in energy-intensive sectors.

Shipping and supply chains are also facing second-round effects. Many Asia–Europe shipments have been diverted via the Cape of Good Hope, thereby extending lead times by 10–14 days. Although some routes have reopened, schedules remain compressed and insurers remain cautious, which has increased delivery deadline risk across manufacturing, particularly in chemicals, electronics, and pharmaceuticals. Input volatility and fertilizer disruption are also adding to inflation risks and thereby complicating the policy outlook.

Latin America: In Latin America, the U.S.-Israel-Iran conflict has increased energy market pressures, with higher Brent crude prices raising input costs and inflation risks across the region. Consequently, net hydrocarbon exporters such as Brazil, Colombia, and Ecuador are benefiting from stronger external balances, while net energy importers—including Panama, Chile, and much of Central America—are facing higher import costs. Elevated fertilizer prices are also weighing on agricultural output and margins, including in Brazil and Argentina. In response, governments have introduced fuel subsidies and price controls.

Middle East & North Africa: In the Middle East and North Africa, the conflict continues to affect the region directly, with many countries facing missile and drone attacks from Iran in response to attacks by the

United States and Israel on Iran. In the short term, economic growth is expected to slow sharply as exports decline, uncertainty constrains spending, and governments delay investment initiatives. The reduction in food imports is also expected to significantly affect countries with limited domestic production capacity. Bahrain, Qatar, and Kuwait remain highly dependent on imports through the Strait of Hormuz and therefore face risks of food shortages and concerns regarding social stability if disruption persists.

Sub-Saharan Africa: In Sub-Saharan Africa, the conflict continues to disrupt energy and fertilizer supply chains, thereby keeping the region under significant external pressure. Higher global oil prices are sharply rising fuel and transport costs for import-dependent economies such as Kenya, Uganda, Ethiopia, and Ghana. Policy responses have varied across the region. Ethiopia introduced emergency fuel subsidies in mid-March to contain domestic price increases, while Kenya is experiencing stronger pass-through from higher fuel costs, which is weighing on aviation, logistics, and export activity.

Global Growth Projection

Growth in advanced economies is projected at 1.8% in 2026 and 1.7% in 2027 and 2028, while the overall impact of the Middle East conflict is expected to remain modest, lowering 2026 growth by 0.2 percentage point relative to the pre-conflict forecast. This limited effect reflects positive terms-of-trade gains in the United States and stronger growth momentum, supported by government measures, in Japan, whereas more significant negative effects are expected mainly in net energy-importing economies, including the euro area and the United Kingdom. In the United States, growth is projected at 2.3% in 2026 and 2.1% in 2027 and 2028, with fiscal policy and the lagged effects of monetary easing in 2025 continuing to support activity, even as higher trade barriers since April 2025 weigh on growth. The 0.1 percentage point downward revision from the January 2026 WEO Update reflects a small negative effect from the war, but this is partly offset by a rebound following the end of the 2025 federal government shutdown, along with stronger productivity growth and positive carryover effects. Although the International Emergency Economic Powers Act (IEEPA) ruling may reduce tariff-related fiscal revenues, its impact on the fiscal balance and activity is expected to remain limited and spread over the forecast horizon. Growth in 2027 is expected to remain solid, supported by tax incentives, including those for corporate investment under the One, Big, Beautiful Bill Act (OBBBA), while technology-driven momentum is projected to moderate and productivity growth is expected to gradually converge toward historical norms.

Growth in emerging market and developing economies is projected to slow to 3.9% in 2026 before recovering to 4.2% in 2027 and 2028, while the Middle East conflict is expected to have a greater impact on this group than on advanced economies, reducing 2026 growth by 0.3 percentage point relative to the pre-conflict forecast. In emerging and developing Asia, growth is expected to moderate from 5.5% in 2025 to 4.9% in 2026 and 4.8% in 2027 and 2028. Within the region, China's 2026 growth forecast has been revised upward to 4.4%, as lower effective U.S. tariffs and stimulus measures offset the impact of the conflict, although growth is projected to slow to 4.0% in 2027 as structural headwinds intensify. India's growth outlook has also improved, with growth revised upward to 7.6% in 2025 and projected to remain at 6.5% in 2026, 2027 and 2028, supported by strong carryover effects and lower additional U.S. tariffs on Indian goods. Meanwhile, several South and Southeast Asian economies are expected to face weaker domestic demand due to lower tourism and remittance inflows, while the Philippines has seen a sharp downward revision for 2026.

In the Middle East and Central Asia, growth is projected to decline from 3.6% in 2025 to 1.9% in 2026, before rebounding to 4.6% in 2027 and 4.0% in 2028, reflecting the region's direct exposure to the conflict. The downturn is expected to be most severe among affected commodity exporters, particularly Bahrain, Iran, Iraq, Kuwait, and Qatar, while the impact is expected to be less severe in other economies. Accordingly, Iran's economy is projected to contract by (-) 6.1% in 2026, before rebounding to 3.2% in 2027 and moderating to 1.5% in 2028. By contrast, Saudi Arabia's growth is projected at 3.1% in 2026, rising to 4.5% in 2027 before easing to 3.6% in 2028. In sub-Saharan Africa, growth is expected to remain broadly stable at 4.3% in 2026, 4.4% in 2027, and 4.5% in 2028, although oil-importing economies are likely to face greater

pressure, while Nigeria and South Africa are expected to record moderate but gradually improving growth profiles. In Latin America and the Caribbean, growth is projected at 2.3% in 2026, 2.7% in 2027, and 2.9% in 2028, with Brazil expected to benefit modestly in the near term from its position as a net energy exporter, while Mexico is projected to recover gradually to 1.6% in 2026, 2.2% in 2027, and 2.1% in 2028.

In emerging and developing Europe, the sharp slowdown in growth to 2.0% in 2025 is expected to reverse only marginally, with the region projected to expand at an average rate of 2.0% in 2026, 2.1% in 2027, and 2.3% in 2028. Within the region, Russia's 2026 growth forecast has been revised upward by 0.3 percentage point relative to January, to 1.1%, as higher commodity prices are expected to support activity. This momentum is projected to continue, with growth remaining at 1.1% in 2027 before moderating slightly to 1.0% in 2028. By contrast, Türkiye's 2026 growth forecast has been revised downward by 0.8 percentage point relative to the January 2026 WEO to 3.4%, as weaker-than-expected growth in 2025 and higher oil and gas prices are expected to weigh on activity.

Key factors impacting Global Macroeconomic landscape

- Geopolitics continues to constitute a major source of global macroeconomic and business risk. The Russia–Ukraine war remains a persistent driver of instability, as Russia has intensified large-scale missile and drone attacks on Ukrainian cities and infrastructure, while Ukraine has stepped up strikes on Russian ports, refineries, and export infrastructure, reportedly contributing to a reduction in Russian oil output in April. The Israel–Iran–U.S. confrontation has emerged as the most significant near-term external shock to the global economy, with the IMF warning that disruptions to the Strait of Hormuz and regional energy infrastructure could materially weaken global growth and raise inflation; under its April 2026 reference forecast, global growth has been lowered to 3.1% and inflation raised to 4.4%, with materially worse outcomes under prolonged disruption scenarios. In parallel, the Pakistan–Afghanistan border conflict remains a significant regional flashpoint, although China-mediated talks are seeking to secure a ceasefire and reopen border crossings after months of cross-border attacks and trade disruption. At the same time, U.S. strategic activism continues to influence regional risk perceptions: Washington has removed sanctions on Venezuela's interim leadership and deepened engagement with Caracas, tensions over Greenland have re-emerged amid renewed U.S. rhetoric and ongoing diplomatic discussions with Denmark and Greenland, and U.S.–Nigeria security cooperation has continued to deepen in response to regional instability and counterterrorism concerns. In addition, resource nationalism and strategic competition over rare earths and other critical minerals have become increasingly operational concerns rather than distant strategic risks. The IEA's April 2026 assessment notes that demand for magnet rare earths has doubled since 2015 and is projected to increase by more than 30% by 2030, while supply chains remain highly concentrated, with China accounting for around 60% of mined output, more than 90% of refining, and nearly 95% of permanent magnet production, thereby heightening global exposure to export controls, supply concentration, and industrial policy interventions

- The period of relatively frictionless trade supported by multilateral liberalisation and free trade agreements is increasingly giving way to regionalisation, nearshoring, friend-shoring, and diversification of production networks. Rising tariffs, policy uncertainty, and strategic realignment are creating a more fragmented trade environment and raising the premium on resilience over pure efficiency
- Technology adoption and sustainability have become core strategic priorities. Organizations are advancing digital transformation by embedding AI, automation, and cybersecurity into their operations to enhance productivity and safeguard critical assets. AI adoption is emerging as a visible driver of optimism, particularly within the information and communications sectors. Growth in cloud computing, streaming, IoT, and AI and Advancements in hardware and cooling technologies aim to reduce energy consumption and improve performance is driving the need for more powerful and scalable data centres.

India Macroeconomic Analysis

India's economic growth outlook for 2025 has been revised upward by 1.0 percentage point from the October estimate to 7.6%, supported by stronger-than-expected performance in the second and third quarters of the fiscal year and sustained momentum in the fourth quarter. For 2026, the growth projection has been moderately increased by 0.3 percentage point (including a 0.1 percentage point upward revision from January) to 6.5%, primarily driven by the carryover effect of the strong 2025 performance and the reduction in additional U.S. tariffs on Indian goods from 50% to 10%, which more than offsets the adverse impact of the Middle East conflict. Growth is expected to remain steady at 6.5% in 2027. Across several South and Southeast Asian economies, disruptions linked to the Middle East conflict are anticipated to reduce tourism activity and remittance inflows, thereby weakening domestic demand and moderating overall economic performance.

Country	CY 2020	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026 P	CY 2027 P	CY 2028P
India[1]	–5.8%	9.7%	7.6%	9.2%	6.5%	7.6%	6.5%	6.5%	6.5%
China	2.3%	8.6%	3.1%	5.4%	5.0%	5.0%	4.4%	4.0%	4.0%
United States	-2.2%	6.1%	2.5%	2.9%	2.8%	2.1%	2.3%	2.1%	2.1%
Japan	-4.2%	2.7%	0.9%	1.4%	-0.2%	1.2%	0.7%	0.6%	0.6%
United Kingdom	-10.3%	8.6%	4.8%	0.4%	1.1%	1.3%	0.8%	1.3%	1.6%
Russia	-2.7%	5.9%	-1.4%	4.1%	4.3%	1.0%	1.1%	1.1%	1.0%
Germany	-4.1%	3.9%	1.8%	-0.9%	-0.5%	0.2%	0.8%	1.2%	1.2%

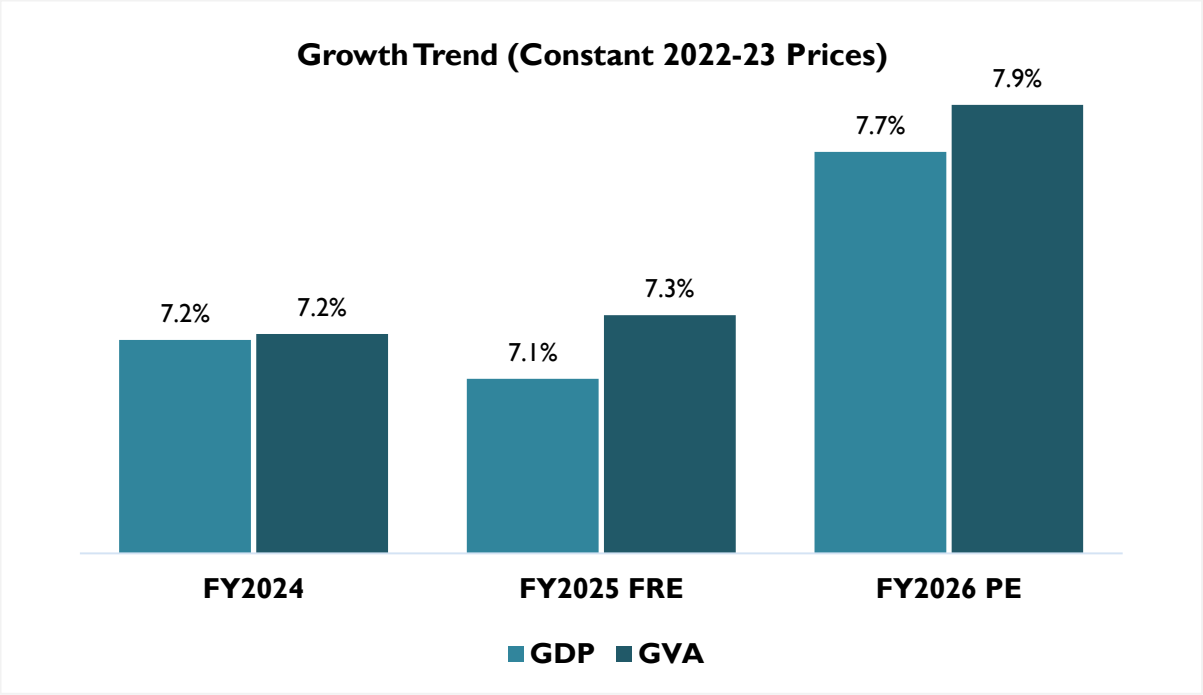
Source: World Economic Outlook, April 2026

Historical GDP and GVA Growth Trend

As per Provisional Estimates, India Real GDP (GDP at constant prices) for FY 2025–26 is estimated to reach INR 323.12 lakh crore, compared to the First Revised Estimate (FRE) of INR 299.89 lakh crore for FY 2024–25. This represents a growth rate of 7.7% in 2025–26, higher than the 7.1% growth recorded in 2024–25.

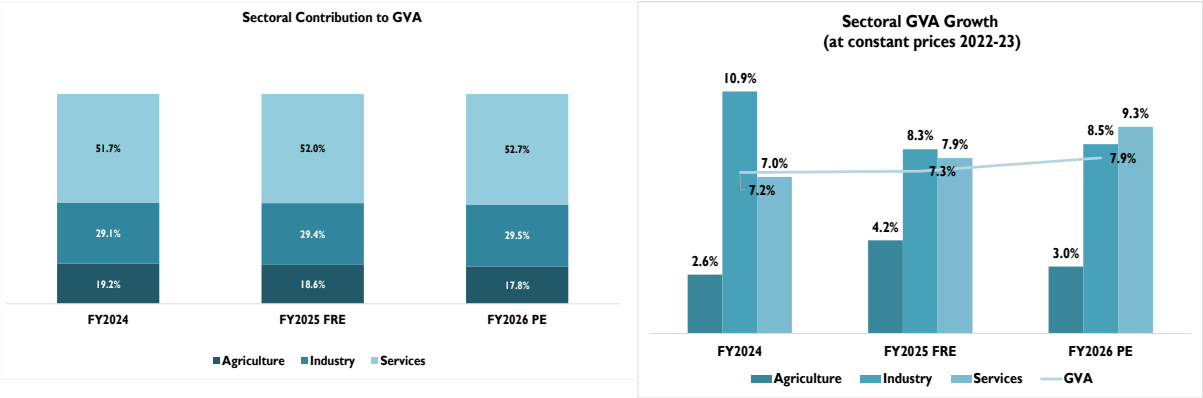
Similarly, Real GVA for FY 2025–26 is estimated to reach INR 294.91 lakh crore, up from INR 273.36 lakh crore in FY 2024–25. This indicates a growth rate of 7.9%, compared with the 7.3% growth achieved in the previous year.

[1] For India, data and forecasts are presented on a fiscal year basis, and GDP from 2022 onward is based on GDP at market prices with fiscal year 2022/23 as a base year



Source: Ministry of Statistics & Programme Implementation (MOSPI), National Account Statistics: FY2025, FRE is First Revised Estimate; PE is Provisional Estimates

Sectoral Contribution to GVA and Annual Growth Trend



Source: Ministry of Statistics & Programme Implementation (MOSPI), CMIE Economics Outlook
FRE is First Revised Estimate; PE is Provisional Estimates[2]

Sectoral analysis of GVA reveals that the industrial sector experienced steady growth momentum in FY 2026, recording a 7.9% y-o-y growth against 7.3% year-on-year growth in FY 2025. Within the industrial sector, growth moderated across sub-sectors with mining, and construction activities growing by 5.15%, and 7.36%, respectively in FY 2026, compared to 11.69%, and 7.30% in FY 2025. Growth in the utilities sector too moderated to 1.74% in FY 2026 from 2.87% in the previous year. The industrial sector's contribution to GVA increased marginally from 29.4% in FY 2025 to 29.5% in FY 2026.

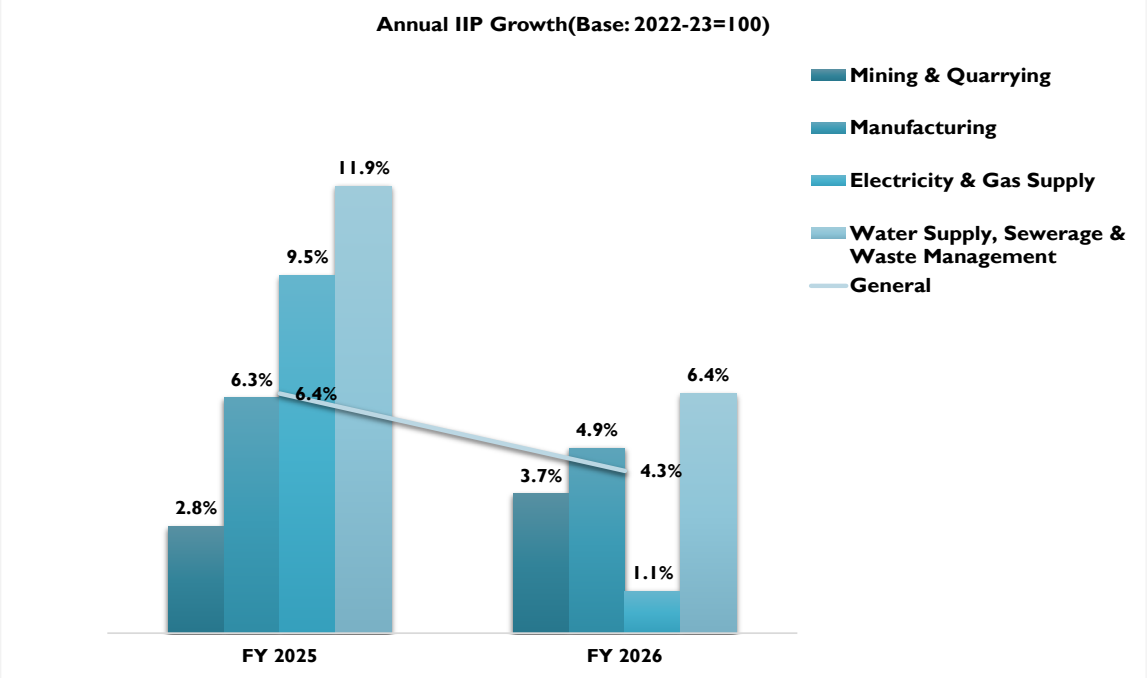
[2] https://www.mospi.gov.in/uploads/latestReleases/latest_release_1780655857536_5ac01869-ca4a-422d-b7a7-57b81da60932_Press_Note_on_GDP_Estimates_for_Q4_2025-26_and_PE_FY_2025-26_F.pdf

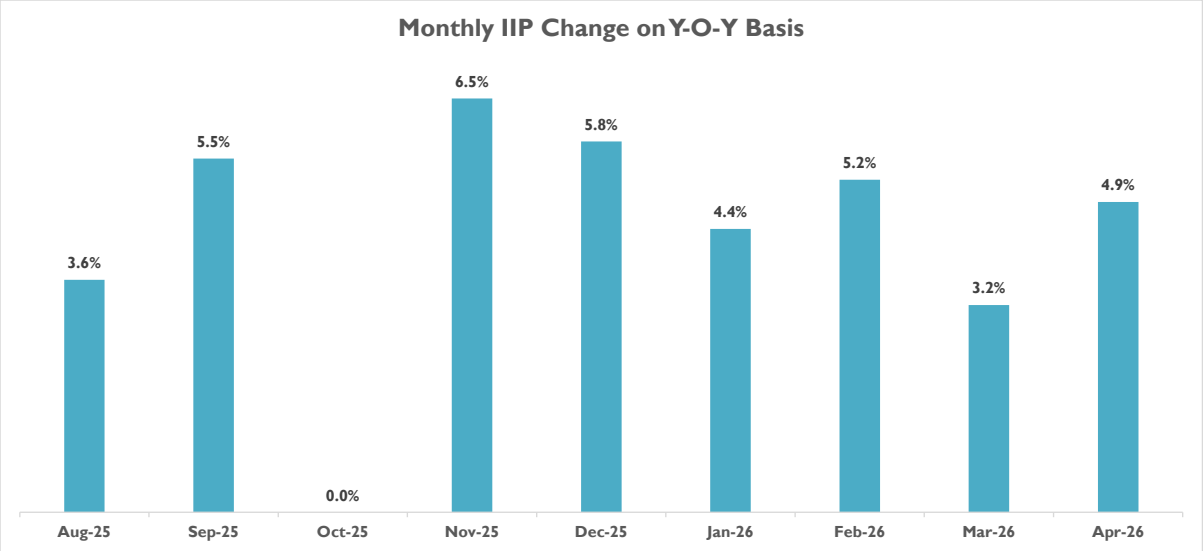
The services sector continued to be the main driver of economic growth. It expanded by 9.3% in FY 2026 from 7.9% in FY 2025. The services sector retained its position as the largest contributor to GVA, rising from 51.7% in FY 2024 to 52.0% in FY 2025, with a further increase to 52.7% in FY 2026.

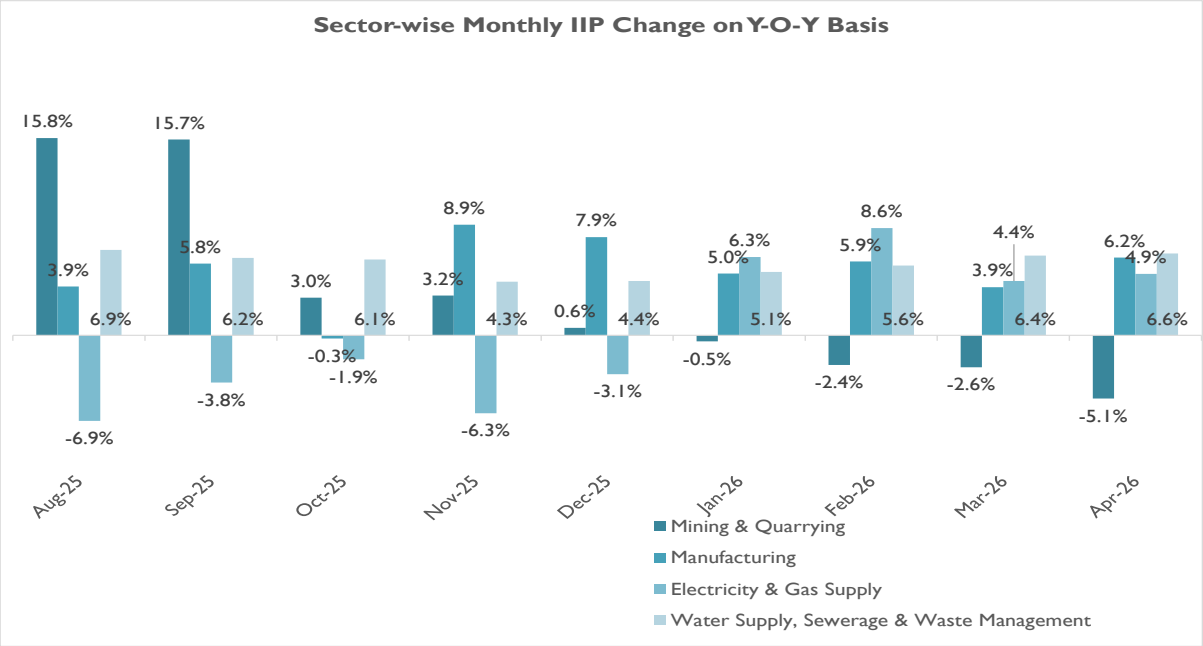
The agriculture sector saw an acceleration in growth, increasing from 2.66% in FY 2024 to 4.18% in FY 2025, before moderating to 3.0% in FY 2026. However, its contribution to GVA declined marginally from 19.2% in FY 2024 to 17.8% in FY 2026. Overall, Gross Value Added (GVA) growth rose to 7.9% in FY 2026 from 7.3% in FY 2025.

Annual & Monthly IIP Growth

Industrial sector performance as measured by the IIP index exhibited moderation in FY 2026, recording a 4.3% y-o-y growth against 6.4% increase in the previous year. The manufacturing index showed moderation, increasing by 4.9% in FY 2026 compared with 6.3% in FY 2025. The Electricity & Gas Supply sector index also moderated, growing 1.1% in FY 2026 compared with 9.5% in the previous year. Water Supply, Sewerage & Waste Management also moderated by 6.4% in FY 2026 compared with 11.9% in the previous year, while the mining sector index grews by 3.7% in FY 2026 compared with 2.8% in the previous year.





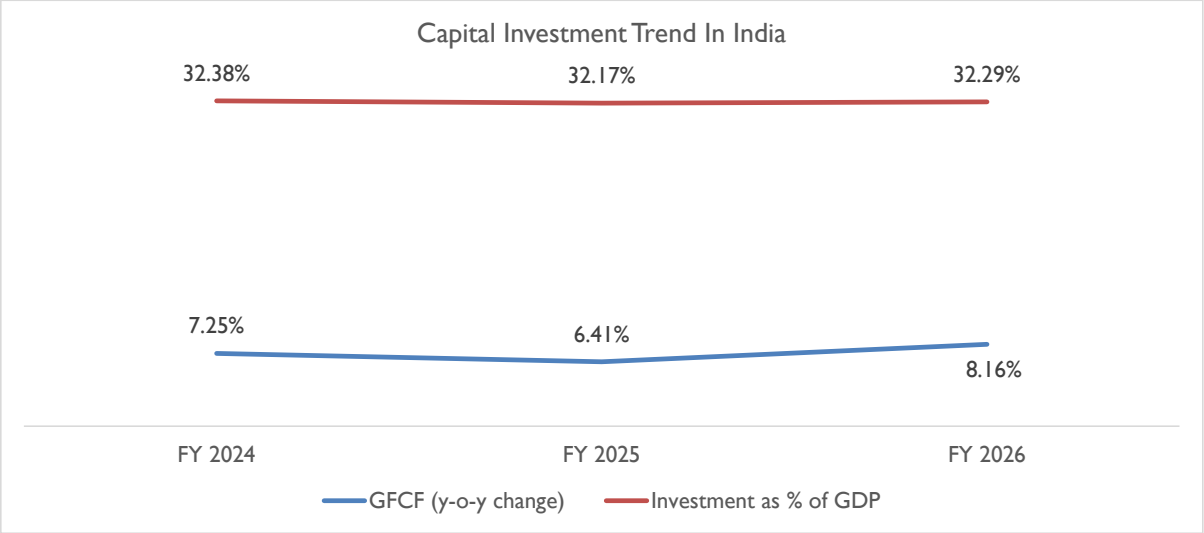


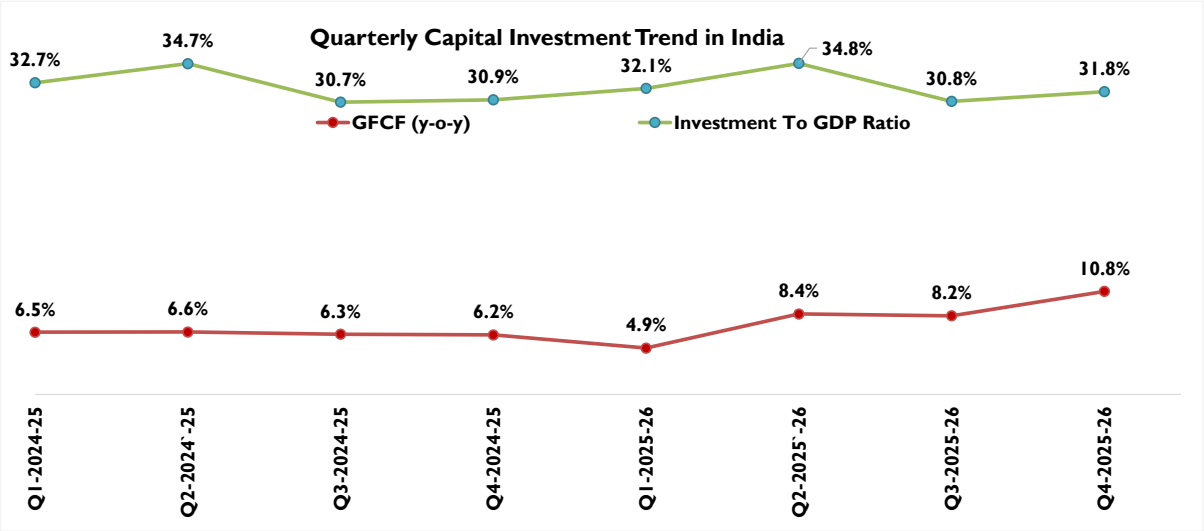
Source: Ministry of Statistics & Programme Implementation (MOSPI)

The IIP growth rate for the month of April 2026 is 4.9 percent as compared to April 2025. The growth rates of the Four sectors, Mining & Quarrying, Manufacturing, Electricity & Gas Supply and Water Supply, Sewerage & Waste Management for the month of April 2026 are (-)5.1 percent, 6.2 percent, 4.9 percent and 6.6 percent respectively

Annual and Quarterly: Investment & Consumption Scenario

Other major indicators, such as Gross Fixed Capital Formation (GFCF), a measure of investment, increased during FY 2026, registering 8.16% year-on-year growth compared with 6.41% in FY 2025, bringing the GFCF-to-GDP ratio to 32.29%.





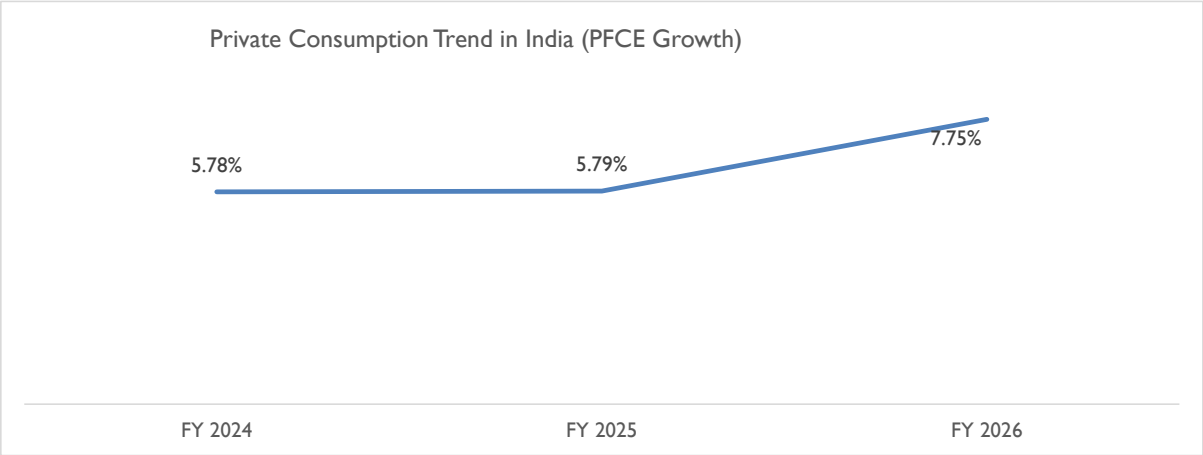
Source: Ministry of Statistics & Programme Implementation (MOSPI), CMIE Economics Outlook

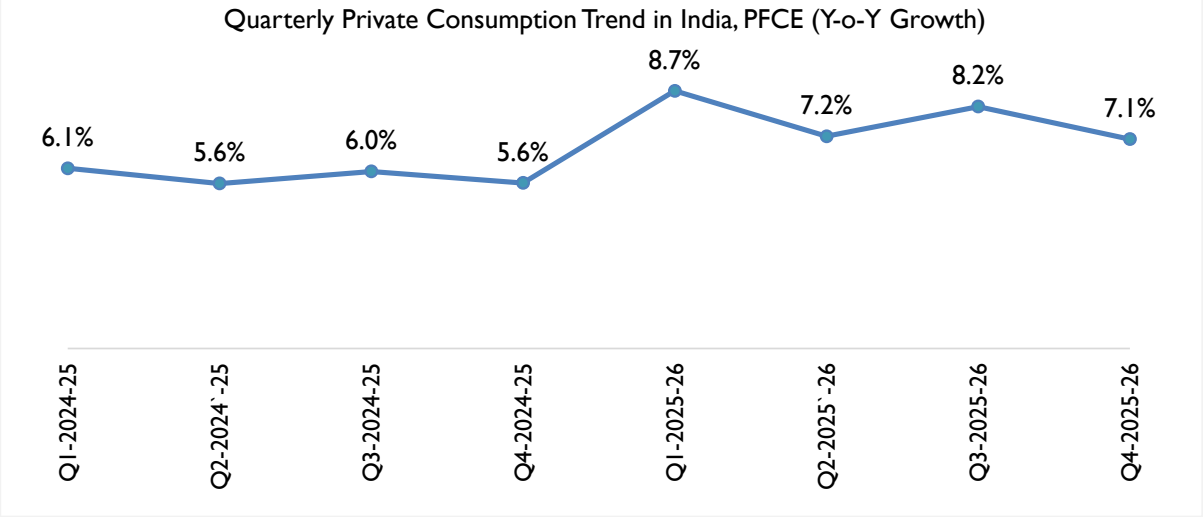
On a quarterly basis, India's capital investment indicators reflect a healthy and improving investment environment, supported by sustained investment intensity and stronger capital formation in recent quarters. The Investment to GDP ratio remained consistently above 30% throughout the period, highlighting continued resilience in capital deployment. The ratio increased from 32.7% in Q1 FY 2024-25 to 34.7% in Q2, before moderating to 30.7% in Q3 and 30.9% in Q4. In FY 2025-26, the ratio improved again to 32.1% in Q1 and further strengthened to 34.8% in Q2, the highest level during the period, before remaining healthy at 30.8% in Q3 and 31.8% in Q4. This indicates that investment activity continued to remain robust despite normal quarterly variations.

GFCF (y-o-y) growth also points toward a positive investment trend, particularly in FY 2025-26. After remaining broadly stable during FY 2024-25, with growth ranging between 6.2% and 6.6%, GFCF growth accelerated meaningfully from 4.9% in Q1 FY 2025-26 to 8.4% in Q2 and 8.2% in Q3, before rising further to 10.8% in Q4. This strong improvement in the second half of FY 2025-26 suggests strengthening fixed capital formation and a revival in investment momentum. Overall, the data indicates that India's capital investment landscape remains on a positive trajectory, with sustained investment levels and improving GFCF growth

reflecting stronger capital spending, better investment confidence, and continued support for economic growth.

Private Consumption Scenario





Sources: MOSPI, CMIE Economics Outlook

Private Final Consumption Expenditure (PFCE), a practical proxy for household spending, recorded growth in FY 2026 relative to FY 2025. PFCE recorded healthy growth in FY 2025-26 relative to FY 2024-25. However, quarterly PFCE growth moderated sequentially to 7.1% in Q4 FY 2025-26 from 8.2% in Q3 FY 2025-26

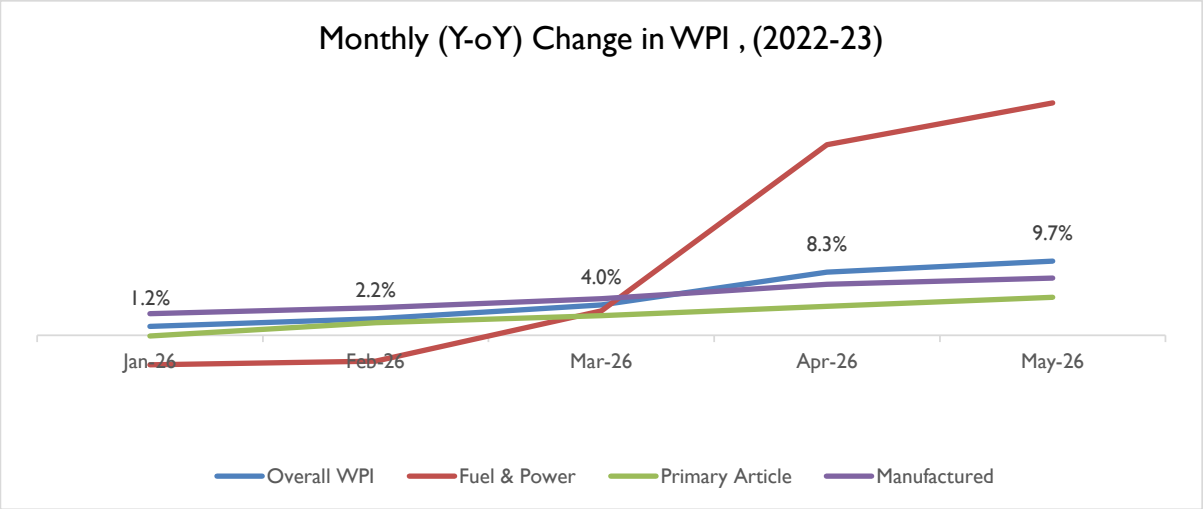
Inflation Scenario

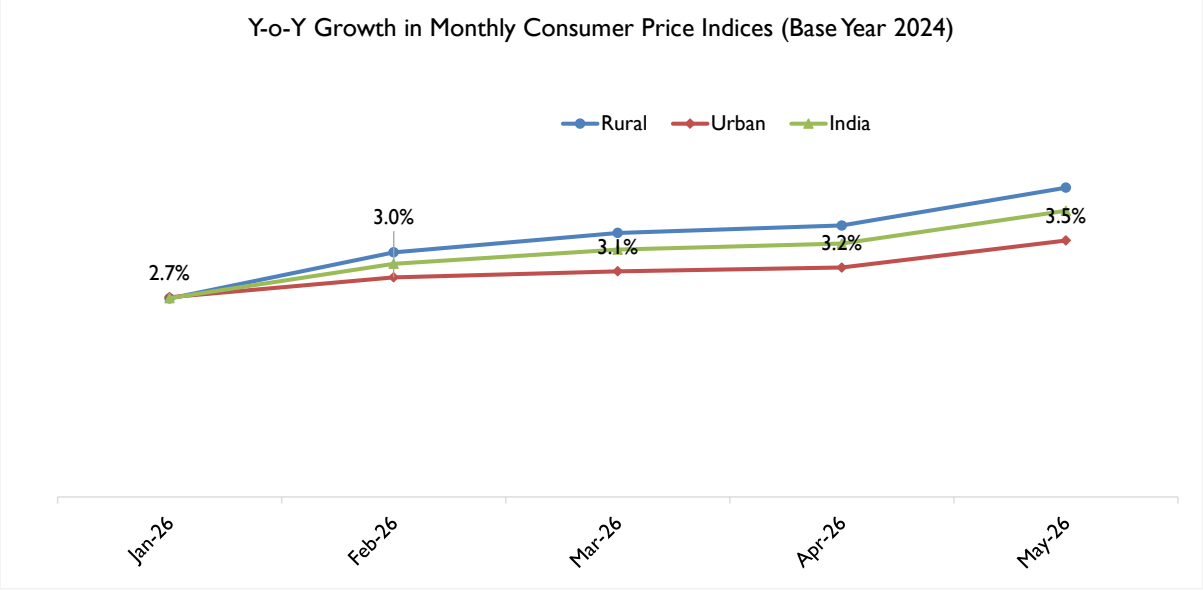
The annual rate of inflation based on All India Wholesale Price Index (WPI) number is 3.88% (provisional) for the month of March 2026 (over March 2025). Positive rate of inflation in March 2026 is primarily due to increase in prices of crude petroleum & natural gas, other manufacturing, non-food articles, manufacture of basic metals and food articles etc.

All India Wholesale Price Index (WPI) inflation for May 2026 is 9.68 per cent on year-on-year (YoY) basis, compared to 8.26 per cent in April 2026. The index for All Commodities for May 2026 stands at 109.9,

whereas it was 108.8 in April 2026. Across Groups, 'Mineral Oils (containing Petroleum Products)', 'Crude Petroleum and Natural Gas', 'Manufacture of Chemicals and Chemical Products', and 'Manufacture of Basic Metals', have been major drivers of WPI inflation in April and May 2026.

Across Major Groups, YoY inflation for Primary Articles, Fuel and Power, and Manufactured Products is 4.99 per cent, 30.33 per cent, and 7.48 per cent, respectively in May 2026, whereas it was 3.78 per cent, 24.89 per cent, and 6.68 per cent, respectively, in April 2026. The indices for Primary Articles, Fuel and Power, and Manufactured Products are 113.7, 113, and 107.8, respectively, in May 2026, whereas they were 112.6, 110.9, and 107, respectively, in April 2026.

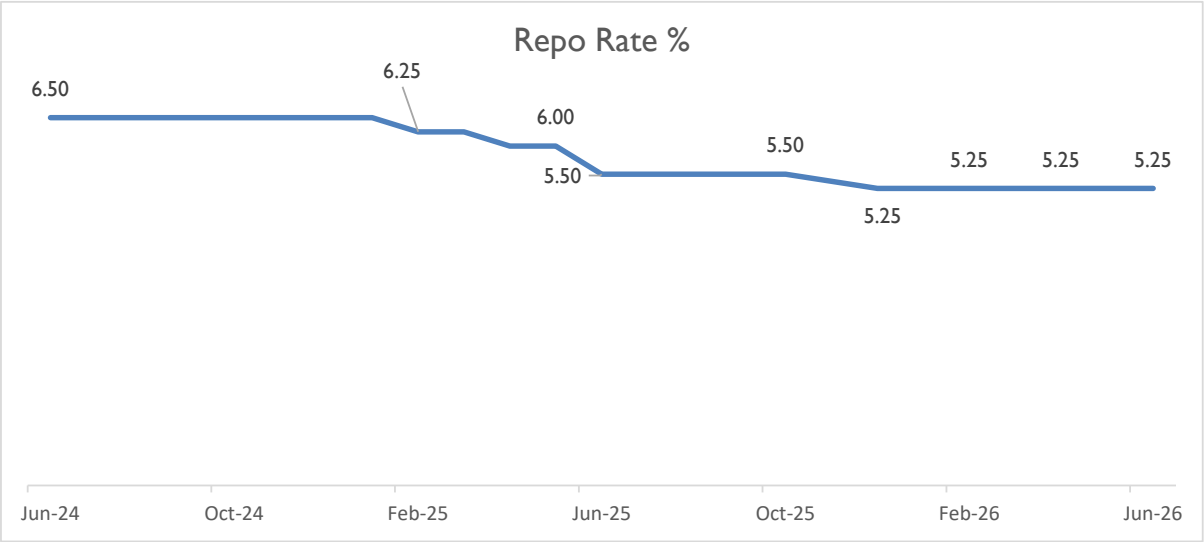




Source: MOSPI, Office of Economic Advisor

With effect from January 2026, the National Statistics Office (NSO) introduced a revised CPI series with base year 2024=100, drawing revised item weights from the Household Consumption Expenditure Survey (HCES)

2023-24. Year-on-year inflation rate based on All India Consumer Price Index (CPI) with base year 2024 for the month of May, 2026 over May, 2025 is 3.93%(Provisional). Corresponding inflation rates for rural and urban are 4.25% and 3.53%, respectively.On the monetary policy front, the RBI had cumulatively raised the repo rate by 250 basis points between May 2022 and February 2023, bringing it to 6.50%, where it was held steady through January 2025 to anchor inflationary expectations. With inflation moderating below target and growth requiring support, the RBI's Monetary Policy Committee (MPC) commenced an easing cycle in February 2025, delivering a cumulative 125 basis points of rate cuts through four reductions — 25 bps each in February 2025, April 2025, and December 2025, and a larger 50 bps cut in June 2025 — interspersed with pauses in August and October 2025. The repo rate currently stands at 5.25%, in June 2026.



Sources: CMIE Economic Outlook

Growth Outlook

The Union Budget 2026–27 sets out a quantitatively strong push to build resilient supply chains and develop next-generation industrial capacity. The record ₹12.2 trillion capital expenditure outlay is aimed at easing logistics bottlenecks and enhancing India's cost competitiveness. Employment measures extend across both urban and rural India in one sweep. In cities and large towns, capex is channelled into "connectors" such as the seven proposed high-speed rail corridors and upgraded Tier-2 and Tier-3 infrastructure, thereby creating construction, logistics, and service jobs while cutting commute times. In smaller towns and villages, job creation is expected to be supported by mega textile parks, the Mahatma Gandhi Gram Swaraj Initiative's push for khadi and handloom, training for tourist guides, and new waterways and coastal shipping. Together, these steps broaden the wage base instead of providing a short-term bump.

This domestic push is complemented by targeted measures to strengthen strategic supply chains. Dedicated rare earth corridors in Odisha, Kerala, Andhra Pradesh, and Tamil Nadu; customs exemptions for capital goods used in critical mineral processing and battery cells; and the India Semiconductor Mission 2.0 aim to pull manufacturing deeper into components and materials. If executed well, these measures could reduce

import dependence in magnets, batteries, and chip inputs and lift the share of higher-productivity manufacturing jobs — thereby raising household incomes durably.

Alongside these domestic measures, India is also seeking to strengthen its external trade architecture through major trade agreements. The conclusion of the India–EU FTA negotiation marks a major strategic milestone, as it offers near-universal market access for 99.5% of India's exports by value and integrates India more deeply into a USD 24 trillion economic bloc. By providing duty-free entry for key labour-intensive sectors, expanding services access, and establishing a mobility framework for Indian professionals, the deal is expected to improve market access, support export competitiveness and high-value job creation. It is likely to promote a predictable, rules-based environment for long-term trade and investment flows.

In a similar vein, India–Oman Comprehensive Economic Partnership Agreement (CEPA)[3] has been framed as a comprehensive arrangement covering trade in goods and services, investment, professional mobility, and regulatory cooperation, with the objective of strengthening bilateral economic integration between India and Oman. Bilateral trade between the two countries stood at USD 10.61 billion in FY 2024–25, providing the economic basis for the agreement. Under the CEPA, India has secured 100% duty-free market access in Oman across 98.08% of tariff lines, covering 99.38% of India's export value, thereby improving export competitiveness across sectors such as engineering goods, pharmaceuticals, agriculture and processed food, electronics, textiles, plastics, and gems and jewellery. At the same time, India has adopted a calibrated liberalisation approach by offering tariff concessions on 77.79% of its tariff lines, covering 94.81% of imports from Oman by value, while retaining safeguards for sensitive domestic sectors. The agreement also provides gains in services, with Oman undertaking commitments across 127 services sub-sectors, alongside improved provisions for professional mobility, including an increase in the Intra-Corporate Transferee ceiling from 20% to 50% and commitments for a defined category of Indian professionals. Overall, the CEPA is presented as a framework intended to support trade expansion, improve market access, and strengthen long-term economic cooperation between India and Oman.

However, these gains remain exposed to external geopolitical risks. The escalation of the Middle East crisis represents an external shock for India, transmitted primarily through energy markets, logistics, and trade-linked business exposure. The Gulf–Levant 11[4] (GL 11) economies account for around 15% of India's merchandise exports and 21% of its imports, with trade concentrated in high-value categories such as mineral fuels, precious metals, and electronics; disruptions in this region therefore have an outsized impact despite its modest share of global GDP.

[3] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2213203&reg=3&lang=1
The Comprehensive Economic Partnership Agreement (CEPA) between India and Oman marks a meaningful step forward in the economic relationship between the two countries. The agreement brings together trade in goods and services, investment, professional mobility, and regulatory cooperation under a single, coherent framework aimed at deepening bilateral economic integration.

[4] For the purposes of this report, the analysis is confined to a defined group of countries referred to as the Gulf–Levant 11 (GL-11). This group comprises Bahrain, Iran, Iraq, Israel Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. These economies are treated collectively because they are either directly involved in, or immediately exposed to, the current crisis through geographic proximity, security linkages, energy production and transit, or their role as regional trade and financial hubs

Export exposure is unevenly distributed across India, with risks concentrated in specific districts that serve as production hubs. Discretionary exporters, such as gems and jewellery firms in the districts of Surat, Jaipur, and Mumbai; apparel manufacturers in Tiruppur; automotive producers in Ahmedabad; and electronics assemblers in Kanchipuram and Kolar, are vulnerable to demand slowdown and order deferrals in Gulf markets.

At the same time, Perishable agricultural exporters, including grapes from Nashik, bananas from Solapur, and bovine meat from Ghaziabad, face acute risks from shipping delays and logistics disruptions. Dun & Bradstreet data show that over 4,500 Indian exporters and around 1,800 importers relied on the Strait of Hormuz trade route in 2025, exposing them to working capital stress, payment delays, and production interruptions, while, for import-dependent industries, delays in critical inputs raise the risk of temporary shutdowns and sustained energy price volatility amplifies margin pressure across manufacturing and services.

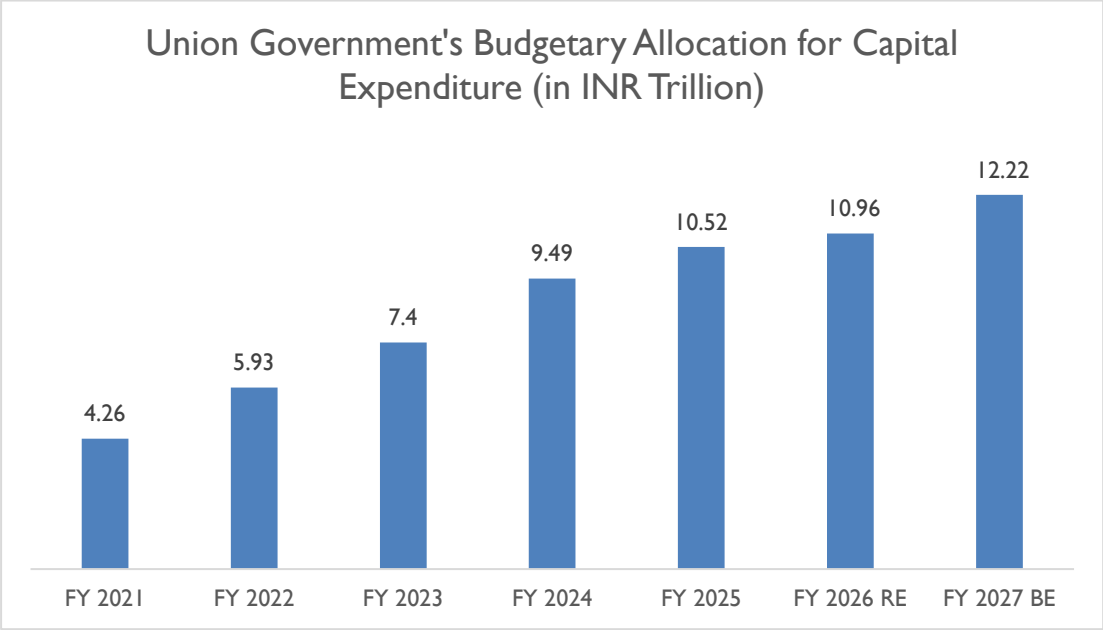
Key Growth/Demographic Drivers for Economic Growth

Government focus on infrastructure development

The infrastructure sector has received a strong boost in Budget FY'27, marked by a record INR 12.2 trn[5] public capital expenditure allocation, reinforcing the government's focus on making assets more efficient and sustainable. The introduction of the landmark Infrastructure Risk Guarantee Fund aims to provide partial credit guarantees to lenders and revitalise private sector participation in large-scale projects. By lowering project risk premiums and easing borrowing costs, this mechanism is likely to help crowd in private capital and accelerate construction phase financing across the sector. The transport and logistics sector, in particular, will buoy infrastructure growth. Railways have received a substantial boost in allocation, which will help support the planned development of seven new high-speed rail corridors and a Dankuni-Surat DFC[6], which aims to cut logistics costs and improve national connectivity. Moreover, the rollout of 20 new National Waterways, new ship repair hubs and a scheme to double the share of coastal and inland water transport from 6.0% to 12.0% by 2047[7] will together build a greener, more efficient multimodal freight network. Urban transformation continues through targeted development of Tier-2 and Tier-3 cities – with populations over 0.5mn – alongside the creation of City Economic Regions, each supported by multi-year, challenge-based financing to establish new growth hubs and reduce pressure on metros. A broader ecosystem of reforms strengthens medium-term sector prospects. The government aims to scale domestic construction and infrastructure equipment manufacturing, reducing import dependence and improving execution capability in tunnelling, metro construction and road building machinery. The monetisation of CPSE assets will be accelerated through dedicated REIT[8] structures, helping unlock liquidity for redevelopment and new project pipelines. Additional support flows through region-specific initiatives, such as industrial corridor expansion, and tourism development in cultural and Buddhist heritage zones will further reinforce construction demand.

Together, these measures will strengthen India's infrastructure ecosystem through higher public investment, improved risk mitigation tools and wider multimodal connectivity – creating a constructive environment for sustained growth in construction, logistics and urban development.

[5] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2222521&reg=3&lang=1#:~:text=Reinforcing%20the%20role%20of%20public,productive%20capacity%20across%20the%20economy.
[6] https://prsindia.org/budgets/parliament/demand-for-grants-2026-27-analysis-railways
[7] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2221817&reg=3&lang=1
[8] https://www.hindustantimes.com/real-estate/budget-2026-eyes-dedicated-reits-for-cpse-asset-monetisation-what-it-means-for-investors-101769942312710.html#google_vignette



Union Budget, Government of India
Note: BE (Budget Estimates) and RE (Revised Estimates)

Development of Domestic Manufacturing Capability

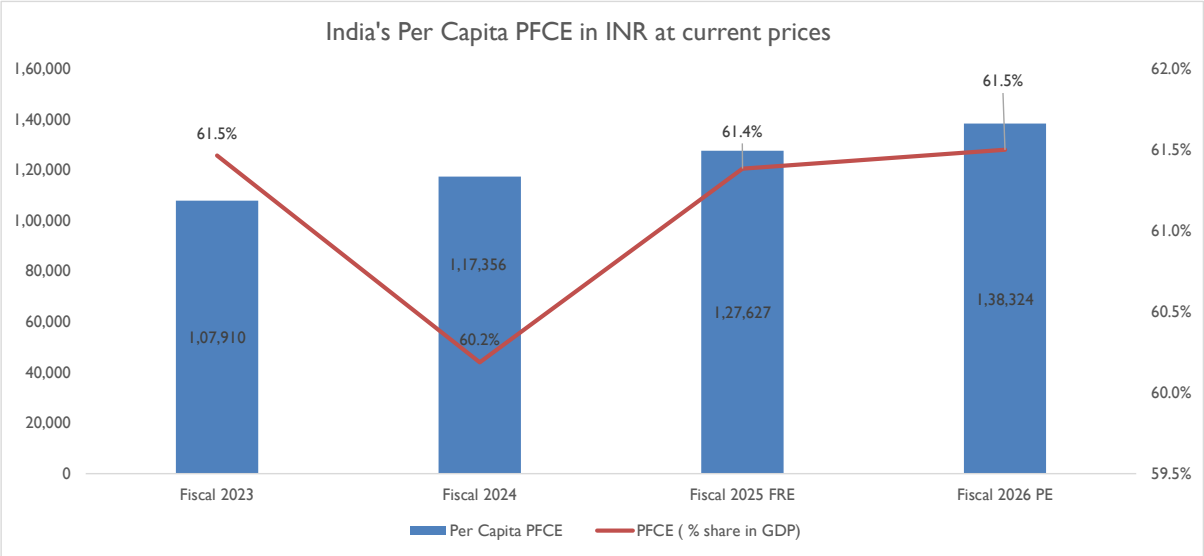
The Government launched the Production Linked Incentive (PLI) scheme in early 2020, initially aimed at improving domestic manufacturing capability in large-scale electronic manufacturing and gradually extended to other sectors. At present it covers 14 sectors, ranging from medical devices to solar PV modules. The PLI scheme provides incentives to companies on incremental sales of products manufactured in India. This incentive structure is aimed at attracting private investment into setting up manufacturing units and thereby strengthening domestic production capabilities. The overall incentive outlay earmarked for the PLI scheme is estimated to be INR 2 trillion. If fully realised, the PLI scheme could add nearly 4% to annual GDP growth, by way of incremental revenue generated from the newly formed manufacturing units.

Strong Domestic Demand

Domestic demand has traditionally been one of the key drivers of the Indian economy. After a brief lull caused by the Covid-19, domestic demand is recovering. Consumer Confidence surveys by the Reserve Bank and other institutions point to an improvement in the Consumer Confidence Index, which is a precursor of improving demand. India has a strong middle-class segment, which has been the major driver of domestic demand. Factors like fast paced urbanization and improving income scenario in rural markets are expected to accelerate domestic demand further. This revival is reflecting in the private final consumption expenditure (PFCE) metric.

India's per capita Private Final Consumption Expenditure (PFCE) at current prices has shown a consistent upward trend, indicating steady improvement in household consumption levels over the years. Per capita PFCE increased from INR 1,07,910 in Fiscal 2023 to INR 1,17,356 in Fiscal 2024, and further rose to INR 1,27,627 in Fiscal 2025 FRE. It is estimated to increase further to INR 1,38,324 in Fiscal 2026 FE, reflecting continued growth in consumer spending and improving consumption capacity.

PFCE as a share of GDP also remained healthy during the period, broadly staying above 60%. The share stood at 61.5% in Fiscal 2023, moderated to 60.2% in Fiscal 2024, before recovering to 61.4% in Fiscal 2025 FRE and further improving to 61.5% in Fiscal 2026 FE. This indicates that private consumption continues to remain a key driver of India's economic growth. Overall, the steady increase in per capita PFCE, along with a stable PFCE share in GDP, reflects resilient household demand and sustained consumption momentum in the economy.



Source: Ministry of Statistics & Programme Implementation (MOSPI)

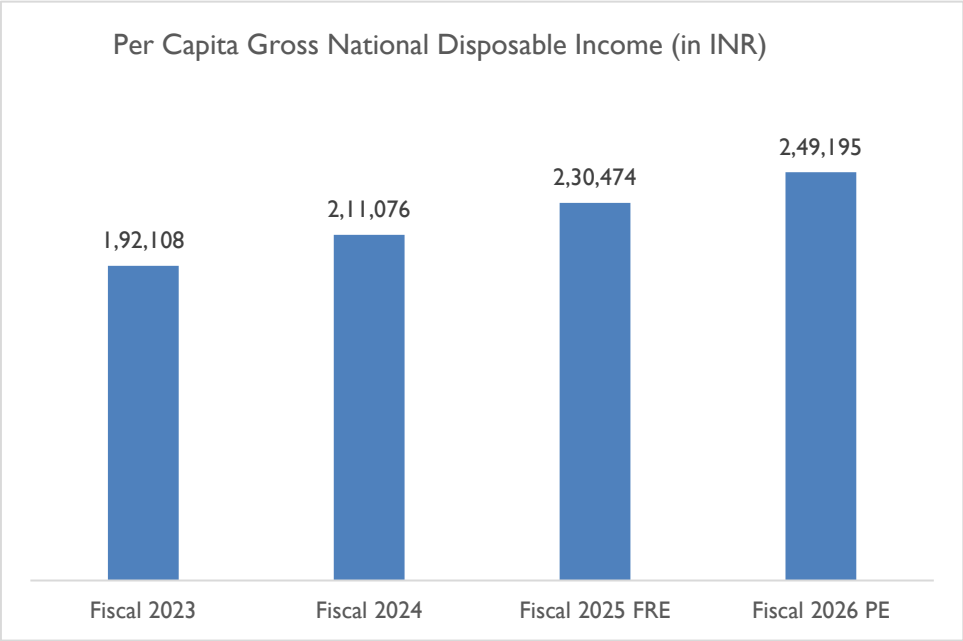
FRE is First Revised Estimate; PE is Provisional Estimates

There are two factors driving this domestic demand: first, the large pool of consumers; and second, the improvement in purchasing power.

- The share of middle class increased from nearly 14% in 2005 to nearly 30% in 2021 and is expected to cross 60% by 2047 [9]. This expanding middle class household segment is fuelling India's growth story and would continue to play a key role in propelling India's economic growth.
- Consumer-driven domestic demand is majorly fuelled by this growth in per capita income. As per National Statistics Office (NSO), India's per capita Gross National Disposable Income (GNDI) has shown a steady upward trend, reflecting improvement in overall income levels and disposable income capacity. Per capita GNDI increased from INR 1,92,108 in Fiscal 2023 to INR 2,11,076 in Fiscal 2024 and further rose to INR 2,30,474 in Fiscal 2025 FRE. It is estimated to increase further to INR 2,49,195 in Fiscal 2026 PE, indicating continued growth in income levels across the economy. The consistent rise in per capita GNDI highlights strengthening purchasing power and improving household income conditions, which can support consumption demand going forward. Overall, the trend reflects a

[9] As per the survey conducted by People Research on India's Consumer Economy. Households with annual income in the range of INR 5 – 30 lakh are considered as middle-class households.

positive income environment, with rising disposable income expected to contribute to sustained private consumption and broader economic growth.



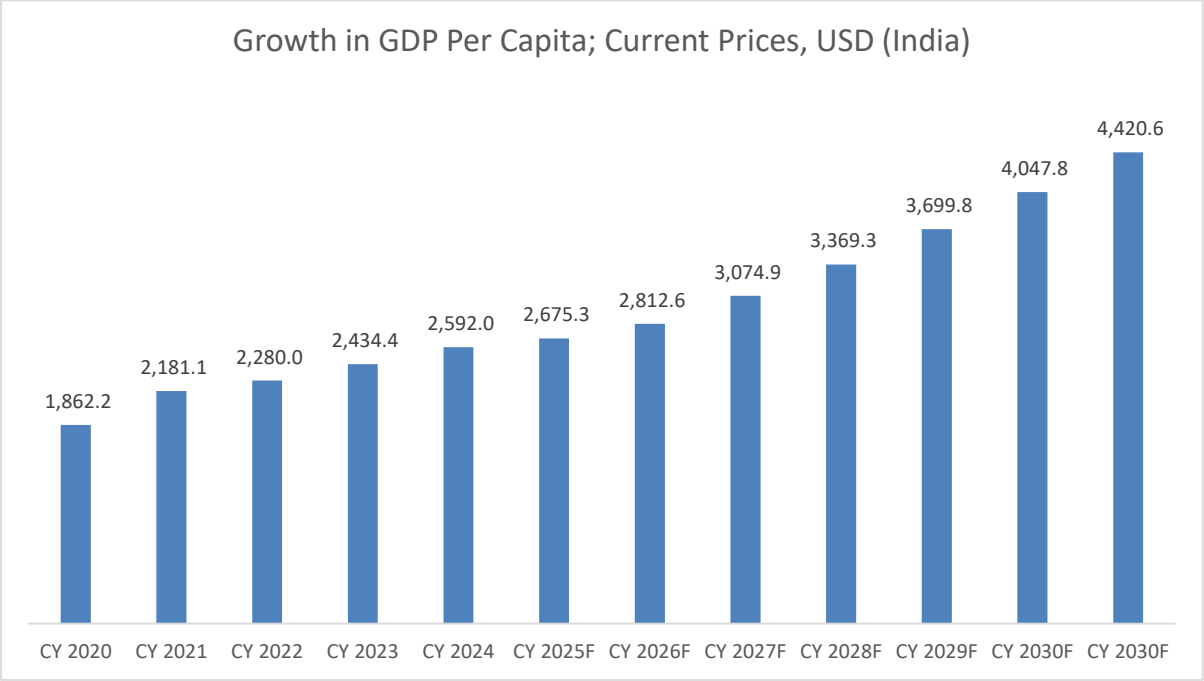
Source: Ministry of Statistics & Programme Implementation (MOSPI)

FRE is First Revised Estimate; PE is Provisional Estimates

India's Per Capita GDP Trends

India is poised to become the world's third-largest economy with a projected GDP of USD 5 trillion within the next three years, driven by ongoing reforms. As one of the fastest-growing major economies, India currently holds the position of the fifth-largest economy globally, following the US, China, Japan, and Germany. By 2027-28, it is anticipated that India will surpass both Germany and Japan, reaching the third-largest spot. This growth is bolstered by a surge in foreign investments and a wave of new trade agreements with India's burgeoning market of 1.4 billion people. The aviation industry is witnessing unprecedented orders, global electronics manufacturers are expanding their production capabilities, and suppliers traditionally concentrated in southern China's manufacturing hubs are now shifting towards India.

To achieve its vision of becoming the world's third-largest economy by 2027-28, India will need to implement transformative industrial and governmental policies. These policies will be crucial for sustaining the consistent growth of the nation's per capita GDP over the long term.

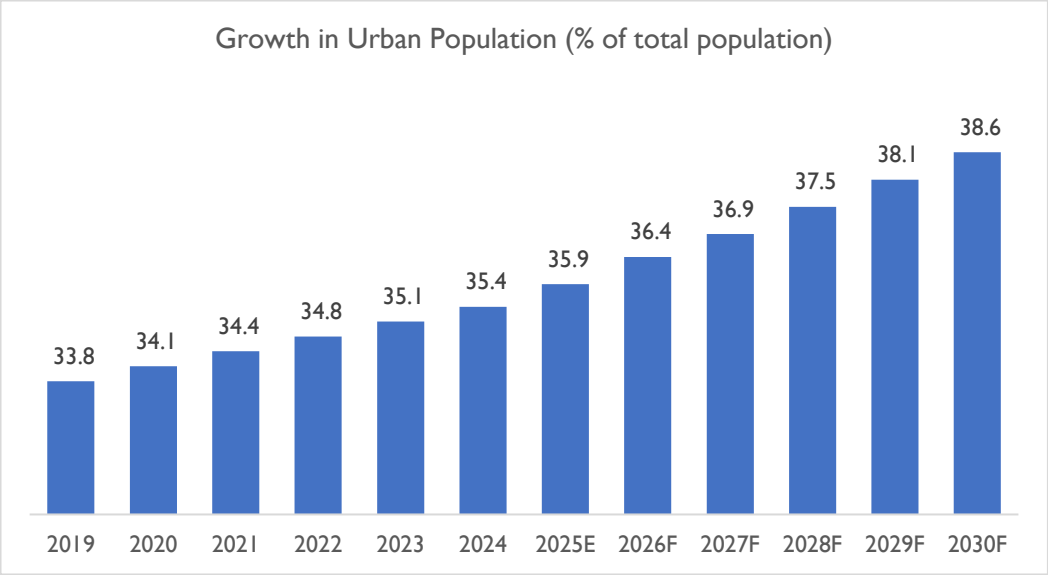


Source: IMF

From CY 2024 to CY 2031, India's per capita GDP is projected to grow at a compound annual growth rate of 7.9%. This growth will be driven by the service sector, which now accounts for over 50% of India's GDP, marking a significant shift from agriculture to services.

Increasing Urbanization

As per the Handbook of Urban Statistics 2022, India's urban population has been on a steady rise. Urban dwellers accounted for over 469 million in 2021 and are projected to rise to over 558 million by 2031 and further exceed 600 million by 2036.



Source: World Bank, [10] Dun & Bradstreet Research and Estimates

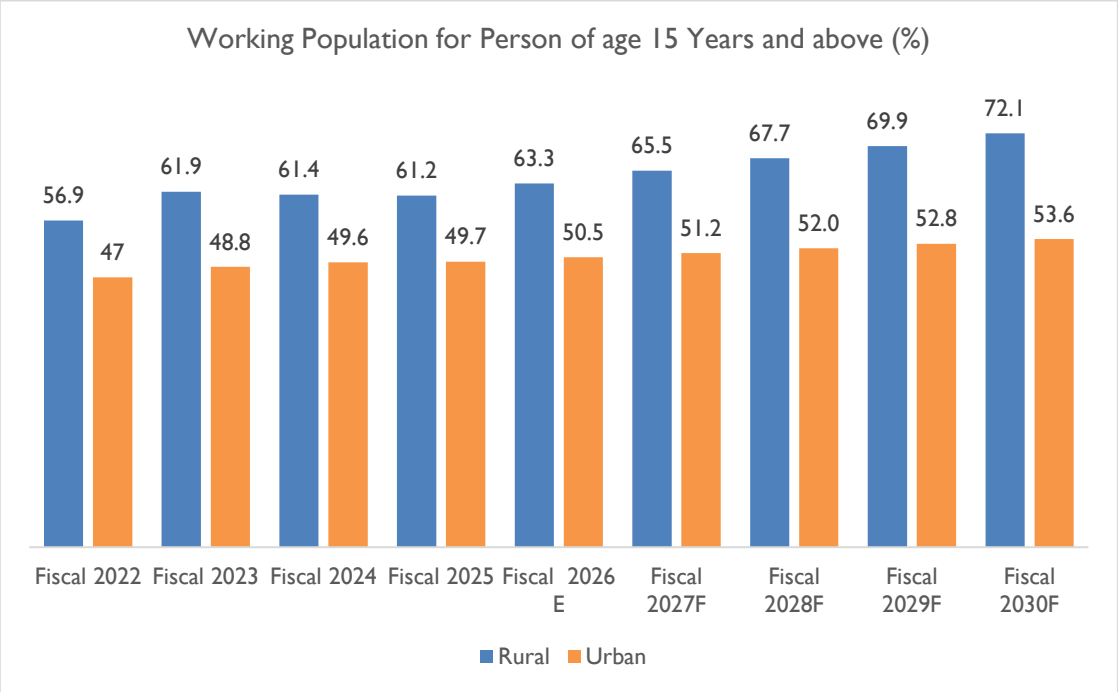
[10] https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?end=2022&locations=IN&skipRedirection=true&start=1960&view=chart

The share of urban population in total population has been rising steadily. In 2019, 33.81% of the total population was urban. By 2025, it had reached 35.9%, showing an increase over a span of five years of about 2.10%. The share of urban population is further forecasted to cross 38.6% by 2030. This increase in urban population is set to demand drastic changes in infrastructure development. Cities are a major driver for the construction industry. With cities expanding rapidly, there will be an increased need for improved housing, water supply, sewage systems, and electricity. Urban planning will need to account for higher population densities, necessitating the development of smart cities with integrated technology for efficient management of resources and services. The Smart Cities Mission targeted at 100 cities is aimed at improving the quality of life through modernised, technology-driven urban planning. This transformation will also require significant investment in public health, education, and recreational facilities to enhance the quality of urban living. The surge in urban population will also propel demand for improvement in multimodal transport infrastructure for freight and passenger travel requirements.

Rural vs. Urban Working Population by Age Group

As India continues to experience economic growth and development, the working population in both rural and urban areas is increasing. In the case of the urban population, this growth is reflected in the increase from a share of 47% in FY22 to 49.7% in FY25, whereas in rural areas, it grew from 56.9% in FY22 to 61.2% in FY25.

This growth is driven by a combination of factors, including demographic changes, economic policies, and the expansion of various industries. The rise in employment opportunities across sectors such as agriculture, manufacturing, services, and information technology has contributed to the overall increase in the working population, thereby fostering economic stability and enhancing the standard of living for many Indians.



Source: Periodic Labour Force Survey (PLFS) Annual Report, Dun & Bradstreet Research and Estimates

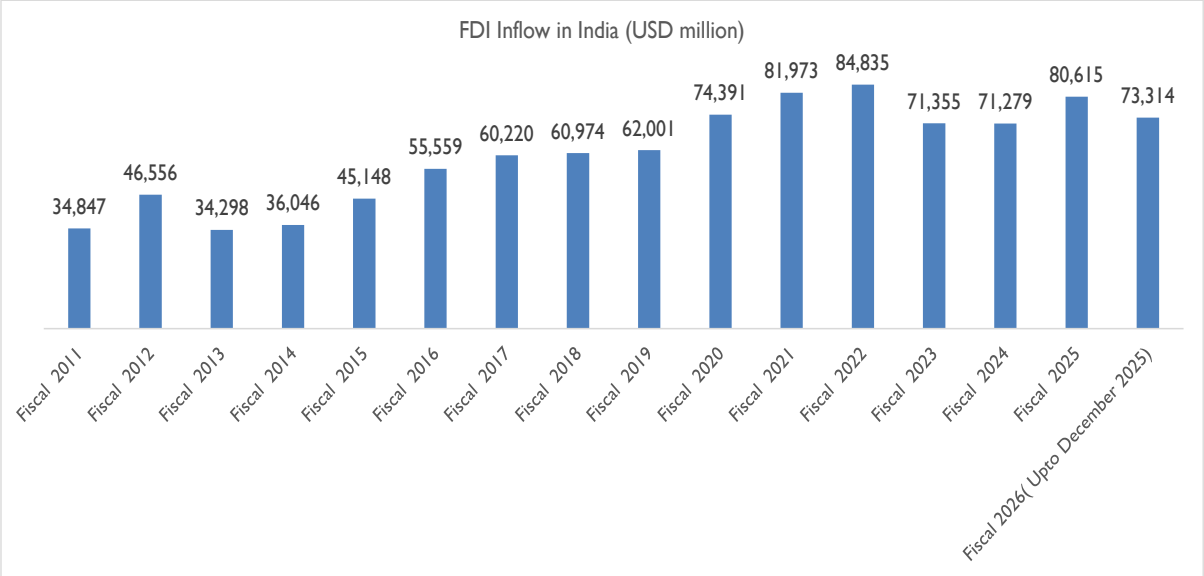
Note: 2025 refers to the period January 2025 – December 2025 and likewise for 2024, 2023 and 2022

In urban areas, the working population is growing rapidly due to the proliferation of jobs in sectors like IT, finance, retail, and healthcare. Additionally, the development of infrastructure, such as improved transportation networks and housing, has made urban centers more accessible and desirable for the working population. In rural areas, the working population remains substantial, primarily due to the dominance of the agricultural sector. Government initiatives aimed at rural development, such as improved access to education and skill development programs, have also played a crucial role in enhancing employment prospects in these regions.

The dominance of the rural working population over its urban counterpart can be attributed to the labour-intensive nature of the agricultural sector, which ensures a consistent demand for human labor despite advancements in mechanization, sustaining employment rates in rural areas.

Foreign Direct Investment Trend in India

FDI inflows in India observed a steady increase from FY 2013 to FY 2022 while it witnessed a decline of 15% in FY 2023 and a decline of 0.1% in FY 2024 due to several factors, including the ongoing conflict between Russia and Ukraine, changes in US monetary policy, and other global uncertainties. However, the country has received substantial FDI inflows from April 2000 to December 2024. This increasing FDI can be attributed to the new investment facilitation measures like the National Single-Window System (NSWS), which streamlines the approval and clearance process for investors, entrepreneurs, and businesses, along with sectoral measures and PLI schemes, supporting growth prospects in tier-2 and tier-3 cities. Further, tax compliance for startups and foreign investors has been simplified and the Income Tax Act, 1961, was amended in 2024 to abolish angel tax and to reduce income tax rate chargeable on income of a foreign company.



Sources: Department for Promotion of Industry and Internal Trade

Fruit Production & Processing Scenario in India

Overview on fruit production scenario in India (India v/s global scenario)[11]

India's horticulture sector is witnessing steady improvement, supported by the wider dissemination of innovative technologies, advancements in high-quality seed production, and improved market management practices. These developments are helping strengthen the overall production ecosystem by improving crop quality, supporting better productivity, and enabling a more organized approach toward horticulture cultivation and distribution. As a result, India is gradually strengthening its position in agriculture and moving toward becoming a more prominent player in the global horticulture landscape.

India is the world's second-largest producer of fruits and vegetables, reflecting the country's strong horticulture base and diversified production capabilities. Fruit production in India is primarily concentrated across key states such as **Andhra Pradesh, Maharashtra, Uttar Pradesh, Gujarat, Karnataka, and Tamil Nadu**, which benefit from established fruit-growing regions and large-scale cultivation. Similarly, vegetable production is led by **Uttar Pradesh, West Bengal, Madhya Pradesh, Bihar, and Gujarat**, highlighting the regional concentration of horticulture output across major agricultural states.

The growing relevance of horticulture is also reflected in India's fruit and vegetable exports, which amounted to **INR 153.76 Bn** (Approx USD 1,818.56 Mn) **in MY2025**. This indicates the increasing contribution of high-value horticulture crops to India's agricultural trade and their rising integration with global markets. Overall, India's fruit and vegetable production scenario is supported by strong domestic production capacity, state-level production clusters, and improving market linkages, positioning horticulture as an important contributor to India's agricultural growth and external trade.

Global Production of Key Fruits (Apple and Orange)

Apple and orange are among the most important fruit crops globally and constitute a significant share of the raw materials used by the fruit processing industry. Their production levels directly influence the availability of fruits for manufacturing value-added products such as juices, concentrates, purees, jams, and beverages. Major producing countries, including China, Brazil, the European Union, the United States, and India, play a vital role in maintaining the global supply of these fruits. Monitoring production trends helps assess raw material availability, supply dynamics, and potential implications for the global fruit processing industry.

[11] https://www.fas.usda.gov/data/production/fruits
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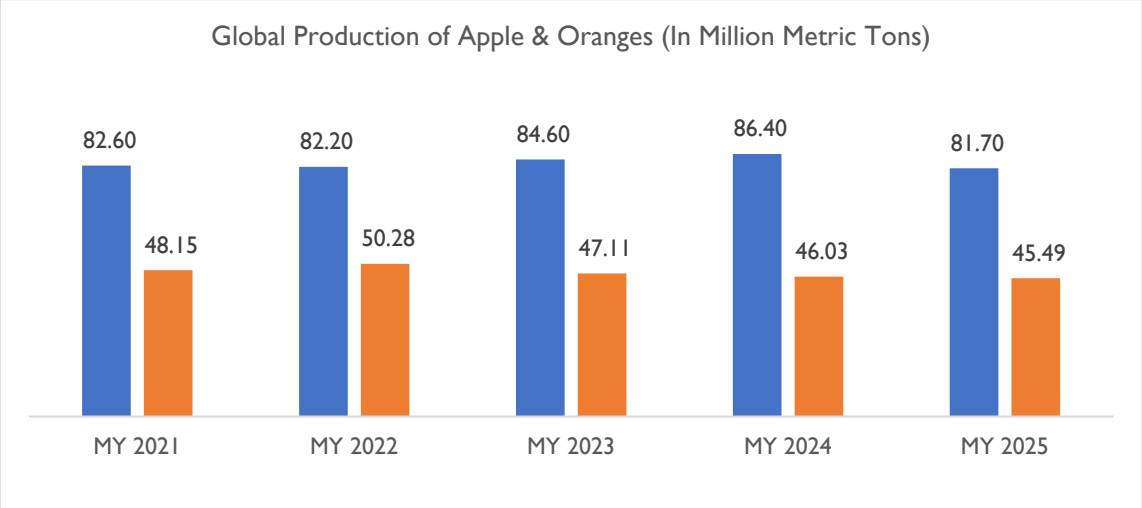

Source: United States Department of Agriculture (USDA)[12]

Apple and orange are among the most widely cultivated fruits globally and serve as key raw materials for the fruit processing industry, particularly for the production of juices, concentrates, purees, and other value-added products. Global apple production remained relatively stable between **81–86 million metric tons** during MY 2021- MY 2025, reflecting steady demand and consistent cultivation across major producing countries. In contrast, global orange production exhibited a gradual decline over the same period, decreasing from approximately **48.15 million metric tons in MY 2021 to 45.49 million metric tons in MY 2025**, primarily due to adverse weather conditions, citrus greening disease in key producing regions, and lower production in major citrus-producing countries. These production trends influence the availability of raw materials and have a direct impact on the global fruit processing and fruit concentrate industry.

Annual fruit production volume in India & historical growth trend[13]

India's fruit production increased steadily from **1,02,481 thousand MT in 2020–21** to **1,21,475 thousand MT in 2025–26 (Second Advance Estimate)**, reflecting a compound annual growth rate of around **3.5%** during the period. The production trend indicates consistent expansion in fruit output, supported by rising cultivation intensity, better orchard management, improved varieties, and growing demand from fresh consumption as well as fruit-processing industries.

[12] https://www.fas.usda.gov/data/production/0574000
https://apps.fas.usda.gov/psdonline/circulars/citrus.pdf?_bhlid=c76797d9d988ef900fbdd28c262f69399ae775ef&utm

[13] https://agriwelfare.gov.in/Documents/CWWGDATA/Agricultural_Statisitcs_at_a_Glance_2024_25_%E0%A4%95%E0%A5%83%E0%A4%B7%E0%A4%BF_%E0%A4%B8%E0%A4%BE%E0%A4%82%E0%A4%96%E0%A5%8D%E0%A4%AF%E0%A4%BF%E0%A4%95%E0%A5%80_%E0%A4%8F%E0%A4%95_%E0%A4%9D%E0%A4%B2%E0%A4%95_2024%E2%80%9325_2.pdf
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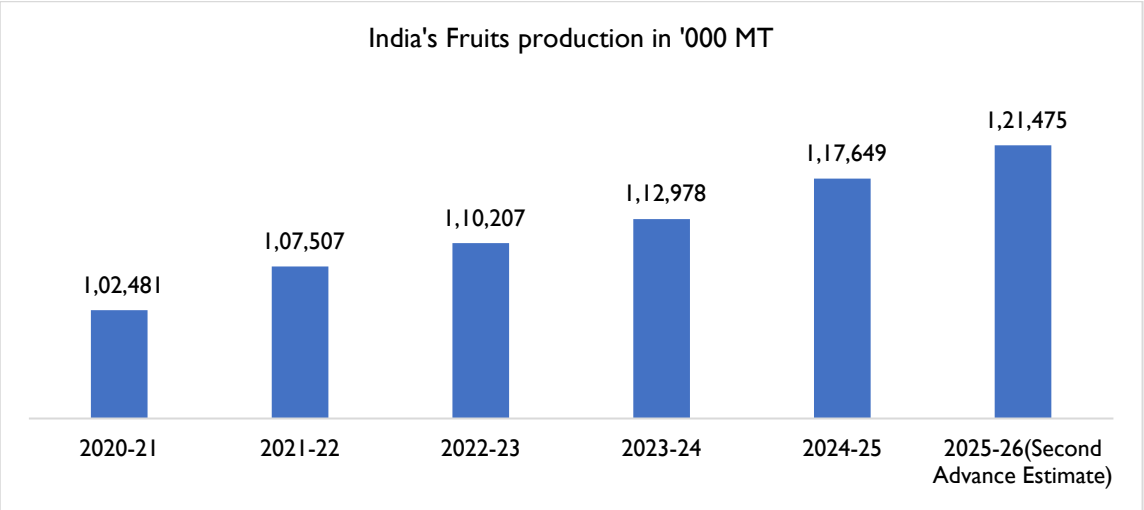


Source: Department of Agriculture & Farmers Welfare

Insight on production area, yield & state-wise fruit production[14]

India's fruit production area expanded gradually from **6,930 thousand hectares in 2020-21** to **7,266 thousand hectares in 2025-26(Second Advance Estimate)**, reflecting an overall increase of around **4.8%** during the period. The trend indicates that the expansion in fruit cultivation area remained steady but moderate, suggesting that production growth was not primarily driven by large-scale area addition. Instead, the sector appears to have benefited from better productivity across existing and incremental cultivation areas.

Year	Production in '000 MT	Area in '000 Hectares	Yield in MT/hectare
2020-21	1,02,481	6,930	14.8
2021-22	1,07,507	7,064	15.2
2022-23	1,10,207	7,025	15.7
2024-24	1,12,978	7,131	15.8
2024-25	1,17649	7,170	16.4
2025-26(Second Advance Estimate)	1,21,475	7,266	16.7

Source: Department of Agriculture & Farmers Welfare

[14] https://agriwelfare.gov.in/Documents/CWWGDATA/Agricultural_Statisitcs_at_a_Glance_2024_25_%E0%A4%95%E0%A5%83%E0%A4%B7%E0%A4%BF_%E0%A4%B8%E0%A4%BE%E0%A4%82%E0%A4%96%E0%A5%8D%E0%A4%AF%E0%A4%BF%E0%A4%95%E0%A5%80_%E0%A4%8F%E0%A4%95_%E0%A4%9D%E0%A4%B2%E0%A4%95_2024%E2%80%9325_2.pdf

Fruit yield improved from **14.8 MT/hectare in 2020-21** to **16.7 MT/hectare in 2025-26(Second Advance Estimate)** registering an overall increase of around **12.8%**. This improvement in yield was significantly higher than the growth in cultivated area, indicating that productivity enhancement played a key role in supporting the rise in fruit production. The increase in yield may be attributed to improved orchard practices, better crop management, adoption of improved varieties, irrigation support, and post-harvest handling improvements across key fruit-producing regions.

State-wise contribution to national production

The top five fruit-producing states in 2025-26(Second Advance Estimates) were **Andhra Pradesh, Maharashtra, Uttar Pradesh, Madhya Pradesh and Gujarat**, which together contributed around **60.3% of India's total fruit production**. Andhra Pradesh emerged as the largest contributor with a **17.50% share**, supported by high production of fruits such as banana, mango, citrus and papaya. The state's favourable agro-climatic conditions, strong horticulture base, relatively higher productivity, and established fruit-growing belts have enabled it to maintain a leading position in national fruit output.

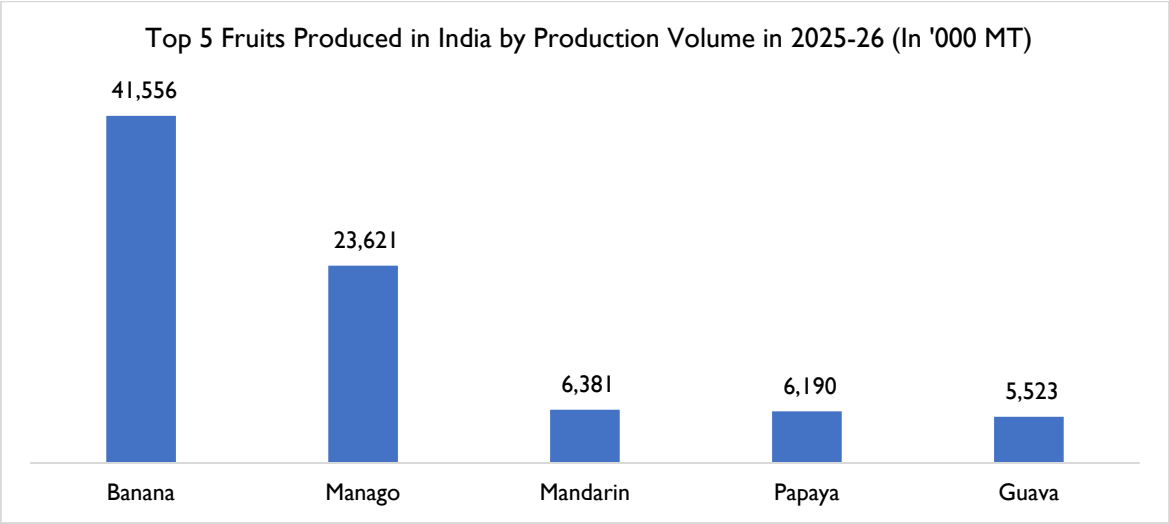
State / UT	Area	Production	Share in National Fruit Production
Andhra Pradesh	832.61	21,253.49	17.50%
Maharashtra	900.82	16,971.01	13.97%
Uttar Pradesh	599.95	15,082.33	12.42%
Madhya Pradesh	487.01	10,466.41	8.62%
Gujarat	486.11	9,494.49	7.82%
Tamil Nadu	339.93	7,829.88	6.45%
Karnataka	309.46	5,061.57	4.17%
Bihar	371.11	4,545.77	3.74%
West Bengal	331.14	4,371.67	3.60%
Kerala	314.19	4,084.99	3.36%
Odisha	392.79	3,067.23	2.52%
Assam	170.18	2,831.91	2.33%
Jammu & Kashmir	347.59	2,750.52	2.26%
Punjab	120.64	2,700.15	2.22%

Chhattisgarh	223.95	2,462.71	2.03%
Telangana	183.08	2,012.33	1.66%
Jharkhand	111.62	1,151.79	0.95%
Rajasthan	98.32	1,036.99	0.85%
Haryana	78.31	991.48	0.82%
Himachal Pradesh	237.37	796.31	0.66%
Tripura	59.69	622.35	0.51%
Meghalaya	40.97	407.09	0.34%
Uttarakhand	79.90	358.38	0.30%
Nagaland	35.31	334.40	0.28%
Manipur	22.27	271.08	0.22%
Mizoram	36.55	216.12	0.18%
Others	18.38	130.65	0.11%
Arunachal Pradesh	17.85	122.25	0.10%
Sikkim	18.95	49.28	0.04%
Total	7,266.04	1,21,474.61	100%

Source: Department of Agriculture & Farmers Welfare

Insight into the top 5 fruits produced in the country (in terms of volume)

India's fruit production remains highly concentrated in a few key crops, with bananas and mangoes collectively accounting for a significant share of the country's total fruit output. In 2025-26, banana production reached 41,556 thousand MT, making it the largest fruit crop in India by a substantial margin, followed by mango production at 23,621 thousand MT . The large production base of these fruits reflects their extensive cultivation across major horticultural states, strong domestic demand, and suitability to diverse agro-climatic conditions. Together, bananas and mangoes contribute significantly to India's position as one of the world's leading fruit-producing nations.



Source: Department of Agriculture & Farmers Welfare[15]

Note: This production data is based on 2025-2026 (Second Advance Estimates)

Beyond the two dominant crops, mandarin (6,381 thousand MT), papaya (6,190 thousand MT), and guava (5,523 thousand MT) represent important segments of the fruit industry, collectively contributing over 83,271 thousand MT of production. The diversified production profile highlights India's broad horticultural base and growing consumer preference for nutrient-rich fruits. Rising awareness regarding health and nutrition, expansion of organized retail channels, and increasing investments in post-harvest infrastructure continue to support growth across these fruit categories, strengthening the overall fruit production ecosystem.

❖ **Production Trends:**

Continued Dominance of Banana Production:

Banana remains India's largest fruit crop, accounting for approximately **34% of total fruit production**, with output reaching 41,556 thousand MT **in 2025-26**. Its dominance is supported by high productivity levels, year-round cultivation, and strong domestic demand. Government initiatives promoting micro-irrigation and quality planting materials have also improved horticultural productivity, with overall horticulture productivity increasing from **12.10 MT/ha in FY 2020 to 12.56 MT/ha in FY 2025**.[16]

Stable Growth in Mango Cultivation:

Mango production reached **23,621 thousand MT in 2025-26**, maintaining its position as India's second-largest fruit crop. India contributes nearly **45% of global mango production**[17], supported by expanding

[15] https://agriwelfare.gov.in/en/StatHortEst

[16] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2149705&ut&reg=48&lang=2

[17] https://www.global-agriculture.com/india-region/india-retains-global-leadership-in-mango-production-no-plans-for-mango-development-board-or-msp/?utm

high-density plantations, improved orchard management, and rising demand from domestic and export markets. Although only around **1% of production[18] is exported**, growing international demand continues to encourage production expansion.

Rising Demand for Nutrient-Rich Fruits:

Production of health-oriented fruits continues to rise, with **papaya production reaching 6,190 thousand MT** and **guava production 5,523 thousand MT in 2025-26**. Together, these fruits account for nearly **10% of India's fruit output**. Growing consumer awareness regarding immunity, digestive health, and nutritional benefits has contributed to increased cultivation and consumption of these fruits across both urban and rural markets. Fruit production overall is increased from **1,17,649 thousand MT in 2024-25 to 1,21,475 thousand MT in 2025-26**, driven largely by higher output of banana, mango, papaya, and guava.

Expansion of Horticulture Infrastructure:

The strengthening of post-harvest infrastructure is supporting commercial fruit production and reducing wastage across the value chain. Under the Mission for Integrated Development of Horticulture (MIDH), the government established over **55,748 post-harvest infrastructure facilities** (including cold storages, packhouses, ripening chambers, reefer vehicles, and processing units) and more than **11,140[19] marketing infrastructure facilities** between FY 2015 to 2025. These investments are improving market access, storage efficiency, and price realization for fruit growers.

Overview of Apple Cultivation, Bearing Life and Yield:

Apple is one of the most widely cultivated temperate fruits in the world and is valued for its nutritional content, versatility, and year-round consumer demand. Rich in dietary fibre, vitamins, antioxidants, and minerals, apples are consumed both as fresh fruit and as processed products such as juices, concentrates, purees, jams, ciders, and dried snacks. The fruit thrives in temperate climatic conditions requiring adequate winter chilling, making it suitable for cultivation in hilly and mountainous regions.

In India, apple cultivation is concentrated in the Himalayan states of **Jammu & Kashmir, Himachal Pradesh, and Uttarakhand**, which together account for the majority of the country's production. Commercial apple trees typically begin bearing fruit within **3–5 years** of planting and remain economically productive for **25–30 years** under proper orchard management. The productivity of apple orchards depends

[18] https://timesofindia.indiatimes.com/life-style/food-news/are-we-eating-all-our-mangoes-why-despite-being-the-largest-producer-of-mangoes-india-is-able-to-export-just-1-percent/photostory/130310509.cms?

[19] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2149705&utm&reg=48&lang=2

on factors such as variety, planting density, climatic conditions, irrigation, and cultivation practices, with the adoption of high-density plantations contributing to higher yields and improved orchard efficiency.

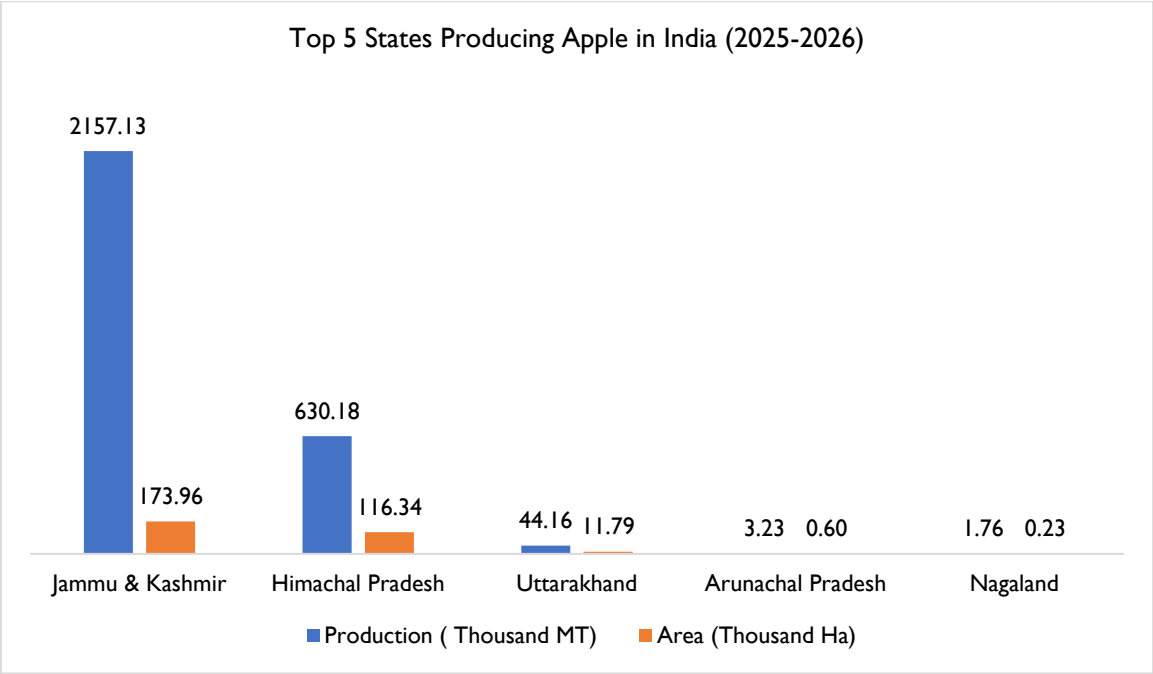
Apple Cultivation and Bearing Life

Apple is one of the most important temperate fruit crops in India and is primarily cultivated in the northern Himalayan states, including **Himachal Pradesh, Jammu & Kashmir, and Uttarakhand**. Commercial apple orchards generally begin bearing fruit **3–5 years after planting** (depending on the rootstock and variety), while they attain full commercial production after approximately **8–10 years**. Under proper orchard management practices, an apple tree remains economically productive for **25–30 years**, with some well-maintained orchards continuing to produce fruit beyond this period.

The productivity of apple orchards varies depending on factors such as variety, tree age, planting density, climatic conditions, and orchard management practices. Among the major producing states, **Himachal Pradesh, Jammu & Kashmir, and Uttarakhand** account for the majority of India's apple production. Yield per acre differs across these states due to variations in agro-climatic conditions, adoption of high-density plantations, irrigation availability, and cultivation practices. High-density apple orchards generally achieve significantly higher productivity compared to conventional orchards, supporting increased production and improved farm profitability.

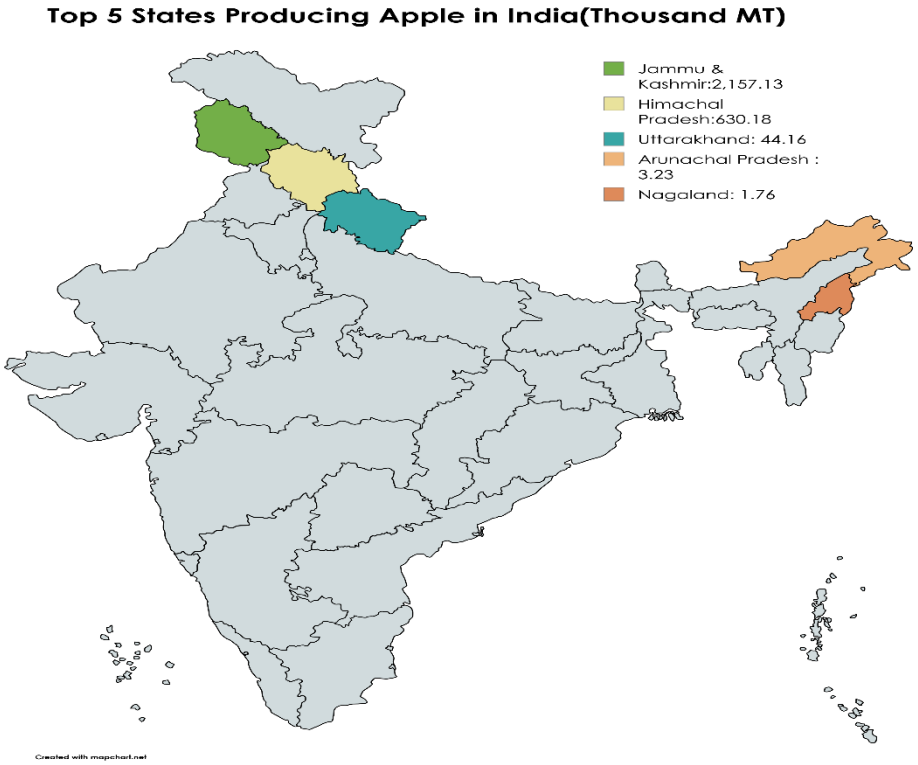
Total area in apple cultivation, major cultivation hubs- top 5 states & their contribution to pan india production

India’s apple cultivation spans a total area of approximately 303 thousand hectares (Ha) in 2026, predominantly concentrated in the northern Himalayan belt. The country's apple production is heavily skewed towards Jammu & Kashmir and Himachal Pradesh, which together account for nearly 98% of India’s total output.



Source: Department of Agriculture & Farmers Welfare[20]

Note: This production data is based on 2025-2026(Second Advance Estimate)



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[20] https://agriwelfare.gov.in/en/StatHortEst

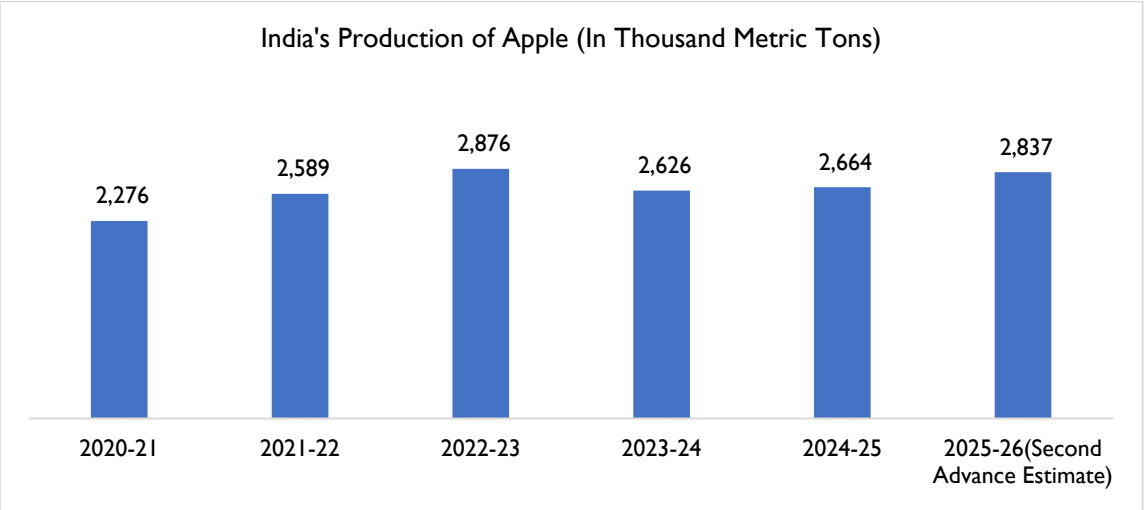
world map on 'as is', 'as available' basis from the said link and does not intend to represent anything except for territorial spread of the Subject Entity's business/operations.

Jammu & Kashmir, India's northernmost territory, is the dominant apple-producing region, contributing nearly 76% of the country's total apple production. With an estimated output of 2157.13 thousand metric tons (TMT) cultivated over 173.96 thousand hectares (Ha), it is the heart of India's apple industry. The region's favourable climatic conditions and traditional expertise in apple farming support the cultivation of popular varieties such as Red Delicious, Golden Delicious, Ambri, McIntosh, Granny Smith, and Rich Red. However, despite this production strength, the region's full potential remains underutilized due to infrastructural bottlenecks. Himachal Pradesh, accounting for approximately 22% of the nation's apple production, follows with a production volume of 630.18 thousand metric tons (TMT) over 116.34 thousand Ha. Himachal has been a vital contributor to India's apple supply, structured orchard systems and the gradual adoption of high-density plantation models that improve yield per hectare.

Other states like Uttarakhand (44.16 TMT, 11.79 thousand Ha), Arunachal Pradesh (0.26 TMT, 0.29 thousand Ha), and Nagaland (1.76 TMT, 0.23 thousand Ha) contribute marginally, with these regions collectively accounting for just 1.6% of India's overall apple production. India's total apple cultivation area stands at 303.25 thousand Ha in 2026, with Jammu & Kashmir covering 57% of this area and Himachal Pradesh 38%, while the remaining states contribute a mere 3% to 4%. This extreme concentration in two northern states creates a supply chain bottleneck, where limited cold storage capacity, inadequate local road infrastructure, and lack of refrigerated transport facilities hinder the smooth movement of apples to distant Indian markets. Consequently, even with a sizable domestic production base, imported apples favoured for their superior shelf life and consistent post-harvest handling continue to dominate urban retail shelves. For India to reduce import dependency and ensure sustainable growth in domestic apple production, it is crucial to invest in cold chain infrastructure, last-mile logistics, and the expansion of high-density orchards in underutilized regions like Uttarakhand, Arunachal Pradesh, and Sikkim. Additionally, focusing on varietal diversification tailored for long-distance transport and evolving market preferences will be essential to enhancing the competitiveness of Indian apples across the supply chain.

India's Apple Production Trends:

Apple is one of the major temperate fruit crops cultivated in India and is primarily grown in the northern and hilly states, including **Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, and Nagaland**. The crop requires cool climatic conditions, adequate winter chilling, and well-drained soils for optimum growth and fruit development. Apple cultivation plays a significant role in the horticulture sector by generating farm income and supporting livelihoods in these regions. Increasing adoption of high-density plantations, improved planting material, and scientific orchard management practices has contributed to enhanced productivity and stable production across the country.



Source: United States Department of Agriculture (USDA)[21]

India's apple production showed an overall upward trend, increasing from 2,276 thousand MT in 2020–21 to 2,837 thousand MT in 2025–26 (Second Advance Estimate), representing overall growth of approximately 24.6% during the period. Production rose to 2,589 thousand MT in 2021–22 and peaked at 2,876 thousand MT in 2022–23, before declining to 2,626 thousand MT in 2023–24. Output subsequently recovered to 2,664 thousand MT in 2024–25 and 2,837 thousand MT in 2025–26 (Second Advance Estimate). Overall, apple production recorded a CAGR of approximately 4.5% between 2020–21 and 2025–26,

Orange Cultivation, Productivity and Bearing Seasons in Amravati (Maharashtra)

Orange is one of the most important commercial fruit crops in India and contributes significantly to the country's horticulture sector. Maharashtra is the leading producer of mandarin oranges, with the **Vidarbha region**, particularly **Nagpur and Amravati**, recognized for the cultivation of the renowned **Nagpur Mandarin**, which has received Geographical Indication (GI) status. Orange cultivation thrives under subtropical climatic conditions with well-drained soils. Commercial orange trees generally **begin bearing fruits 4–5 years after planting** and remain economically productive for approximately **25–30 years** under proper orchard management practices.

Orange Bearing Seasons and Productivity:

Orange is one of the most commercially important citrus fruit crops in India, with Maharashtra being the leading producer of **Nagpur Mandarin**, particularly in the **Vidarbha region** comprising Nagpur and Amravati districts. The crop thrives under subtropical climatic conditions with well-drained soils and adequate

[21] https://www.fas.usda.gov/data/production/0574000

irrigation. Commercial orange trees generally **begin bearing fruits within 4–5 years of planting**, attain full commercial production after **7–8 years**, and remain economically productive for approximately **25–30 years** under proper orchard management practices.

In **Amravati (Maharashtra)**, orange cultivation is regulated through two principal flowering seasons, namely **Ambe (Ambia) Bahar** and **Mrig Bahar**, by adopting the bahar treatment technique. **Ambe Bahar** flowering takes place during **January–February**, with harvesting from **October to December**, whereas **Mrig Bahar** flowering occurs during **June–July**, followed by harvesting during **February–April**. Among the two, **Mrig Bahar** is generally preferred by growers due to its superior fruit quality, higher juice content, improved shelf life, and better market realization. While the **National Horticulture Board** recognizes both bahar seasons as the principal crop regulation practices for citrus cultivation, it does **not publish separate official yield per acre for Ambe and Mrig Bahar in Amravati**. The reported productivity for the district varies depending on orchard age, variety, irrigation availability, climatic conditions, and crop management practices. In FY2025, **Amravati district had approximately 82,378 hectares (2,03,560.15 Acres) under orange cultivation, of which around 65,000[22] hectares (1,60,618.25 Acres)[23] were under the Ambe Bahar season**, highlighting the district's prominence as one of Maharashtra's major orange-producing regions. The predominance of Ambe Bahar cultivation reflects growers' preference for this production cycle, despite seasonal variations affecting yield and fruit quality.

Orange Bearing Seasons - Amravati (Maharashtra):

Particular	Ambe Bahar	Mrig Bahar
Flowering Period	January – February	June – July
Harvesting Period	October – December	February – April
Initial Bearing	4–5 years after planting	4–5 years after planting
Economic Bearing Life	25–30 years	25–30 years

In Maharashtra, orange cultivation is regulated through two principal flowering seasons **Ambe Bahar** and **Mrig Bahar** to optimize productivity and fruit quality. **Ambe Bahar** involves flowering during **January- February** and harvesting from **October- December**, whereas **Mrig Bahar** flowers during **June- July** with harvesting between **February- April**. Orange trees generally **begin commercial bearing 4- 5 years after planting** and remain **economically productive for approximately 25- 30 years** under proper orchard management. Among the two seasons, **Mrig Bahar** is generally preferred by growers due to its

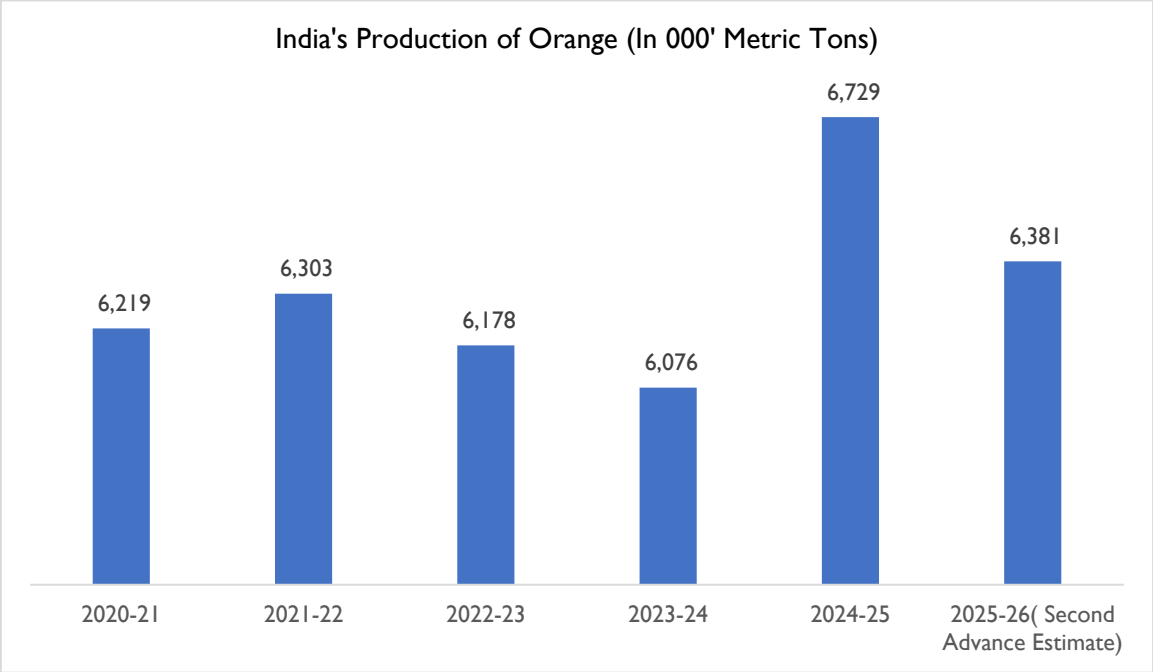
[22] https://timesofindia.indiatimes.com/city/nagpur/rains-and-low-yield-hike-prices-of-ambia-bahar-oranges/articleshow/122789559.cms?utm

[23] 1 hectare = 2.47105 acres (65,000 ha × 2.47105 = 160,618.25 acres)

superior fruit quality, higher juice content, improved shelf life, and better market realization, while the choice of bahar depends on irrigation availability, climatic conditions, and market demand.

India's Orange Production Trends:

India's orange production has witnessed steady development over the years, supported by expanding cultivation practices, improved orchard management techniques, adoption of high-yielding varieties, and increasing demand from both fresh fruit and processing industries. The crop plays an important role in the horticulture sector, with production concentrated in key citrus-growing regions where favourable agro-climatic conditions support large-scale cultivation. Growing investments in post-harvest infrastructure, supply chain improvements, and processing capabilities have further strengthened the orange value chain, enhancing market opportunities for farmers and industry participants.



Source: Department of Agriculture & Farmers [24]

India's orange production has remained relatively stable over the past five years, with production increasing from **6,219 thousand metric tonnes in 2020-21** to a peak of **6,303 thousand metric tonnes in 2021-22**. However, production witnessed a marginal decline during 2022-2023 and 2024, reaching **6,178 thousand metric tonnes** and **6,076 thousand metric tonnes**, respectively, due to factors such as climatic variations and fluctuations in yield. In 2024-25, orange production recovered to **6,729 thousand metric tonnes** , indicating a gradual stabilization in output.

State-wise Production of Orange in India:

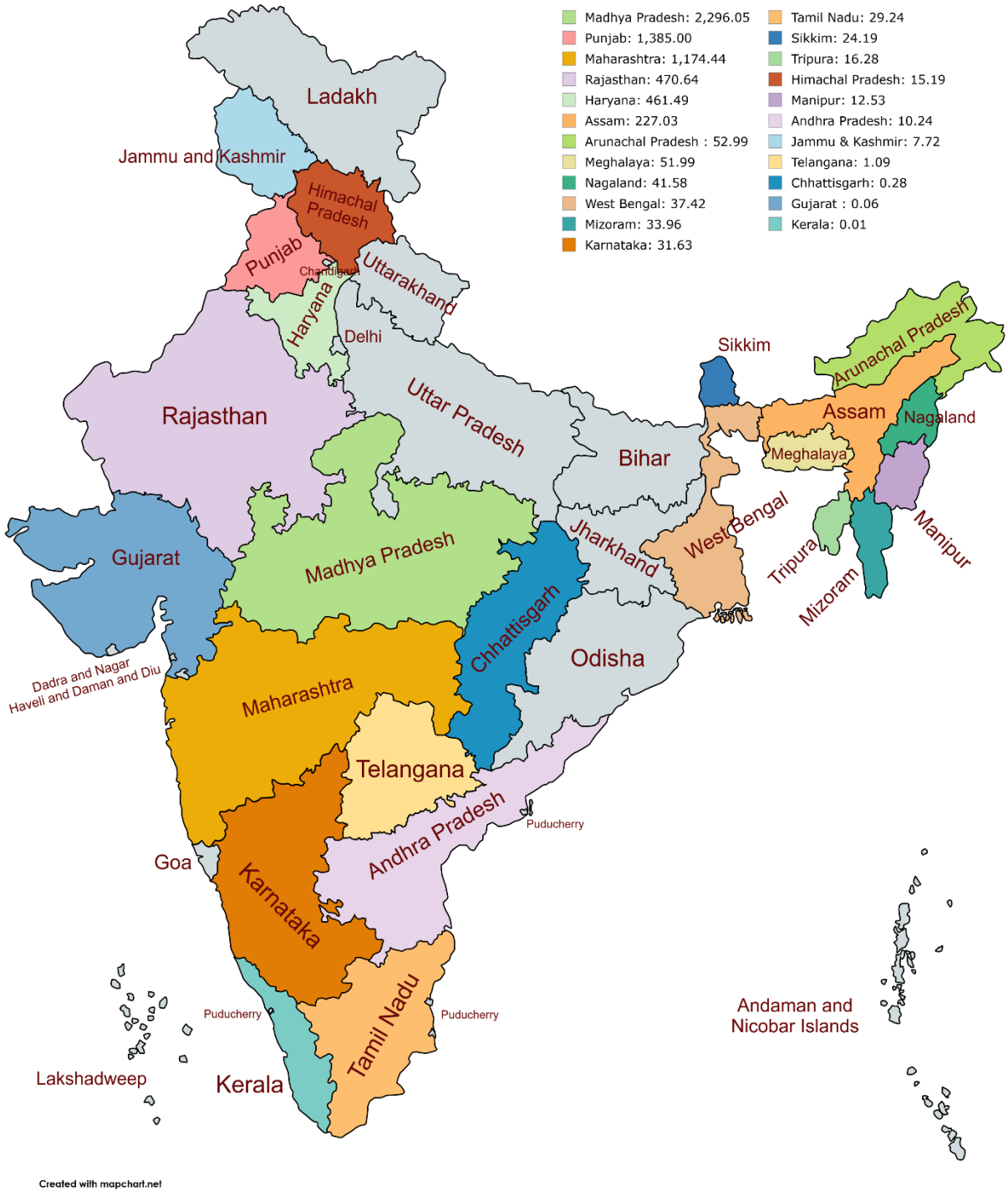
[24] https://www.agriwelfare.gov.in/en/StatHortEst

India's orange production is concentrated primarily in a few major citrus-growing states, with the top five producing states collectively contributing **approximately 90.70% of India's total mandarin orange production**. Madhya Pradesh is the largest producer, accounting for **35.98%** of national production, followed by Punjab (**21.70%**) and Maharashtra (**18.41%**). Haryana and Rajasthan contribute **7.38%** and **7.23%**, respectively, further strengthening the dominance of these leading states in India's orange production landscape. The higher concentration of production in these states is supported by favourable agro-climatic conditions, established cultivation practices, and developed supply chain networks.

Rank	State	Production ('000 MT)
1	Madhya Pradesh	2,296.05
2	Punjab	1,385.00
3	Maharashtra	1,174.44
4	Rajasthan	470.64
5	Haryana	461.49
6	Assam	227.03
7	Arunachal Pradesh	52.99
8	Meghalaya	51.99
9	Nagaland	41.58
10	West Bengal	37.42
11	Mizoram	33.96
12	Karnataka	31.63
13	Tamil Nadu	29.24
14	Sikkim	24.19
15	Tripura	16.28
16	Himachal Pradesh	15.19
17	Manipur	12.53
18	Andhra Pradesh	10.24
19	Jammu & Kashmir	7.72
20	Telangana	1.09
21	Chhattisgarh	0.28
22	Gujarat	0.06
23	Kerala	0.01
Total India	6,381.05	

Source: Department of Agriculture & Farmers 2025-26(Second Advance Estimates)

State Wise Production of Orange in India (Thousand MT)



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Beyond the leading producers, orange cultivation is spread across several states, including Assam, Karnataka, Arunachal Pradesh, Mizoram, Meghalaya, Nagaland, and Manipur, which contribute to regional production

diversity. Other states such as West Bengal, Sikkim, Himachal Pradesh, Tripura, Tamil Nadu, Andhra Pradesh, Jammu & Kashmir, Telangana, Chhattisgarh, and Kerala account for smaller shares of national output. The widespread cultivation across 23 states highlights the adaptability of orange to varied climatic regions and its importance within India's broader citrus fruit sector.

Fruit Processing Scenario

Brief Insight of Fruit Processing Industry [25]

India's fruit processing industry plays an important role in converting perishable fruits into value-added products such as **pulp, puree, juices, concentrates, jams, frozen fruits, dehydrated fruits, canned products and ready-to-consume fruit-based items**. The need for fruit processing is supported by India's large fruit production base, with fruit output was estimated at **118.76 million tonnes in 2024-25**, increasing by around **5.12%** over the previous year. This provides a sizeable raw material base for processing, while also creating the need for efficient post-harvest handling, storage, transportation and value addition.

The industry helps bridge the gap between seasonal fruit production and year-round consumption by improving shelf life, product stability and usability across food and beverage applications. It also supports better utilization of fruits that may not be suitable for direct retail sale due to size, appearance, ripeness level or shorter shelf life. In this way, fruit processing reduces dependence on immediate fresh-market sales and creates additional demand channels for farmers, aggregators and processors.

Role of Fruit Processing Industry

The fruit processing industry plays a critical role in strengthening India's overall food production ecosystem by enabling the conversion of fresh horticulture produce into standardized, value-added and market-ready products. Since fruits are seasonal and highly perishable, processing helps extend their usability beyond the harvest period and supports consistent availability of fruit-based products throughout the year. This is particularly important for products such as fruit pulp, juices, concentrates, frozen fruits and dehydrated fruits, which can be stored, transported and used across multiple food applications.

The sector also supports value addition within the horticulture value chain by creating demand for fresh fruits beyond traditional wholesale and retail markets. It enables farmers and aggregators to supply produce to processing units, including fruits that may not meet fresh retail standards but remain suitable for industrial use. This improves overall resource utilization, reduces wastage pressure and supports better price realization across the supply chain.

In the broader food production sector, fruit processing acts as an important input supplier to industries such as **beverages, dairy, bakery, confectionery, HoReCa, organized retail and exports**. Processed fruit ingredients are used in juices, flavoured dairy products, desserts, fillings, jams, sauces, snacks and ready-to-

[25] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2248987&reg=3&lang=1
https://www.pib.gov.in/PressReleasePage.aspx?PRID=2194573&reg=3&lang=2

consumer products. Therefore, the industry not only supports agricultural value addition but also contributes to product innovation, organized food manufacturing and expansion of packaged food categories.

Other Supporting Factors

- **Changing consumption patterns:** Rising preference for convenience foods, packaged products and ready-to-consume fruit-based items is supporting demand for processed fruit products.
- **Growth of organized retail and HoReCa:** Expansion of supermarkets, hotels, restaurants, cafés, quick-service restaurants and institutional food channels is creating demand for standardized fruit inputs.
- **Cold chain and logistics development:** Improvement in storage, transportation and distribution infrastructure supports better handling of perishable fruits and improves processing efficiency.
- **Demand from food and beverage companies:** Increasing use of fruit-based ingredients in beverages, dairy, desserts, bakery and confectionery is expanding the relevance of fruit processing in the food value chain.

Current Scenario of Fruit Processing Infrastructure in India [26]

India's fruit processing infrastructure is gradually evolving from a fragmented and regionally dispersed base toward a more organized, cluster-led ecosystem. The infrastructure required for fruit processing typically includes farm-gate collection centres, sorting and grading facilities, pack houses, ripening chambers, cold storage, controlled atmosphere storage, pulping and puree units, juice and concentrate lines, freezing/IQF facilities, dehydration units, aseptic packaging, warehouses and reefer logistics. These facilities are important for linking fruit-producing regions with processors, food and beverage companies, organized retail, HoReCa and export markets.

In terms of infrastructure progress, MoFPI's Annual Report 2024-25 indicates that 558 food processing units had been taken up under the Creation/Expansion of Food Processing & Preservation Capacities scheme as of 31 December 2024, of which 283 units were completed and 275 were under implementation. The completed units had created processing capacity of **59.87 lakh MT per annum**, indicating gradual expansion in organized food processing capacity. The report also notes that **286 completed cold chain projects** had created cold storage/CA/MA/deep freezer capacity, IQF capacity and reefer vehicle infrastructure, supporting better handling of perishable produce such as fruits.

Key fruit processing hubs in India are generally aligned with major horticulture-producing belts and consumption-linked processing clusters. States such as Andhra Pradesh, Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Telangana, Punjab, Uttarakhand and Kerala have developed relevance due to their fruit production base, availability of raw material, presence of food parks or agro-processing clusters, cold-chain infrastructure, and access to food manufacturing and export channels. Processing activity is typically stronger

[26] https://www.mofpi.gov.in/sites/default/files/mofpi_annual_report_2024-25_english_21.08.2025.pdf

in regions where fruit availability, logistics, storage infrastructure and downstream demand are better integrated.

However, India's fruit processing level continues to remain at a developing stage compared with its large fruit production base. A significant part of fruit output is still consumed through fresh markets, while organized processing is concentrated around selected product categories such as pulp, puree, juices, concentrates, frozen fruits, dehydrated fruits and ready-to-consume fruit-based products. This indicates further scope for investment in processing units, cold chain, farm-gate aggregation, quality standardization, packaging and logistics. Overall, the status of fruit processing infrastructure in India reflects steady improvement, supported by food processing units, cold-chain projects and cluster-based development.

Analysis of Government regulations / policies / framework supporting the industry [27]

The Government of India has created a supportive policy framework for the development of food and fruit processing infrastructure through a combination of capacity expansion incentives, cluster-based infrastructure development, cold-chain support, micro-enterprise formalisation and investment-enabling measures. These initiatives are relevant for the fruit processing industry as fruits require efficient post-harvest handling, storage, grading, pulping, freezing, dehydration, packaging and logistics to reduce wastage and improve value addition across the horticulture value chain.

- **Production Linked Incentive Scheme for Food Processing Industry:** The PLI Scheme for Food Processing Industry has been introduced to support the creation of global food manufacturing champions and strengthen Indian food brands in domestic and international markets. The scheme has an outlay of **INR 10,900 crore** and is implemented over the period **2022 to 2027**. It supports food manufacturing entities with prescribed minimum sales and investment commitments for expanding processing capacity and branding abroad. The scheme covers key segments including **processed fruits and vegetables, ready-to-cook / ready-to-eat foods, marine products and mozzarella cheese**, thereby directly supporting value-added food manufacturing. As per MoFPI, the scheme is expected to facilitate processed food output of INR **33,494 crore** and create employment for nearly **2.5 lakh persons** by 2026-27.

- **Mega Food Parks:** The Mega Food Park Scheme supports integrated infrastructure for food processing through a cluster-based model. These parks are designed to provide common facilities such as storage, processing, logistics, utilities and support services, thereby helping processors reduce infrastructure gaps and improve linkages between production centres and markets. For fruit processing, such parks are

[27] https://www.ibef.org/blogs/the-future-of-food-processing-in-india-growth-opportunities-and-challenges

important as they can support facilities such as cold storage, sorting and grading, packaging, pulping, warehousing and quality testing. The scheme provides capital grant support of **50% of eligible project cost in general areas and 75% in difficult and hilly areas**, subject to a maximum of **INR 50 crore per project**.

- **PM Formalisation of Micro Food Processing Enterprises Scheme:** The PMFME scheme supports small and unorganised food processing units by providing financial, technical and business assistance for setting up or upgrading micro food processing enterprises. The scheme is relevant for fruit processing because many fruit-based products such as juices, jams, dehydrated fruits, pickles, pulp and regional fruit products are produced by micro and small units at the district level. Under the scheme, individual micro food processing units are eligible for credit-linked capital subsidy of **35% of eligible project cost**, with a maximum ceiling of INR **10 lakh per unit**. The scheme also follows the One District One Product approach, which helps align local raw material availability, processing capacity, branding and market access.

- **Foreign Direct Investment and Investment Facilitation:** The government has also supported the sector through liberalized investment norms and ease-of-doing-business measures. **100% FDI is permitted under the automatic route in food processing industries**, while **100% FDI is permitted under the government approval route for trading, including e-commerce, of food products manufactured or produced in India**. This policy framework helps attract private and foreign investment into processing facilities, cold chain, packaging, technology, logistics and branded food manufacturing. In addition, government measures such as online scheme management, investment facilitation platforms and credit support for food parks are helping improve investor participation in the food processing ecosystem.

Overall, India's policy framework is supportive of fruit processing infrastructure development, as it addresses multiple stages of the value chain, including post-harvest handling, storage, processing capacity, branding, market access and investment mobilisation. These schemes and reforms are expected to support organized fruit processing, encourage value addition, reduce post-harvest inefficiencies and strengthen the integration of fruit-producing regions with food manufacturing and export-oriented value chains.

India–UK CETA: Zero-Duty Market Access for Agriculture & Food Processing[28]

The India–UK Free Trade Agreement (FTA), officially known as the Comprehensive Economic and Trade Agreement (CETA), introduces a significant opportunity for India's processed food industry by eliminating import duties on a wide range of products exported to the UK. Under the agreement, processed food products that previously attracted import duties of up to **70%** will now benefit from **zero tariffs**, substantially improving the price competitiveness of Indian processed food exports in the UK market.

The removal of tariffs is expected to enhance export opportunities for value-added agricultural products, including fruit concentrates, fruit juices, processed fruits, and other food preparations. For manufacturers of fruit concentrates, the agreement is likely to support higher export volumes, strengthen market access in the UK, and encourage further investments in processing capacity and value-added production. Overall, the zero-tariff regime is expected to improve India's competitiveness in global processed food trade while creating new growth opportunities for exporters.

India–UK CETA: Key Benefits for Agriculture & Food Processing Sector:

- The India–UK CETA provides **zero-duty market access** across **1,437 agricultural tariff lines (14.8% of total tariff lines)** and **985 food processing tariff lines (10.1% of total tariff lines)**.
- India exports agricultural products worth over **USD 57 billion** globally, including **USD 45.05 billion in FY2023**, up from **USD 41.3 billion in FY2021**.
- The UK imports agricultural and processed food products worth over **USD 90 billion** annually, while India's agricultural exports to the UK are only **USD 1.11 billion**, indicating significant untapped export potential.
- India exports **USD 14.07 billion** worth of processed food globally, whereas the UK imports processed food worth **USD 50.68 billion**, with imports from India amounting to only **USD 309.5 million**.
- The agreement includes the UK's commitment to **waive safeguards under the WTO Agreement on Agriculture** and to **recognise traditional knowledge in the patent process for genetic resources**, while promoting inclusive and technology-agnostic innovation in the agriculture sector.
- The CETA is expected to increase India's agricultural exports to the UK by **over 50% during the next three years**, driven by duty-free access.

[28] https://x.com/PiyushGoyal/status/2077260581338587223
https://www.pib.gov.in/PressReleasePage.aspx?PRID=2274280&lang=1&reg=48&utm
https://www.pib.gov.in/PressReleasePage.aspx?PRID=2284878&lang=2&reg=48&utm

- Key products expected to benefit include **fresh grapes, mangoes, processed food preparations, fruit concentrates, fruit juices, preserved fruits and vegetables, nuts, spices, bakery products, sauces, tea, coffee, and marine products**.
- The agreement is also expected to benefit producers across **Andhra Pradesh, Tamil Nadu, Punjab, Maharashtra (grapes and onions), Gujarat (groundnut and cotton), Kerala (spices), and the North Eastern States (horticulture)** by enhancing market access and placing Indian products on par with major EU exporters in the UK market.

Demand Scenario

Key Factors Driving Demand for Fruit Consumption in India[29]

Demand for fruit consumption in India is being supported by rising health awareness, improving household spending capacity, urbanization and changing food consumption patterns. Fruits are increasingly being viewed as an important component of balanced diets due to their nutritional value, natural ingredients and association with healthier lifestyles. This is supporting demand across both fresh fruit categories and value-added fruit-based products such as juices, smoothies, fruit snacks and ready-to-consume formats.

- Health and nutrition awareness remains one of the key demand drivers for fruits in India. The **World Health Organization (WHO)** recommends consumption of at least **400 grams of fruits and vegetables per day** for individuals above 10 years of age, highlighting the importance of fruits as part of regular dietary intake. Increasing consumer focus on immunity, wellness and preventive healthcare is further strengthening the role of fruits in daily food consumption patterns.
- Urbanization and lifestyle changes are also contributing toward higher fruit consumption demand. According to the **World Bank**, India's urban population is expected to reach around **600 million by 2036**, representing nearly **40% of the population**, compared with around **31% in 2011**. Rising urbanization is increasing demand for convenient, hygienic and ready-to-consume fruit formats such as cut fruits, packaged fruit bowls, juices, fruit snacks and smoothies. Expansion of supermarkets, organized retail, quick-commerce platforms and foodservice channels is further improving accessibility and availability of fruit products across urban markets.
- Another important factor supporting fruit consumption is the gradual increase in household spending capacity. As per the **Household Consumption Expenditure Survey 2023-24**, average monthly per capita consumption expenditure was estimated at **INR 4,122 in rural India** and **INR 6,996 in urban India**, indicating stronger consumer spending ability, particularly toward diversified food categories beyond staple products. Rising disposable income and dietary diversification are supporting consumption

[29] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2097601&
https://www.worldbank.org/en/news/opinion/2024/01/30/gearing-up-for-india-s-rapid-urban-transformation
https://www.who.int/news-room/fact-sheets/detail/healthy-diet
https://www.mospi.gov.in/sites/default/files/press_release/HCES_Report202324_Press_Note_30012025.pdf

of fresh fruits, premium fruits and value-added fruit-based products across both rural and urban households.

Overall, demand for fruit consumption in India is expected to remain supported by increasing health consciousness, rising urbanization, improving household spending capacity and changing dietary preferences. Growing preference for nutritious, convenient and ready-to-consume food products, along with expanding organized retail and foodservice channels, is likely to continue strengthening demand for both fresh and processed fruit products across the country.

Key Factors Driving the Demand in Indian Fruit Processing Industry[30]

Demand in the Indian fruit processing industry is being supported by increasing consumption of value-added fruit products across both domestic and international markets. Rising preference for packaged hygienic and convenience-oriented food products is encouraging greater consumption of processed fruit categories such as fruit pulp, purées, concentrates, juices, frozen fruits, dehydrated fruits and fruit-based snacks. The industry is also benefiting from changing dietary habits, increasing urbanization and the growing integration of fruit ingredients across food and beverage applications.

India's processed fruit segment is largely dominated by **mango-based products**, particularly **Alphonso and Totapuri varieties**, which are extensively used in fruit purées, pulp and concentrates for beverages, dairy products, bakery items, desserts, confectionery and foodservice applications. Mango pulp and concentrates continue to remain among the key processed fruit categories due to their widespread industrial usage and export demand. Apart from mango-based products, processed categories such as **canned papaya, dehydrated banana chips, apple chips, vacuum-dried jackfruit, fruit bars and dried figs** are also witnessing increasing demand due to rising consumer preference for ready-to-consume, longer shelf-life and convenience-led food products.

The industry is further witnessing increasing demand for processed fruit beverages and convenience-oriented fruit formats. **Aseptically packed and frozen fruit juices** have gained traction among health-conscious consumers as well as institutional buyers in foodservice, hospitality and quick-service restaurant segments. Growth in cafés, juice chains, organized retail, supermarkets and online grocery platforms is also supporting wider accessibility and consumption of packaged fruit products across urban and semi-urban markets.

Another important demand driver is the increasing focus on premium and niche processed fruit categories in export markets. Indian exporters are gradually catering to international demand for **organically processed fruits, nut-based spreads and fruit-derived pastes** such as cashew butter and almond paste. Simultaneously, increasing compliance with international food safety and quality standards such as **HACCP and ISO certifications** is improving the acceptance of Indian processed fruit products across developed markets. This is supporting the expansion of export-oriented fruit processing capacities and encouraging

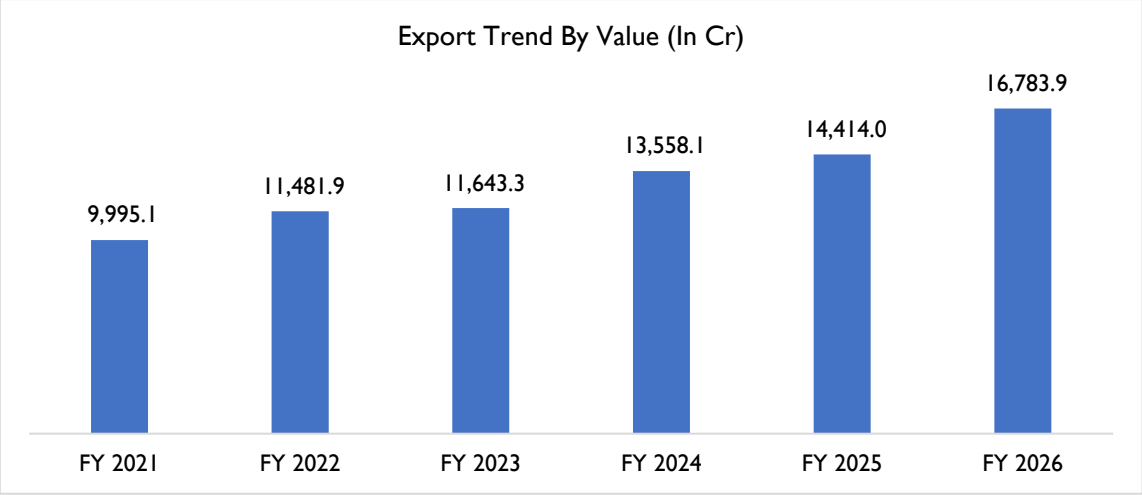
[30] https://mofpi.gov.in/sites/default/files/KnowledgeCentre/Sector%20Profile/F&V_Sector_Profile(1).pdf

greater value addition within the Indian fruit processing industry. Overall, demand in the Indian fruit processing industry is being supported by rising preference for convenience-based food products, increasing industrial usage of fruit ingredients, growth in processed beverage consumption, expanding organized retail and foodservice channels, and improving export opportunities for value-added fruit products.

Export of Fruits & Processed Fruit Products from India

Annual Export of Fresh Fruits from India & historical growth trend[31]

India's fresh fruit export industry has witnessed strong growth over the last five years, driven by rising global demand for Indian horticulture products and improving export infrastructure. The country has increasingly strengthened its position in international markets through better quality standards, enhanced cold chain logistics, and expansion into new export destinations. Growing production of fruits such as mangoes, bananas, grapes, and pomegranates has further supported export growth. In addition, favourable government initiatives promoting agricultural exports and increasing focus on value chain development have contributed to the steady expansion of India's fresh fruit export sector.



Source: Directorate General of Foreign Trade

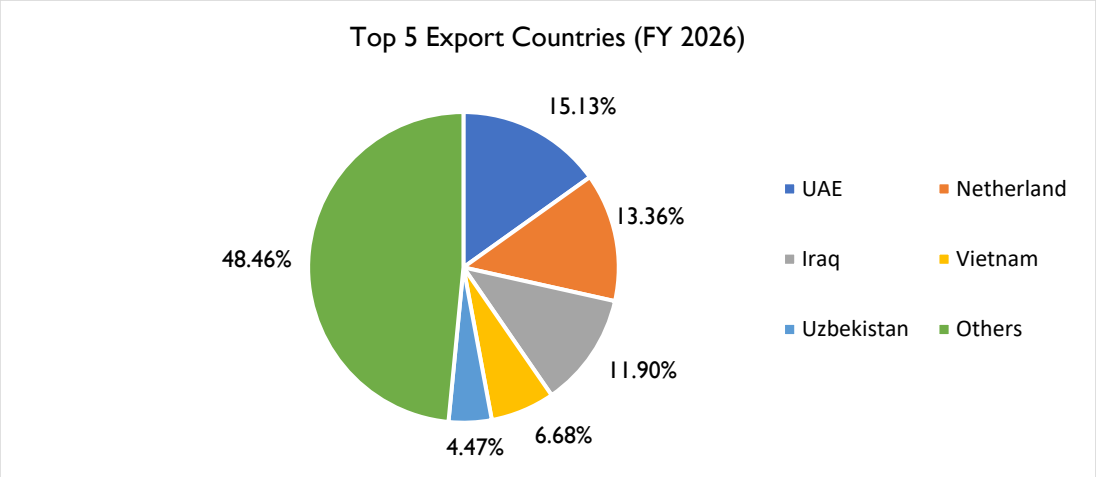
The graph shows a strong and consistent growth in India's fresh fruit exports over the last five years, reflecting increasing global demand and improved export capabilities. Export value rose from **INR 9,995.05 crore in FY 2021** to **INR 16,783.93 crore in FY 2026**, indicating an overall growth of nearly **68%** during the period. After a moderate rise from FY 2021 to FY 2023, exports accelerated significantly in FY 2024, reaching **INR 13,558.05 crore**, which suggests better market access, stronger international trade relationships, and increased competitiveness of Indian fruits in global markets.

The upward trend continued in FY 2025 and FY 2026, with exports reaching **INR 14,414.02 crore** and **INR 16,783.93 crore**, respectively, marking the highest value in the observed period. This sustained growth

[31] Trade analysis has been conducted considering HS Code 08 (*Edible Fruit and Nuts; Peel of Citrus Fruit or Melons*)

highlights the expanding role of India's fruit sector in international trade, supported by improved supply chains, better quality standards, and rising demand for products such as mangoes, bananas, grapes, and pomegranates. The consistent increase in export value indicates strong potential for further expansion in fruit exports and greater contribution of the horticulture sector to India's agricultural economy.

Top 5 export destinations of fruit exports from India[32]



Source: Directorate General of Foreign Trade

- **UAE:** The United Arab Emirates (UAE) is the largest export destination for Indian fruits, accounting for **15.13%** of total fruit exports. Its strong demand is driven by a large expatriate population, including a significant Indian diaspora, which creates consistent consumption of Indian fruits. The UAE also serves as a major re-export hub, enabling Indian fruits to reach other Gulf and international markets. Geographic proximity and efficient trade logistics further support faster shipments and lower transportation costs. The market presents strong opportunities for premium and fresh fruit categories, especially mangoes, bananas, and pomegranates.
- **Netherlands:** The Netherlands**,** contributing **13.36%** of India's fruit exports, acts as a key gateway to the broader European market. Through major ports like Rotterdam, Indian fruits are distributed across several European countries. Demand in this market is driven by strict quality standards and growing consumer preference for exotic and tropical fruits. Exporting to the Netherlands enhances India's access to high-value international buyers and premium pricing opportunities. Compliance with European food safety and packaging standards remains essential for sustained growth in this region.
- **Iraq:** Iraq accounts for **11.90%** of India's fruit exports, making it one of the major markets in the Middle East. The country has strong demand for affordable and quality fresh fruits, supported by growing urban consumption. India benefits from established trade relationships and competitive pricing advantages in this market. Fruits such as apples, bananas, and citrus varieties are commonly exported to Iraq. Continued

[32] Trade analysis has been conducted considering HS Code 08 (*Edible Fruit and Nuts; Peel of Citrus Fruit or Melons*).

expansion in this market can be supported through stronger distribution networks and reliable supply chain management.

- **Vietnam:** Vietnam**,** with a **6.68%** share, represents an important and growing export market for Indian fruits in Southeast Asia. Rising consumer demand, economic growth, and increasing preference for imported fruits are supporting India's presence in the country. Vietnam also offers strategic potential as a gateway to neighbouring ASEAN markets. Competitive pricing and improved trade agreements can further strengthen India's export position. Expanding awareness and promotion of Indian fruit varieties can help unlock additional growth opportunities.
- **Uzbekistan:** Uzbekistan contributes **4.47%** to India's fruit exports and reflects India's growing trade engagement in Central Asia. The market offers opportunities due to increasing demand for imported fruits and improving regional trade connectivity. India's expanding diplomatic and economic ties with Central Asian nations support export growth to this region. Fresh fruits with longer shelf life are particularly suitable for this market. Strengthening logistics routes and bilateral trade cooperation can further enhance India's market share in Uzbekistan.
- **Others**: The "Others" category accounted for the largest combined share of 48.46%, indicating that Indian fruit exports are widely diversified across multiple international markets. This broad distribution highlights India's expanding global footprint and reduced dependence on a limited number of countries. Export destinations under this segment likely include countries across Asia, Europe, North America, and Africa, supported by increasing global demand for Indian tropical fruits. Diversification helps mitigate risks associated with trade restrictions, geopolitical uncertainties, or demand fluctuations in any single market. It also reflects the growing competitiveness of Indian fruit exports in terms of pricing, product variety, and supply capabilities across global markets.

Annual Export of prepared / processed fruits from India & top 5 export destinations [33]

India's prepared and processed fruit industry has gained significant importance within the country's food processing and Agri-export ecosystem, driven by increasing global demand for packaged, ready-to-consume, and value-added food products. The sector benefits from India's large fruit production base, improving food processing infrastructure, and expanding cold chain capabilities. Rising consumer preference for processed food products with longer shelf life and convenient consumption formats has further supported market growth. In addition, government initiatives promoting food processing, export-oriented manufacturing, and agricultural value addition have strengthened India's position in the global processed fruit trade market.

Product	Export Volume FY2025 (MT)	Exported Value in FY2025 (INR Crore)

[33] https://apeda.gov.in/ProcessedFruitsJuicesAndNuts

Processed Fruits	503,300.22	6374.64

Source: Agricultural and Processed Food Products Export Development Authority (APEDA)

Note: FY 2025 value have been converted from USD Million to INR Million using an exchange rate of INR 88.3 per USD, representing the average exchange rate for FY 2026 (March 2026)

India's prepared and processed fruit export segment has emerged as an important contributor to the country's food processing and Agri-export industry, supported by increasing global demand for convenient and value-added fruit products. In FY 2025, exports of processed fruits stood at around 503.3 thousand metric tonnes, with export value reaching nearly INR 61,04.64 million. The strong export performance reflects growing international acceptance of Indian processed fruit products, supported by advancements in food processing infrastructure, improved packaging standards, and expansion of export-oriented manufacturing capabilities.

The steady growth in processed fruit exports is further driven by rising consumer preference for ready-to-consume food products, increasing shelf-life requirements, and growing demand from international retail and food service industries. India's diverse fruit production base provides a strong raw material advantage for processed fruit manufacturing, enabling exporters to cater to multiple global markets. In addition, supportive government initiatives for food processing, cold chain development, and agricultural exports have strengthened the competitiveness of Indian processed fruit products in international trade.

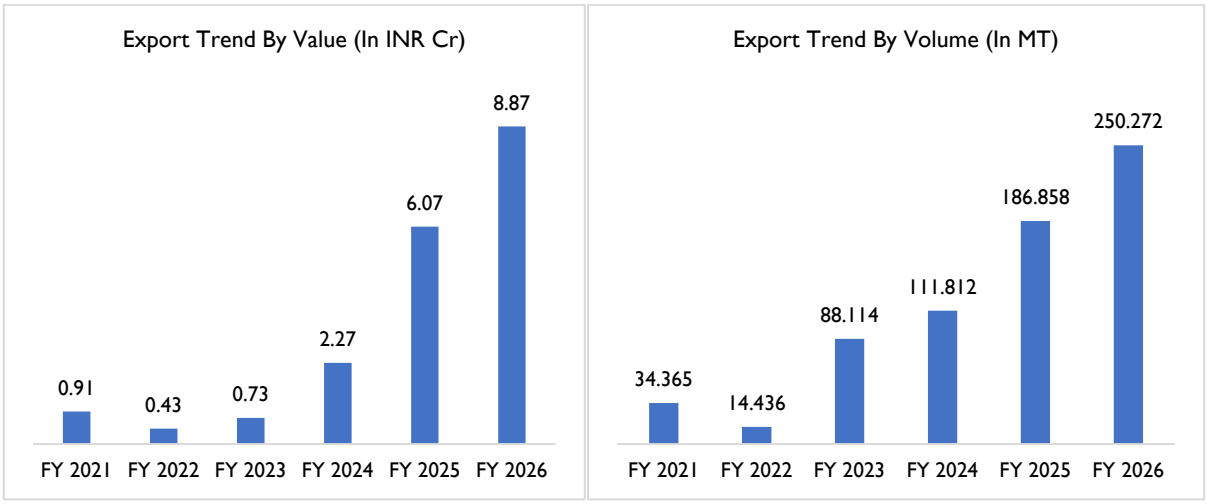
Major Export Destinations (FY2025):

The U.S.A., Netherlands, Saudi Arab, United Arab Emirates, and Russia emerged as the major export destinations for India's prepared and processed fruit products in FY 2025. Strong demand from these countries reflects increasing global acceptance of Indian processed food products, supported by competitive pricing, diverse product offerings, and improving quality standards. Exports to developed markets such as the U.S.A. and Netherlands indicate growing penetration into international retail and food service channels, while demand from Middle Eastern countries highlights rising consumption of packaged and convenience food products within the region.

Export of Frozen Orange Juice by Value and Volume

Frozen Orange Juice exports from India have demonstrated strong growth over FY2021-FY2026, both in terms of value and volume, indicating increasing international demand and improved market penetration. Export value increased significantly from INR 0.91 crore in FY2021 to INR 8.87 crore in FY2026, registering nearly a ten-fold increase over the period. While exports witnessed a

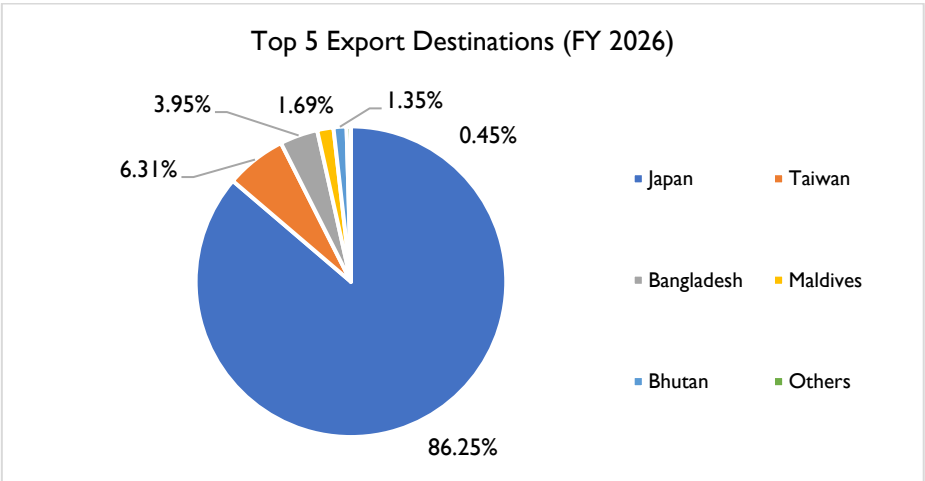
temporary decline in FY2022, the market recovered strongly thereafter, with particularly sharp growth observed during FY2025 and FY2026. This upward trend reflects rising acceptance of Indian frozen orange juice in overseas markets, supported by growing global demand for fruit-based beverages and processed citrus products.



Source: Directorate General of Foreign Trade[34]

Export volumes have also expanded considerably, reinforcing that the growth in export value is primarily volume-driven rather than solely price-led. Export volume increased from 34.365 MT in FY2021 to 250.272 MT in FY2026, with substantial acceleration from FY2023 onwards. The simultaneous rise in both export value and volume suggests strengthening competitiveness of Indian suppliers in global markets, aided by improving processing capabilities, increasing citrus production, and growing focus on value-added fruit exports. The sustained upward trajectory highlights the emerging potential of India as a supplier of frozen orange juice concentrate to international markets.

Top 5 Export Destinations



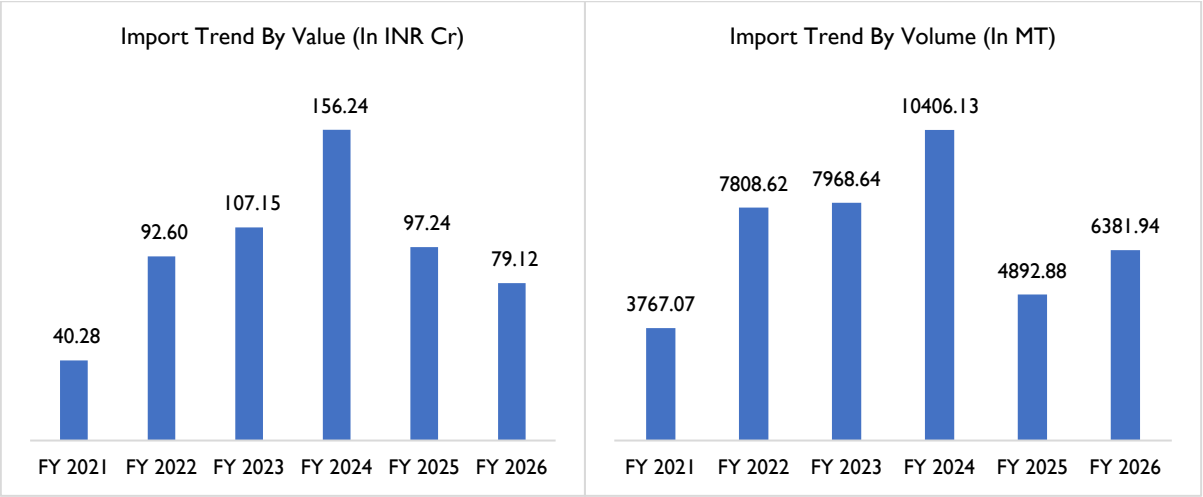
Source: Directorate General of Foreign Trade

[34] HS Code to be Considered- 20091100 (Orange Juice Frozen)

- **Japan (86.25%):** Japan is by far the largest export destination for India's frozen orange juice exports, accounting for 86.25% of total exports in FY2026. The overwhelming share indicates a strong and well-established trade relationship, making Japan the primary market driving India's export performance. This concentration also highlights the importance of maintaining product quality, supply consistency, and regulatory compliance to sustain growth in this key market.
- **Taiwan (6.31%)**: Taiwan emerged as the second-largest export destination, contributing 6.31% of total exports in FY2026. Although significantly smaller than Japan, Taiwan represents an important secondary market for Indian frozen orange juice exporters. The country's growing demand for processed fruit products and beverages provides opportunities for exporters to further strengthen their presence and diversify revenue streams.
- **Bangladesh (3.95%)**: Bangladesh accounted for 3.95% of India's frozen orange juice exports in FY2026, reflecting growing regional trade within South Asia. Geographic proximity, lower logistics costs, and strong bilateral trade ties support export growth to the country. Rising urbanization and increasing consumption of packaged beverages are likely to continue supporting demand for imported fruit concentrates.
- **Maldives (1.69%)**: Maldives contributed 1.69% of total exports, supported primarily by demand from the tourism and hospitality sector. The country relies heavily on imported food and beverage products due to limited domestic agricultural production. Growth in tourist arrivals and expansion of hotel and resort infrastructure can further create opportunities for Indian frozen orange juice suppliers.
- **Bhutan (1.35%)**: Bhutan represented 1.35% of India's frozen orange juice exports in FY2026. Trade benefits from strong economic relations and favorable market access between the two neighboring countries. While export volumes remain relatively small, increasing demand for packaged food and beverage products offers potential for gradual expansion in the Bhutanese market.
- **Others (0.45%)**: Other export destinations collectively accounted for 0.45% of total exports, indicating a relatively limited presence outside the major markets. The low share suggests that India's frozen orange juice exports are highly concentrated among a few key countries. Expanding into new international markets could help reduce dependence on dominant destinations and improve export diversification over the long term.

Import of Frozen Orange Juice by Value and Volume

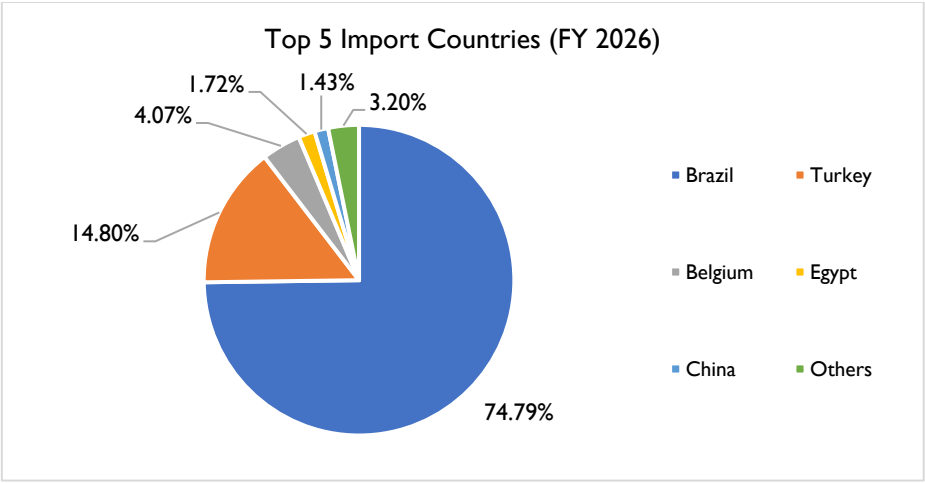
India's frozen orange juice imports witnessed strong growth between FY2021 and FY2024, reflecting rising domestic demand and dependence on overseas suppliers. Import value increased from INR 40.28 crore in FY2021 to a peak of INR 156.24 crore in FY2024, while import volume rose from 3767.07 MT to 10406.13 MT during the same period. The sharp increase in both value and volume indicates growing consumption by the beverage and food processing industries, supported by increasing demand for fruit-based products and limited domestic availability of processed orange juice concentrate.



Source: Directorate General of Foreign Trade[35]

However, imports moderated after FY2024, suggesting a gradual correction in procurement levels and improving domestic supply dynamics. Import value declined to INR 97.24 crore in FY2025 and further to INR 79.12 crore in FY2026, while import volumes fell to 4892.88 MT and later recovered slightly to 6381.94 MT Despite the decline from peak levels, imports remain significantly higher than FY2021 levels, highlighting the continued importance of imported frozen orange juice in meeting domestic requirements. The recent moderation may also indicate increased local processing capacity, changing inventory strategies, or fluctuations in international citrus concentrate prices.

Top 5 Import Partner Countries



Source: Directorate General of Foreign Trade

- **Brazil (74.79%):** Brazil is the dominant source of India's frozen orange juice imports, accounting for 74.79% of total imports in FY2026. As the world's largest producer and exporter of orange juice concentrate, Brazil benefits from large-scale production, established processing infrastructure, and

[35] HS Code to be Considered- 20091100 (Orange Juice Frozen)

competitive pricing. The substantial share highlights India's strong dependence on Brazilian suppliers to meet domestic demand for frozen orange juice.

- **Turkey (14.80%):** Turkey is the second-largest import source, contributing 14.80% of India's frozen orange juice imports in FY2026. The country has emerged as an important supplier due to its growing citrus processing industry and proximity to key international trade routes. Turkey's presence helps diversify India's sourcing base and reduces excessive reliance on a single supplier country.
- **Belgium (4.07%):** Belgium accounted for 4.07% of imports, serving as a notable supplier within the European market. The country functions as a major trading and distribution hub for processed food and beverage products, facilitating the movement of citrus concentrates across regions. Its participation reflects India's engagement with diversified global supply chains for frozen orange juice procurement.
- **Egypt (1.72%):** Egypt contributed 1.72% of India's frozen orange juice imports in FY2026. The country has strengthened its position in global citrus exports through increasing orange production and investments in processing facilities. Competitive production costs and expanding export capabilities have enabled Egypt to gradually increase its presence in international citrus concentrate markets.
- **China (1.43%):** China represented 1.43% of India's frozen orange juice imports in FY2026, accounting for a relatively small share of total imports. The country's presence in the import basket reflects its growing capabilities in food processing and agricultural exports. While imports from China remain limited compared to major suppliers such as Brazil and Turkey, they contribute to supplier diversification and provide additional sourcing flexibility for Indian importers.
- **Others (3.20%):** Other countries collectively accounted for 3.20% of India's frozen orange juice imports in FY2026. The presence of multiple smaller suppliers highlights efforts by importers to diversify procurement sources and manage supply risks. Expanding the supplier base can help improve supply security and reduce dependence on major exporting countries over the long term.

Fruit Processing Industry in India

Overview: [36]

Fruit processing refers to the conversion of fresh fruits into value-added products through cleaning, grading, cutting, pulping, extraction, preservation, packaging, and distribution. The objective is to increase shelf life, reduce wastage, improve convenience, and convert seasonal and perishable fruits into products that can be consumed throughout the year. Common processed fruit products include fruit pulp, puree, juice, concentrates, jams, jellies, squash, canned fruits, frozen fruits, dried/dehydrated fruits, fruit-based beverages, pickles, preserves, and ingredients used by bakery, confectionery, dairy, nutraceutical, and HoReCa industries.

In India, fruit processing is supported by the country's large horticulture base, diverse fruit production basket, rising urban consumption, growth of packaged foods, and increasing demand for convenient and ready-to-consume products. India produces a wide range of fruits such as mango, banana, citrus, guava, apple, grapes, papaya, pomegranate, pineapple, and other tropical fruits, creating a broad raw material base for processors. However, fruits are highly perishable and seasonal in nature, which makes post-harvest handling, cold chain, sorting, grading, ripening, and processing infrastructure important for reducing losses and improving farmer realization.

The sector forms part of India's wider food processing industry, which covers fruits and vegetables, dairy, meat, fisheries, grain processing, spices, beverages, and other consumer food products. Government support through schemes related to cold chain infrastructure, agro-processing clusters, food safety and quality assurance, PM Kisan Sampada Yojana, PMFME, and Operation Greens has aimed to strengthen processing capacity, reduce post-harvest losses, and improve market linkages. MoFPI's Operation Greens specifically focuses on protecting growers from distress sales and reducing post-harvest losses, while APEDA data indicates that India also has an export market for processed fruits, juices, and nuts, with exports of 503,300.22 MT valued at USD 721.93 million in FY2024-25.

Demand for fruit processing in India is also being driven by changing consumer preferences, rising disposable income, expansion of modern retail and e-commerce grocery channels, and increasing use of fruit ingredients by food and beverage companies. Processed fruit products are increasingly used not only for direct consumption but also as inputs in packaged juices, flavored dairy products, ice creams, bakery fillings, confectionery, baby foods, health foods, smoothies, sauces, and institutional catering.

[36] https://apeda.gov.in/ProcessedFruitsJuicesAndNuts

Harvesting Seasons and Availability of Key Fruits

Fruit availability and seasonality play a critical role in determining raw material procurement strategies, production planning, and capacity utilization in the fruit processing industry. The harvesting period varies across fruits based on climatic conditions, geographical regions, and cultivation practices. Understanding the harvesting seasons of key fruits helps processors manage sourcing cycles, optimize processing schedules, and ensure consistent availability of raw materials throughout the year.

Fruit	Major Harvesting Season (India)	Peak Availability Period
Apple	August – October	September – October
Orange	November – February (main season); some varieties in other months	December – January
Banana	Year-round (continuous harvesting)	Available throughout the year
Mango	March – July	May – June
Kiwi	October – December	November

The seasonality of fruits significantly influences the operations of fruit processing companies, as most fruits have a limited harvesting window. Processors typically procure and process fruits during peak seasons to maintain product quality and manage inventory requirements. Fruits with year-round availability, such as bananas, provide greater flexibility in production planning, while seasonal fruits require efficient supply chain management and storage solutions. The availability pattern of these fruits forms an important consideration for downstream processing activities, including juice concentrates, purees, and other fruit-based products.

Insight on fruit processing value chain in India

1. Fruit Cultivation and Harvesting

The fruit processing value chain in India begins at the farm level, where fruits such as mango, banana, citrus, guava, apple, grapes, papaya, pomegranate, and pineapple are cultivated and harvested. Since fruits are seasonal and highly perishable, harvesting at the right maturity stage is important for maintaining quality, pulp recovery, flavour, colour, and processing yield.

2. Procurement and Aggregation

After harvesting, fruits are procured through mandis, aggregators, farmer producer organizations, cooperatives, contract farming arrangements, or direct farmer linkages. This stage is important because fruit availability varies by season and region. Strong procurement networks help processors ensure raw material availability, manage price fluctuations, and reduce dependence on spot-market purchases.

3. Sorting, Grading and Primary Handling

At this stage, fruits are sorted and graded based on size, ripeness, colour, quality, and damage level. Premium fruits may be sold in the fresh market, while fruits suitable for industrial use are diverted for processing. Washing, cleaning, peeling, cutting, deseeding, and trimming are also carried out to prepare fruits for pulp extraction, juicing, drying, freezing, or canning.

4. Pulping, Juicing and Intermediate Processing

Prepared fruits are converted into intermediate products such as pulp, puree, juice, concentrate, slices, cubes, frozen fruit, or dried fruit. This is one of the most important value-addition stages, as it converts fresh and perishable produce into usable fruit-based ingredients. These intermediates are widely used by beverage, dairy, bakery, confectionery, HoReCa, and packaged food companies.

5. Preservation and Shelf-Life Extension

Fruit products are preserved through processes such as pasteurization, aseptic processing, concentration, dehydration, freezing, canning, fermentation, or controlled addition of preservatives. This stage helps reduce perishability, extend shelf life, maintain product quality, and enable year-round availability of fruit-based products beyond the harvest season.

6. Product Formulation and Final Processing

Intermediate fruit products are further converted into finished products such as packaged juices, nectars, fruit drinks, jams, jellies, squashes, fruit fillings, canned fruits, frozen desserts, dried fruit snacks, sauces, and fruit-based ingredients. This stage adds commercial value by creating consumer-ready and industrial-use products suited for different end markets.

7. Packaging and Storage

Processed fruit products are packed in bottles, tetra packs, cans, pouches, aseptic bags, drums, frozen packs, or bulk containers depending on product type and shelf-life requirements. Proper packaging protects the product from contamination, supports branding, improves convenience, and enables storage under ambient, chilled, frozen, or aseptic conditions.

8. Distribution and End-Use Markets

The final products are distributed through modern retail, general trade, e-commerce, institutional sales, foodservice channels, export markets, and B2B supply chains. Processed fruits serve both direct consumers and industrial users, including beverage manufacturers, dairy companies, bakeries, confectionery players, hotels, restaurants, caterers, and exporters.

Insight on Need for Processing & its Advantages

- **Reduces Perishability:** Helps extend shelf life of seasonal and highly perishable fruits.
- **Minimizes Post-Harvest Losses:** Enables utilization of surplus and lower-grade fruits for processing applications.
- **Supports Year-Round Availability:** Processed products can be stored and distributed beyond harvest seasons.
- **Enables Value Addition:** Converts fresh fruits into products such as pulp, puree, concentrates, juices and dried snacks.
- **Improves Realization Potential:** Value-added products generally offer wider marketability and commercial value.
- **Supports Multiple Industries:** Processed fruit ingredients are used across beverages, dairy, bakery, confectionery and foodservice sectors.
- **Improves Storage & Distribution:** Better shelf stability supports easier transportation and wider geographical reach.

Types of value-added products in fruit processing

Product Category	Application
Fruit Pulp & Puree	Used in beverages, dairy, bakery and foodservice applications
Fruit Concentrates	Used in juices, beverages and processed food products
Packaged Juices & Fruit Drinks	Ready-to-consume beverage products
Jams, Jellies & Preserves	Retail and foodservice fruit spreads
Dehydrated Fruit Snacks	Includes dried fruit slices, chips, cubes and fruit bars
Frozen Fruit Products	Used in desserts, smoothies and foodservice applications
Canned Fruits	Shelf-stable fruit products for retail and export markets
Fruit Powders & Extracts	Used in beverages, confectionery and nutraceutical products
Fruit-Based Fillings & Sauces	Used in bakery, confectionery and processed foods

Comparison of India v/s major economies (like Brazil / China)37

India benefits from a broad agricultural base and varied climatic conditions that support cultivation of a large variety of fruits and vegetables across tropical, sub-tropical, and temperate regions. The country is among the leading global producers of fruits such as bananas, mangoes, and papayas, along with vegetables including potatoes, onions, cauliflowers, and cabbages. Despite its strong production base, India's fruit processing industry remains comparatively underpenetrated relative to major economies such as China and Brazil, particularly in areas such as organized processing, cold-chain integration, value-added product manufacturing, and export-oriented processing capabilities. A considerable share of fruit production in India is still marketed and consumed in fresh form, thereby limiting processing intensity and shelf-stable product penetration.

In contrast, China has developed a relatively advanced processed food ecosystem supported by large-scale manufacturing infrastructure, extensive cold-chain networks, higher urbanization levels, and increasing adoption of packaged and convenience-oriented food products. The country has witnessed growing demand for packaged fruit snacks, frozen fruits, fruit beverages, and ready-to-consume food formats driven by changing dietary habits and rising disposable incomes. Similarly, Brazil has established a strong position in tropical fruit processing and fruit juice exports, supported by commercial-scale farming practices, higher integration between agriculture and food processing, and comparatively stronger post-harvest infrastructure. Comparative studies between India and Brazil indicate that Brazil processes a significantly larger proportion of its fruit production, highlighting the relatively untapped potential for value addition within the Indian fruit processing industry.

Although India continues to lag behind China and Brazil in terms of processing penetration and post-harvest infrastructure, the domestic market is witnessing gradual structural transformation supported by increasing urbanization, rising income levels, expansion of organized retail, and growing consumer preference toward packaged and convenience-based food products. Increasing investments in food processing infrastructure, cold-chain facilities, quick commerce, and branded food distribution channels are expected to support the long-term growth of processed and shelf-stable fruit products across India.

[37] https://klsimer.edu/img/pdfs/pub/Final-full-length-paper-on-Benchmarking.pdf

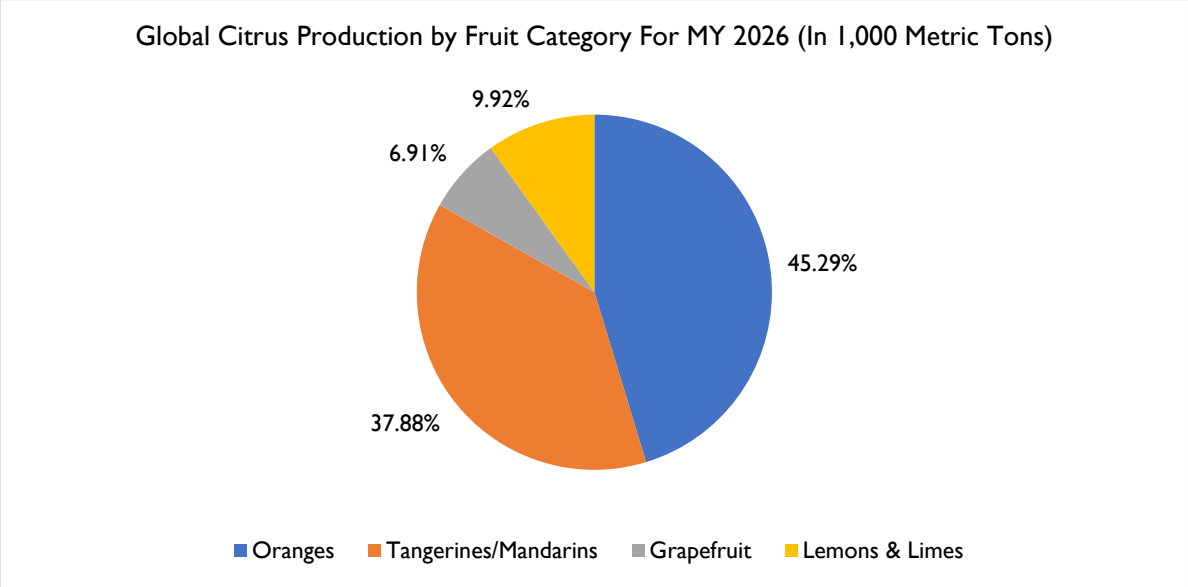
Global Citrus / FCOJ Industry

Frozen Concentrated Orange Juice (FCOJ) is a processed orange juice product obtained by removing a significant portion of water from freshly extracted orange juice and subsequently freezing the concentrate for storage and transportation. The concentration process reduces volume and weight, enabling cost-efficient logistics while preserving flavor, nutritional content, and shelf life. Upon reaching destination markets, the concentrate is reconstituted with water and utilized in the production of ready-to-drink juices and other beverage formulations. As a result, FCOJ has become one of the most widely traded citrus-derived commodities globally and serves as a key raw material for the international juice industry.

The global FCOJ market is highly integrated with the citrus value chain and plays a critical role in linking orange growers, processors, exporters, and beverage manufacturers. **In MY 2026 (Till Jan), global orange juice production is estimated at 1,351 thousand metric tons, while consumption is projected at 1,168 thousand metric tons**, indicating continued demand for processed orange juice products across international markets. Oranges account for approximately **45.29%** of total global citrus production, reinforcing their position as the dominant citrus fruit and the primary raw material for juice processing. Due to its storability and cost efficiency, FCOJ remains the preferred form of orange juice for large-scale industrial users and international trade. Despite the growing popularity of Not-From-Concentrate (NFC) juices, FCOJ continues to hold strategic importance owing to its scalability, longer shelf life, and ability to support global supply chains amid production volatility and evolving consumer demand.

- **Global Citrus Production by Fruit Category, MY 2026(Till Jan)**

The global citrus production landscape in MY 2026 is dominated by oranges, which account for **45.29%** of total citrus production, reinforcing their position as the most widely produced citrus fruit globally. Tangerines/Mandarins represent the second-largest segment with a **37.88%** share, highlighting their growing importance in global citrus cultivation and consumer demand. Together, these two fruit categories contribute more than **83%** of total citrus production, underscoring their central role in the citrus industry.



Source: United States Department of Agriculture Foreign Agricultural Service[38]

In contrast, Lemons & Limes and Grapefruit account for relatively smaller shares of **9.92%** and **6.91%**, respectively. While these segments remain important for processing, foodservice, and specialty consumption applications, their production volumes are significantly lower than those of oranges and mandarins. Overall, the global citrus market remains highly concentrated around oranges and Tangerines/Mandarins, which continue to drive production trends and shape industry dynamics worldwide.

Role of FCOJ in the Global Citrus Value Chain

- **Value Addition to Citrus Produce**: FCOJ enables citrus growers and processors to convert fresh oranges into a higher-value, shelf-stable product. The processing of oranges into concentrate enhances marketability and reduces post-harvest losses, thereby improving returns across the citrus value chain.
- **Facilitates International Trade**: By significantly reducing the volume and weight of orange juice, FCOJ lowers transportation and storage costs compared to fresh juice. This makes it an efficient format for long-distance exports and supports global citrus trade between producing and consuming regions.
- **Critical Input for Beverage Manufacturing**; FCOJ serves as a key raw material for juice manufacturers and beverage companies worldwide. The concentrate is reconstituted and blended to produce a wide range of ready-to-drink juices, fruit beverages, and citrus-based products.
- **Supports Supply Chain Stability and Year-Round Availability**: The extended shelf life of FCOJ allows processors and beverage manufacturers to maintain consistent product availability throughout the year, irrespective of seasonal fluctuations in orange production and harvesting cycles.

[38] https://apps.fas.usda.gov/psdonline/circulars/citrus.pdf

- **Acts as a Global Price Benchmark for the Citrus Industry**: FCOJ is actively traded in international commodity markets and serves as an important benchmark for citrus pricing. Market movements in FCOJ reflect changes in orange production, weather conditions, disease outbreaks, and global supply-demand dynamics, influencing the broader citrus industry.

Global Orange Juice Production Landscape, MY 2021- MY 2026 (Till Jan):

Frozen Concentrated Orange Juice (FCOJ) is a key citrus-derived commodity widely used by the global beverage industry. Produced by removing water from fresh orange juice and freezing the concentrate, FCOJ offers longer shelf life, lower transportation costs, and efficient storage. The industry is dominated by Brazil, which serves as the largest producer and exporter globally. Market dynamics are influenced by orange production levels, weather conditions, and citrus diseases. Despite rising demand for NFC (Not-From-Concentrate) juices, FCOJ remains an important product in global citrus trade and beverage manufacturing.

Rank	Country	Orange Juice Production ('000 Metric Tons at 65° Brix)					
		MY 2021	MY 2022	MY 2023	MY 2024	MY 2025	MY 2026
1	Brazil	944	1,135	1,080	829	1,013	1,032
2	Mexico	220	215	140	141	87	85
3	United States	230	159	84	108	72	72
4	South Africa	80	86	52	54	62	58
5	European Union	24	36	37	52	40	37
6	China	27	19	17	18	31	32
7	Australia	17	17	16	18	16	17
8	Other	17	22	17	20	20	19
Total		**1,559**	**1,688**	**1,443**	**1,239**	**1,340**	**1,351**

Source: United States Department of Agriculture Foreign Agricultural Service[39]

The global orange juice production landscape has remained heavily concentrated in Brazil, which accounted for nearly **76% of total production in MY 2026**, with output increasing from **944 thousand metric tons in MY 2021 to 1,032 thousand metric tons in MY 2026** despite fluctuations caused by weather

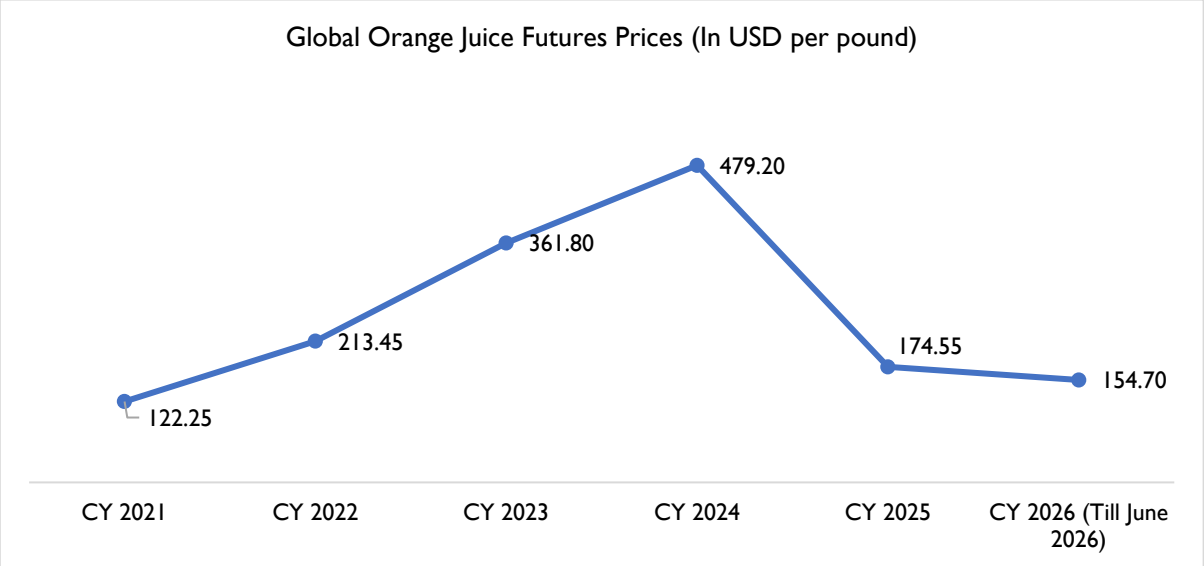
[39] https://www.fas.usda.gov/sites/default/files/2026-01/citrus.pdf

conditions and crop cycles. Global production declined from a peak of **1,688 thousand metric tons in MY 2022 to 1,351 thousand metric tons in MY 2026**, reflecting supply challenges across major producing regions. The United States and Mexico witnessed significant production contractions over the period, with output falling from **230 thousand metric tons and 220 thousand metric tons in MY 2021 to 72 thousand metric tons and 85 thousand metric tons**, respectively, primarily due to adverse weather conditions, disease pressures, and lower fruit availability. In contrast, countries such as China and South Africa demonstrated relatively stable performance, while the European Union maintained moderate production levels. Overall, the global orange juice market continues to be shaped by Brazil's dominant production base, while reduced output from other major producers has constrained global supply and supported tighter market conditions.

Global FCOJ Industry: Pricing Trends, Demand-Supply Dynamics, and Market Trends:

Pricing Trends:

Global Frozen Concentrated Orange Juice (FCOJ) pricing trends, based on **ICE Orange Juice Futures (quoted on a per pound basis, with each futures contract representing 15,000 pounds of FCOJ solids)**, reflect a highly volatile cycle during CY2021- CY2026, driven primarily by supply-side disruptions in Brazil, weather anomalies, and disease pressure on citrus orchards. As per orange juice futures benchmarks, prices increased sharply from **USD 122.25 in CY2021** to **USD 213.45 in CY2022**, followed by a steeper rise to **USD 361.80 in CY2023** and a peak of **USD 479.20 in CY2024**. This sustained upward trajectory highlights tightening global orange supply conditions, particularly due to declining yields in Brazil's citrus belt and structural impacts of citrus greening, which significantly reduced processing-grade orange availability for FCOJ production.



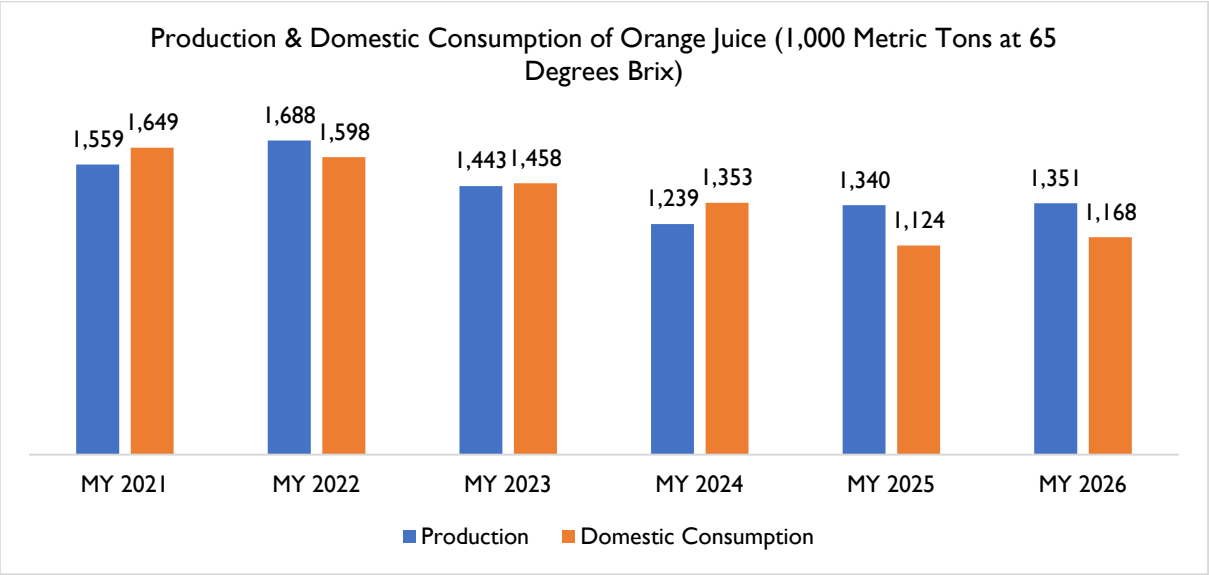
Source: D&B Desk Research[40]

Note: Orange Juice Futures prices are based on the ICE FCOJ-A Futures contract. Each futures contract represents **15,000 pounds (approximately 6.8 metric tones)** of frozen concentrated orange juice solids. Prices are quoted on a **per pound** basis.[41]

Post CY2024, the market shows a sharp correction, with prices declining to **USD 174.55 in CY2025** and further moderating to **USD 154.70 in CY2026 (till June)**. This downward adjustment indicates partial supply recovery and normalization of inventories after a period of extreme tightness, although prices remain above long-term historical averages. Overall, the FCOJ market continues to exhibit cyclical volatility, where short-term supply shocks in Brazil disproportionately influence global pricing, given the country's dominant role in orange juice exports and processing capacity, thereby reinforcing its position as the key price-setting region for the global industry.

Demand-Supply Dynamics:

The global citrus FCOJ (Frozen Concentrated Orange Juice) industry has witnessed a notable contraction in both production and domestic consumption over MY 2021- MY 2026. Production declined from 1,559 thousand metric tons (65° Brix equivalent) in MY2021 to 1,351 thousand metric tons in MY 2026, reflecting the structural challenges faced by major citrus-producing regions. Factors such as citrus greening disease, adverse weather conditions, lower orange yields, and shrinking citrus acreage have constrained raw orange availability, thereby limiting FCOJ output. While production remained relatively balanced with consumption through MY 2023, the market shifted into a supply-surplus position from MY 2025 onward as production exceeded domestic consumption by a wider margin.



Source: United States Department of Agriculture (USDA)[42]

[40] https://en.macromicro.me/series/1621/orange-juice-futures?utm

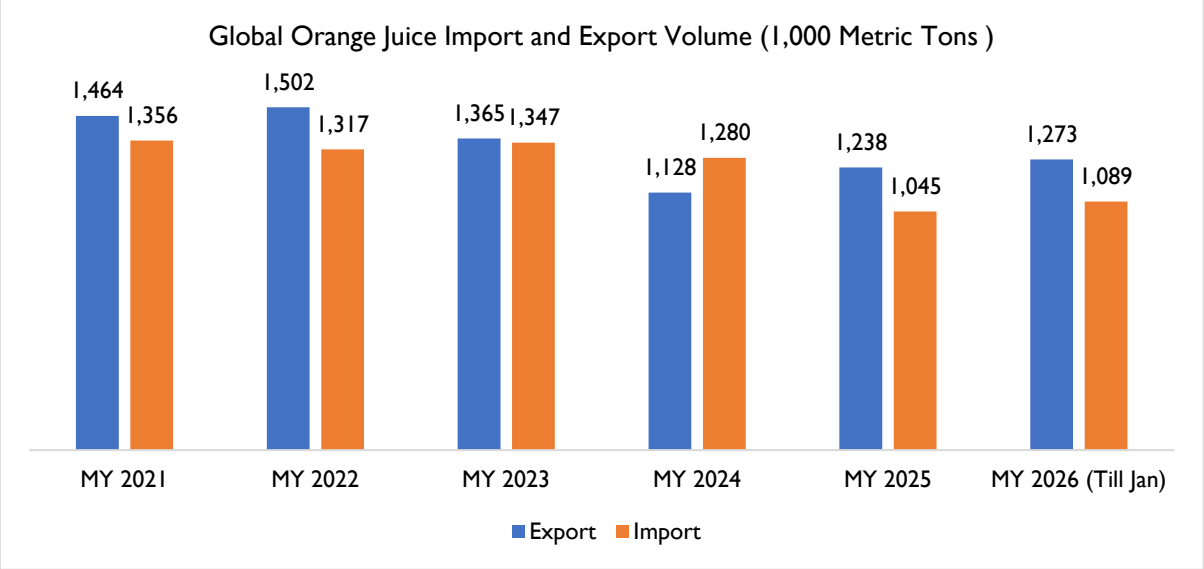
[41] file:///C:/Users/Inf007/Downloads/ProductSpec_30%20(2).pdf

[42] https://apps.fas.usda.gov/psdonline/circulars/citrus.pdf

On the demand side, domestic consumption fell from 1,649 thousand metric tons in MY 2021 to 1,168 thousand metric tons in MY 2026, representing a steeper decline than production. This trend highlights the ongoing structural shift in consumer preferences away from traditional concentrated orange juice products toward healthier and more convenient beverage alternatives, particularly Not-From-Concentrate (NFC) juices, functional beverages, flavored waters, and ready-to-drink products. As a result, despite tightening orange supplies in several producing countries, weakening consumption has reduced demand pressure on the FCOJ market. The widening gap between production and consumption during MY 2025- MY 2026 suggests that demand-side weakness has become a more significant driver of market dynamics than supply constraints, leading to changing product positioning and increased focus on premium NFC offerings across the global citrus juice industry.

Global Orange Juice Import and Export Volume, MY 2021- MY 2026(Till Jan):

Global orange juice exports exhibited a declining trend over the review period, decreasing from 1,464 thousand metric tons in MY 2021 to 1,273 thousand metric tons in MY 2026 (till January). Export volumes peaked at 1,502 thousand metric tons in MY 2022 before falling sharply to 1,128 thousand metric tons in MY 2024, reflecting supply constraints and lower juice availability. Although exports have shown signs of recovery since MY 2025, overall trade volumes remain below historical highs.



Source: United States Department of Agriculture (USDA)[43]

Similarly, global orange juice imports moderated from 1,356 thousand metric tons in MY 2021 to 1,089 thousand metric tons in MY 2026 (till January). After remaining relatively stable through MY 2023, imports declined significantly in MY 2025 before recovering marginally in MY 2026. The overall trend indicates a tighter global market environment, characterized by lower trade volumes, constrained supply availability, and evolving consumption patterns, which have collectively influenced international orange juice trade flows.

[43] https://apps.fas.usda.gov/psdonline/circulars/citrus.pdf

Global FCOJ Industry Trends:

- **Brazil-led global supply concentration**: Brazil dominates global orange juice exports, making global FCOJ supply and pricing highly dependent on its crop output and weather conditions.
- **Declining U.S. citrus production**: Florida citrus production has structurally declined due to citrus greening disease and hurricanes, reducing U.S. contribution to global supply.
- **High price volatility in FCOJ markets**: FCOJ prices fluctuate sharply due to weather shocks, crop diseases, and inventory cycles, making it one of the most volatile agri-commodities.
- **Shift in consumption patterns**; Demand is weakening in developed markets due to health concerns over sugar intake, while emerging markets show stable but moderate growth.
- **Strong trade concentration**: Global FCOJ trade is heavily dependent on a few exporters (mainly Brazil) and importers (US & Europe), increasing pricing sensitivity.
- **Climate and disease-driven supply risks**: Increasing frequency of droughts, freezes, and citrus diseases is creating long-term structural risks to global orange production.

Structural shift & positioning of NFC (Not From Concentrate) vs Concentrate products

The global orange juice market is increasingly bifurcated between NFC and FCOJ segments. NFC has emerged as the premium growth category, driven by consumer demand for natural, minimally processed beverages with fresh taste and clean-label appeal. In contrast, FCOJ remains a critical trade and supply-chain commodity, valued for its cost-efficient storage, transportation, and inventory management advantages. While NFC captures premium consumer demand and pricing power, FCOJ continues to support global citrus trade and large-scale industrial applications.[44]

[44] https://orangebook.tetrapak.com/chapter/supply-chain-and-global-consumption-orange-juice

NFC (Not From Concentrate)	Concentrate (FCOJ)
Not From Concentrate (NFC) has increasingly strengthened its position as the premium, consumer-facing segment within the global citrus juice industry, driven by rising preference for natural, minimally processed beverages and "fresh-like" taste profiles. NFC is produced without removing water from the juice, which helps preserve aroma compounds, flavour integrity, and perceived nutritional quality, making it highly aligned with clean-label and health-oriented consumption trends. This has enabled a structural shift where NFC is no longer a niche category but a mainstream growth driver in retail chilled juice markets, particularly in developed economies. In the United States, NFC now accounts for **more than 60% of total orange juice retail sales**, reflecting its dominant position in consumer demand and its evolution into the primary branded juice format in supermarkets and chilled beverage sections. At the production and supply-chain level, NFC is also increasingly prioritized in key citrus-producing regions; for instance, **around 80% of Florida's processed oranges are now used for NFC production**, highlighting how deeply the category is integrated into upstream sourcing and industrial processing decisions. Overall, NFC is structurally positioned as a value-creation and premiumization engine, where pricing power, branding, and consumer preference are concentrated.	Frozen Concentrated Orange Juice (FCOJ) continues to play a foundational role in the global citrus value chain but has increasingly shifted from a consumer-facing product to an industrial and trade-enabling commodity. Its primary structural advantage lies in its high logistical efficiency, where removing water reduces juice volume by roughly **five to seven times**, enabling significantly lower storage and transportation requirements compared to single-strength juice. This makes FCOJ a critical instrument for global trade, inventory management, and long-distance supply chains, especially between major producing regions and consuming markets. However, its positioning has gradually moved toward value and mass-market applications, including foodservice, private labels, and reconstituted juice blends, as consumer preference increasingly shifts toward NFC. As a result, FCOJ today functions less as a premium beverage and more as a **cost-efficient global balancing mechanism**, allowing manufacturers to manage seasonality, price volatility, and supply constraints in citrus production while NFC captures the premium, brand-led demand segment.

Profiles of major global citrus processing players

Company	Profiling
Cutrale	**Cutrale** was founded in **1967** and is headquartered in **Araraquara, São Paulo, Brazil**. The company operates in the citrus agribusiness sector with activities spanning orange cultivation, juice processing, and export operations. Its business model is based on vertically integrated citrus operations covering farming, industrial processing of oranges, and shipment of citrus juice products to international markets. Cutrale exports **98% of its orange juice production to more than 90 countries across North America, Europe, and Asia**, with primary customers including manufacturers of ready-made beverages and supermarket chains.

	The company is engaged in the production and export of **Frozen Concentrated Orange Juice (FCOJ), Not From Concentrate (NFC) juice, and other orange-derived products**. Within the FCOJ segment, Cutrale sources citrus primarily from Brazil's São Paulo citrus belt, processes oranges into concentrate, and supplies international buyers through export channels integrated with storage and logistics infrastructure. Its customer base is primarily composed of industrial users in the global beverage and food processing industries, including juice bottlers and soft drink manufacturers.
Citrosuco	**Citrosuco** was founded in **1963** and is headquartered in **Matão, São Paulo, Brazil**. The company operates across the full orange juice value chain, including cultivation of oranges, industrial processing, storage, logistics, and global distribution. It is a 100% Brazilian-owned, closed-capital company and follows an export-oriented model, supplying orange juice products to customers in more than **100 countries across all regions globally**. Citrosuco operates through **47 operating units**, comprising **4 processing plants, 28 farms. The 25 farms dedicated to orange production, 3 storage facilities, and 5 port terminals**, along with logistics assets including **5 vessels and 45 company-owned trucks** dedicated to orange juice transportation. The company is engaged in the production and export of **Frozen Concentrated Orange Juice (FCOJ) and other citrus-based products**, serving primarily beverage industry customers. Its operations are vertically integrated from orange cultivation to final product delivery, supporting industrial buyers in the global food and beverage sector through established export channels. **Product Segments:** • FCOJ • NFC • Juice with added pulp cells • Certified Juice • Pulp Variations
Louis Dreyfus Company	**Louis Dreyfus Company** was founded in **1851** by Léopold Louis-Dreyfus and is headquartered in **Rotterdam, Netherlands**. It is a global merchant and processor of agricultural goods, operating across multiple commodity value chains including juice, grains, oilseeds, sugar, coffee, and cotton. The company follows an

	integrated model covering sourcing, processing, trading, logistics, and distribution of agricultural products across international markets. In the **fruit juice segment**, LDC operates as one of the global players in orange juice production, with activities in sourcing citrus fruits (primarily from Brazil), processing them into juice products, and supplying international beverage and food manufacturers. The company's juice portfolio includes **orange juice, lime juice, lemon juice, and apple juice**, along with citrus ingredients such as oils, aromas, and by-products used in food, beverage, and industrial applications. It also manages an integrated citrus value chain that includes farming assets in Brazil, industrial processing facilities, and export logistics infrastructure such as storage and port terminals, enabling supply of products including **Frozen Concentrated Orange Juice (FCOJ)** and not-from-concentrate juice to global customers. Louis Dreyfus Company operates more than **25,000 hectares of citrus groves in Brazil with over 14 million orange trees**. Most of its orange juice is processed into **Frozen Concentrated Orange Juice (FCOJ)** by removing water to reduce volume and enable efficient export, making it about **five times more concentrated than NFC juice**. FCOJ is mainly used for reconstituted juices, nectars, and soft drinks. The company also produces **Not From Concentrate (NFC) juice**, which is pasteurised without additives, with oxygen removal to preserve vitamin C and nutritional quality.
Prodalim	**Established in 1987** as a juice trading company, Prodalim Group has expanded its operations across the global juice and beverage value chain and maintains a **Regional Headquarters in Tel Aviv, Israel**. In the **Frozen Concentrated Orange Juice (FCOJ)** segment, the company is engaged in the product development, sourcing, manufacturing, blending, compounding, storage, and distribution of **orange juice concentrates (FCOJ), NFC (Not From Concentrate) orange juice, orange pulp cells, and organic orange juice products**. In addition to its FCOJ portfolio, the company offers **fruit juices, organic juices, multifruit juices, fruit purees, compounds, natural derivatives, citrus fibers, natural aromas, natural colors, citrus oils, and essential oils** for applications across the global food and beverage industry. Prodalim sources fruits from **more than 100 growers, and serves custoomers over 51 countries** and operates a global network of production facilities, blending plants, research & development centers, storage infrastructure,

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<td>and regional offices across Europe, North America, South America, and Asia. In the orange juice portfolio, the company offers orange juice concentrate (FCOJ), NFC orange juice, orange pulp cells, organic orange juice concentrate, and organic NFC orange juice, while also providing customized blending and formulation solutions. The official website does not disclose the company's installed FCOJ processing or production capacity.

In addition to its FCOJ portfolio, Prodalim offers complementary fruit-based ingredients such as fruit purees, multi-fruit blends, natural derivatives, organic fruit products, and fruit bases. Its natural derivatives portfolio includes citrus oils, essence oils, water phases, FTNF boosters, and natural aromas, supporting applications across the food & beverage, flavor, and fragrance industries. The company also develops tailor-made orange juice blends and fruit bases according to customer specifications. According to the company's official website, Prodalim has access to over 1 million tons of fruit per year through its global sourcing network.

<table>
<tr><th>Parameter</th><th>Details</th></tr>
<tr><td>Blending Network</td><td>4 blending facilities globally</td></tr>
<tr><td>Germany Processing Capacity</td><td>16,000–18,000 tons of fruit per year</td></tr>
<tr><td>NFC Juice Storage (Germany)</td><td>11.5 million liters</td></tr>
<tr><td>Concentrate Storage (Germany)</td><td>1,000 tons</td></tr>
<tr><td>Cold Storage (Germany)</td><td>2,500 tons</td></tr>
<tr><td>Production & Storage Area (Germany)</td><td>Over 15,000 m²</td></tr>
<tr><td>Blending & Innovation Facility (Rotterdam)</td><td>2,800 m²</td></tr>
<tr><td>Production & Storage Facility (Valencia)</td><td>28,225 m²</td></tr>
<tr><td>Citrus Processing Facility (Mexico)</td><td>15,700 m²</td></tr>
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<td>Argumaria Corleone</td>
<td>Founded in 1890, Agrumaria Corleone S.p.A headquartered in Palermo, Sicilia, Italy, with more than 130 years of experience in the production of citrus-based ingredients. The company specializes in the production of natural and concentrated juices particularly orange, lemon, and mandarin as well as essential oils, serving customers across the Food & Beverage, Flavour & Fragrance, Nutraceuticals/Pharma, and Pet Food industries worldwide. The company manufactures natural and concentrated citrus juices, including Frozen Concentrated Orange Juice (FCOJ), NFC (Not From</td>
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	Concentrate) juices, essential oils, organic products, water-soluble flavours, infusions, liqueur bases, and customised juice compounds. Its products are manufactured from **lemons, oranges, mandarins, bergamots, grapes, and other fruits** and are supplied for applications in the food & beverage, flavour, fragrance, beauty, aromatherapy, cosmetics, and pharmaceutical industries. The company develops products intended to support the use of Sicilian citrus fruits across international markets. Agrumaria Corleone operates a production facility located in **Palermo**, where citrus fruits are processed into juice and essential oil products. Company's production plant extends over **37,334 m²** and includes **44,000 m³ of refrigerated storage capacity** maintained at **−18°C** for preserving juice products. The company also provides customised formulations and ingredient solutions for applications including beverages, food flavourings, fragrances, cosmetics, detergents, and pharmaceutical products.

Comparative Capacity Analysis of Major Citrus Concentrate Manufacturers and Processors[45]

Rank	Company	Country	Publicly Disclosed Capacity
1	Tropicana Products, Inc.	USA	6706.85 MT fruit processing per day
2	Citrosuco	USA/Brazil	1230-3353.42 MT oranges per day
3	Peace River Citrus Products	USA	2235.65 MT citrus processing per day
4	Southern Gardens Citrus	USA	2235.62 MT citrus processing per day
5	Ventura Coastal	USA	2,191.78 MT fruit per day
6	Göknur Gıda	Turkey	1,200 MT fruit processing per day
7	Anadolu Etap	Turkey	958 MT fruit processing per day
8	Polat Citrus Industry	Turkey	700 MT citrus processing per day
9	Orange Be Global	Greece	600 MT fresh oranges per day
10	Jain Farm Fresh Foods	India	500 MT fruit processing per day
11	**MKC Agro**	**India**	**500 MT of citrus processing per day[46]**
12	Semes Gida San. ve Tic. A.Ş.	Turkey	240 MT citrus processing per day
13	Integrada Citrus	Brazil	More than 223.56 MT of oranges per year
14	Agro & Food Processing	India	50 MT oranges per day
15	Sahyadri Farmers Producer Company Ltd.	India	41.09 MT fruit processing per day
16	Ledesma	Argentina	19.18 MT juice concentrate per day
17	Enkay Texofood Industries Ltd.	India	28,350 KL fruit juice capacity and 17,875 MT pulp/concentrate capacity
18	MAIDC NOGA Factory	India	6.67 MT fruit processing per day

Source: D&B Secondary Research (Company Websites, and Industry Sources)

[45] **1 box = 40.8 kg**, as per the globally accepted industry standard used in the citrus processing and juice concentrate industry. 1 box = 40.8 kg = 0.0408 MT

[46] The stated capacity pertains to the company's upcoming FCOJ processing plant.

Note: Capacities are reported in different units (e.g., MT/day, MT/year, boxes/year, juice capacity, concentrate capacity) as disclosed by the respective companies and therefore should be interpreted as indicative benchmarking rather than a strictly comparable industry ranking.

Based on a review of publicly available capacity disclosures from major citrus processors and concentrate manufacturers across India and global markets, MKC Agro could become a leading player in citrus fruit processing domain, once their proposed planned becomes fully operations. MKC Agro have received approval to set up 500 MT per day citrus fruit processing capacity. Once the plant is fully operational, MKC Agro would be elevated as a prominent player in the global citrus processing industry.

Brazilian FCOJ Market & Buyer Landscape[47]

Brazil is the world's largest producer and exporter of Frozen Concentrated Orange Juice (FCOJ), playing a critical role in the global orange juice supply chain. The country's citrus industry is concentrated in the São Paulo Citrus Belt, which accounts for the majority of orange production and juice processing capacity. Major industry participants such as Citrosuco, Cutrale, and Louis Dreyfus Company dominate the processing and export market. According to Fundecitrus, Brazil's 2027 orange crop is projected at **255.2 million boxes**, representing a **12.9% decline** compared to the previous season and remaining well below the historical 10-year average of approximately **300 million boxes**. This reduction is expected to tighten orange availability for juice processing and maintain pressure on global FCOJ prices.

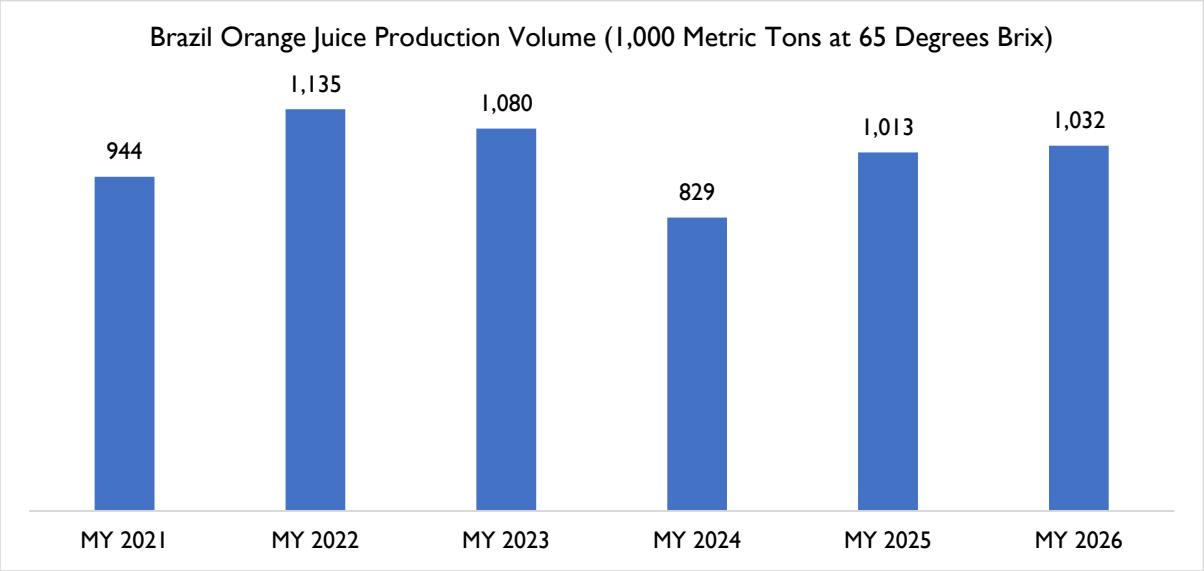
The Brazilian FCOJ industry is currently facing significant production challenges, primarily due to the increasing incidence of citrus greening (HLB), which reached **47.6% of trees in 2025**. Fundecitrus estimates that the average number of fruits per tree will decline from **617 fruits in 2026 to 514 fruits in 2027**, reflecting deteriorating orchard productivity. Citrus greening alone is expected to result in fruit losses of nearly **50 million boxes** during the 2027 season, accounting for roughly half of all fruit drop losses. Additional production pressures stem from citrus leprosis, fruit borers, fruit flies, adverse weather conditions, and natural fruit drop. These factors have contributed to a structural decline in Brazilian orange production, creating supply constraints for the global FCOJ market and reinforcing Brazil's influence on international orange juice pricing and trade dynamics.

Production volume:

Brazil’s orange juice production, represented through FCOJ-equivalent output (65° Brix), exhibited a cyclical pattern during MY 2021–MY 2026. Production increased strongly in the initial years, supported by favourable crop conditions and healthy orange yields, before entering a period of decline that culminated in a significant contraction in MY 2024. The downturn was largely attributable to weather-related challenges, lower fruit productivity, and the continued impact of citrus greening disease (HLB), which has affected orange groves

[47] **1 box = 40.8 kg**, as per the globally accepted industry standard used in the citrus processing and juice concentrate industry. https://citrusindustry.net/2026/06/10/forecast-2026-27-global-orange-juice-supply/

across major producing regions. As Brazil accounts for a substantial share of global orange juice exports, the production shortfall tightened global supply and contributed to elevated FCOJ prices during the period.



Source: United States Department of Agriculture (USDA)[48]

The market has since shown signs of recovery, with orange juice production rebounding in MY 2025 and continuing to improve in MY 2026. This recovery suggests an improvement in orange harvest volumes and growing industry efforts to mitigate agronomic challenges. However, production levels remain below the peak witnessed earlier in the period, indicating that structural constraints in citrus cultivation continue to limit output expansion. From an FCOJ market perspective, the recovery in production is expected to provide some relief to global supply conditions, although the industry remains highly sensitive to crop health, weather variability, and fruit availability in Brazil, reinforcing the country's pivotal influence on global orange juice market dynamics.

Brazilian FCOJ Industry Market Structure:

[48] https://apps.fas.usda.gov/psdonline/circulars/citrus.pdf

- **Highly Consolidated Industry Structure**: The Brazilian FCOJ industry is characterized by a high degree of concentration, with a limited number of large processors controlling a significant share of orange procurement, juice processing, storage, and exports.
- **Vertically Integrated Business Model**: Leading companies operate across the value chain, including citrus cultivation, fruit sourcing, juice extraction, concentration, storage, logistics, and international distribution. This integration enhances supply security and operational efficiency.
- **Export-Oriented Industry**: The sector is primarily export-focused, with a substantial portion of FCOJ production destined for international markets, particularly North America and Europe, making global demand trends a key determinant of industry performance.
- **Strong Processing Infrastructure**: Brazil possesses one of the world's largest orange juice processing networks, supported by advanced extraction facilities, bulk storage terminals, and specialized transportation systems that facilitate large-scale exports.
- **Dominance of Large Processing Companies**: Major industry participants such as Citrosuco, Cutrale, and Louis Dreyfus Company (LDC) play a central role in shaping industry dynamics through extensive processing capacities, global distribution networks, and long-term relationships with growers.
- **Dependence on Independent Growers and Contract Farming**: In addition to company-owned orchards, processors source oranges from a broad network of independent growers through supply agreements, helping ensure a stable supply of raw material for juice production.
- **High Entry Barriers**: Significant capital requirements, specialized processing infrastructure, extensive logistics networks, and established export relationships create substantial barriers for new entrants, reinforcing the market position of incumbent players.

Major FCOJ Buyers and Procurement Requirements

Buyers	Details

The Coca-Cola Company[49]	The Coca-Cola Company is one of the leading beverage manufacturers and a prominent participant in the global orange juice market through brands such as Simply Orange and Minute Maid. The company procures oranges and orange juice ingredients from major citrus-producing regions, including the United States, Brazil, and Mexico, to support year-round production and ensure a consistent supply of high-quality juice products. **Its orange juice portfolio includes Simply Orange, Minute Maid 100% Original Orange Juice, made from 100% pure squeezed orange juice from concentrate, and Minute Maid Pulpy Orange, which contains both orange juice and orange pulp.** Orange juice is one of Coca-Cola's priority agricultural ingredients and forms part of its broader fruit juice sourcing portfolio, which also includes lemon, apple, grape, and mango juices. Together with other priority agricultural ingredients such as natural sweeteners, coffee, tea, soybeans, and timber products, these materials account for a significant portion of the company's annual agricultural ingredient purchases. To support the procurement of orange juice and other agricultural raw materials, Coca-Cola maintains responsible sourcing and traceability programs that require suppliers to meet quality, food safety, and sustainability standards throughout the supply chain. The company utilizes a diversified sourcing strategy and established supplier relationships to secure orange juice supplies from key citrus-growing regions. **In India, Coca-Cola imports approximately 8,000 MT of Frozen Concentrated Orange Juice (FCOJ) annually to support the production of its orange juice beverages.** [50]This approach helps mitigate risks associated with seasonal production fluctuations, adverse weather conditions, citrus greening disease, and commodity price volatility while maintaining consistent product quality and taste profiles across its juice brands. In addition to its global orange sourcing activities, Coca-Cola India has supported citrus supply chain development through its Orange Unnati

[49] https://www.coca-cola.com/us/en/brands/minute-maid/products/orange-juice
https://www.coca-cola.com/au/en/sustainability/sustainable-agriculture?

https://www.coca-cola.com/in/en/media-center/coca-cola-indias-project-unnati

[50] **Note:** The statement regarding Coca-Cola importing approximately **8,000 MT of FCOJ annually in India** has been incorporated based on the client's input, as no publicly verifiable source is available for this figure.

	program in Maharashtra, launched in 2018 in partnership with the Government of Maharashtra and Jain Irrigation Systems Ltd. The initiative promotes the adoption of high-juice-yield orange varieties, improved cultivation practices, and farmer training programs to enhance citrus productivity, fruit quality, and grower profitability. Through such initiatives, the company aims to strengthen agricultural supply chains and support the long-term sustainability of citrus production.
PepsiCo, Inc[51]	PepsiCo is a major buyer of orange juice products through its Tropicana brand and procures oranges directly from growers to support its juice operations. The company reports that **100% of the oranges purchased directly from Florida growers for Tropicana are sustainably sourced**, reflecting its commitment to responsible procurement practices. PepsiCo's agricultural sourcing network **spans more than 60 countries**, providing access to a diversified and resilient supply base for key agricultural commodities, including oranges. As part of its procurement strategy, PepsiCo requires suppliers to adhere to its Sustainable Farming Program (SFP), which emphasizes environmental stewardship, responsible water management, soil health, and supply chain traceability. In the orange juice segment, **Tropicana Pure Premium is marketed as 100% orange juice squeezed from fresh fruit and never from concentrate**, highlighting the company's focus on sourcing high-quality oranges and maintaining stringent quality standards throughout its supply chain. These sustainability, quality, and traceability requirements form key procurement considerations for suppliers seeking to participate in PepsiCo's juice sourcing network.

Fruit Concentrate (Focus: Citrus Fruits)

Brief insight into the production process of citrus fruit concentrate

The citrus fruit concentrate industry involves the processing of citrus fruits such as oranges, lemons, limes, and grapefruits into concentrated juice products through the removal of water content while retaining

[51] https://www.pepsico.com/newsroom/press-releases/2021/pepsico-announces-2030-goal-to-scale-regenerative-farming-practices-across-7-million-acres
https://www.pepsicopartners.com/pepsico/en/USD/OTHER-BRANDS/TROPICANA%C2%AE/PURE-PREMIUM/c/brand_tropicana_subbrand_purePremium?

flavour, aroma, and nutritional properties. The concentration process helps improve shelf life, reduce storage and transportation costs, and enable easier handling for beverage and food manufacturers. Citrus fruit concentrates are widely used across juice beverages, dairy products, confectionery, bakery, sauces, and foodservice applications due to their convenience and consistent quality. The production process involves multiple stages including fruit selection, juice extraction, clarification, pasteurization, evaporation, and aseptic packaging, supported by advanced technologies such as vacuum evaporators, membrane filtration systems, and aroma recovery solutions to maintain product quality and processing efficiency.

❖ **Raw Material Procurement & Sorting**

The process begins with the procurement of fresh citrus fruits such as oranges, lemons, limes, and grapefruits from farms or collection centers. Fruits are inspected and sorted based on size, ripeness, sugar content, acidity levels, and absence of defects or microbial contamination. High-quality fruits are selected to ensure better juice yield and concentrate quality. Automated optical sorting systems and grading machines are increasingly used to improve efficiency and consistency.

❖ **Washing & Cleaning**

Selected fruits undergo thorough washing and sanitization to remove dirt, pesticides, waxes, and microbial contaminants. Rotary washers, spray washers, and sanitizing systems using chlorinated or ozonated water are commonly employed. Proper cleaning is essential to maintain food safety standards and prevent contamination during juice extraction. In some facilities, brush washing technologies are also used to improve surface cleaning efficiency.

❖ **Juice Extraction**

The cleaned citrus fruits are mechanically pressed using specialized juice extractors that separate juice from peel, pulp, and seeds. Industrial extraction systems such as FMC extractors or inline citrus extractors are widely used for efficient juice recovery. The extracted juice may contain pulp particles, essential oils, and suspended solids that are further processed. This stage is critical as extraction efficiency directly influences concentrate yield and production economics.

❖ **Filtration & Clarification**

After extraction, the juice is filtered and clarified to remove seeds, coarse pulp, membranes, and suspended solids. Technologies such as centrifugation, decanters, membrane filtration, and enzymatic clarification are used to improve juice clarity and consistency. Enzymes like pectinase help break down pectin substances, enabling smoother filtration and enhanced juice stability. The clarification process helps improve appearance, texture, and storage performance of the final concentrate.

❖ **Pasteurization**

The clarified juice is pasteurized to eliminate harmful microorganisms and deactivate enzymes that could affect flavour, color, or shelf life. High-temperature short-time (HTST) pasteurization systems are commonly used to preserve nutritional value while ensuring microbial safety. This stage is essential for maintaining product quality during subsequent concentration and storage processes. Advanced thermal control systems help minimize flavour degradation during heating.

❖ **Concentration Process**

The pasteurized juice undergoes evaporation to remove a significant portion of water content, thereby increasing soluble solids concentration (Brix level). Multi-effect evaporators and vacuum evaporation systems are widely used because they allow water removal at lower temperatures, minimizing nutrient and flavour loss. The concentration process reduces product volume, lowers transportation and storage costs, and extends shelf life. In some advanced facilities, aroma recovery systems capture volatile citrus flavours before evaporation and reintroduce them later to enhance sensory quality.

❖ **Cooling & Aseptic Packaging**

After concentration, the product is rapidly cooled to preserve flavour and prevent microbial growth. The concentrate is then packed into aseptic containers, drums, bag-in-box systems, or frozen storage formats depending on customer requirements. Aseptic filling technologies help maintain sterility and extend shelf life without requiring preservatives. Frozen concentrates are commonly used for long-term storage and international export applications.

❖ **Storage & Distribution**

The final citrus fruit concentrate is stored under refrigerated or frozen conditions to maintain quality and prevent spoilage. Cold-chain logistics and temperature-controlled transportation systems are important for preserving taste, color, aroma, and nutritional value during distribution. The concentrate is later supplied to beverage manufacturers, dairy processors, confectionery companies, bakery manufacturers, and foodservice operators for use in juices, flavoured beverages, syrups, jams, and processed food products.

Key By-products Generated During FCOJ Processing and Their End Uses

During the processing of oranges for Frozen Concentrated Orange Juice (FCOJ), several valuable by-products are generated along with the primary juice concentrate. Effective utilization of these by-products improves resource efficiency, enhances plant economics, and supports sustainable citrus processing practices. Orange

peel, pulp, seeds, and other citrus residues are processed into various value-added products such as essential oils, pectin, animal feed, and industrial ingredients.

By-product	End Uses
Orange Peel	Extraction of pectin, essential oils (d-limonene), animal feed, and bioenergy applications
Orange Pulp & Fiber	Dietary fiber ingredients, bakery products, beverages, and livestock feed
Orange Seeds	Seed oil extraction for food, cosmetic, and industrial applications
Orange Peel Oil / Essential Oil	Flavouring agents, fragrances, food additives, and cleaning products
Citrus Molasses / Soluble Solids	Animal feed supplements and fermentation-based applications
Citrus Residual Biomass	Composting, biogas generation, and organic fertilizer applications

The utilization of these by-products enables citrus processors to maximize value recovery from raw oranges while reducing processing waste. Increasing adoption of circular economy practices in the citrus industry has encouraged manufacturers to develop integrated processing facilities where juice concentrate production is complemented by value-added products derived from citrus residues.

Brief insight on the type of evaporation process used

Evaporation is one of the most critical stages in the citrus fruit concentrate production process, as it removes excess water from the extracted juice to increase soluble solids concentration (Brix level) while preserving flavour, aroma, color, and nutritional value. The selection of evaporation technology depends on factors such as product viscosity, heat sensitivity, energy efficiency requirements, production scale, and desired concentrate quality. Modern citrus processing facilities increasingly utilize energy-efficient and low-temperature evaporation systems to minimize thermal degradation and maintain natural citrus characteristics. Commonly used evaporation technologies in the fruit concentrate industry include falling film evaporators, forced circulation evaporators, plate evaporators, and other advanced vacuum-based systems designed to optimize heat transfer and product recovery efficiency.

- **Falling Film Evaporators:** Falling film evaporators are among the most widely used evaporation technologies in the citrus fruit concentrate industry due to their high energy efficiency and suitability for heat-sensitive products. In this process, citrus juice flows downward as a thin film along the inner walls of heated tubes while steam provides indirect heating from the outside. The thin-film design enables rapid heat transfer and shorter residence time, minimizing thermal damage to flavours, vitamins, and aroma

compounds. These evaporators typically operate under vacuum conditions, allowing water evaporation at lower temperatures to preserve product quality. Falling film systems are preferred for large-scale continuous processing because of their lower energy consumption, higher throughput capacity, and consistent concentrate quality.

- **Forced Circulation Evaporators:** Forced circulation evaporators are used in applications where the fruit juice has higher viscosity or contains suspended solids that may lead to fouling during processing. In this system, pumps continuously circulate the juice at high velocity through heat exchangers, preventing scaling and ensuring uniform heat distribution. The technology is particularly suitable for concentrates with higher pulp content or thicker consistency that require stable circulation during evaporation. Forced circulation systems can handle difficult processing conditions while maintaining operational reliability and minimizing equipment blockage. Although energy consumption is generally higher compared to falling film evaporators, these systems offer improved operational flexibility and enhanced handling of challenging citrus concentrate formulations.

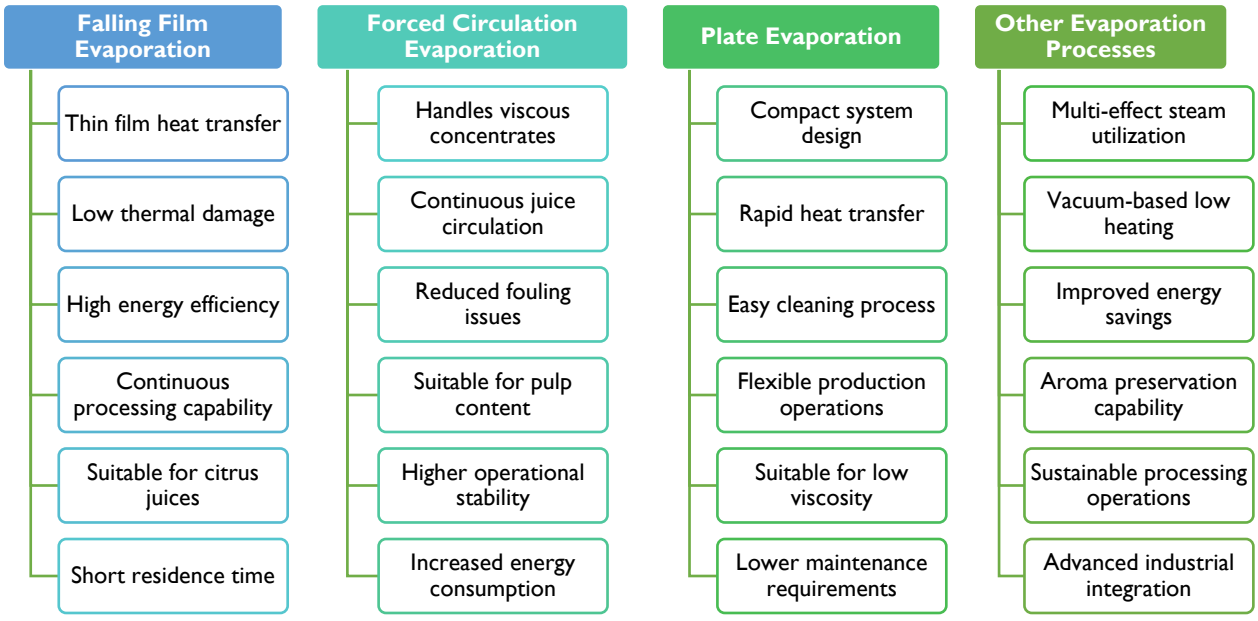
- **Plate Evaporators:** Plate evaporators utilize thin metal plates arranged in parallel configurations to facilitate efficient heat transfer between heating media and citrus juice. The compact plate design provides a large heat transfer surface area, enabling rapid evaporation with relatively low energy requirements. These systems are particularly suitable for smaller production facilities or applications requiring flexible processing operations and easier cleaning procedures. Plate evaporators are commonly valued for their compact footprint, lower maintenance requirements, and reduced processing time. However, they are generally more suitable for lower-viscosity liquids and may have limitations in handling highly pulpy or viscous citrus concentrates compared to forced circulation systems.

- **Other Evaporation Technologies:** In addition to conventional systems, citrus concentrate manufacturers also utilize advanced evaporation technologies such as multi-effect evaporators, vacuum evaporators, and mechanical vapor recompression (MVR) systems to improve energy efficiency and product quality. Multi-effect evaporation systems reuse steam generated from previous stages, significantly reducing overall energy consumption during concentration. Vacuum evaporation technologies allow water removal at lower boiling temperatures, helping preserve heat-sensitive nutrients and volatile citrus aromas. Some advanced processing plants also integrate aroma recovery systems that capture volatile flavour compounds during evaporation and reintroduce them into the final concentrate. These technologies are increasingly adopted to enhance sustainability, reduce operational costs, and improve sensory quality in premium citrus fruit concentrate production.

Comparative analysis of key technologies used

The citrus fruit concentrate industry utilizes multiple evaporation technologies to optimize product quality, energy efficiency, processing capacity, and operational reliability during juice concentration. Different evaporation processes are selected based on factors such as juice viscosity, pulp content, heat sensitivity, production scale, and cost efficiency. Technologies such as falling film evaporation, forced circulation evaporation, plate evaporation, and advanced vacuum-based systems each offer distinct advantages in terms of heat transfer performance, flavour preservation, fouling resistance, and energy consumption.

Comparative analysis of these technologies helps manufacturers identify the most suitable processing solution based on production requirements, sustainability goals, and desired concentrate quality. The choice of evaporation technology plays a critical role in determining the efficiency, product stability, and commercial viability of citrus fruit concentrate production. Each evaporation process differs in terms of operating mechanism, heat utilization, maintenance requirements, and ability to preserve the natural flavour and nutritional profile of citrus juices. Manufacturers increasingly compare these technologies to achieve an optimal balance between production efficiency, energy savings, product consistency, and processing flexibility. The adoption of advanced evaporation systems is also being driven by the growing industry focus on sustainability, reduced operational costs, and improved quality retention in fruit concentrate manufacturing.



Comparative analysis: Fruit concentrate v/s other forms

Fruit concentrates, fruit purees, and fruit pulps are widely used processed fruit formats in the food and beverage industry, each offering distinct characteristics in terms of texture, processing level, storage stability, flavour intensity, and end-use applications. Fruit concentrate is produced by removing a significant portion of water from fruit juice to achieve higher soluble solids concentration, whereas puree and pulp retain more of the fruit's natural fiber, texture, and moisture content. The selection between concentrate, puree, and pulp

depends on factors such as product formulation requirements, transportation efficiency, shelf life, processing costs, and desired sensory properties. Comparative analysis of these fruit forms helps manufacturers identify the most suitable ingredient format for applications across beverages, dairy, bakery, confectionery, baby food, and foodservice industries.

Parameters	Fruit Concentrate	Fruit Puree	Fruit Pulp
Processing Level	Highly processed through water evaporation	Moderately processed and blended	Minimally processed crushed fruit
Water Content	Low water content	Moderate water content	High natural moisture content
Texture	Smooth liquid concentrate	Thick and semi-solid texture	Fibrous and pulpy consistency
Flavour Intensity	Strong concentrated flavour	Natural fruit flavour retained	Fresh fruit-like taste
Shelf Life	Longer shelf life	Moderate shelf life	Comparatively shorter shelf life
Storage & Transportation	Easier and cost-efficient logistics	Requires refrigerated storage	Higher storage and transport costs
Nutritional Retention	Some nutrient loss during evaporation	Better nutrient retention	High fiber and natural content
Usage Applications	Juices, syrups, beverages, confectionery	Dairy, baby food, bakery, smoothies	Nectar, desserts, jams, fillings
Energy Requirement	Higher processing energy requirement	Moderate processing requirement	Lower processing intensity
Cost Efficiency	Cost-efficient for bulk export	Moderate cost efficiency	Higher handling and storage cost
Industrial Preference	Preferred for large-scale beverage manufacturing	Preferred for texture-rich applications	Preferred for natural formulations
Key Advantage	Reduced logistics and longer stability	Better texture and flavour balance	Natural fruit authenticity
Key Limitation	Possible flavour/nutrient degradation	Shorter shelf life than concentrate	Limited stability and handling challenges

Brief insight on the key end usage pattern of citrus fruit concentrates

Citrus fruit concentrates are widely utilized across multiple end-use industries due to their strong flavour profile, extended shelf life, ease of storage, and cost-efficient transportation characteristics. These

concentrates serve as important ingredients in beverages, dairy products, foodservice preparations, confectionery, bakery products, and processed foods, where they provide consistent taste, color, and nutritional properties. Growing consumer demand for fruit-based products, functional beverages, natural ingredients, and convenient food solutions is driving the adoption of citrus concentrates across industrial applications. The end-use pattern of citrus fruit concentrates is influenced by factors such as product formulation requirements, flavour intensity, processing convenience, and the increasing preference for natural fruit-derived ingredients in food and beverage manufacturing.

- **Beverages**

The beverage industry represents the largest end-use segment for citrus fruit concentrates, driven by strong demand for fruit juices, carbonated drinks, energy beverages, flavoured water, and ready-to-drink (RTD) products. Citrus concentrates such as orange, lemon, and lime concentrates are widely used to provide flavour, acidity, aroma, and nutritional content in beverage formulations. Manufacturers prefer concentrates because they offer longer shelf life, lower transportation costs, and easier bulk storage compared to fresh juice. Rising consumer preference for natural and vitamin-rich beverages is further supporting demand for citrus concentrates in health drinks and functional beverage applications. Additionally, concentrates enable standardized taste consistency across large-scale beverage production operations.

- **Dairy Products**

Citrus fruit concentrates are increasingly used in dairy applications such as flavoured yogurt, ice cream, smoothies, milkshakes, probiotic drinks, and dairy desserts. These concentrates help enhance flavour profiles while adding natural fruit content and visual appeal to dairy-based products. Citrus flavours are particularly popular in low-fat and functional dairy formulations due to their refreshing taste characteristics. Manufacturers utilize concentrates because they blend efficiently with dairy matrices and provide year-round ingredient availability irrespective of seasonal fruit supply fluctuations. Growing demand for fruit-infused dairy products and healthier snack alternatives is supporting increased usage of citrus concentrates in this segment.

- **Foodservice Industry**

The foodservice sector extensively utilizes citrus fruit concentrates across restaurants, cafes, hotels, quick-service restaurants (QSRs), bars, and catering operations. Concentrates are used in beverages, mocktails, desserts, sauces, marinades, bakery fillings, and culinary preparations due to their convenience and consistent flavour delivery. Foodservice operators prefer concentrates because they reduce preparation time, minimize raw material wastage, and simplify inventory management compared to fresh fruits. Citrus concentrates also help maintain standardized taste profiles across multiple outlets and large-volume operations. The expansion of organized foodservice chains and rising demand for fruit-based menu offerings are contributing to increased consumption in this segment.

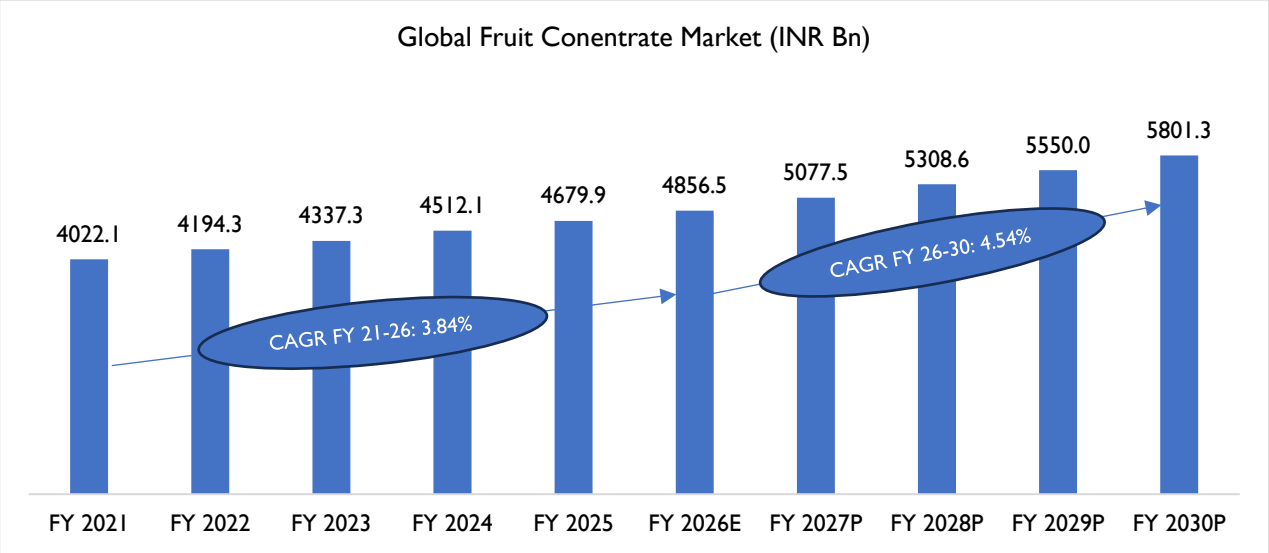
- **Other Applications**

Apart from beverages, dairy, and foodservice, citrus fruit concentrates are also used across confectionery, bakery, infant nutrition, nutraceuticals, jams, sauces, and processed food products. In bakery and confectionery applications, concentrates provide natural citrus flavouring and acidity in candies, fillings, cakes, and pastries. Nutraceutical and functional food manufacturers use citrus concentrates in vitamin-enriched products due to their natural antioxidant and vitamin C content. Additionally, concentrates are increasingly being incorporated into clean-label and plant-based product formulations as consumers shift toward natural ingredient alternatives. Expanding industrial applications and product innovation continue to broaden the end-use scope of citrus fruit concentrates globally.

Global Fruit Concentrate Market Scenario:

Historical and Estimated Market Size

The global fruit concentrate market forms an important segment within the broader fruit processing industry and is primarily driven by demand from beverage, dairy, bakery, confectionery and packaged food manufacturers. Fruit concentrates are produced by removing water content from fruit juices or pulp to create products with improved shelf life, ease of transportation and higher storage efficiency. These concentrates are widely used in juices, fruit drinks, flavored dairy products, sauces, desserts and industrial food applications due to their formulation flexibility and cost-efficient logistics characteristics.



Source: D&B Primary Research, E= Estimated, P= Projected[52]

Historical Market Analysis (FY 2021–FY 2026)

The global fruit concentrate market increased from approximately **INR 4022.1 billion in FY 2021** to around **INR 4856.5 billion in FY 2026**, reflecting a CAGR of approximately **3.84%** during the period. The market growth was supported by rising consumption of processed beverages, increasing demand for fruit-based ingredients across food manufacturing applications and gradual expansion of convenience-oriented food consumption globally.

Growing preference for packaged juices, smoothies, flavored dairy products and ready-to-consume beverages supported higher usage of fruit concentrates across industrial food applications. In addition, improved shelf-life characteristics and easier storage and transportation compared with fresh fruit products contributed toward wider adoption of concentrates within global food processing and export supply chains.

Projected Market Analysis (FY 2026–FY 2030)

[52] **Note:** All USD values have been converted into INR using an average exchange rate of **INR 88.3 per USD**, representing the average exchange rate for **FY2026 (March 2026)**.

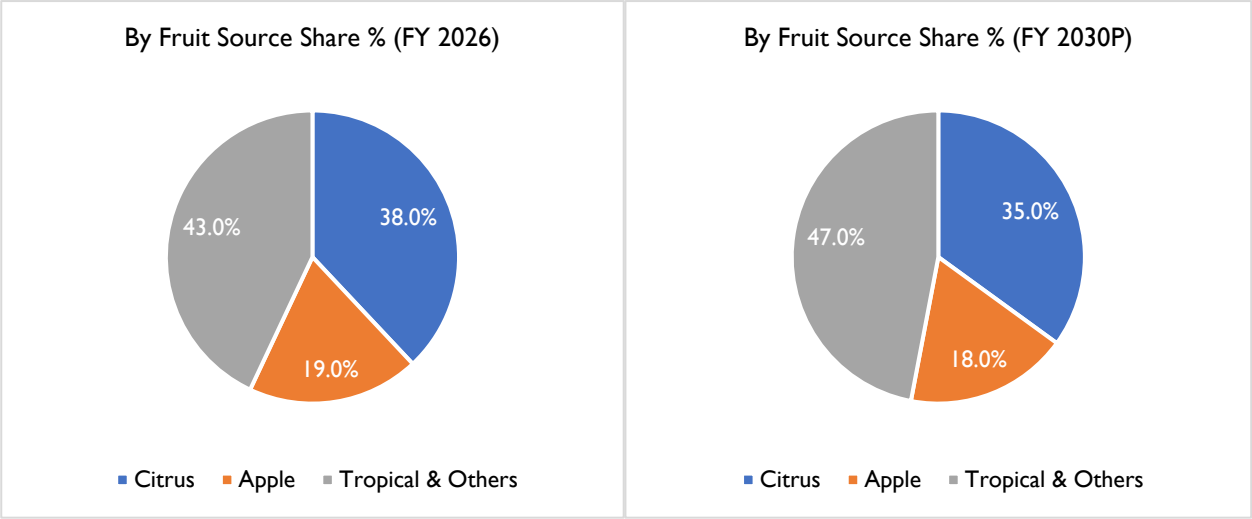
The global fruit concentrate market is projected to increase from approximately **INR 4856.5 billion in FY 2026** to around **INR 5801.3 billion by FY 2030**, reflecting a projected CAGR of approximately **4.54%** during the forecast period. The expected growth is likely to be supported by rising demand for fruit-based beverages, increasing consumption of convenience-oriented food products and expanding application of fruit concentrates across bakery, confectionery, dairy and foodservice sectors.

The market is also expected to benefit from increasing demand for natural and fruit-based ingredients, expansion of organized food retail and growing adoption of processed fruit ingredients in emerging economies. In addition, technological advancements in fruit processing, aseptic packaging and preservation techniques are likely to support wider commercial usage and international trade of fruit concentrate products during the forecast period.

Global Fruit Concentrate Market Segmentation

By Fruit Source

The global fruit concentrate market is segmented based on fruit source into **citrus, apple, and tropical & other fruits**. The segmentation reflects differences in industrial usage, flavour preference, processing suitability and end-use applications across beverages, dairy, bakery, confectionery and packaged food categories. Citrus concentrates continue to maintain significant usage in beverage applications, while tropical fruit concentrates are witnessing increasing demand across diversified food and beverage formulations.



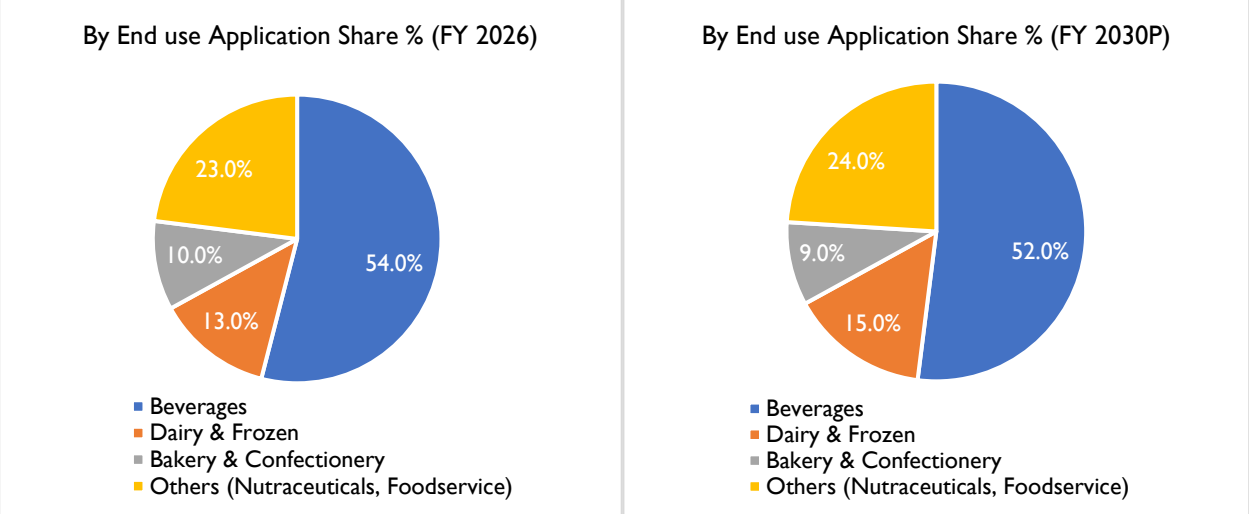
Source: D&B Primary Research E= Estimated, P= Projected

In **FY2026**, the market was led by the **tropical & others segment**, which accounted for approximately **43.0%** share of the global fruit concentrate market. The segment includes concentrates derived from fruits such as mango, pineapple, berries and mixed tropical fruits, which are increasingly used across packaged beverages, dairy products, desserts and foodservice applications. **Citrus concentrates** accounted for around **38.0%** share, supported by widespread usage in juice and beverage manufacturing, while the **apple segment** contributed around **19.0%**, primarily driven by applications in juices, blends and processed food products.

By **FY2030P**, the share of the **tropical & others segment** is projected to increase further to approximately **47.0%**, indicating rising demand for diversified fruit flavours and broader usage of tropical fruit ingredients across processed food and beverage categories. Meanwhile, the share of **citrus concentrates** is projected to decline marginally to around **35.0%**, while the **apple segment** is expected to account for approximately **18.0%** share. The changing market mix indicates gradual diversification in fruit concentrate consumption patterns, supported by product innovation, evolving consumer taste preferences and increasing adoption of tropical fruit-based formulations globally.

By End use Application

The global fruit concentrate market is segmented based on end-use applications across beverages, dairy & frozen products, bakery & confectionery, and other industrial applications such as nutraceuticals and foodservice. The segmentation reflects the widespread usage of fruit concentrates across processed food and beverage categories due to their flavouring, formulation flexibility, shelf-life and storage advantages.



Source: D&B Primary Research E= Estimated, P= Projected

The beverages industry continues to remain the dominant application segment for fruit concentrates due to extensive usage in juices, fruit drinks, smoothies and flavored beverages. In FY2026, beverages accounted for approximately **54.0%** of the market share, highlighting the strong dependence of the beverage industry on fruit concentrate ingredients. Other application areas such as nutraceuticals and foodservice collectively contributed around **23.0%**, supported by increasing usage of fruit-based ingredients in functional foods, institutional consumption and ready-to-consume products. Meanwhile, dairy & frozen applications accounted for nearly **13.0%**, while bakery & confectionery represented approximately **10.0%** share due to usage in fillings, toppings, desserts and processed food formulations.

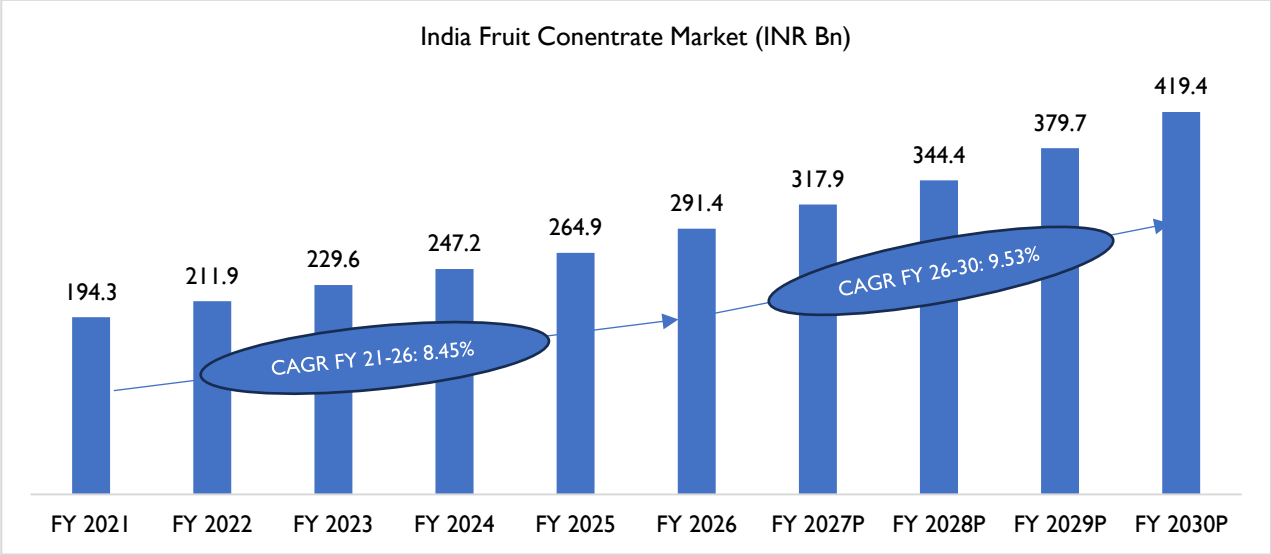
Looking ahead to FY2030P, fruit concentrate demand is expected to witness increasing diversification across non-beverage food categories. While beverages are projected to remain the largest application segment with around **52.0%**share, relatively higher adoption across dairy, frozen products, nutraceuticals and foodservice applications is expected to gradually expand the contribution of these segments. The dairy & frozen category

is projected to increase its share to around **15.0%**, reflecting increasing usage of fruit ingredients in yogurts, flavored milk products and frozen desserts. Similarly, growth in functional food products and foodservice applications is expected to support expansion of the "others" category to around **24.0%** share by FY2030P.

India Fruit Concentrate Market Scenario:

Historical and Estimated Market Size

The India fruit concentrate market forms an important part of the country's fruit processing industry and is primarily driven by rising demand from beverage, dairy, bakery, confectionery and packaged food sectors. Fruit concentrates are widely used due to their longer shelf life, ease of storage, transportation efficiency and suitability across multiple food processing applications. Increasing consumption of packaged beverages, fruit-based products and convenience-oriented foods is further supporting the growth of the fruit concentrate market in India.



Source: D&B Primary Research, P= Projected[53]

Note: The market sizing includes industrial/B2B-grade fruit concentrates in liquid syrup or powder forms used across beverages, dairy, bakery, confectionery and processed food applications. The scope covers both clarified juice concentrates and pulp-based concentrates across key fruit categories such as citrus, apple, mango and tropical fruits. The analysis excludes ready-to-drink packaged juices, single-strength juices, retail packaged consumer products and additive premix formulations.

Historical Market Analysis (FY 2021–2026)

The India fruit concentrate market increased from approximately **INR 194.3 billion in FY 2021** to around **INR 291.4 billion in FY 2026**, reflecting a CAGR of approximately **8.45%** during the period. The market growth was supported by rising consumption of packaged juices, fruit drinks and processed food

[53] **Note:** All USD values have been converted into INR using an average exchange rate of **INR 88.3 per USD**, representing the average exchange rate for **FY2026 (March 2026)**.

products across urban and semi-urban markets. Increasing penetration of organized retail, expansion of foodservice channels and growing usage of fruit-based ingredients across beverages, dairy and bakery applications also contributed toward market expansion during the period.

The market additionally benefited from improving fruit processing infrastructure, increasing availability of processed fruit ingredients and gradual shift toward convenience-oriented food consumption patterns. Rising demand for products with improved shelf life and easier storage characteristics further supported adoption of fruit concentrates across industrial food manufacturing applications.

Projected Market Analysis (FY 2026-2030)

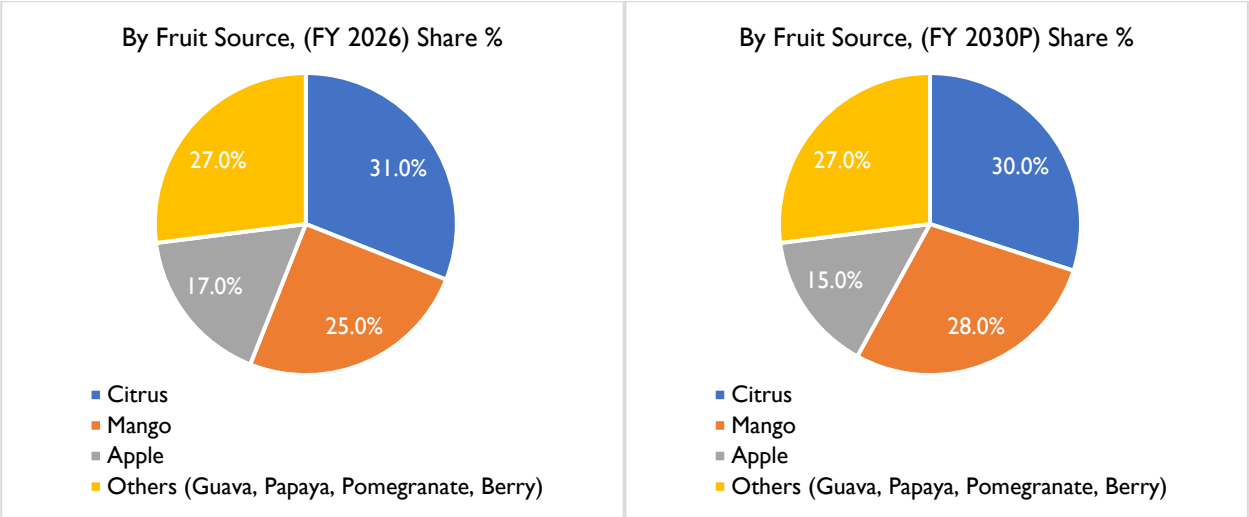
The India fruit concentrate market is projected to increase from approximately **INR 291.4 billion in FY 2026** to around **INR 419.4 billion by FY 2030**, reflecting a projected CAGR of approximately **9.53%** during the forecast period. The expected growth is likely to be supported by increasing demand for fruit-based beverages, expansion of packaged food consumption and rising application of fruit concentrates across dairy, frozen products, confectionery and foodservice sectors.

Growth in quick-commerce, organized retail and e-commerce channels is also expected to improve accessibility and market penetration of fruit-based products across the country. In addition, increasing focus on healthier consumption patterns, rising demand for natural fruit-based ingredients and advancements in fruit processing and preservation technologies are expected to support further expansion of the fruit concentrate market in India during the forecast period.

India Fruit Concentrate Market Segmentation

By Fruit Source

The India fruit concentrate market demonstrates a diversified fruit-source mix, reflecting the wide variety of fruits used across beverages, dairy products, bakery, confectionery and processed food applications. Citrus concentrates continue to maintain a significant presence in the market due to their widespread usage in juice and beverage formulations. In FY2026, citrus accounted for approximately **31.0%** of the market share and is projected to remain relatively stable at around **30.0%** by FY2030P, indicating continued demand from the beverage processing industry.



Source: D&B Primary Research E= Estimated, P= Projected

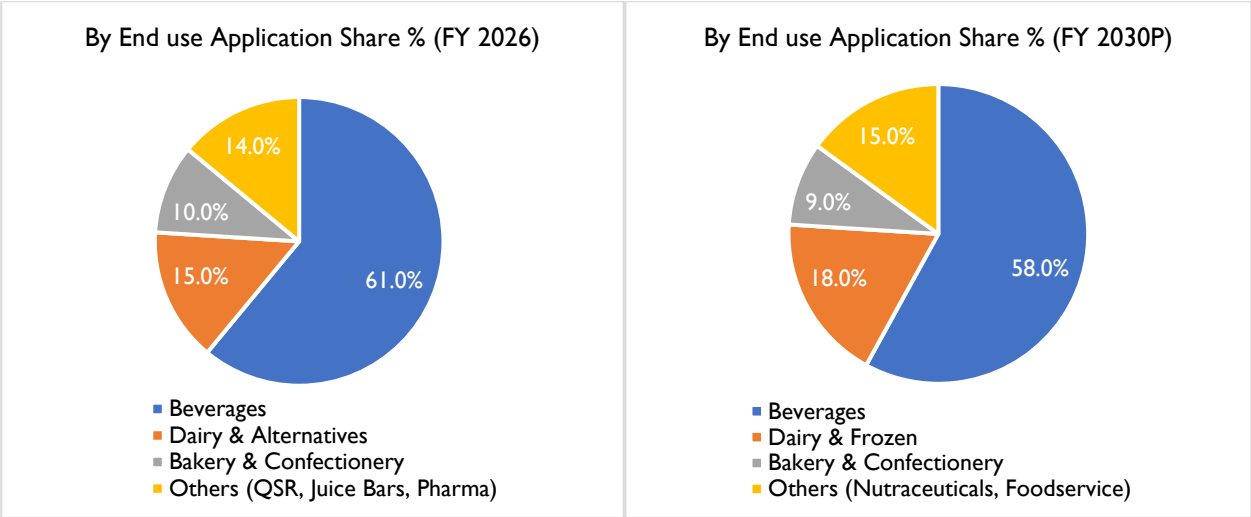
Mango concentrates are expected to witness increasing relevance within the Indian fruit concentrate market. The segment accounted for approximately **25.0%** share in FY 2026 and is projected to increase to around **28.0%** by FY 2030. The expected increase is supported by strong domestic preference for mango-based beverages and processed products, along with increasing industrial usage of mango pulp and concentrate across packaged food and foodservice applications.

The apple concentrate segment accounted for approximately **17.0%** share in FY 2026 and is projected to moderate slightly to around **15.0%** by FY 2030. Apple concentrates continue to be used in juice blends, beverage formulations and processed food applications; however, the relative share is expected to reduce due to faster growth in tropical and diversified fruit concentrate categories.

The "others" category, comprising fruits such as guava, papaya, pomegranate and berries, accounted for approximately **27.0%** share in FY 2026 and is projected to maintain a similar contribution by FY 2030. The stable share of this segment reflects increasing diversification in fruit concentrate consumption patterns and growing demand for non-traditional fruit flavours across packaged beverages, dairy products, nutraceuticals and processed food products.

By End use Application

The Indian fruit concentrate market derives a majority of its demand from beverage manufacturers, highlighting the strong linkage between concentrate consumption and the packaged drinks industry. In FY2026E, beverages contributed nearly **three-fifths of the overall market demand**, supported by large-scale usage in juices, fruit drinks, syrups, smoothies and ready-to-consume beverage formulations. Despite continued dominance, the segment's relative share is expected to reduce marginally by FY2030P as concentrate usage gradually expands across diversified food applications.



Source: D&B Primary Research E= Estimated, P= Projected

Among emerging application areas, the dairy and frozen products segment is projected to witness comparatively faster penetration. Increasing incorporation of fruit concentrates in flavored yogurts, dairy beverages, frozen desserts and fruit-based dairy preparations is expected to increase the segment's contribution from **15.0% in FY 2026 to 18.0% by FY 2030**. This indicates gradual diversification of fruit concentrate utilization beyond conventional beverage-centric demand.

Bakery and confectionery applications continue to represent a relatively niche but stable demand segment for fruit concentrates. Usage remains concentrated in fillings, toppings, bakery inclusions, fruit preparations and dessert applications. However, compared with beverages and dairy-linked categories, the relative contribution of bakery & confectionery is expected to remain comparatively moderate over the forecast period.

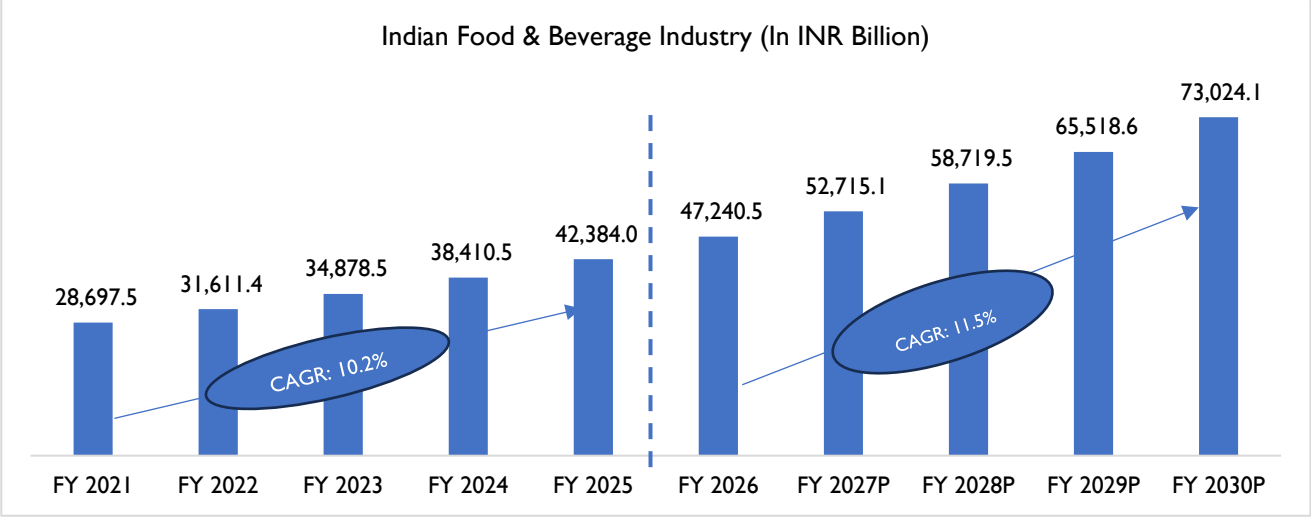
The "others" category, comprising QSR chains, juice bars, nutraceutical products and pharmaceutical applications, is expected to maintain a steady contribution to the market. Increasing usage of fruit-derived ingredients in functional beverages, institutional foodservice channels and convenience-oriented consumption formats is gradually strengthening the role of non-traditional application areas within the India fruit concentrate ecosystem.

Demand Drivers for Fruit Concentrates

Demand for fruit concentrates is being supported by increasing consumption of processed food and beverage products, rising preference for fruit-based ingredients and growing demand for convenience-oriented food formats. Fruit concentrates are widely used across beverages, dairy products, bakery, confectionery and ready-to-consume food applications due to their longer shelf life, ease of storage and formulation flexibility. Expansion of organized retail, foodservice channels and packaged beverage consumption is further supporting demand for fruit concentrates in India.

Demand from end use industries

The strong growth of India's food & beverage industry has emerged as a key demand driver for fruit concentrates, as these products are widely used in beverages, dairy products, confectionery, bakery items, sauces, jams, and processed food applications. The Indian food & beverage industry expanded from approximately **INR 28,697.5 billion in FY2021** to nearly **INR 42,384.0 billion in FY2025**, registering a CAGR of around **10.2%** during the period. The rising consumption of packaged foods, ready-to-drink beverages, flavoured dairy products, and convenience foods has significantly increased the requirement for fruit concentrates as essential flavouring and ingredient inputs. In particular, beverage manufacturers are increasingly utilizing fruit concentrates to cater to changing consumer preferences toward fruit-based and healthier drink alternatives.



Source: D&B Primary Research estimates[54]

The continued expansion of the food processing ecosystem and growing urbanization are expected to further strengthen demand for fruit concentrates over the forecast period. The industry is projected to grow from around **INR 47,240.5 billion in FY2026** to approximately **INR 73,024.1 billion by FY2030**, reflecting a CAGR of nearly **11.5%.** This growth is anticipated to create substantial opportunities for fruit concentrate manufacturers, supported by rising demand from beverage companies, quick-service restaurants, dairy processors, and packaged food manufacturers. Additionally, increasing focus on natural ingredients, clean-label products, and premium fruit-based offerings is expected to drive higher adoption of fruit concentrates across multiple end-use industries.

The increasing scale of the food & beverage industry also supports long-term demand stability for fruit concentrates, as manufacturers continue to diversify product portfolios and expand distribution networks across domestic and international markets. Growth in organized retail, e-commerce food platforms, and

[54] **Note:** All USD values have been converted into INR using an average exchange rate of **INR 88.3 per USD**, representing the average exchange rate for **FY2026 (March 2026)**.

export-oriented processed food manufacturing is further expected to enhance consumption of fruit concentrate products in India.

Consumer trend towards natural products / natural derived products, as against artificial flavours[55]

Consumers are increasingly shifting toward natural and fruit-derived ingredients in beverages and processed food products, driven by rising health consciousness, clean-label preferences, and concerns regarding artificial additives and synthetic flavours. This trend has significantly increased the demand for fruit concentrates, as manufacturers increasingly use concentrates in juices, dairy beverages, confectionery, bakery products, and packaged foods to enhance natural flavour, color, and nutritional appeal. Regulatory focus on labelling and ingredient transparency by government bodies such as the Food Safety and Standards Authority of India (FSSAI) has further encouraged food companies to adopt fruit-based ingredients in product formulations. FSSAI regulations also recognize the use of concentrated fruit juice in processed beverages and fruit-based products, supporting the growing utilization of fruit concentrates in the food industry.

The increasing demand for processed and natural food products is also reflected in the growth of India's processed food sector. According to the India's food processing industry accounts for nearly **32% of the total food market** and continues to attract significant investments. APEDA further reported that exports of processed fruits, juices & nuts reached around **USD 721.93 million** in **FY 2025**, highlighting strong domestic and international demand for fruit-based processed products. The rising popularity of healthier beverages, premium juices, smoothies, and functional drinks is expected to further accelerate demand for fruit concentrates across the food & beverage industry.

Impact on Demand for Fruit Concentrates:

- Increasing preference for natural and clean-label products has boosted the demand for fruit concentrates as natural flavouring ingredients in beverages and processed foods.
- Rising consumer awareness regarding health and wellness has encouraged manufacturers to replace artificial flavours with fruit-derived concentrates in product formulations.
- Growing consumption of fruit-based beverages, smoothies, and functional drinks has significantly increased the utilization of fruit concentrates across the beverage industry.
- Food manufacturers are increasingly incorporating natural fruit concentrates in bakery, confectionery, dairy, and packaged food products to enhance product appeal and nutritional positioning.

[55] https://apeda.gov.in/ProcessedFoods?

- The shift toward premium and minimally processed food products has supported higher demand for high-quality fruit concentrates in domestic and export markets.

Changing consumption pattern among consumer segment

Changing consumer lifestyles, rising urbanization, increasing disposable income levels, and busy work schedules have significantly transformed food and beverage consumption patterns across India. Consumers are increasingly preferring convenient, ready-to-consume, and packaged food products, which has accelerated demand for fruit-based beverages, flavoured dairy products, jams, sauces, and processed snacks. In addition, younger consumers are increasingly inclined toward healthier and premium beverage options such as smoothies, fruit drinks, and functional beverages, thereby supporting higher utilization of fruit concentrates across multiple food processing applications.

The expansion of organized retail, e-commerce grocery platforms, quick-service restaurants, and café chains has further strengthened consumption of processed and fruit-based products in India. Increasing awareness regarding nutrition, immunity, and natural ingredients after the pandemic has also encouraged consumers to shift toward fruit-derived products over synthetic alternatives. As food manufacturers continue to launch innovative fruit-based offerings and expand premium product portfolios, demand for fruit concentrates is expected to witness sustained growth across domestic and export-oriented food processing industries.

Resultant Impact on Demand for Fruit Concentrates:

- Rising demand for ready-to-drink beverages and packaged foods has increased the usage of fruit concentrates in food processing applications.
- Growing preference for healthier and fruit-based products has supported higher consumption of natural fruit concentrates across beverage and dairy segments.
- Expansion of organized retail and food service channels has strengthened demand for processed fruit ingredients with longer shelf life.
- Increasing urbanization and changing lifestyles have encouraged food manufacturers to incorporate fruit concentrates in convenience food products.
- Product innovation in premium juices, smoothies, and flavoured beverages has created additional growth opportunities for fruit concentrate manufacturers.

Other factors growing demand for fruit concentrates in India [56]

Several additional factors are contributing to the growing demand for fruit concentrates in India, including expansion of the food processing industry, increasing investments in cold chain infrastructure, and growth in

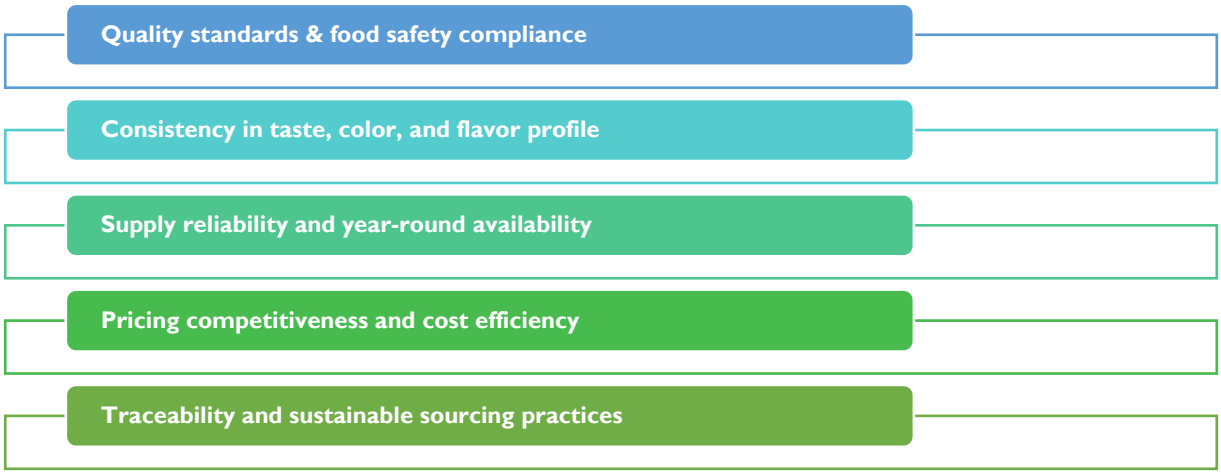
[56] https://apeda.gov.in/ProcessedFoods?utm

export-oriented processed food manufacturing. India's strong agricultural base and availability of diverse fruit varieties provide a favourable raw material ecosystem for fruit concentrate production. Government initiatives promoting food processing, value addition, and Agri-exports are further supporting industry growth. According to APEDA, the food processing sector has attracted cumulative foreign direct investment (FDI) of around **USD 13.01 billion between April 2000 and December 2024,** highlighting increasing investment interest in the sector.

The growth of the beverage industry, expansion of quick-service restaurants, and increasing use of fruit ingredients in dairy and confectionery applications are also positively impacting demand for fruit concentrates. Additionally, rising export opportunities for processed fruits, juices, and value-added agricultural products are encouraging manufacturers to expand production capacities and improve processing technologies. Growing focus on product innovation, premium fruit-based offerings, and longer shelf-life products is expected to further strengthen demand for fruit concentrates across domestic and international markets.

Usage Pattern in Beverage Industry

Brief insight on key factors considered by the global beverage industry while procuring fruit concentrate



- **Quality standards & food safety compliance:**

Global beverage companies place significant emphasis on food safety certifications, microbiological standards, pesticide residue limits, and traceability while procuring fruit concentrates. Compliance with regulations prescribed by authorities such as FSSAI, Codex Alimentarius, and importing countries is critical to ensure product acceptance in international markets. Beverage manufacturers increasingly prefer suppliers with standardized processing facilities, HACCP certifications, and stringent quality control mechanisms to maintain consistency in end products. In 2024, FSSAI strengthened labelling and quality compliance requirements for reconstituted fruit juices, increasing focus on transparency and standardized ingredient disclosure across the industry.

- **Consistency in taste, color, and flavour profile:**

Beverage companies require fruit concentrates with consistent flavour, color, aroma, and Brix levels to maintain uniformity across large-scale commercial production. Consistency is particularly important for multinational beverage brands operating across multiple geographies, as variations in concentrate quality can impact final product taste and consumer experience. Manufacturers therefore prefer suppliers capable of ensuring standardized fruit sourcing, advanced processing technologies, and stable year-round supply. The increasing use of concentrates in juices, dairy beverages, smoothies, and flavoured drinks has further increased demand for high-quality and standardized fruit concentrate products.

- **Supply reliability and year-round availability:**

Global beverage manufacturers prioritize suppliers with strong procurement networks, cold chain infrastructure, and inventory management capabilities to ensure uninterrupted supply of fruit concentrates throughout the year. Seasonal availability of fruits and climatic risks can impact production continuity, making reliable sourcing networks critical for beverage companies. Suppliers with integrated sourcing and aseptic storage facilities are generally preferred due to their ability to maintain stable supply and reduce operational disruptions. The growth of India's food processing sector and government support toward cold chain infrastructure development under schemes such as PMKSY have strengthened supply chain capabilities within the fruit processing industry.

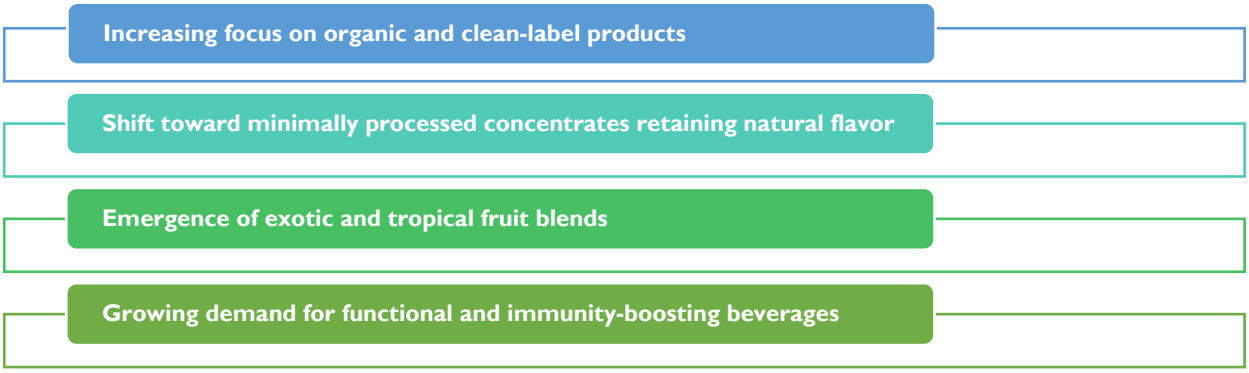
- **Pricing competitiveness and cost efficiency:**

Pricing remains an important procurement factor for beverage manufacturers, particularly in highly competitive beverage markets where raw material costs directly impact profit margins. Companies generally evaluate concentrate suppliers based on pricing stability, processing efficiency, transportation costs, and long-term procurement contracts. Volatility in fruit prices, packaging costs, and logistics expenses can influence procurement decisions and sourcing strategies of beverage companies. India's strong fruit production base and relatively competitive processing costs provide cost advantages for concentrate suppliers catering to domestic and export beverage markets.

- **Traceability and sustainable sourcing practices:**

Global beverage companies are increasingly focusing on sustainability, ethical sourcing, and traceability while procuring fruit concentrates. Buyers prefer suppliers capable of demonstrating transparent sourcing practices, farmer linkages, responsible water usage, and environmentally sustainable processing operations. Sustainability requirements have become increasingly important for exports to developed markets such as the U.S.A. and Europe, where consumers are more conscious regarding environmental and social compliance. Beverage companies are also emphasizing clean-label sourcing and natural ingredient positioning to align with changing consumer preferences toward healthier products.

Emerging trends in Beverage Industry



- **Increasing focus on organic and clean-label products:**

Consumers are increasingly preferring beverages made using natural, organic, and minimally processed ingredients, encouraging beverage manufacturers to procure organic fruit concentrates and clean-label products. The trend is driven by growing health consciousness and rising demand for products free from artificial color, preservatives, and synthetic additives. Beverage companies are increasingly launching products marketed as natural, preservative-free, and fruit-based to strengthen premium product positioning. Regulatory scrutiny regarding misleading "100% fruit juice" claims has also increased focus on transparent ingredient labelling and clean-label formulations.

- **Shift toward minimally processed concentrates retaining natural flavour:**

Beverage manufacturers are increasingly preferring minimally processed fruit concentrates that retain natural taste, aroma, nutritional value, and color characteristics of fresh fruits. Advanced processing technologies such as cold concentration, low-temperature evaporation, and aseptic preservation are gaining traction within the industry to preserve product quality. This trend is particularly strong within premium juice, smoothie, and functional beverage categories, were consumers increasingly associate minimal processing with healthier products. The growing demand for premium fruit-based beverages is supporting adoption of high-quality fruit concentrate formulations across global beverage markets.

- **Emergence of exotic and tropical fruit blends:**

Global beverage companies are increasingly experimenting with exotic and tropical fruit combinations to cater to evolving consumer preferences and product innovation trends. Fruit concentrates derived from mango, passion fruit, dragon fruit, guava, pomegranate, berries, and mixed tropical fruits are gaining popularity in premium beverages, energy drinks, and flavoured dairy products. The trend is encouraging manufacturers to diversify concentrate portfolios and develop innovative blends targeting younger and health-conscious consumers. India's diverse fruit production ecosystem provides strong opportunities for expansion of tropical fruit concentrate exports and value-added beverage applications.

- **Growing demand for functional and immunity-boosting beverages:**

The beverage industry is witnessing rising demand for functional drinks containing vitamins, antioxidants, and immunity-enhancing ingredients, particularly after the pandemic period. Fruit concentrates rich in vitamin C, antioxidants, and natural nutrients are increasingly being used in health beverages, sports drinks, fortified juices, and wellness products. Beverage manufacturers are focusing on fruit-based formulations to align with consumer preference for healthier and naturally derived products. This trend is expected to continue supporting demand for premium fruit concentrates across domestic and international beverage markets.

Opportunity Landscape[57]

India's fruit processing industry presents significant growth opportunities due to rising domestic and international demand for processed fruit products, coupled with the need to reduce high post-harvest losses in the horticulture sector. Increasing consumption of fruit juices, concentrates, packaged foods, dairy beverages, and convenience products is driving demand for value-added fruit processing capacity across the country. At the same time, India continues to face substantial wastage of fruits and vegetables due to inadequate cold chain infrastructure, limited processing facilities, and supply chain inefficiencies. According to a study commissioned by the Ministry of Food Processing Industries (MoFPI), post-harvest losses for fruits in India are estimated at around **6.02%- 15.05%,** highlighting the strong need for expansion of processing and preservation infrastructure.

India's horticulture production continues to expand steadily, further strengthening the requirement for additional fruit processing capacity. According to the Ministry of Agriculture & Farmers Welfare, India's total horticulture production is estimated to reach around **3708.46 lakh tonnes in 2026, compared to 3547.44 lakh tonnes in 2024**, reflecting increasing availability of fruits and vegetables for value-added processing applications. However, processing levels in India remain relatively low compared to major global food processing economies. In **2026**, the Government of India outlined plans to increase the share of processed food in agricultural output from nearly **12% to around 25%** over the next five years in order to reduce post-harvest losses estimated at approximately **INR 1.53 trillion annually**.

The need for enhanced fruit processing infrastructure is further supported by increasing government focus on food processing, cold chain development, and value-addition initiatives under schemes such as PMKSY and horticulture cluster development programs. Expansion of processing capacity can help improve shelf life of perishable produce, stabilize farmer incomes, reduce wastage, and strengthen export competitiveness of Indian processed fruit products. In addition, growing investments in juice processing plants, aseptic packaging

[57] https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=2150866&utm&reg=3&lang=2
https://economictimes.indiatimes.com/news/economy/agriculture/indias-horticulture-production-to-increase-marginally-in-2025-26-first-advance-estimate/articleshow/129616637.cms?from=mdr&utm
https://www.livemint.com/industry/centre-plans-to-double-food-processing-capacity-farm-economy-agriculture-schemes-11771990188074.html?utm
https://timesofindia.indiatimes.com/city/chandigarh/sirsa-district-set-to-get-modern-kinnow-juice-plant/articleshow/126551306.cms?

facilities, and integrated cold chain networks are expected to create long-term opportunities for fruit concentrate manufacturers and processed food companies operating in India.

Factors Driving the Need for Improved Fruit Processing Infrastructure:

- Rising demand for fruit-based beverages, juices, and processed foods is increasing the requirement for additional fruit processing capacity in India.
- High post-harvest losses due to inadequate cold chain and storage infrastructure highlight the need for improved processing facilities.
- Increasing horticulture production in India is creating pressure on existing processing infrastructure and supply chain networks.
- Expansion of fruit processing capacity can help improve shelf life, reduce wastage, and enhance value addition within the agricultural sector.
- Growing export demand for processed fruit products and concentrates is encouraging investments in modern processing and preservation technologies.
- Government initiatives promoting food processing infrastructure and cold chain development are expected to support capacity expansion across the fruit processing industry.

Sustainability initiatives

The fruit processing industry is increasingly adopting sustainability-focused initiatives aimed at improving resource efficiency, reducing wastage and supporting environmentally responsible processing practices. Key sustainability measures across the industry include utilization of surplus and lower-grade fruits for processing, reduction of post-harvest losses, adoption of energy- and water-efficient processing systems, recyclable and eco-friendly packaging solutions, and improved waste management practices. In addition, processors are increasingly focusing on traceability, quality certifications, responsible sourcing practices and optimization of by-products generated during fruit processing operations. These initiatives are gaining relevance due to increasing regulatory focus, export market requirements and evolving consumer preference toward sustainable and responsibly processed food products.

- **Adoption of circular economy principle:** [58]

Circular economy adoption is becoming a major sustainability trend in the fruit concentrate industry, with manufacturers increasingly transforming fruit processing waste into commercially valuable products rather than disposing it in landfills. Fruit processing generates large quantities of secondary raw materials such as

[58] https://www.sciencedirect.com/science/article/abs/pii/S092422441400154X?
https://www.mdpi.com/2071-1050/14/9/5212?utm

peels, seeds, pomace, pulp, and fibers, many of which contain bioactive compounds, dietary fibers, essential oils, and antioxidants. According to research published in Trends in Food Science & Technology, nearly **50%** of total fruit biomass can become waste during processing, while citrus processing alone generates nearly **15 million tons** of peel waste annually worldwide. Industry players are increasingly extracting pectin, polyphenols, natural pigments, dietary fibers, and essential oils from these residues for applications across food, pharmaceutical, cosmetic, and nutraceutical industries. Additionally, fruit waste is being converted into animal feed, compost, biogas, and biodegradable packaging materials, supporting waste minimization and additional revenue generation.

In India, circular economy initiatives are gaining traction through institutional research and commercialization efforts aimed at reducing fruit wastage and improving processing efficiency. ICAR-Central Citrus Research Institute (ICAR-CCRI), Nagpur, has developed multiple citrus-based products using surplus fruits and citrus waste, including biodegradable packaging materials, citrus powders, marmalades, essential oils, and functional food ingredients derived from peels and pulp residues. According to ICAR-CCRI, only around **5%** of India's citrus production is currently processed compared with **70- 80%** in developed economies, highlighting substantial opportunity for waste valorization and value-added processing. Indian research institutions are also exploring innovative applications of fruit waste in wastewater treatment, biochar production, and renewable materials. For instance, IIT Guwahati researchers developed biochar from pineapple crowns and mosambi fibers for industrial wastewater purification, demonstrating the growing industrial relevance of fruit waste reuse technologies in India.

- **Energy efficiency practices:** [59]

Energy efficiency has become a critical sustainability priority for the global fruit concentrate industry due to rising energy costs, decarbonization targets, and increasing environmental regulations. Fruit concentrate manufacturing is energy-intensive because processes such as evaporation, pasteurization, refrigeration, drying, and cold storage require substantial electricity and thermal energy consumption. To improve operational efficiency, manufacturers are replacing conventional processing systems with advanced multi-effect evaporators, heat recovery technologies, automated processing lines, energy-efficient refrigeration systems, and smart process monitoring solutions. fruit processing generates nearly **0.5 billion tons** of waste annually and produces significant wastewater and energy-related emissions, with wastewater generation reaching approximately **10 Liters** per liter of juice produced. Adoption of modern energy-efficient systems helps reduce steam consumption, lower operational costs, and decrease greenhouse gas emissions while improving overall production productivity.

[59] https://www.sciencedirect.com/science/article/abs/pii/S2214714425003150?

In India, the food processing sector is increasingly adopting renewable energy systems and modernized processing infrastructure to improve sustainability performance. The Ministry of Food Processing Industries (MoFPI) has been promoting renewable energy integration including solar, biomass, and wind-based systems within food processing units under various government schemes. According to recent industry coverage and PIB releases, financial assistance is being provided to support energy-efficient and climate-friendly food processing infrastructure under PMKSY and related schemes. The government is also encouraging development of sustainable packaging technologies and resource-efficient processing facilities to align the industry with net-zero and ESG objectives. These initiatives are helping Indian fruit concentrate manufacturers modernize aging processing infrastructure, reduce dependence on fossil fuels, and improve long-term cost competitiveness amid rising energy prices.

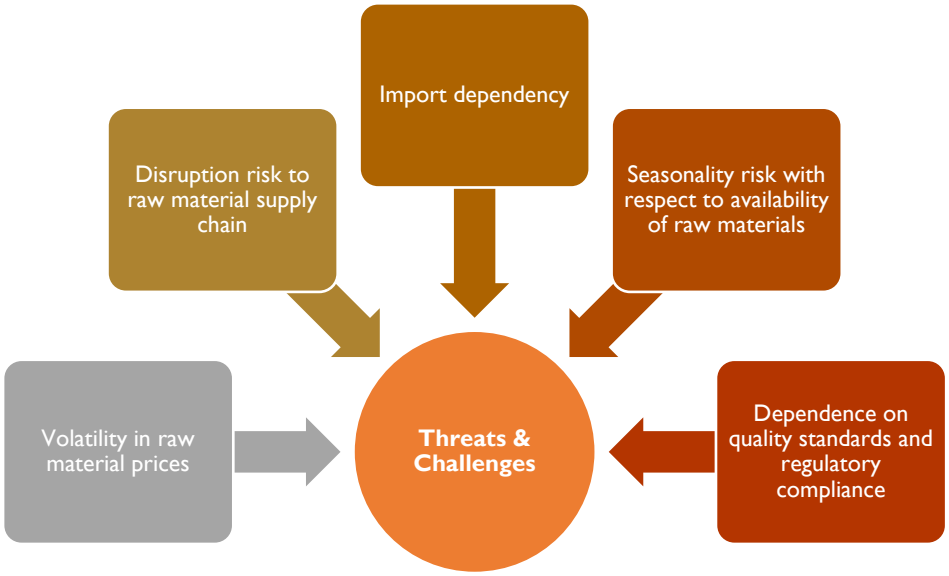
- **Sustainability in sourcing:**

Sustainable sourcing practices are becoming increasingly important in the global fruit concentrate industry as companies focus on improving supply chain traceability, supporting farming communities, and preserving biodiversity. Global food and beverage companies are increasingly prioritizing ethically sourced fruits cultivated using environmentally sustainable farming methods such as reduced pesticide usage, water-efficient irrigation, soil conservation, and regenerative agricultural practices. Sustainable sourcing programs also emphasize direct farmer engagement, fair pricing mechanisms, contract farming, and farmer training initiatives aimed at improving crop quality and productivity while reducing environmental degradation. Additionally, biodiversity preservation has emerged as a key focus area, with companies increasingly promoting protection of native fruit varieties, sustainable land management, and responsible agricultural expansion to reduce deforestation and ecosystem damage associated with large-scale fruit cultivation.

From an India perspective, sustainable sourcing initiatives are increasingly linked with improving farmer incomes, reducing post-harvest losses, and strengthening local agricultural ecosystems. Institutions such as ICAR-CCRI are promoting scientific post-harvest management and value-added processing to improve market realization for farmers and reduce fruit wastage during peak harvest seasons. Government-backed schemes under MoFPI and agricultural departments are also encouraging farmer-producer organizations (FPOs), local sourcing models, and integrated cold chain infrastructure to strengthen sustainable procurement networks. Furthermore, the industry is increasingly emphasizing utilization of surplus and imperfect fruits that would otherwise be discarded, thereby reducing food loss and creating additional revenue streams for farming communities. These sourcing transformations are helping improve traceability, support rural livelihoods, and promote more sustainable utilization of agricultural resources across India's fruit processing ecosystem.

Threats & Challenges

Analysis of key threats & challenges impacting the fruit concentrate market



- **Volatility in raw material prices:**

The fruit concentrate industry is highly dependent on the availability and pricing of fresh fruits, making it vulnerable to fluctuations in raw material costs. Prices of fruits such as mangoes, oranges, apples, grapes, and berries are influenced by factors including climatic conditions, crop yield variations, transportation costs, and changes in domestic and export demand. Sudden increases in fruit prices can significantly impact production costs and reduce profit margins for concentrate manufacturers. In addition, fluctuations in sugar prices, packaging material costs, and energy expenses further increase operational cost pressures. Volatility in raw material pricing also creates challenges in long-term pricing contracts with food and beverage companies, affecting overall business stability within the fruit concentrate market.

- **Disruption risk to raw material supply chain:**

The fruit concentrate industry is exposed to supply chain disruptions due to its dependence on agricultural produce sourced from multiple farming regions. Adverse weather events such as droughts, floods, unseasonal rainfall, and pest infestations can disrupt fruit production and affect raw material availability. In addition, transportation bottlenecks, labour shortages, logistics disruptions, and fluctuations in fuel prices can impact timely procurement and movement of fresh fruits to processing facilities. Supply chain disruptions may lead to production delays, lower plant utilization rates, and increased procurement costs for manufacturers. The perishable nature of fruits further increases operational risks, as delays in sourcing or transportation can directly affect product quality and processing efficiency.

- **Import dependency:**

The fruit concentrate industry also faces challenges due to dependence on imported processing equipment, advanced machinery, and specialized technologies used for extraction, concentration, aseptic packaging, and preservation processes. High-end food processing equipment is often sourced from countries with advanced

food technology capabilities, increasing exposure to import costs, currency fluctuations, and supply disruptions. In addition, manufacturers relying on exotic fruit concentrates, pulps, or extracts such as berries, kiwi, avocado, and certain citrus variants may depend on imports due to limited domestic cultivation. This dependency can increase raw material costs and create supply uncertainties in case of global trade disruptions or changes in import regulations. Dependence on imported technology and specialized ingredients may also affect competitiveness of domestic manufacturers in price-sensitive markets.

- **Seasonality risk with respect to availability of raw materials:**

The availability of fruits used in concentrate manufacturing is highly seasonal, creating significant procurement and inventory management challenges for the industry. Most fruits have specific harvesting periods, resulting in uneven supply throughout the year and creating pressure on manufacturers to secure adequate raw material volumes during peak seasons. Unfavourable climatic conditions during harvesting periods can further impact fruit quality and production levels, leading to shortages and higher procurement costs. Manufacturers often need to invest in cold storage, aseptic storage systems, and inventory management capabilities to ensure year-round production continuity. Seasonality risks may also result in fluctuations in production capacity utilization and affect the ability of manufacturers to consistently meet demand from food and beverage companies.

- **Dependence on quality standards and regulatory compliance:**

The fruit concentrate industry is highly influenced by stringent food safety regulations and quality standards imposed by domestic and international markets. Export-oriented manufacturers are required to comply with multiple certifications, residue limits, labelling norms, and hygiene standards, which can increase compliance costs and operational complexity. Any failure to meet prescribed standards may lead to shipment rejections, product recalls, or loss of export opportunities. In addition, frequent changes in international food regulations and sustainability requirements may create additional challenges for manufacturers operating in global markets.

Regulatory Landscape

Food Safety and Standards (Advertising and Claims) Regulations- 2024 (FSSAI)[60]

In 2024, the Food Safety and Standards Authority of India (FSSAI) strengthened regulations related to labelling and advertising claims for fruit juice and processed beverage products. FSSAI directed food business operators to remove "100% fruit juice" claims from reconstituted fruit juice products, highlighting the need

[60] https://myfssai.in/fssai_updates/fssai-directs-fbos-to-remove-the-claim-of-100-fruit-juices-from-the-label-and-advertisement/?utm

for transparent labelling practices in the processed fruit industry. The regulation mandates clear disclosure when juices are reconstituted from concentrates or pulp, improving transparency for consumers.

The policy directly impacts fruit concentrate manufacturers and beverage companies by increasing compliance requirements related to packaging, marketing, and ingredient disclosure. Companies using fruit concentrates in juice formulations are now required to clearly mention "reconstituted" on labels, thereby encouraging standardized product labelling across the industry. This regulation is expected to improve consumer confidence and support fair competition within the processed fruit and beverage sector. The regulation also promotes higher quality standards within the fruit processing ecosystem by discouraging misleading marketing claims. Manufacturers are increasingly focusing on improving traceability, ingredient transparency, and regulatory compliance to align with evolving food safety norms. The policy is expected to strengthen long-term consumer trust and improve the credibility of processed fruit products in domestic and export markets.

Food Safety and Standards (Labelling and Display) Regulations- 2024 (FSSAI)[61]

In 2024, FSSAI operationalized revised Food Safety and Standards (Labelling and Display) Amendment Regulations aimed at strengthening food labelling transparency and consumer awareness. The regulation introduced stricter disclosure norms regarding ingredients, nutritional information, and labelling standards for processed food and beverage products, including fruit-based products and concentrates. The revised framework has significant implications for the fruit processing industry, as manufacturers are required to maintain accurate labelling practices and standardized nutritional declarations. Fruit concentrate producers supplying ingredients to beverage, dairy, confectionery, and packaged food companies must ensure compliance with revised labelling norms to avoid regulatory penalties and product recalls. The framework also enhances traceability and quality assurance across the food processing value chain.

The regulation is expected to support the long-term growth of the organized processed food industry by improving transparency and strengthening food safety standards. As consumers increasingly prefer natural and clean-label products, the revised labelling framework is likely to encourage higher adoption of standardized fruit concentrates and natural fruit-derived ingredients across the food & beverage industry.

Pradhan Mantri Kisan Sampada Yojana (PMKSY) - Ongoing Framework[62]

The Pradhan Mantri Kisan Sampada Yojana (PMKSY), implemented by the Ministry of Food Processing Industries (MoFPI), remains one of the key policy frameworks supporting India's fruit processing and fruit concentrate industry. The scheme focuses on strengthening food processing infrastructure, cold chain

[61] https://myfssai.in/fssai_updates/reoperationalistion-of-fss-labelling-and-displayamendment-regulations/?utm

[62] https://www.pib.gov.in/PressReleasePage.aspx?PRID=2153494&lang=1&reg=3&utm

networks, agro-processing clusters, and value-addition facilities across the agricultural supply chain. The framework is aimed at reducing post-harvest losses and improving processing capacity for perishable products such as fruits and vegetables.

Under PMKSY, the government provides financial assistance for integrated cold chain projects, food preservation units, and processing infrastructure, which directly benefit fruit concentrate manufacturers. Improved cold storage and logistics infrastructure help ensure better availability and quality of fruits throughout the year, thereby supporting production continuity and operational efficiency. The scheme also promotes modernization of processing facilities and export-oriented food manufacturing. As of June 2025, around 1,601 food processing or preservation projects had been sanctioned under PMKSY, of which approximately 1,133 projects were completed, benefiting nearly 34.15 lakh farmers across India. The scheme has played an important role in strengthening India's food processing ecosystem and enhancing competitiveness of processed fruit products in global markets.

Food Safety and Standards (Import) Regulations - Continuing Regulatory Framework[63]

The Food Safety and Standards (Import) Regulations implemented by FSSAI continue to play a significant role in regulating imported food products, fruit pulp, concentrates, additives, and processing ingredients entering India. The framework establishes standards related to food safety inspections, quality checks, import documentation, and compliance procedures applicable to imported food products used within the processed fruit industry.

The regulation is particularly important for fruit concentrate manufacturers dependent on imported exotic fruit pulp, extracts, additives, and specialized ingredients not widely cultivated in India. Companies importing advanced food ingredients and fruit-based products are required to comply with stringent testing, certification, and quality standards before products are approved for commercial use. The framework strengthens traceability and improves quality assurance across the food processing supply chain. While the regulation improves consumer protection and food safety standards, it also increases compliance costs and documentation requirements for import-dependent processors. However, the framework supports long-term growth of the organized processed food industry by encouraging standardized manufacturing practices and improving reliability of imported raw materials and ingredients.

Food Safety and Standards (Food Products Standards & Food Additives) Regulations- Continuing Framework[64]

[63] https://apeda.gov.in/ProcessedFoods?utm

[64] https://www.fssai.gov.in/index.php

The Food Safety and Standards (Food Products Standards & Food Additives) Regulations continue to serve as a foundational regulatory framework governing processed food and fruit-based products in India. The regulation specifies standards related to composition, additives, preservatives, contaminants, and quality parameters applicable to fruit juices, concentrates, beverages, jams, processed fruits, and allied products.

For the fruit concentrate industry, these regulations define permissible ingredient usage, processing standards, and product specifications necessary for commercial manufacturing and export operations. Compliance with additive and quality standards is critical for manufacturers supplying concentrates to beverage companies, dairy processors, confectionery producers, and export markets. The framework also helps ensure consistency and safety in processed fruit products available to consumers. The regulation has supported the organized growth of India's processed food industry by promoting standardized manufacturing practices and improving food safety compliance. As consumer preference for processed and packaged fruit products continues to rise, adherence to these standards is becoming increasingly important for maintaining product quality, export competitiveness, and regulatory approvals across domestic and global markets.

Maharashtra State Export Promotion Policy (MS-EPP) 2023:[65]

The Maharashtra State Export Promotion Policy (MS-EPP) 2023, introduced by the Government of Maharashtra, aims to strengthen the state's export ecosystem by enhancing export competitiveness, improving logistics infrastructure, facilitating market access, and promoting value-added manufacturing across priority sectors, including agriculture and food processing. The policy has set an ambitious target to **double Maharashtra's exports by FY 2027-28** and envisages the development of **30 World Standard Export-Oriented Industrial Parks** over five years to improve export infrastructure. It also promotes the **Districts as Export Hubs (DEH)** initiative through District Export Action Plans, encouraging district-specific export promotion and strengthening the participation of agriculture and food processing industries in global value chains.

For the fruit concentrate and processed fruit industry, the policy is expected to improve export readiness by encouraging investments in modern processing facilities, integrated cold chain infrastructure, warehousing, quality testing laboratories, and internationally compliant certification systems. Given Maharashtra's strong production base for citrus fruits, grapes, mangoes, and pomegranates, the policy is likely to enhance value addition, reduce post-harvest losses, and improve the global competitiveness of processed fruit products. By strengthening export infrastructure and facilitating compliance with international quality standards, the policy is expected to support long-term growth of Maharashtra's fruit processing industry while expanding export opportunities for fruit concentrate manufacturers.

[65] https://cdnbbsr.s3waas.gov.in/s349d4b2faeb4b7b9e7457757931 41e2b2/uploads/2025/01/20250128743724949.pdf?

The Maharashtra State Export Promotion Policy-2023 introduces two key programs to foster dedicated export-oriented projects:

1. Export-Oriented Specific Project (EOSP)
2. Export-Oriented Industrial Parks (EOIP)

1. Export-Oriented Specific Projects (EOSP)[66]:

- These projects target specific gaps in export infrastructure within industrial pockets or clusters.
- They align with the export promotion policy and directly boost exports by identifying and utilizing the area's export potential.
- Public or private entities can propose and implement these projects under a Public-Private Partnership (PPP) model.
- Each project undergoes assessment to ensure its technical and financial viability, aiming for self-sustainability.
- These projects receive state grants up to INR 50 crores per project, distributed according to specified zones

Zone-wise Financial Assistance from the State under EOSP

Zone	Taluka / Area Classification*	State Grant Contribution**	Remarks
I	A & B	40%	• For Export Oriented Specific Projects (EOSP) projects will be supported with Grant-In-Aid as per respected zones concerned to location of the project. Grant-in-aid is limited to INR 50 Crore. • Land must be with the Implementing Agency; Cost of Land will not be considered in the Project Cost. • The Cost of Building (CFC, Administrative building) shall not
II	C, D, D+	50%	
III	Vidarbha, Marathwada, Ratnagiri, Sindhudurg & Dhule, Naxalism Affected Areas and Aspirational Districts as mentioned in PSI-2019 policy.	60%	

[66] https://industry.maharashtra.gov.in/sites/default/files/2025-09/maharashtra-export-policy-2023_0.pdf

			exceed 25% of the total project cost. • The cost over and above 25% shall be borne by Implementing Agency. • Limited to 5 projects shall be permitted from each mentioned Zone. • Total of 15 Projects in a policy period will be approved under EOSP. • The projects applied under ASIDE Scheme of Govt. of India and compiling the norms of State's export promotion policy will also be eligible under EOIDP.

*As Per PSI 2019

** On Approved Project Cost

2. Export Oriented Industrial Park (EOIP)

The Export-Oriented Industrial Parks (EOIPs) will be sector-specific zones developed on at least 100 contiguous acres with an investment of INR 200 crore. Parks near ports or dry ports may be developed on 50 contiguous acres with an investment of INR 100 crore, reserving 20% for Micro, Small and Medium Enterprises (MSMEs). The Maharashtra Industrial Development Corporation (MIDC) will act as the Special Planning Authority (SPA), and each project may receive Grant-in-Aid of up to INR 100 crore. Private entities under the Public-Private Partnership (PPP) mode must establish an anchor exporting unit with a 60% export commitment, a 10% contribution or stake, and a minimum net investment of INR 20 crore

Minimum Support Price (MSP) Framework:

Unlike major foodgrains, pulses, oilseeds, and select commercial crops, **fruits are not covered under the Minimum Support Price (MSP) regime** in India. As a result, fruit procurement is entirely market-driven, with prices determined by factors such as seasonal production, quality, demand-supply dynamics, and export demand. This enables fruit processors and fruit concentrate manufacturers to procure raw materials directly from farmers, mandis, farmer producer organizations (FPOs), and aggregators at market-linked prices without government price intervention. The absence of MSP provides greater pricing flexibility and facilitates efficient price discovery, allowing processors to optimize procurement costs and respond quickly to changing market conditions. It also encourages contract farming, long-term procurement arrangements, and direct sourcing models, supporting uninterrupted raw material availability while enhancing operational efficiency and competitiveness within the fruit processing and fruit concentrate industry.

Dehydrated Fruit Snacking Products

Brief insight on dehydrated fruit snack products[67]

Dehydrated fruit snack products are processed food products manufactured by removing moisture from fresh fruits to improve shelf life, storage stability and ease of transportation while retaining portions of the fruit's natural flavour, colour and texture. These products are generally consumed as ready-to-eat snacks and are available in various forms such as dried fruit slices, fruit chips, fruit cubes, fruit bars, fruit bites and mixed dried fruit packs. Common fruits used for dehydration include banana, mango, pineapple, apple, papaya, jackfruit, berries, grapes and figs.

The dehydrated fruit snack category has gained relevance due to increasing preference for convenience-oriented food products, portable snack formats and packaged fruit-based offerings. Compared with fresh

[67] https://mofpi.gov.in/sites/default/files/KnowledgeCentre/Sector%20Profile/F&V_Sector_Profile(1).pdf

fruits, dehydrated products are easier to store, transport and package because of their lower moisture content and comparatively longer shelf life. The category also finds applications beyond standalone snacking, including usage in breakfast cereals, bakery products, confectionery, dairy products, trail mixes and foodservice preparations.

Production Process of Dehydrated Fruit Snack Products

- **Fruit Procurement:** Fresh fruits are sourced from farms, aggregators or wholesale markets based on variety, maturity, size and quality requirements suitable for processing.
- **Sorting & Grading:** Fruits are sorted to remove damaged or unsuitable produce and graded based on size, ripeness, colour and processing suitability.
- **Washing & Cleaning:** The selected fruits are washed to remove dirt, dust, pesticide residue and other external impurities before processing.
- **Peeling / Cutting / Slicing:** Depending on the product category, fruits are peeled and cut into slices, cubes, chips or other desired shapes for uniform drying.
- **Pre-Treatment:** Pre-treatment processes such as blanching, osmotic treatment or use of food-grade preservatives may be carried out to maintain colour, texture and product stability during drying.
- **Dehydration / Drying:** Moisture is removed using techniques such as hot-air drying, freeze drying, vacuum drying or sun drying, depending on the product type and quality requirement.
- **Cooling & Quality Inspection:** The dehydrated products are cooled and inspected for moisture level, texture, colour, microbial stability and overall product quality.
- **Packaging:** Finished products are packed in moisture-resistant and food-grade packaging materials to maintain shelf life and product stability.
- **Storage & Distribution:** The packaged products are stored under controlled conditions and distributed through retail, foodservice, export or e-commerce channels.

Product Features & Attributes

- **Longer Shelf Life:** Reduced moisture content helps improve product stability and lowers spoilage risk during storage and transportation.

- **Convenience-Oriented Format:** The products are lightweight, portable and generally consumed as ready-to-eat snack items.
- **Variety of Product Forms:** Available in forms such as fruit chips, dried slices, cubes, fruit bars, fruit bites and mixed dried fruit packs.
- **Ease of Packaging & Distribution:** Lower moisture levels support easier packaging, warehousing and retail distribution compared with fresh fruits.
- **Application Across Food Categories:** Used in snacks, breakfast cereals, bakery products, desserts, confectionery and dairy applications.

Other Attributes

Different dehydration techniques influence the texture, appearance and product characteristics of dehydrated fruit snacks. For instance, freeze-dried products are generally preferred for retaining shape and appearance, while hot-air drying is commonly used for commercial-scale processing due to operational simplicity and relatively lower processing cost. Vacuum drying and other advanced drying methods are also used for selected premium products to support flavour and texture preservation.

The category is also witnessing increasing relevance due to growing demand for packaged fruit-based snacks across organized retail, modern trade, quick-commerce platforms and institutional foodservice channels. Manufacturers are increasingly focusing on product innovation through mixed fruit snacks, seasoning variants, organic products, no-added-sugar formats and premium packaging to cater to evolving consumer preferences.

Overall, dehydrated fruit snack products form an important value-added segment within the fruit processing industry due to their convenience-oriented nature, longer shelf life, portability and wider applicability across retail and foodservice channels. Growing preference for packaged and ready-to-consume food products is expected to continue supporting the relevance of this category within the broader processed fruit market.

Key differentiator of dehydrated fruit snack in the broader snacking product segment in India

Parameter	Dehydrated Fruit Snacks	Conventional Packaged Snacks
Raw Material Base	Manufactured using processed fruits such as banana, mango, pineapple, apple and jackfruit	Primarily grain-, potato- or starch-based products
Nature of Product	Fruit-derived and value-added snack category	Primarily savory or processed snack category
Shelf Life & Storage	Lower moisture content supports improved shelf life and easier storage	Shelf life dependent on frying, seasoning and preservative systems

Product Formats	Available as dried slices, fruit chips, cubes, fruit bars and mixed fruit packs	Available as chips, extruded snacks, namkeen, biscuits and savory products
Portability & Convenience	Lightweight and convenient for on-the-go consumption	Widely consumed as ready-to-eat packaged snacks
Processing Techniques	Uses dehydration methods such as hot-air drying, freeze drying and vacuum drying	Primarily based on frying, baking or extrusion processing
Application Areas	Used in snacking, cereals, bakery, confectionery and dairy products	Primarily consumed as standalone snack products
Retail Positioning	Increasing presence across premium retail, modern trade and e-commerce channels	Widely distributed across mass retail and general trade
Product Innovation	Includes mixed fruit packs, organic variants and no-added-sugar offerings	Includes flavour variants, seasoning innovations and product extensions

Demand Scenario

Shift in consumption pattern and resultant demand in healthier snacking products[68]

India's snacking consumption patterns are gradually shifting toward healthier, nutrition-oriented and fitness-focused food choices. Consumers are increasingly preferring snack products that are perceived as more natural, convenient and aligned with wellness-oriented lifestyles. This transition is supporting demand for healthier snacking categories such as dehydrated fruit snacks, dried fruits, fruit bars, seed-based snacks, granola products and baked snack alternatives. The trend is particularly visible among urban consumers, younger demographics and organized retail channels.

The shift toward healthier snacking is also being influenced by increasing awareness regarding ingredient composition, product functionality and clean-label consumption. Food manufacturers are increasingly introducing products positioned around fruit-based ingredients, lower preservative content, no-added-sugar variants and convenience-oriented formats to cater to changing consumer preferences. Simultaneously,

[68] https://www.pwc.in/assets/pdfs/pwcs-voice-consumer-2025-india-perspective.pdf
https://economictimes.indiatimes.com/industry/cons-products/food/majority-indian-consumers-now-prefer-preservative-free-snacks-farmley/articleshow/122839636.cms
https://www.ibef.org/news/health-drives-snacking-choices-for-72-of-indians-consumer-insights-study

growth in supermarkets, premium retail, e-commerce and quick-commerce platforms is improving accessibility and visibility of healthier snack products across Indian markets.

Key consumer trend indicators supporting healthier snacking demand include:

- A consumer insights study by **Farmley**, conducted during the **Indian Healthy Snacking Summit 2025** across approximately **6,000 respondents**, indicated that **72% of consumers actively seek snacks offering functional benefits** such as improved energy, enhanced mood and higher protein content.
- The same study noted that around **55% of Indian consumers preferred preservative-free snacks**, while nearly **52% preferred eco-conscious packaging**, indicating increasing focus on product ingredients, clean-label positioning and sustainability-linked consumption preferences.
- According to **PwC's "Voice of the Consumer 2025"** report, approximately **one in every five snacks consumed is now categorized as a healthy snack**, including products positioned around low-calorie, low-fat or gut-health-focused attributes.

The gradual transition toward health- and fitness-focused consumption patterns is expected to continue supporting demand for healthier snacking products in India. This evolving preference is likely to create opportunities for value-added fruit-based snacks, dehydrated fruit products and other convenience-oriented healthy snack categories across organized retail, foodservice and digital commerce channels.

Consumption pattern in urban markets (key consumer hubs) on the back of demographic shift / disposable income changes / aspirational changes[69]

India's consumption landscape has undergone a significant transformation over the past two decades, supported by rising disposable incomes, demographic transition, urbanization, and evolving consumer aspirations. Private Final Consumption Expenditure (PFCE) continues to remain a major contributor to India's GDP growth, as highlighted in the Economic Survey 2025-26, reflecting the increasing role of household consumption in driving economic activity. India's expanding middle-income population, increasing workforce participation, and greater exposure to organized retail, digital commerce, and global consumption trends have collectively contributed toward a gradual shift from essential spending toward discretionary and convenience-oriented consumption categories.

Key urban consumer hubs such as Delhi NCR, Mumbai Metropolitan Region (MMR), Bengaluru, Hyderabad, Chennai, Pune, Kolkata, and Ahmedabad have emerged as major centers for organized retail, food services, quick commerce, and premium food consumption. These cities continue to witness higher spending on packaged foods, ready-to-eat products, dining-out formats, and delivery-led consumption, supported by

[69] https://www.moneycontrol.com/news/business/economy/urban-india-spending-nearly-50-percent-of-food-budget-on-dining-out-and-deliveries-deloitte-ficci-report-13038773.html
https://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf
https://www.ibef.org/blogs/decoding-the-indian-consumer-basket#:~:text=The%20Indian%20consumer%20market%2C%20a,consumer%20markets%20in%20the%20world

higher disposable income levels, dense working population, changing lifestyles, and increasing penetration of modern retail infrastructure. As per a Deloitte-FICCI report, urban consumers in India now allocate nearly 50% of their food expenditure toward packaged and prepared foods, dining out, and delivery services, indicating rising preference for convenience-led and aspirational consumption. The report also highlighted that expenditure on beverages and processed foods has surpassed spending on cereals in rural India for the first time since 2000, reflecting broader structural changes in food consumption behaviour across the country.

India's large consumer base and rising purchasing power are expected to continue supporting premiumization and diversification across food and consumer categories. As per UBS, India is expected to become the world's third-largest consumer market by 2026 after surpassing Japan and Germany. Increasing penetration of quick commerce, organized retail, and digital food delivery platforms across metropolitan and tier-II cities has further improved accessibility to branded and processed food products, thereby supporting the growth of the food processing and packaged foods industry in India.

Technology changes resulting in creation of fruit snacking products with long shelf life[70]

Technological advancements in food processing, dehydration and preservation techniques are supporting the development of fruit-based snack products with improved shelf life, storage stability and wider commercial applicability. Traditionally, fruits are highly perishable due to their high moisture content, making them susceptible to spoilage during storage and transportation. However, evolving food processing technologies are enabling manufacturers to convert fresh fruits into packaged snack products with comparatively longer usability while retaining portions of the product's flavour, texture and appearance.

According to **NIFTEM training material**, food processing and dehydration technologies help enhance the shelf life of perishable fruits and vegetables by reducing spoilage and improving preservation efficiency. Technologies such as dehydration, moisture reduction and controlled preservation are increasingly being used to improve product stability and facilitate transportation and retail distribution of fruit-based snack products.

Recent advancements in dehydration technologies such as **freeze drying, vacuum drying, osmotic drying and infrared drying** are increasingly being explored to improve nutrient retention, reduce spoilage and enhance shelf stability of fruit products. These technologies are being used for manufacturing products such as fruit chips, dried fruit slices, fruit cubes, fruit bars and powdered fruit ingredients. Among these, freeze drying and vacuum drying are increasingly used for premium fruit snack categories due to their ability to support improved texture, appearance and product stability characteristics.

In addition, **MoFPI's Fruits & Vegetables Sector Profile** notes that technologies such as dehydration, bottling and preservation are increasingly being used to extend the shelf life of seasonal fruits and vegetables.

[70] https://niftem-t.ac.in/curmetmg.pdf
https://www.jetir.org/papers/JETIRHA06021.pdf
https://timesofindia.indiatimes.com/city/bhubaneswar/nrdc-transfers-tech-to-balangir-firm-to-ensure-proper-drying-of-fruits/articleshow/123705582.cms

Such technologies are supporting value addition within the fruit processing industry by enabling manufacturers to develop packaged fruit snack products suitable for organized retail, e-commerce, foodservice and export channels.

Technology improvements in packaging and storage solutions are also contributing toward longer shelf life of fruit snack products. Use of moisture-resistant packaging, vacuum packaging and multilayer flexible packaging materials helps improve product stability during storage and transportation. Simultaneously, automation in sorting, grading, slicing, drying and packaging processes is supporting better production efficiency and quality consistency across commercial-scale processing operations.

Evolution of distribution channels and its impact on the introduction and adoption of new snacking product variants

India's snacking industry distribution landscape has evolved significantly with the expansion of organized retail, e-commerce, quick commerce and hyperlocal delivery platforms. Traditionally, packaged snack products were primarily distributed through general trade and modern retail stores. However, increasing digital adoption, smartphone penetration and convenience-oriented consumption behaviour have accelerated the growth of online grocery and instant-delivery ecosystems, thereby improving accessibility and visibility of packaged snack products across urban and semi-urban markets.

Quick commerce and hyperlocal delivery platforms are increasingly influencing consumer purchasing behaviour by enabling faster access to packaged food products, including premium and niche snacking categories. The convenience-led purchase model is supporting impulse buying, trial consumption and repeat demand for categories such as dehydrated fruit snacks, fruit bars, trail mixes, baked snacks and other healthier snack variants. The evolving distribution ecosystem is also enabling brands to launch differentiated products with comparatively lower dependence on traditional physical shelf space.

Key industry trends supporting evolution of snacking distribution channels include:

- Quick-commerce platforms are increasingly expanding beyond staples and daily essentials into premium packaged foods, healthier snacks, beverages and convenience-oriented food categories.
- Organized retail, supermarkets and modern trade outlets are increasing shelf visibility and assortment of premium and health-oriented snacking products across urban markets.
- E-commerce and hyperlocal delivery channels are enabling regional and emerging snack brands to access wider consumer markets beyond traditional geographic distribution boundaries.

The evolution of digital and organized distribution channels is also supporting faster introduction and adoption of new snacking product variants. Online platforms provide manufacturers with wider product visibility, targeted consumer reach and easier product testing capabilities. This has enabled launch of differentiated offerings such as mixed fruit snacks, no-added-sugar variants, organic snack products, premium dried fruit products and convenience-oriented snack packs targeted toward health-conscious consumers.

Growth in digital commerce channels is also contributing toward increased product innovation and customized packaging formats. Manufacturers are increasingly introducing smaller pack sizes, combo offerings, subscription models and convenience-led packaging formats to cater to online and quick-commerce purchasing behaviour. Simultaneously, data-driven consumer targeting and digital marketing are helping brands identify evolving snacking preferences and respond through faster product introductions.

Competitive Landscape:

The fruits and fruit concentrate industry is characterized by the presence of a diverse mix of multinational beverage ingredient manufacturers, fruit processing companies, regional exporters, and integrated Agri-processing firms competing on the basis of product quality, sourcing capabilities, processing technology, pricing, and global distribution networks. Large players in the industry focus on establishing strong procurement networks in fruit-producing regions to ensure consistent raw material availability and quality throughout the year. Companies are also increasingly investing in advanced processing technologies such as vacuum evaporation, aseptic packaging, aroma recovery systems, and cold-chain infrastructure to improve product quality, shelf life, and operational efficiency.

Competition within the industry is strongly influenced by factors such as access to fruit cultivation zones, seasonal crop availability, export competitiveness, compliance with international food safety standards, and ability to maintain flavour consistency across batches. Leading manufacturers emphasize certifications such as HACCP, ISO, BRC, FSSC, and organic certifications to strengthen their position in global export markets. Additionally, companies are increasingly focusing on sustainable sourcing practices, traceability systems, and waste utilization initiatives to align with evolving environmental and clean-label requirements from food and beverage manufacturers. Product innovation through organic concentrates, no-added-sugar formulations, NFC (Not from Concentrate) variants, and customized blends is also becoming an important competitive differentiator.

The beverage industry remains the largest demand driver for fruit concentrates, leading many concentrate manufacturers to establish long-term supply partnerships with global beverage brands, dairy companies, and foodservice chains. Players with integrated operations spanning fruit sourcing, processing, storage, and export logistics generally benefit from stronger cost competitiveness and supply chain control. In addition, regional producers from countries such as Brazil, India, China, the United States, and European nations compete actively in international trade markets based on fruit availability, production costs, and export infrastructure. Price fluctuations in raw fruits, climatic risks, and supply chain disruptions continue to influence competitive positioning across the industry.

The market is also witnessing increasing consolidation through mergers, acquisitions, strategic collaborations, and capacity expansion initiatives aimed at strengthening geographic presence and product portfolios. Companies are expanding processing capacities and investing in automation technologies to improve yield efficiency and reduce operational costs amid growing global demand for fruit-based beverages and natural food ingredients. Furthermore, rising consumer preference for health-oriented, functional, and naturally sourced products is encouraging manufacturers to diversify into premium fruit concentrate categories and value-added applications. As competition intensifies, the ability to ensure consistent quality, sustainable

sourcing, efficient logistics, and innovation in ingredient solutions is becoming increasingly important for long-term market competitiveness.

Mapping the factors shaping the competition in Indian fruit concentrate industry

- **Availability & Quality of Raw Fruits**

Competition in the Indian fruit concentrate industry is significantly influenced by access to high-quality raw fruits and proximity to major fruit cultivation regions. Companies with strong sourcing networks and long-term relationships with farmers benefit from consistent raw material supply, better pricing control, and improved product quality. Seasonal variations, climatic conditions, and crop yield fluctuations directly impact production volumes and procurement costs. Manufacturers increasingly focus on contract farming, traceability systems, and backward integration strategies to strengthen sourcing reliability and maintain competitive advantage.

- **Processing Technology & Operational Efficiency**

Advanced processing technologies play a critical role in shaping competitiveness within the industry. Companies investing in modern evaporation systems, aseptic packaging, cold-chain infrastructure, and automation technologies are better positioned to improve yield efficiency, preserve product quality, and reduce operational costs. Efficient processing capabilities also help manufacturers maintain flavour consistency and comply with international food safety standards. Technological advancements further support higher production scalability and improved export competitiveness in global markets.

- **Export Competitiveness & Global Market Access**

India's fruit concentrate industry is highly export-oriented, making global market access and export competitiveness important competitive factors. Companies with strong international distribution networks, certifications, and compliance with global regulatory standards gain better access to overseas markets. Export performance is also influenced by logistics efficiency, cold-chain capabilities, freight costs, and currency

fluctuations. Manufacturers focusing on premium-quality products, customized formulations, and sustainable sourcing practices are increasingly strengthening their position in international markets.

- **Product Diversification & Innovation**

The ability to offer diversified fruit concentrate products and customized solutions is becoming an important competitive differentiator in the industry. Manufacturers are expanding product portfolios to include organic concentrates, clean-label ingredients, no-added-sugar variants, NFC (Not from Concentrate) products, and blended fruit formulations to meet evolving consumer preferences. Innovation in flavour profiles, functional ingredients, and application-specific formulations for beverages, dairy, bakery, and nutraceutical sectors is helping companies strengthen customer relationships and improve market positioning.

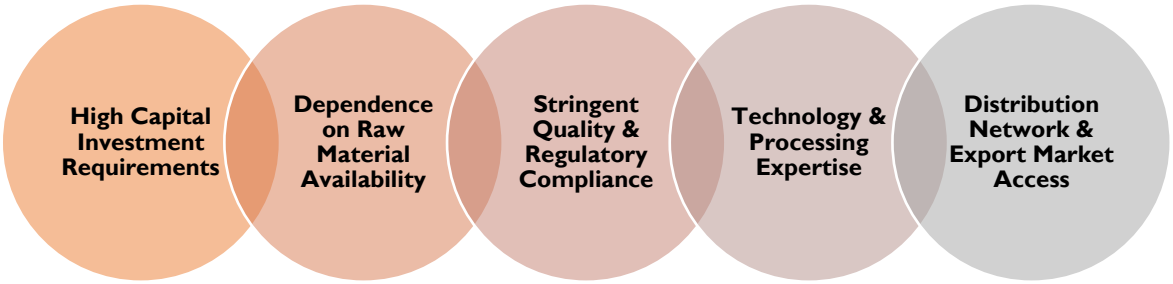
- **Cost Competitiveness & Supply Chain Management**

Cost efficiency and effective supply chain management strongly influence market competition in the Indian fruit concentrate industry. Companies with integrated operations across sourcing, processing, storage, and distribution benefit from better control over production costs and inventory management. Efficient cold-chain logistics and optimized transportation systems help reduce wastage and improve product shelf life. Additionally, fluctuations in fruit prices, energy costs, labour expenses, and packaging material costs continue to impact profitability and competitive positioning across the industry.

Type of players active in this domain

- **Integrated Fruit Processing Companies:** Operate across sourcing, processing, packaging, and exports to maintain supply chain control and product consistency. These players benefit from large-scale operations and strong procurement networks.
- **Fruit Concentrate Manufacturers:** Primarily focus on producing juice concentrates and customized fruit ingredient solutions for industrial applications. Their competitiveness is driven by processing technology and quality standards.
- **Export-Oriented Processors & Traders:** Focus on international distribution, export logistics, and compliance with global food safety standards. These players cater mainly to overseas beverage and food manufacturers.
- **Contract Processing & Toll Manufacturing Players:** Provide outsourced processing services such as juice extraction, concentration, and aseptic packaging for food and beverage brands. They help clients reduce capital investment and improve production flexibility.
- **Organic & Specialty Ingredient Players:** Specialize in organic, clean-label, and premium fruit concentrate products targeting health-focused consumers. Their market positioning is supported by certifications, traceability, and sustainable sourcing practices.

Key entry barriers & switching cost



- **High Capital Investment Requirements**

Establishing fruit concentrate processing facilities requires significant capital investment in processing equipment, evaporation systems, cold storage infrastructure, aseptic packaging lines, and quality testing laboratories. Companies also need to invest in cold-chain logistics and warehousing to maintain product quality during storage and transportation. The high upfront investment increases financial risk, particularly for small and new entrants. Additionally, continuous maintenance and technology upgrades further add to operational expenditure requirements.

- **Dependence on Raw Material Availability**

The industry is highly dependent on the seasonal availability and quality of fruits, making raw material sourcing a major entry barrier. New entrants often face challenges in establishing reliable procurement networks and long-term relationships with farmers and aggregators. Climatic uncertainties, crop diseases, and fluctuations in fruit yields can significantly impact production continuity and profitability. Established players generally benefit from integrated sourcing systems and stronger supplier relationships, creating competitive advantages.

- **Stringent Quality & Regulatory Compliance**

Fruit concentrate manufacturers must comply with strict domestic and international food safety standards, including certifications such as HACCP, FSSAI, ISO, BRC, and FSSC. Export-oriented companies are also required to meet phytosanitary regulations, traceability requirements, and residue limits imposed by importing countries. Achieving and maintaining these certifications involves substantial investment in quality control systems, testing infrastructure, and compliance processes. Regulatory complexities create operational challenges for new and smaller players entering the industry.

- **Technology & Processing Expertise**

Efficient fruit concentrate production requires advanced processing technologies and technical expertise to maintain flavours, nutritional quality, consistency, and yield efficiency. Technologies such as vacuum evaporation, aroma recovery systems, membrane filtration, and aseptic processing require skilled manpower and operational knowledge. New entrants may face difficulties in achieving processing efficiency and minimizing product losses during production. Established manufacturers with advanced technological capabilities are better positioned to maintain product quality and cost competitiveness.

- **Distribution Network & Export Market Access**

Strong distribution channels and access to export markets are critical for success in the fruit concentrate industry. Established players typically maintain long-term relationships with beverage companies, food manufacturers, distributors, and international buyers, making market penetration difficult for new entrants. Export competitiveness also depends on logistics capabilities, cold-chain infrastructure, and global certifications. Building brand credibility and gaining customer trust in international markets often requires significant time, marketing investment, and operational consistency.

Switching cost:

Switching costs in the fruit concentrate industry are relatively moderate to high due to the importance of product consistency, regulatory compliance, and long-term supplier relationships. Food and beverage manufacturers generally prefer stable suppliers to ensure uniform taste, aroma, color, and ingredient specifications across product batches. Changing suppliers may involve additional testing, product reformulation, approval procedures, and supply chain adjustments, increasing operational complexity and procurement risks. As a result, established suppliers with reliable quality standards and integrated service capabilities benefit from stronger customer retention and long-term business relationships.

- Buyers depend on consistent flavour and quality standards from existing suppliers.
- Changing suppliers may require product reformulation and testing procedures.
- New supplier onboarding involves audits, approvals, and regulatory validation processes.
- Long-term supply agreements reduce the likelihood of frequent supplier switching.
- Integrated procurement and logistics systems increase operational switching complexity.

Peers Profiling (Domestic Player)

Company	Profiling
Sahyadri Farms Post Harvest Care Limited	**Sahyadri Farms Post Harvest Care Limited** was established in **2011** and is headquartered in **Nashik, Maharashtra**, and operates as a farmer-owned integrated fruits and vegetables platform. The company works with more than **18,000 registered farmers**, covers over **30,000 acres of farmland**, and serves customers across **42+ countries**. Its operations span fresh produce, primary processing, semi-processed products, and value-added food products, supported by farm-to-fork traceability and processing infrastructure. The company's product portfolio includes **fresh fruits and vegetables, frozen and aseptic products, fruit beverages, fruit jams, tomato ketchup, dried products, bioactives, and juice concentrates**. Key customer segments include domestic and international retailers, food processors, beverage companies, and institutional buyers. In the **FCOJ segment**, Sahyadri has established orange juice concentrate processing capabilities as part of its processed foods and juice concentrate business, enabling value addition to citrus produce and export-oriented supply. Key strengths include its farmer-owned model, integrated value chain, processing infrastructure, traceability systems, and access to a broad farmer network for raw material sourcing. • Processes **15,000 tonnes of citrus fruits annually** through its integrated citrus value chain. • Sources citrus fruits from over **5,000 acres of cultivation area** in partnership with **2,000+ farmers**. • Supplies **high-quality, residue-free citrus fruits** to domestic and international institutional customers. • Fresh citrus produce is utilized across food processing applications, including **juices, squashes, and food ingredients**. • Operates an end-to-end citrus value chain covering sourcing, processing, and market distribution.

Puretrop Fruits Ltd	**Puretrop Fruits Limited** was incorporated in **1992** and is headquartered in **Ahmedabad, Gujarat, India**. Formerly known as Freshtrop Fruits Limited, the company is engaged in the processing and export of fruits and vegetables for domestic and international markets. The company initially built its business around exports of fresh produce, particularly grapes and pomegranates, to supermarket chains in Europe and later expanded into processed fruit products by establishing a juice processing facility in **Nashik**. Its operations emphasize food safety, traceability, grower relationships, and export-oriented supply chains. Puretrop's product portfolio includes **fruit pulps, fruit concentrates, cold-extracted fruit and vegetable juices, nut milks, frozen and HPP fruit products, and ready-to-drink beverages**. The company offers products based on mango, pomegranate, guava, watermelon, tomato, amla, and orange, serving food processors, beverage manufacturers, retailers, and international customers. In the orange juice segment, Puretrop markets **orange juice and orange-based blended beverages**, such as Spinach-Celery-Orange-Ginger and Black Grape-Orange-Pomegranate drinks. While the company participates in the broader fruit processing and juice category, its disclosed portfolio indicates a diversified fruit processing focus rather than a dedicated FCOJ or citrus concentrate business. Key strengths include its processing infrastructure, traceability systems, long-standing grower network, and established relationships with domestic and international customers.
Foods & Inns Limited	**Foods & Inns Limited** was established in **1940** and is headquartered in **Mumbai, Maharashtra, India**. The company is engaged in the processing and marketing of fruit and vegetable-based products and has a history spanning more than 50 years in the food processing industry. In FY2023, the company processed over **300,000 MT of fruits and vegetables**. Its product portfolio includes **fruit pulps, concentrates, spray-dried fruit and vegetable powders, frozen fruit purees, IQF fruits & vegetables, and snack products**, serving beverage, dairy, and food service customers across domestic and international markets. The company exports its products primarily to **Europe and Japan**, with additional sales across **India and the Middle East**. Its orange-related portfolio includes **spray-dried orange powder** and **IQF Nagpur**

	Orange, indicating participation in the citrus processing and fruit ingredient segment. Foods & Inns focuses on the development of sustainable value chains and utilizes processing technologies, including **Tetra Recart**, to support product innovation and market expansion. While the company has exposure to orange-based ingredients, fruit concentrates, and citrus products, The company operates a diversified fruit processing business that includes orange-based ingredients, fruit concentrates, and citrus products, supporting its presence in the broader citrus processing market.

Comparative Analysis of Citrus Processing Capacity Across Selected Asian Players Analysis

Company	Country	Processing Capacity (Metric Tones /Day)
Göknur Gıda	Turkey	7200- 1,200[71]
Anadolu Etap	Turkey	958[72]
Polat Citrus Industry	Turkey	700[73]
MKC Agro Fresh Limited	India	500[74]
Semes Gida San. ve Tic. A.Ş.	Turkey	240[75]
Sahyadri Farmers Producer Company Limited	India	41.09[76]

MKC Agro Fresh Limited is in the process of setting up a FCOJ plant with a processing capacity of 500 tones pe day. This plant once operational would elevate MKC as a leading player in terms of FCOJ processing capacity in the country. The scale of the Company's processing infrastructure supports efficient procurement, production and supply capabilities, enabling it to cater to both domestic and export markets. Once operational, in terms of installed processing capacity, MKC Agro Fresh Limited is expected to becoming a leading citrus processing companies within the selected peer set in India ,

[71] https://goknur.com.tr/en/page/aboutus/production-facilities?utm
[72] https://www.anadoluetap.com/en-US/farms-and-plants?
[73] https://semes.com.tr/en/our-production-lines/?utm
[74] Refers to the proposed FCOJ processing capacity of MKC Agro
[75] https://semes.com.tr/en/our-production-lines/?utm
[76] https://www.sahyadrifpc.com/core-crops?utm

MKC Agro Fresh Limited

Company Overview:

The Company operates an integrated fresh fruit supply chain through a farm-to-plate business model. Its operations span the value chain from procurement, including direct engagement with farmers at the pre-harvest stage through sorting, grading, waxing, ripening, controlled atmosphere ("CA") storage, processing and logistics. The Company distributes fresh fruit through a wide network of distributors and retailers under its consumer brand, FRESHPICK. This model enables the Company to offer a diversified product portfolio, maintain consistent quality, support innovation and provide customers with reliable, cost-efficient and timely solutions, positioning it as a preferred partner for brands seeking consistency, innovation and faster delivery timelines.

The Company's business operations trace their origins to 1966 when the grandfather of current promoters, Mr. Haji Mohd. Kaliyar Chiragudin, started fruit trading business. The Promoters of the Company later incorporated the current M K C Agro Fresh Limited as a private limited company in 2009. Headquartered in Delhi-NCR, the Company has over five decades of operating experience across the fresh fruit value chain under the leadership of three generations of the promoter family. It sources raw fruit through: (a) relationships with a network of over 12,000 farmers, , cultivating in aggregate approximately 36,700 acres across key fruit-producing states, including Maharashtra, Himachal Pradesh, Uttar Pradesh, Andhra Pradesh, Jammu & Kashmir, Uttarakhand and Telangana; (b) leased orchards spread across approximately 2,531.57 acres; and (c) imports of fresh fruit from over 15 countries across five continents to supplement domestic supply and cater to growing domestic demand for exotic varieties. This farm-to-plate model helps the Company manage a diversified basket of 15+ fruit categories, including oranges, apples, mangoes, grapes, kiwi, bananas and other seasonal fruits, enabling it to maintain year-round operational relevance.

The Company has received a consent from the Maharashtra Pollution Control Board (on May 2024) to set up a fruit processing infrastructure in the district of Amaravati in Maharashtra. The proposed infrastructure comprises of a FCOJ plant with a planned installed capacity of 500 tons per day as well as a cold storage facility with a planned capacity of 5000 tons of storage.

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Financial KPI Benchmarking:

Particular	Unit	Sahyadri Farms Post Harvest Care Limited		Puretrop Fruits Ltd			Foods & Inns Limited		
		As at end for Fiscal		As at end for Fiscal			As at end for Fiscal		
		Fiscal 2025	Fiscal 2024	Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2026	Fiscal 2025	Fiscal 2024
Total Revenue	₹ in Lakhs	1,87,224.80	1,48,242.50	12,571.54	11,426.76	10,929.45	87,999.09	1,00,461.69	1,02,683.01
Revenue From Operations	₹ in Lakhs	1,85,129.30	1,46,766.60	12,188.22	11,157.46	10,653.01	86,802.20	99,207.72	1,02,013.10
EBITDA	₹ in Lakhs	20,451.00	13,274.80	3,509.78	-601.63	-407.08	9,998.09	11,668.52	12,022.37
EBITDA Margin	in %	11.05%	9.04%	28.80%	-5.39%	-3.82%	11.52%	11.76%	11.79%
PAT	₹ in Lakhs	8,303.30	4,548.30	2,529.01	-681.66	-436.25	2,768.59	4,231.43	3,672.05
PAT Margin	in %	4.49%	3.10%	20.75%	-6.11%	-4.10%	3.19%	4.27%	3.60%
Debt Equity Ratio	In Times	0.56	1.05	0.01	0.03	0.04	0.74	0.79	1.17
Return on Equity	in %	9.90%	10.74%	18.35%	-6.06%	-3.07%	4.89%	7.84%	9.21%
Return on Capital Employed	in %	13.05%	11.62%	24.18%	-6.94%	-4.06%	8.86%	11.22%	12.77%
Return of Assets	in %	4.90%	3.56%	16.59%	-5.25%	-2.69%	2.13%	3.28%	3.57%
Key Operating Cost	₹ in Lakhs	1,70,119.10	1,35,264.40	11,549.19	12,232.93	11,527.96	79,236.87	89,592.11	91,618.25
Interest Coverage Ratio	In Times	3.18	2.45	49.15	-13.07	-11.27	1.60	1.65	2.25
Return on Net Worth	in %	9.90%	10.74%	18.35%	-6.06%	-3.07%	4.89%	7.84%	9.21%

Note: Consolidated Financial Statements have been used for Financial Analysis

Financial Analysis of an International Player

Particular	Unit	Prodalim Investments Limited		
		As at end for Fiscal		
		Q1 CY 2026	CY 2025	CY2024
Total Revenue	In USD	9,17,63,000.00	34,18,98,000.00	33,28,72,000.00
Revenue From Operations	In USD	9,15,18,000.00	34,10,26,000.00	33,25,90,000.00
EBITDA	In USD	74,02,000.00	3,29,27,000.00	2,74,74,000.00
EBITDA Margin	in %	8.09%	9.66%	8.26%
PAT	In USD	14,81,000.00	91,02,000.00	30,76,000.00
PAT Margin	in %	1.62%	2.67%	0.92%

Debt Equity Ratio	In Times	0.55	1.14	1.85
Return on Equity	in %	0.62%	7.55%	4.59%
Return on Capital Employed	in %	1.38%	9.83%	10.84%
Return of Assets	in %	0.34%	2.75%	1.13%
Key Operating Cost	In USD	8,64,42,000.00	31,58,89,000.00	31,15,81,000.00
Interest Coverage Ratio	In Times	1.90	1.99	1.45
Return on Networth	in %	0.62%	7.55%	4.59%

Formula Used:

Parameter	Formula
Total Revenue	Total Income includes Revenue from Operations and Other income.
Revenue From Operations	Revenue from operations means the revenue from operations as appearing in the restated statement of profit & loss for the relevant year/period.
EBITDA	EBITDA is calculated as Profit before tax for the year, plus finance costs and depreciation and amortisation expenses, less other income.
EBITDA Margin (%)	EBITDA Margin (%) is calculated as EBITDA divided by Revenue from Operations
Profit after tax (PAT)	Profit after tax (PAT) refers to Restated Profit/(Loss) for the year from Continuing Operations as appearing in the Restated Financial Information
PAT Margin (%)	PAT Margin (%) is calculated as Profit for the year as a percentage of Revenue From Operations
Return on Equity (ROE)	ROE is calculated as Restated Profit attributable to owners of the Company divided by Equity for the year.
Return on Asset (ROA)	Return on Assets (ROA) is calculated as Restated Profit attributable to owners of the Company divided by the Total Assets for the year.
Return on Capital Employed (ROCE)	RoCE is calculated as Earnings before interest and taxes (EBIT) divided by Capital Employed. EBIT is calculated as Profit before tax plus finance costs.
Capital Employed	Capital Employed is sum total of Total Net Worth and Total Debt.
Debt to Equity Ratio	Debt to Equity Ratio is calculated as Total Borrowings divided by Shareholders' Equity as at the end of the year.
Operating Cash Flow	Operating Cash Flow represents the net cash generated from or used in operating activities during the year, as reported in the Company's Statement of Cash Flows.