Industry Coverage:

Indian Sugar Industry

29th January 2025

Disclaimer

*This study has been undertaken through extensive secondary research, which involves compiling inputs from publicly available sources, including official publications and research reports. Estimates provided by Dun & Bradstreet ("**Dun & Bradstreet**") and its assumptions are based on varying levels of quantitative and qualitative analysis including industry journals, company reports and information in the public domain.*

Dun & Bradstreet has prepared this study in an independent and objective manner, and it has taken all reasonable care to ensure its accuracy and completeness. We believe that this study presents a true and fair view of the industry within the limitations of, among others, secondary statistics, and research, and it does not purport to be exhaustive. The results that can be or are derived from these findings are based on certain assumptions and parameters/conditions. As such, a blanket, generic use of the derived results or the methodology is not encouraged.

Forecasts, estimates, predictions, and other forward-looking statements contained in this report are inherently uncertain because of changes in factors underlying their assumptions, or events or combinations of events that cannot be reasonably foreseen. Actual results and future events could differ materially from such forecasts, estimates, predictions, or such statements.

The recipient should conduct its own investigation and analysis of all facts and information contained in this report is a part and the recipient must rely on its own examination and the terms of the transaction, as and when discussed. The recipients should not construe any of the contents in this report as advice relating to business, financial, legal, taxation or investment matters and are advised to consult their own business, financial, legal, taxation, and other advisors concerning the transaction.

Contents

Annexure for Abbreviation used

GDP	Gross Domestic Product
GVA	Gross Value Added
IIP	Index of Industrial Production
PFCE	Private Final Consumption Expenditure
GFCF	Gross fixed capital formation
WPI	Wholesale Price Index
CPI	Consumer Price Index
y-o-y	Year on Year
m-o-m	Month on Month
IMF	International Monetary Fund
RBI	Reserve Bank of India
MOSPI	The Ministry of Statistics and Programme Implementation
Est., Adv. Est	Estimated, Advance Estimates
P, F	Projected, Forecast
USD	US Dollar
INR	Indian Rupee
Mn, Bn, Tn, Cr	Million, Billion, Trillion, Crore
PLI	Production Linked Incentive
NSO	National Statistics Office
ISO	International Sugar Organisation
EBP	Ethanol Blended Program
MMT	Million Metric Tonnes
FRP	Fair & Remunerative Price

MSP	Minimum Ex-factory Selling Price
DGFT	Directorate General of Foreign Trade
ERO	Export Release Order
OGL	Open General License
GST	Goods and Service Tax
DFG	Damaged Food Grains
SAP	State Advised Prices
CAGR	Compound Annual Growth Rate
FDI	Foreign Direct Investment
OGL	Open General License
ISGIEIC	Indian Sugar & General Industry Export Import Corporation Ltd.
CapEx	Capital Expenditure
BL	Billion Liters
MoPNG	Ministry of Petroleum and Natural Gas
OMCs	Oil Marketing Companies
ESY	Ethanol Supply Year
NEMMP	National Electric Mobility Mission Plan
FAME	Faster Adoption & Manufacturing of Electric Hybrid Vehicles
OEMs	Original Equipment Manufacturers
IEA	International Energy Agency
CO	Carbon Monoxide
HC	Hydrocarbons
CFS	Container Freight Station
CHA	Custom House Agent

ISMA	Indian Sugar Mills Association
APEDA	Agricultural and Processed Food Products Export Development Authority

Global Macroeconomic Landscape

Global Economic Overview

The global economy, which grew by 3.3% in 2023, is expected to record a sluggish growth of 3.2% in 2024 before rising modestly to 3.3% in 2025. Between 2021-2022, global banks were carrying a historically high debt burden after COVID-19. Central banks took tight monetary measures to control inflation and spike in commodity prices. Russia's war with Ukraine further affected the global supply chains and inflated the prices of energy and other food items. These factors coupled with war-related economic sanctions impacted the economic activities in Europe. Any further escalation in the war may further affect the rebound of the economy in Europe.

While China, the largest manufacturing hub of world, was facing a crisis in the real estate sector and prices of properties were declining between 2020 - 2023, with the reopening of the economy, consumer demand is picking up again. The Chinese Government took several steps to help the real estate sector including cracking down on debt-ridden developers, announcing stimulus for the sector and measures to encourage the completion and delivery of unfinished real estate projects. The sector is now witnessing investments from developers and demand from buyers.

Global headline inflation is set to fall from an estimated 6.8% in CY 2023 to 5.8% in CY 2024 and to 4.4% in CY 2025. This fall is swifter than anticipated across various areas, amid the resolution of supply-related problems and tight monetary policies. Reduced inflation mirrors the diminishing impact of price shocks, particularly in energy, and their subsequent influence on core inflation. This decrease also stems from a relaxation in labour market pressure, characterized by fewer job openings, a slight uptick in unemployment, and increased labour availability, occasionally due to a significant influx of immigrants.

Global and Regional GDP Growth

The global economy started to rise from its lowest levels after countries started to lift the lockdown in 2020 and 2021. The lockdown was a key factor as it affected economic activities resulting in a recession in the year CY 2020, as the GDP growth touched -3.3%.

In CY 2021 disruption in the supply chain affected most of the advanced economies as well as low-income developing economies. The rapid spread of COVID Delta variant and the threat of other new variants in mid of CY 2021 further increased uncertainty in the global economic environment.

Global economic activities experienced a sharper-than-expected slowdown in CY 2022. One of the highest inflations in decades, seen in 2022, which forced most of the Central banks to tighten their fiscal

policies. Russia's invasion of Ukraine affected the global food supply resulting in a further increment in the cost of living.

Further, despite initial resilience earlier in 2023, marked by a rebound in reopening and progress in curbing inflation from the previous year's highs, the situation remained precarious. Economic activity lagged its pre-pandemic trajectory, particularly in emerging markets and developing economies, leading to widening disparities among regions. Numerous factors are impeding the recovery, including the lasting impacts of the pandemic and geopolitical tensions, as well as cyclically driven factors such as tightening monetary policies to combat inflation, the reduction of fiscal support amidst high debt levels, and the occurrence of extreme weather conditions. As a result, global growth declined to 3.3% in CY 2023 from 3.5% in CY 2022.

Slow growth in developed economies will affect the GDP growth in CY 2024 and global GDP is expected to record a flat growth of 3.2% in CY 2024. The crisis in the housing sector, bank lending, and industrial sectors are affecting the growth of global GDP. Inflation forced central banks to adopt tight monetary policies. After touching the peak in 2022, inflationary pressures slowly eased out in 2023. This environment weighs in for interest rate cuts by many monetary authorities.

Key factors impacting global macroeconomic landscape.

Several key factors influence the global macroeconomic landscape, shaping economic trends and policies worldwide. These include:

Monetary Policy: Central banks' actions regarding interest rates and money supply management (e.g., Federal Reserve, European Central Bank) impact inflation, investment, and consumption. Tightening or loosening monetary policies can either stimulate or slow down economies globally.

Fiscal Policy: Government spending and taxation policies affect aggregate demand, budget deficits, and public debt levels. Expansionary fiscal policies (e.g., stimulus packages) can boost economies, while austerity measures can dampen growth.

Geopolitical Events: Political instability, wars, trade disputes, and sanctions (e.g., Russia-Ukraine conflict, U.S.-China trade tensions) disrupt global trade, supply chains, and capital flows, leading to uncertainty and market volatility.

Inflationary Pressures: Rising energy and commodity prices, supply chain bottlenecks, and labor shortages lead to higher inflation. Central banks may respond with interest rate hikes, influencing borrowing costs and consumer spending globally.

Global Trade and Supply Chains: Trade agreements, tariffs, and disruptions (like the COVID-19 pandemic or geopolitical conflicts) can affect global supply chains, impacting production, trade flows, and prices.

Technological Innovation: Technological advancements, such as automation, artificial intelligence, and digitalization, impact productivity, employment, and economic growth patterns globally. They also shape industry competitiveness and job markets.

Climate Change and Environmental Policy: The transition to green energy, carbon regulations, and climate change adaptation affect industries, investment flows, and government policies. Global commitments to reduce emissions influence sectors like energy, manufacturing, and transportation.

Demographic Shifts: Aging populations in developed economies (e.g., Japan, Europe) and growing working-age populations in emerging markets affect labor force dynamics, social spending, and economic growth trends.

Global Debt Levels: Rising public and private debt, exacerbated by the COVID-19 pandemic and high borrowing during low interest-rate periods, poses risks to financial stability. High debt levels can limit governments' ability to respond to future crises.

Commodity Prices: Oil, natural gas, metals, and agricultural commodity price fluctuations significantly impact economies, especially those dependent on resource exports. Energy crises and price shocks (e.g., due to geopolitical instability) affect inflation and growth.

Pandemics and Health Crises: Global health crises like the COVID-19 pandemic cause widespread economic disruption, affecting labor markets, travel, and consumption patterns, while forcing governments to rethink healthcare and social support systems.

Globalization vs. Regionalization: The balance between global integration and regional economic blocs (e.g., the EU, ASEAN) affects trade policies, foreign investments, and economic interdependence.

At the midpoint of the year, so far in 2024 we have seen divergence in outcomes and prospects around the world in terms of economic growth, inflation, and policy responses. On balance, global short-term economic prospects have improved over the course of the year. We expect this momentum to continue through the second half of 2024 and into 2025 as inflation eases further and monetary policy continues to loosen, supporting steady growth. Macroeconomic risks, in our view, have become more balanced.

The U.S. has performed better than other developed economies, particularly those in Europe where the consumer sentiment has been relatively weak – though the picture in Europe has been varied. A sustained

recovery in tourism this year has boosted the economies of Greece and Spain, whereas Germany, France, and Italy have been held back by the slower recovery of manufacturing. Nonetheless, the European Central Bank (ECB) lowered the three key interest rates in June – for the first time since September 2019 – which will support stronger regional growth.

Growth in the Chinese Mainland has held up well so far this year despite challenges from the property market amid ongoing rebalancing, and the export cycle is supporting growth in the rest of Asia. In Latin America, larger economies, such as Brazil and Mexico, tend to be performing more moderately than smaller economies, such as Chile and Peru, indicating slower regional growth overall.

Globally, industrial production has been relatively sluggish because of restrictive trade policies, persistent supply chain disruptions, high interest rates, and anemic growth. We expect industrial production to gather steam later this year and into 2025 on the back of a gradual recovery in global trade, stimulated by stronger domestic demand for goods.

Policy responses have diverged so far this year and are set to remain so in the near term. Central banks have begun rate cutting cycles in several developed economies, including the Eurozone, Canada, Sweden, and Switzerland. However not every economy has followed suit. Disinflation has not been as predictable as it was in 2023, and underlying price pressures mean inflation is likely to remain bumpy this year – hence, policy will remain more restrictive than was anticipated at the start of the year. With relatively stronger economic growth and stickier inflation, the timing of the first interest rate cut by the U.S. Federal Reserve (the Fed) and the onward path of interest rates remains ambiguous.

The global economy is showing signs of stabilizing, yet growth will remain subdued this year before picking up pace in 2025. IMF predict global growth of around 3.2% in 2024, a percentage point softer than 2023. The weaker outlook reflects fiscal consolidation, lagged tight monetary policy, restrictive trade policies, and elevated levels of geopolitical uncertainty. Looking ahead to 2025, global growth is projected to at 3.2% as geopolitical risks remains a potential threat to global stability and growth.

India Macro- Economic Overview

India's economy showed resilience with GDP growing at 8.2% in CY 2023. The GDP growth in CY 2023 represents a return to pre-pandemic era growth path. Even amidst geopolitical uncertainties, particularly those affecting global energy and commodity markets, India continues to remain one of the fastest growing economies in the world.

Country	Real GDP Growth (CY 2023)	Projected GDP Growth (CY 2024)	Projected GDP Growth (CY 2025)
India	8.20%	7.00%	6.50%
China	5.20%	4.8%	4.50%
Russia	3.60%	3.6%	1.3%
Brazil	2.90%	3.0%	2.2%
United States	2.9%	2.8%	2.2%
Japan	1.7%	0.3%	1.1%
Canada	1.20%	1.30%	2.40%
Italy	0.7%	0.70%	0.8%
France	1.1%	1.1%	1.30%
South Africa	0.70%	0.90%	1.1%
United Kingdom	0.3%	1.1 %	1.50%
Germany	-0.20%	0.0%	0.8%

Source: World Economic Outlook, October 2024

Countries considered include - Largest Developed Economies and BRICS (Brazil, Russia, India, China, and South)

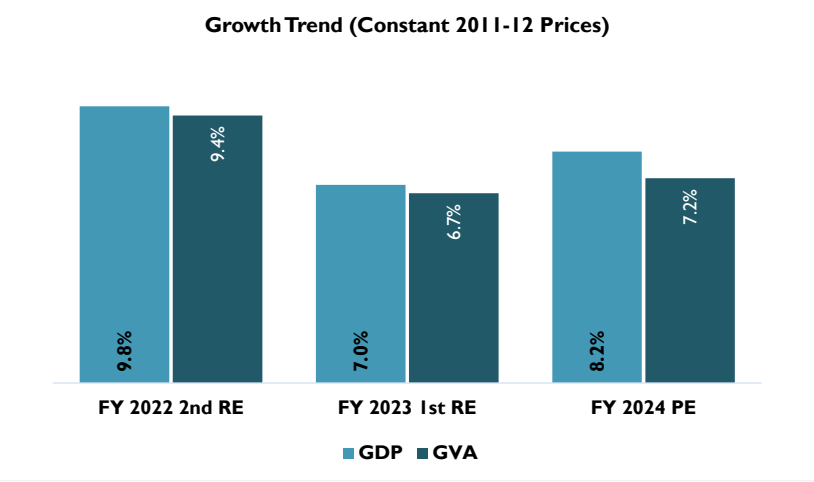
There are few factors aiding India's economic recovery – notably its resilience to external shocks and rebound in private consumption. This rebound in private consumption is bringing back the focus on improvements in domestic demand, which together with revival in export demand is a precursor to higher industrial activity. Already the capacity utilization rates in Indian manufacturing sector are recovering as industries have stepped up their production volumes. As this momentum sustains, the country may enter

a new capex (capital expenditure) cycle. The universal vaccination program by the Government has played a big part in reinstating confidence among the population, in turn helped to revive private consumption.

Realizing the need to impart external stimuli, the Government stepped up its spending on infrastructure projects which in turn had a positive impact on economic growth. The capital expenditure of the central government increased by 37.4% increase in capital expenditure (budget estimates), to the tune of INR 10 trillion in the Union Budget 2023-2024. The announcement also included a 30% increase in financial assistance to states at INR 1.3 trillion for capex. The improvement was accentuated further as the Budget 2024-2025 announced an 11.1% increase in the capital expenditure outlay at INR 11.11trillion, constituting 3.4% of the GDP. This has provided much-needed confidence to the private sector, and in turn, attracted private investment.

On the lending side, the financial health of major banks has witnessed an improvement which has helped in improving the credit supply. With capacity utilization improving, there would be demand for credit from the corporate sector to fund the next round of expansion plans. The banking industry is well poised to address that demand. Underlining the improving credit scenario is the credit growth to the micro, small, and medium enterprise (MSME) sector as the credit outstanding to the MSME sector by scheduled commercial banks in the fiscal year 2024 grew by 14% to INR 10.31 trillion compared to INR 9.02 trillion as on 24 March 2023. The extended Emergency Credit Linked Guarantee Scheme (ECLGS) by the Union Government has played a major role in improving this credit supply.

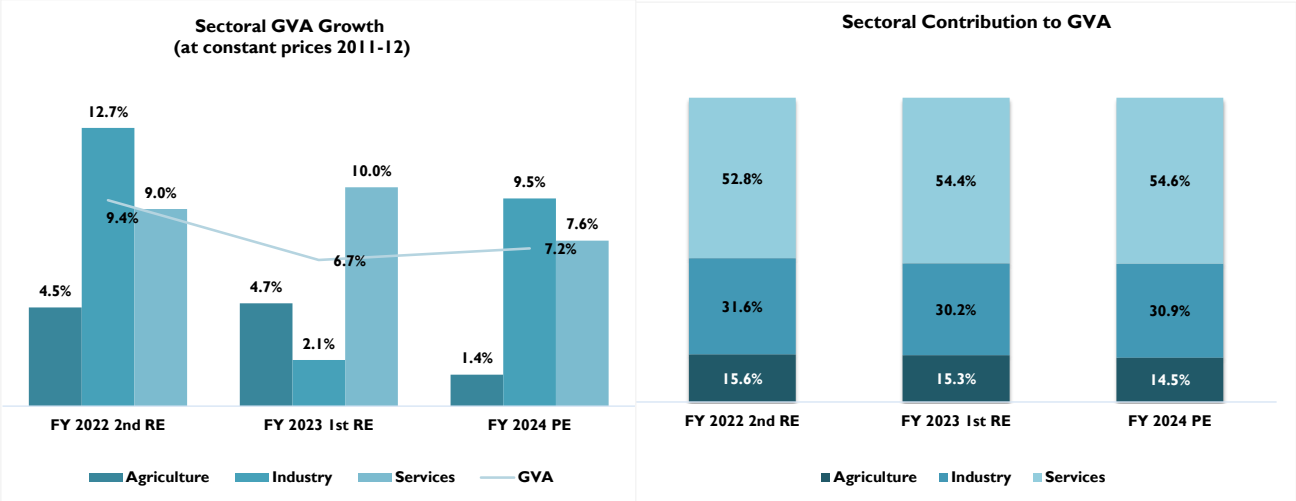
As per the provisional estimates 2023-24, India's GDP in FY 2024 grew by 8.2% compared to 7.0% in the previous fiscal on the back of solid performances in manufacturing, mining, and construction sectors. The year-on-year increase in growth rate is also partly due to by a strong growth in investment demand led by public capital expenditure.



Source: Ministry of Statistics & Programme Implementation (MOSPI), National Account Statistics, 2023-24

RE stands for Revised Estimates, SAE stands for Second Advance Estimates

Sectoral GDP Growth Pattern



Source: Ministry of Statistics & Programme Implementation (MOSPI)

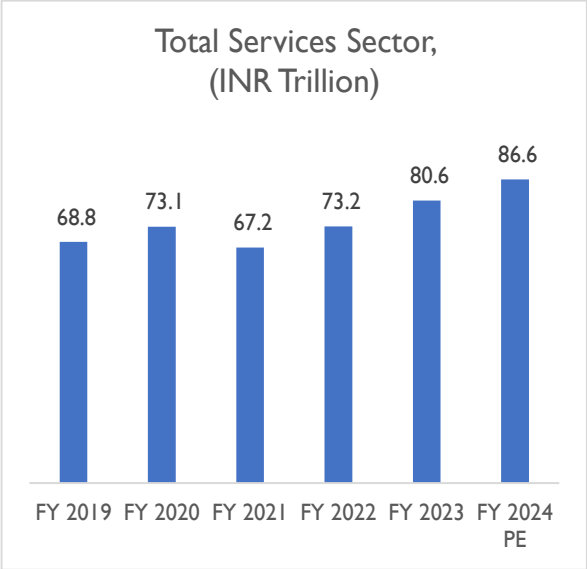
Sectoral analysis of GVA reveals industrial sector recovered sharply registering 9.5% y-o-y increase in FY 2024 against 2.1% in the previous fiscal. In the industrial sector, growth across major economic activity such as mining, manufacturing and construction sector rose significantly and it registered a growth of 7.1%, 9.9% and 9.9% in FY 2024 against a y-o-y change of 1.9%, -2.20%, and 9.44% in FY 2023, respectively. Utilities sector observed a marginal moderation in y-o-y growth to 7.5% against 9.44% in the previous years.

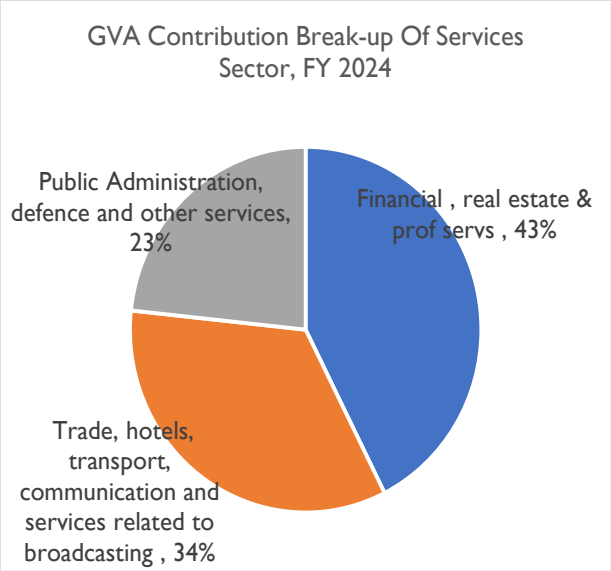
Talking about the services sector's performance, with major relaxation in COVID restriction, progress on COVID-19 vaccination and living with virus attitude, business in the service sector gradually returned to normalcy in FY 2023. Economic recovery was supported by the service sector as individual mobility returned to the pre-pandemic level. The trade, hotel, transport, communication, and broadcasting segment continued to strengthen in FY 2023 and grow in FY 2024, although the growth hasn't shown substantial increases. In FY 2024, services sector grew by 7.6% against 10% y-o-y growth in the previous year.

Expansion in Service Sector

Services sector is a major contributor to the country's overall economic growth. In absolute terms, services sector GVA has increased from INR 68.78 trillion in FY 2019 to INR 86.6 trillion in FY 2024 (as per the provisional estimated), registering a CAGR of nearly 5%. Within Services sector, the GVA by financial, real estate and professional services-the largest contributing segment observed 6.3% CAGR while

Public Administration, defense and other services[1] observed 4.5% CAGR and Trade, hotels, transport, communication, and services related to broadcasting witnessed 3.1% CAGR between FY 2019-24.





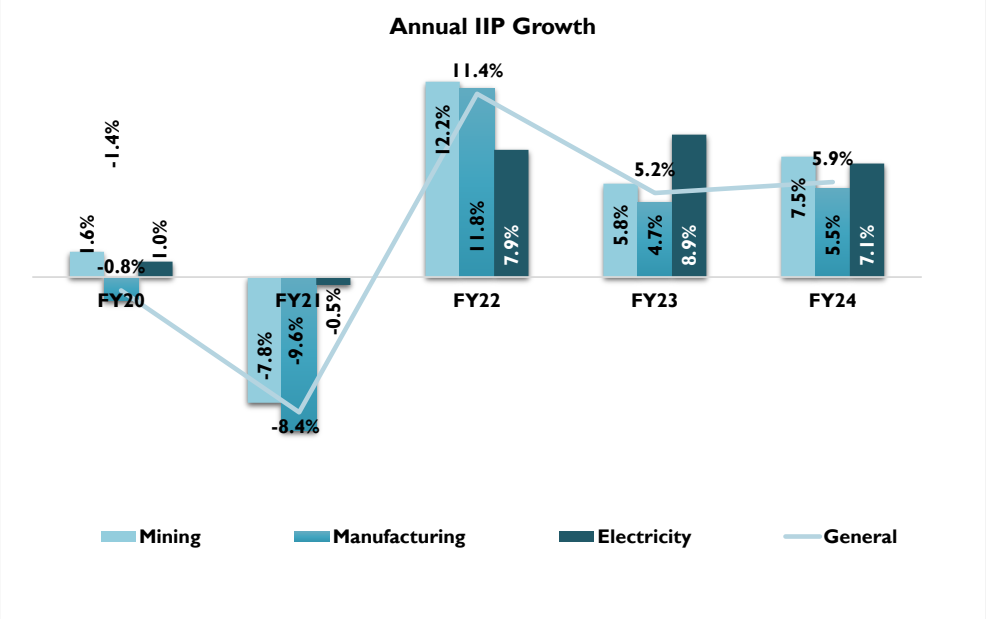
Sources: MOSPI, CMIE Economic Outlook and Dun & Bradstreet Research Estimates[2]

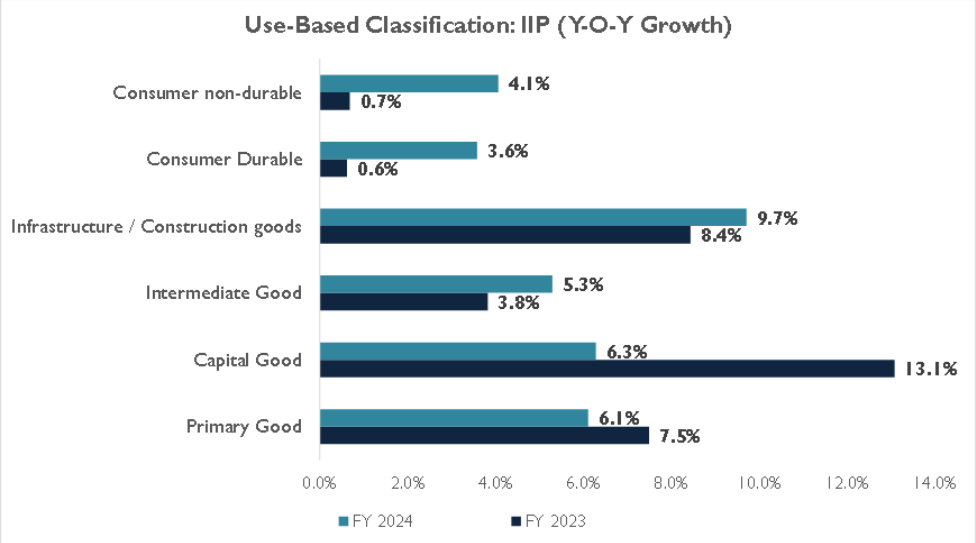
India's HSBC Services Purchasing Managers' Index, an important indicator to track service sector performance, measured 60.3 in July 2024 against 60.5 in the previous month. Since August 2021, the services sector has consistently remained above the threshold of 50, which distinguishes growth from contraction.

Mapping the industrial activity in India: Analysis of changes in Index of Industrial Production (IIP)

Industrial sector performance as measured by IIP index; in FY 2024 it is growing at 5.9% (against 5.2% in FY 2023). Previously IIP index exhibited temporary recovery in FY 2022 from the low of COVID induced slowdown in industrial growth during FY 2020 and FY 2021. Manufacturing index, with 77.6% weightage in overall index, grew by 5.5% in FY 2023 against 4.7% y-o-y growth in FY 2022 while mining sector index too grew by 7.5% against 5.8% in the previous years. Mining & manufacturing both shown improvement according to previous except the Electricity sector Index, witnessed an improvement of 7.1% against 8.9% in the previous year.

[1] Other services include Education, Health, Recreation, and other personal services.
[2] Projection as Based on CMIE Growth rate till FY 2029 and FY 2030 is based on Dun & Bradstreet assumption.

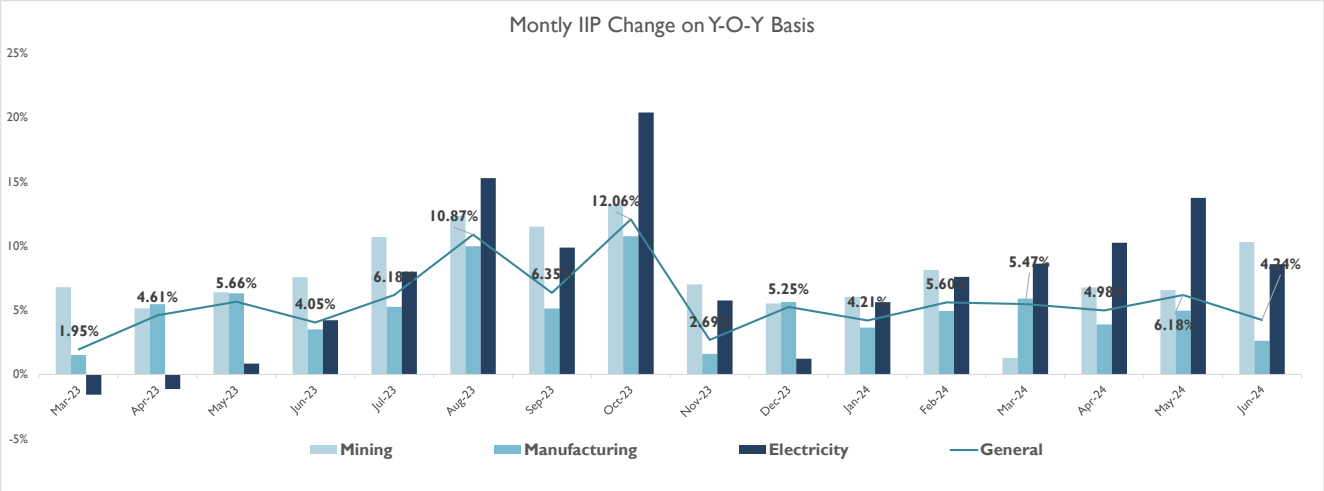




Source: Ministry of Statistics & Programme Implementation (MOSPI)

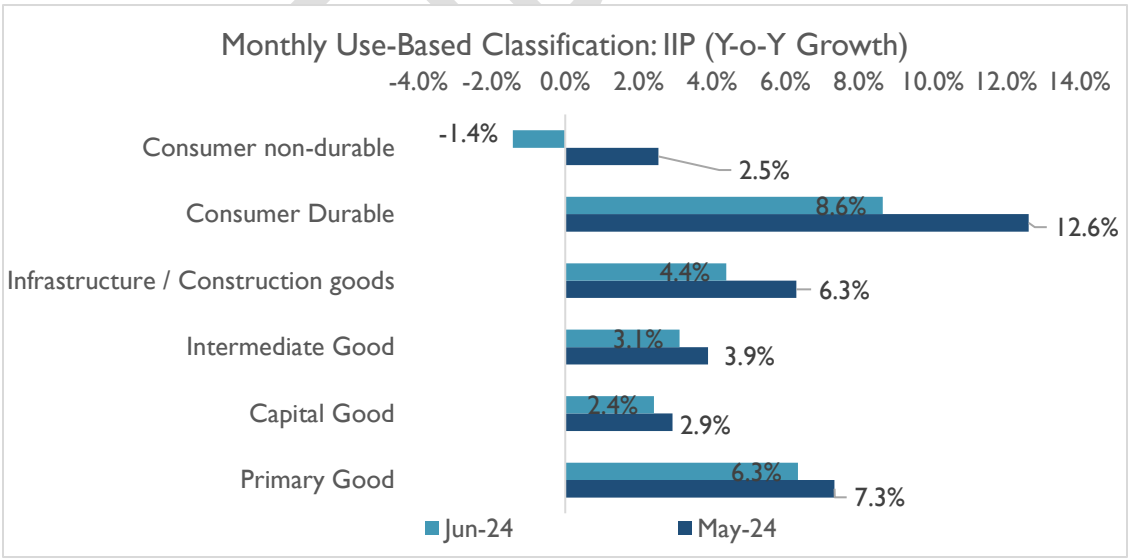
As per the use-based classification, most of the segments has shown growth for FY 2024 as compared to FY 2023. Capital good and primary goods were segments which faced less growth as compared to previous year. The contracting IIP data points towards adverse operating business climate as global headwinds, high inflation, and monetary tightening cumulatively impacted the broader industrial sector performance. In contrast all the segments except the above two have shown growth.

Monthly IIP Growth Trend



Source: Ministry of Statistics & Programme Implementation (MOSPI)

In the current fiscal FY 2025, the monthly IIP measured index has reported steady improvement over the last fiscal. However, the IIP index slowed to a 5-month low and just grew by 4.24% y-o-y in June against 6.18% in the previous month on the back of slowing growth in the manufacturing section. In June 2024, the manufacturing index growth slowed to 2.6% against 6.3% y-o-y growth in June 2023 and 5% in May 2023 while the electricity sector index and mining index exhibited substantial improvement and they grew by 8.6% and 10.3% in June 2024 against 0.9% and 6.4% growth in April 2023, respectively.

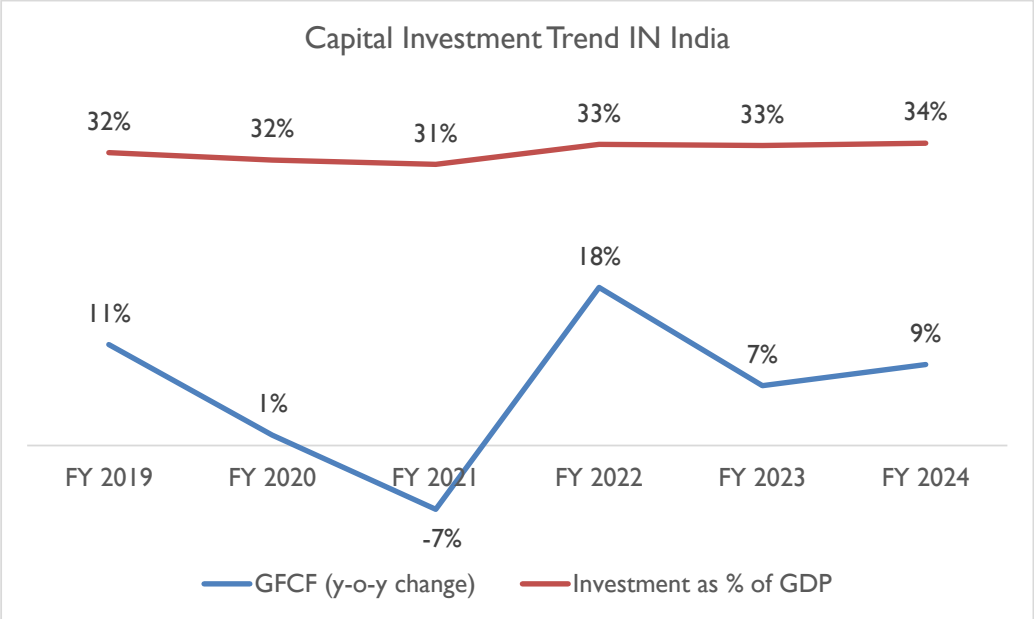


Sources: MOSPI

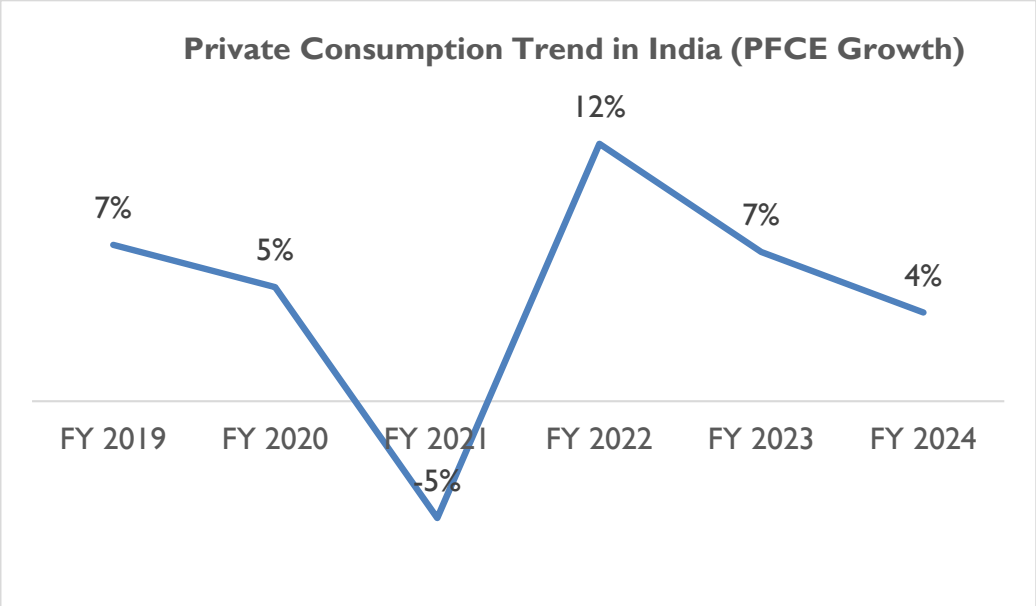
As per the use-based classification, growth in all segments slowed in June 2024 as compared to the previous month. Consumer non-durable declined by 1.4% in June 2024 against 2.5% increase in the previous month. In May 2024, all segments showed a substantial increase in growth.

Growth Trend in Investment & Consumption Demand

Other major indicators such as Gross Fixed Capital Formation (GFCF), a measure of investments, gained strength during FY 2024 as it grew by 9% on a y-o-y basis against 7% yearly growth in the previous fiscal, while GFCF to GDP ratio measured an all-time high settled higher at 34%.



Sources: MOSPI

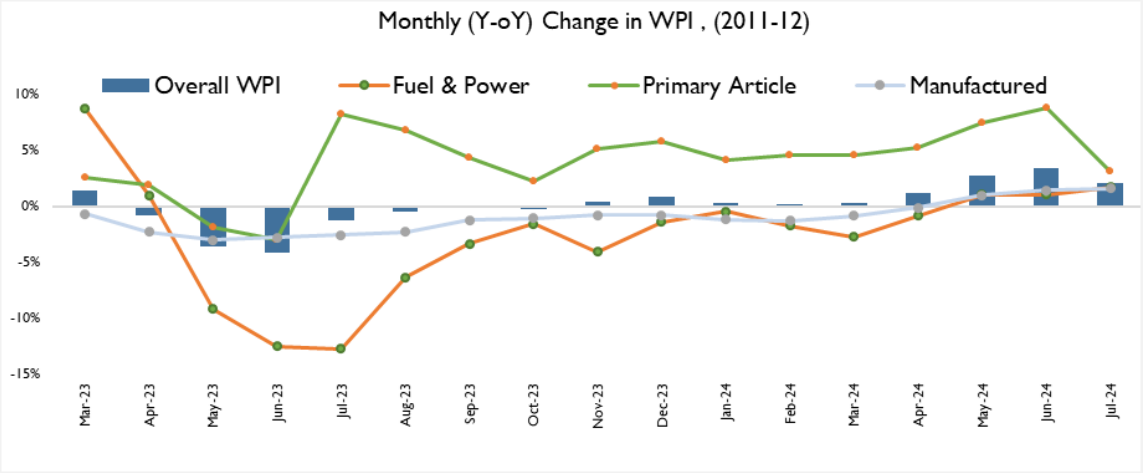


Sources: MOSPI

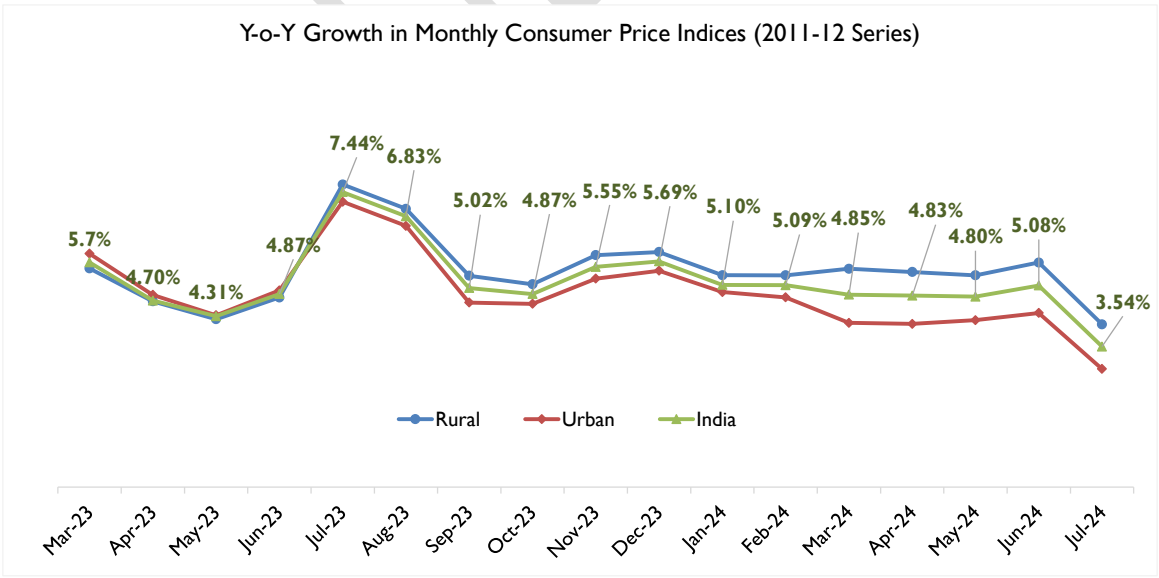
Private Final Expenditure (PFCE) a realistic proxy to gauge household spending, observed decelerated and registered 4% y-o-y growth in FY 2024 against 7% in FY 2023.

Inflation Scenario and interest rate movement

The inflation rate based on India's Wholesale Price Index (WPI) exhibited significant fluctuations across different sectors from March 2023 to July 2024. Overall WPI saw a sharp decline to -1.2% in July 2023, primarily driven by steep drops in Fuel & Power and Manufactured Products, reflecting reduced global demand and falling input costs. However, a recovery was noted by June 2024, with WPI reaching 3.4%, supported by a strong rise in Primary Articles and a rebound in Fuel & Power prices. By July 2024, while Primary Articles growth moderated to 3.1%, the WPI remained positive at 2.0%, indicating stabilization in the market after earlier volatility.



Source: MOSPI, Office of Economic Advisor.



Source: CMIE Economic Outlook

Retail inflation rate (as measured by the Consumer Price Index) in India showed notable fluctuations between March 2023 and July 2024. Rural CPI inflation peaked at 7.63% in July 2023, before declining to 4.10% in July 2024. Urban CPI inflation followed a similar trend, rising to 7.20% in July 2023 and then dropping to 2.98% in July 2024. Overall, the national CPI inflation rate increased to 7.44% in July 2023 but moderated to 3.54% by July 2024, indicating a gradual easing of inflationary pressures across both rural and urban areas over the period. CPI measured below 6% tolerance limit of the central bank since September 2023. As a part of an anti-inflationary measure, the RBI has hiked the repo rate by 250 bps since May 2022 to the current 6.5% while it has been holding the rate at 6.5% since 8 Feb 2023.

Growth Outlook

India's economy has exceeded expectations, registering an 8.2% growth in FY24. High-frequency indicators such as automobile sales, e-way bills, cargo traffic, and exports signal sustained growth momentum into Q2 FY25. However, the rural demand outlook is tied to the monsoon, where inconsistent rainfall could impact the agriculture sector and inflation. The government is proactively boosting grain storage capacity to mitigate these risks. On the credit front, the Reserve Bank of India (RBI) has kept the policy rate unchanged, with inflation expected to average around 5% in FY25. Despite stable policy rates, lending rates may rise due to the incomplete transmission of earlier hikes, while strong credit growth in the private sector suggests potential capacity expansion. Supply-side challenges persist, particularly in food storage infrastructure. The government has launched a massive initiative to enhance grain storage capacity by 70 million tonnes over the next five years. The recent long-term agreement for operating Iran's Chabahar Port is also set to bolster trade and supply chain resilience.

In terms of trade, India's recent agreements, particularly with the European Free Trade Association (EFTA) and Oman, are opening new markets and opportunities for exports. The proposed mega-distribution hub in the UAE by 2025 will further support India's global trade ambitions, particularly in Africa, Europe, and the US.

Politically, the continuation of the National Democratic Alliance (NDA) government signals sustained reforms, with optimism around labour and land reforms. The government is also taking steps to control retail inflation by managing food prices and import duties. The external environment remains cautious, with geopolitical tensions, particularly in Gaza, posing potential risks to global stability.

Overall, India's short-term growth outlook remains positive, underpinned by strong domestic demand, proactive government measures, and expanding global trade relationships, despite some challenges in the rural economy and supply chain infrastructure.

India's Economic Growth Outlook

Looking ahead to 2025, India's projected GDP growth of 6.5% stands out as the fastest among major emerging markets, significantly outpacing China's 4.8%, and Brazil's 3%. This robust growth trajectory is expected to sustain at 6.5% annually from 2025 to 2029, reflecting strong economic fundamentals and continued momentum.

This decent growth momentum in near term CY 2025 is accompanied by a slowdown in inflation, as well as various other factors in the medium to long term that will support the economy. These include enhancements in physical infrastructure, advancements in digital and payment technology, improvements in the ease of doing business and a higher quality of fiscal expenditure to foster sustained growth.

On the demand side, improving employment conditions and moderating inflation are expected to stimulate household consumption. Further, the investment cycle is gaining traction, propelled by sustained government capital expenditure, increased capacity utilization and rising credit flow.

From uplifting the underprivileged to energizing the nation's infrastructure development, the Government has outlined its vision to propel India's advancement and achieve a 'Viksit Bharat' by 2047 in the interim budget announced on 1st Feb 2024. Noteworthy positives in the budget include achieving a lower-than-targeted fiscal deficit for FY2024 and setting a lower-than expected fiscal deficit target for FY2025, proposing dedicated commodity corridors and port connectivity corridors, providing long-term financing at low or nil interest rates to the private sector to step up R&D (Research & Development) in the sunrise sectors.

Achieving a reduced fiscal deficit of 5.8% in FY2024 and projecting a lower than-anticipated fiscal deficit of 4.9% as announced in the interim budget in July 2024 for the current fiscal year (FY 2025) are positive credit outcomes for India. This showcases the country's capability to pursue a high-growth trajectory while adhering to the fiscal glide path. There has been a significant boost to capital expenditure for two consecutive years; capital expenditure – which is budgeted at 3.4% of GDP (INR 11.1 trillion) for fiscal year 2024-25 – is at a 21-year high (3.3% of GDP in fiscal year 2023-24. The enhancement of port connectivity, coupled with the establishment of dedicated commodity corridors (energy, mineral and cement), is poised to enhance manufacturing competitiveness. This strategic move aims to fulfil India's export targets and reduce logistics costs.

India's optimistic economic outlook is underpinned by its demographic dividend, which brings a substantial workforce that boosts labor participation and productivity. The burgeoning middle class and urbanization contribute to increased domestic consumption, driven by rising incomes and purchasing power. Extensive investments in infrastructure, encompassing roads, railways, ports, and digital connectivity, are enhancing productivity and efficiency, with government initiatives like the Smart Cities Mission and PM Gati Shakti creating a conducive growth environment. This digital transformation, catalyzed by initiatives such as Digital India, is fostering a tech-driven economy marked by enhanced internet penetration, digital payments, and e-governance, thereby fueling growth in sectors like fintech, e-commerce, and digital services. The push to position India as a global manufacturing hub through Make in India and PLI (Production Linked Incentive) schemes is further boosting industrial output, exports, and domestic production capabilities. Compared to other major emerging markets facing demographic and economic challenges, India's combination of demographic strengths, policy reforms, and strategic initiatives positions it as a standout performer and a significant driver of global economic growth in the foreseeable future.

Key growth/demographic drivers for economic growth

Strong Domestic Demand

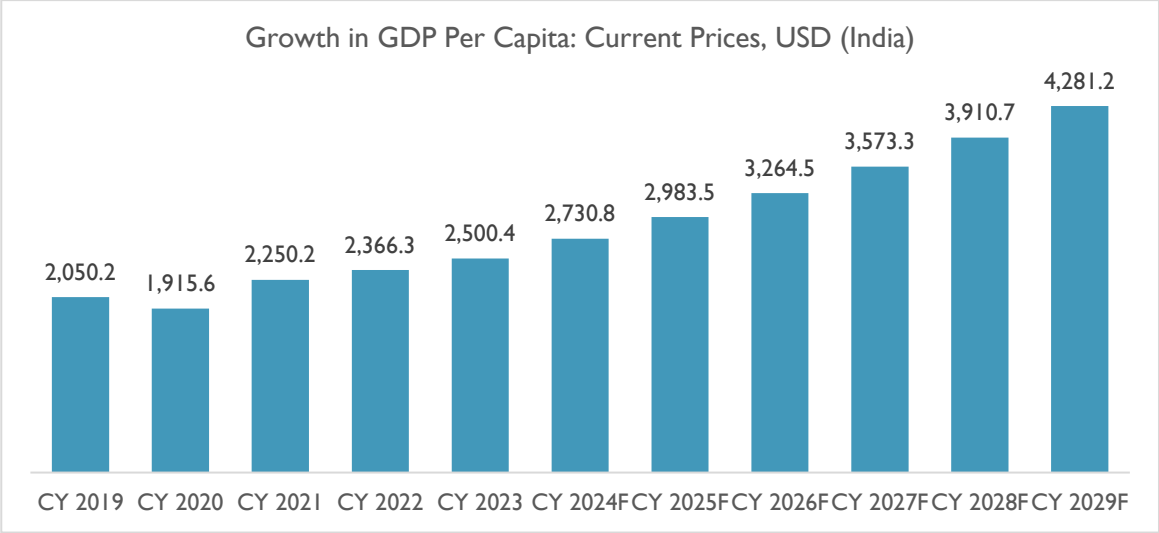
Domestic demand has traditionally been one of the strong drivers of Indian economy. After a brief lull caused by COVID-19 pandemic, the domestic demand is recovering. Consumer confidence surveys by Reserve Bank / other institutions points to an improvement in consumer confidence index, which is a precursor 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. PFCE as a percentage of GDP increased to 58% during FY 2022 and FY 2023 while in FY 2024 it settled at 56%. There are two factors that are driving this domestic demand: One the large pool of consumers and second the improvement in purchasing power. As per National Statistics Office (NSO), India's per capita net national income (at constant prices) stood at INR 106,744 in FY 2024 against INR 99,404 in FY 2023 and INR 87,586 in FY 2018. This increase in per capita income has impacted the purchasing pattern as well as disposable spending pattern in the country. Consumer driven domestic demand is majorly fueled by this growth in per capita income.

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 2024-29, India's per capita GDP is projected to grow at a compound annual growth rate of 9.4%. 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.

Digitization Reforms

Ongoing digitization reforms and the resultant efficiency gains accrued would be a key economic growth driver in India in the medium to long term. Development of digital platforms has helped in the seamless roll out of initiatives like UPI (Unified Payments Interface), Aadhaar based benefit transfer programs, and streamlining of GST (Goods and Services Tax) collections. All of these have contributed to improving the economic output in the country. Some of the key factors that have supported the digitization reforms include – the growth in internet penetration in India together with drop in data tariffs, growth in smartphone penetration, favorable demographic pattern (with higher percentage of tech savvy youth population) and India's strong IT (Information Technology) sector which was leveraged to put in place the

digital ecosystem. All these factors are expected to remain supportive and continue to propel the digitization reforms in India.

Increased adoption of digital technology and innovation, inclusive and sustainable practices, business-friendly and transparent regulations, and heightened corporate research and development (R&D) investments will further bolster the country's growth. These factors will collectively support employment growth across both private and public sectors, including Micro, Small, and medium enterprises (MSMEs).

Overview of Indian Sugar Industry and other Cane based Sugar Sweetener product (Jaggery & Khandsari)

The Indian sugar industry is no longer just a producer of food and sugar but also a producer of ethanol, which is central to the attainment of the energy transition goals of the government, through blending in petrol and the potential use of ethanol in the production of Biodiesel and Sustainable Aviation Fuel (SAF).

Product Overview: Sugar and Ethanol

Sugar is a food ingredient providing sweetness and bulk/body to foods and beverages, besides being an ingredient of pharmaceuticals. In India, it is derived from sugarcane, whereas in some regions like the EU, sugar beets are the primary input for a sugar mill. In India, the production of sugar begins with the extraction of juice from sugarcane or sugar beets. The juice is then clarified to remove impurities and boiled to concentrate it into syrup. This syrup undergoes crystallization to form sugar crystals, which are then separated from the molasses through centrifugation. Whereas globally about 80% of sugar is produced in raw form to undergo a refining process closer to the time and place of consumption, all of the Indian sugar production is in plantation white form, where, after separation of molasses, sugar undergoes an additional purification step called double solicitation or carbonation to remove colour and impurities. Refined sugar is produced either by refining the raw sugar or by eliminating the process of production of raw sugar but employing a decolorization process to remove colour and impurities, using activated carbon or ion exchange resins. Sugar production is a major agriculture based industrial activity in countries such as Brazil, India, Thailand, European Union, Ukraine, Russia, China, the USA and Australia. Brazil is the largest producer and exporter of sugar, while India is the second largest producer and the world's largest consumer.

Contribution of Sugar to the Indian Economy:

The Indian sugar industry plays a pivotal role in the country's rural economy, being one of the largest agro-based industries in India. The sugar industry is significant not only for its contribution to the rural economy but also for generating employment and providing essential commodities by-products. The industry has also spearheaded the energy transition programme in India by supplying ethanol for blending in petrol.

In recognition of India's dominant position in global sugar sector, India has been elected as the Chair of the International Sugar Organisation (ISO) for 2024.

Agricultural Impact: The sugar industry is a key driver of India's agricultural sector, especially in states like Uttar Pradesh, Maharashtra, and Karnataka, which account for 80% of the crop output. It provides a market for sugarcane, a major cash crop grown by millions of farmers. The sector plays a crucial role in

rural development, helping boost incomes for farming communities. The sugar sector in India contributes about 1-1.5% to the country's GDP. Further, the Sugar industry contributes an estimated INR 75 billion annually to the national exchequer and treasuries of various state governments by way of GST.

Employment Generation: With more than 500 operational sugar mills across India, the sugar industry generates substantial direct and indirect employment, especially in rural areas. It employs over 50 million people across the value chain, from cane cultivation to processing, distribution, and byproduct industries such as ethanol and power generation.

Exports and Global Market: Indian sugar industry has had swings in the past as exporter and importer, but after importing a small quantity of 5 LMT in the sugar season 2016-17, it has remained a consistent exporter till the year 2022-23 as sugar exports have been placed in the "restricted" list since 1st June 2022. The increased pull of sucrose towards ethanol has now been absorbing any sucrose production over domestic demand for sugar. It is expected that during the current sugar season i.e. Oct 2024 to Sept 2025, the Indian sugar industry will be able to export about 2 million metric tons of sugar after the utilization of 4 million metric tonnes of sucrose to produce ethanol.

Byproducts and Sustainability: The sugar industry also produces important byproducts like molasses, bagasse, and press mud. Bagasse is used for power generation in many mills, contributing to green energy initiatives. Mills that can save bagasse sell it to the paper industry. Bagasse ash is a useful input for sugar industry. Several sugar companies are investigating the use of bagasse for ethanol, furfural, furfuryl alcohol, and value-added chemical production. Molasses have a ready market from distilleries for the production of alcohol. The distillation capacity with sugar mills is adequate to utilize the whole of molasses in house. India was an exporter of 1 to 1.5 million metric tons of molasses annually but export duty of 50% imposed since December 2023 has dimmed the export prospects of molasses. The domestic prices are, however, firm as demand for alcohol, such as fuel ethanol, rectified spirit, and extra neutral alcohol is increasing at a fast clip.

Press mud arising at the stage of clarification of sugarcane juice, is used for the production of bio fertilizer the marketing avenue and incentives provided by the govt have presented the sugar industry with another avenue of the utilization of press mud i.e. production of compressed biogas from press mud.

Ethanol

India embarked upon an energy transition journey in 2018 by adopting the National Biofuels Policy, an important feature of which was the blending of petrol with ethanol. Ethanol replaces the blending of an oxygenate blended into petrol, the latter being carcinogenic and pollutant. Beyond that objective ethanol is a renewable fuel, considerably lesser polluting than petrol as it releases far lesser quantity of carbon-di-oxide than conventional gasoline during combustion. Besides, India's import dependence in petroleum

being as high as 87.7% in FY 2024,[3] the ethanol blending programme has the potential to reduce the import dependence.

The government has granted financial assistance in the form of interest subvention scheme charged by banks for capital investment for capacity creation of ethanol using sugarcane juice, B Heavy molasses, and C heavy Molasses, all sugarcane-based inputs, besides grain-based ethanol. This subvention is 6% per annum or 50% of the rate of interest charged by banks, whichever is lower, on loan extended by bank for five years including one year moratorium period. This has driven the establishment of capacity at a fast pace. As on 30th September 2024, the country has a capacity to produce 16.48 billion litters of ethanol comprising 9.14 billion litres of ethanol from sugarcane sources, which includes 1.26 bn litres capable of utilizing both sugarcane sources and grain as input, and. 7.07 billion litres using grains as input. Besides, the capacity to produce 1.20 billion litres is under installation. This compares with the demand estimate for ESY 2024-25 at 12.88 litres, 9.88 bn litres of ethanol for blending in petrol and 3.0 billion litres of ethanol for other uses, like alcoholic beverages.

The government has also encouraged the **ethanol blending programme through incentive pricing of ethanol.**

As stated above, many sugar factories have established capabilities to use grains too as input for ethanol as such dual feed distillation capacity as on 30th Sept 2024 stood at 1.26 billion litres/annum. This enables the sugar factories to operate the distilleries after crushing season of sugarcane gets over in April.

Starting from a meagre percentage blending, an impressive percentage blending rate has been achieved during the Ethanol Supply Year November 2023 to October 2024. Encouraged by impressive progress, the government had advanced the target of 20% blending from the year 2030 to 2025-26. It now seems that the target of 20% blending will be achieved one year ahead of even the revised target. India's Ethanol Blending Policy, also known as the Ethanol Blended Petrol (EBP) Programme, aims to plays out an annual plan to increase domestic ethanol production in line with target of the amended National Policy on Biofuels (2018) as well as with its EBP Programme to reach a blending of 20% of ethanol in petrol (E20) by 2025/26.

[3] Petroleum Planning and Analysis Cell

Product Overview of Other Sugarcane Derived Sweetener Product: Khandsari and Jaggery

Khandsari

Khandsari is a traditional, unrefined form of sugar made from sugarcane juice produced without use of vacuum pan.

Khandsari is light brown or golden in color, coarser in texture than white sugar, and it retains a slight molasses flavor. The process of producing Khandsari involves minimal chemical processing, making it more natural compared to refined sugar. It contains small amounts of iron, calcium, and other minerals from the molasses. It is healthier than white sugar but still high in sucrose.

Khandsari is commonly used in traditional Indian sweets, beverages, and desserts. It can also be used as a healthier alternative to refined sugar in cooking and baking.

Jaggery

Jaggery is an unrefined natural sugar produced without the use of chemicals, with India accounting for over 70% of the total global production. Jaggery, also known as "gur" in India, is another traditional, unrefined sweetener made from sugarcane juice. It is considered healthier than refined sugar due to its higher mineral content and lack of chemical processing. Often referred to as "medicinal sugar," jaggery is nutritionally comparable to honey and has been utilized as a sweetener in Ayurvedic medicine for 3,000 years. In Indian Ayurvedic practices, jaggery is believed to aid in the treatment of throat and lung infections.

Jaggery is typically dark brown or golden and can come in solid blocks or powdered form. The texture is soft and can be easily crumbled. The production of jaggery is a simple process involving boiling sugarcane juice in large vats until it thickens and forms a concentrated mass. The juice is not spun in centrifuges, which helps retain the natural molasses, giving it a rich color and taste. The final product is cooled and molded into blocks. It also contains antioxidants and has been known for its potential health benefits, including aiding digestion and boosting energy levels. Unlike refined sugar, which almost entirely comprises of sucrose, , jaggery is comprised of 50 to 60% sucrose, about 25 to 30% glucose and fructose and the balance, essential minerals and vitamins. Jaggery is rich in mineral content which includes calcium, phosphorus, magnesium, potassium, iron, and traces of zinc and copper, while its vitamin content features folic acid and B-complex vitamins.

Jaggery is widely used in Indian cuisine, especially in traditional sweets, sauces, and snacks. It is often mixed with tamarind in chutneys or used as a sweetener in beverages like tea. It is also consumed directly as a natural energy booster. In addition to being a good source of energy, jaggery is reported to prevent rheumatic conditions and bile disorders, alleviate fatigue, and aid in the relaxation of muscles, nerves, and blood vessels. It is also known to help maintain blood pressure, reduce water retention, increase

hemoglobin levels, and prevent anemia. Jaggery production is a cottage industry in many parts of rural India, and it supports small-scale farmers and local economies. India is the largest producer of jaggery globally.

Both Khandsari and Jaggery are seen as healthier alternatives to refined sugar due to their minimal processing and retention of natural nutrients.

About 25 to 20% of India's sugarcane production is utilised to produce jaggery and about 1 to 2% for production of Khandsari.[4]

Economic and Social Importance:

Small-scale Industries: The production of jaggery and khandsari sustains small-scale industries and contributes to rural economies. It promotes entrepreneurship in rural areas and employment opportunities in the rural areas where industrial employment opportunities are limited.

Sustainability and Health: Cane-based sweeteners like jaggery and khandsari are considered more sustainable and health-conscious alternatives compared to refined sugar. Their production has a lower environmental impact due to fewer chemical processes and energy use.

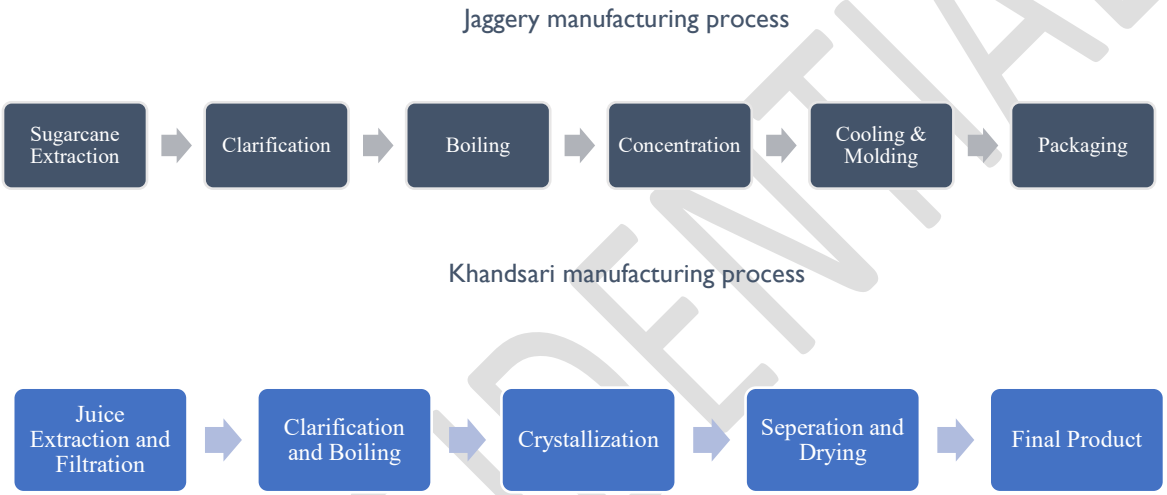
Features	Jaggery	Khandsari
Definition	Unrefined sugar made from sugarcane juice or date palm sap.	Partially refined, granulated sugar derived from sugarcane.
Appearance	Dark brown, solid blocks or balls.	Light brown, granulated crystals.
Production Method	Boiling sugarcane juice until it solidifies; no chemicals used.	Boiling, crystallization, and manual separation without bleaching agents.
Sweetness Level	Mild and slightly earthy.	Sweeter and more like refined sugar
Flavor	Rich, caramel-like, earthy	Mild, less complex
Nutritional Content	High in minerals like iron, magnesium, potassium, and calcium.	Retains some natural nutrients but less than jaggery.

[4] Insights are based on input from industry stakeholders

Common Uses	Sweets, beverages, direct consumption, traditional medicines.	Cooking, sweetening, desserts, rural areas as a less refined sugar alternative

Source: Dun & Bradstreet desk Research

Manufacturing Process



Current Market Scenario

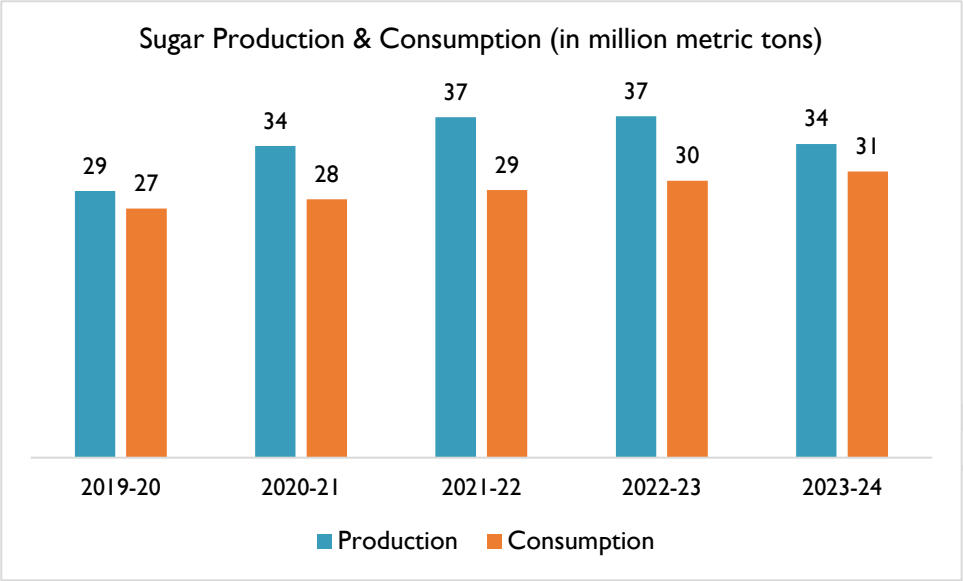
India holds a prominent global position as the largest consumer and second largest producer of sugar, influencing global markets significantly with approximately 15% share in global consumption and 20% in production[5]. This leadership role has positioned India as a suitable candidate to lead the International Sugar Organization (ISO), an apex body encompassing around 90 member countries.

In the Eastern Hemisphere, India stands as the market leader in the sugar industry, complementing Brazil's dominance in the Western Hemisphere. Furthermore, India ranks 3rd globally in ethanol production, following the USA and Brazil, underscoring its commitment to green energy initiatives. The country has significantly increased ethanol blending from 5% in 2019-20 to 12% in 2022-23, with production escalating from 173 crore Liters to over 500 crore litres during the same period. As of September 18, 2024, the country's ethanol production capacity has more than doubled over the last four years, reaching 1,648 crore liters.

The Indian sugar industry has demonstrated resilience and adaptability, notably during the Covid-19 pandemic, maintaining operations while producing essential supplies such as hand sanitizers. Modernization and diversification efforts have not only enhanced sustainability but also generated additional revenue streams from by-products.

India's unique model ensures that it pays the highest cane prices to farmers while maintaining profitability and self-sufficiency without relying on government financial assistance. The synergy between the government and the sugar industry has revitalized the sector, transforming it into a key player in India's green energy landscape. Moreover, India's approach prioritizes consumer welfare by stabilizing domestic sugar retail prices, ensuring a modest 5% increase despite global price hikes of approximately 40% over the past year. This balance has contributed to minimal impact on industry stakeholders while sustaining market stability. Overall, India's sugar industry exemplifies a comprehensive and sustainable business model, effectively managing challenges while driving advancements in green energy and agricultural practices on a global scale.

[5] https://pib.gov.in/PressReleasePage.aspx?PRID=1979507



Source: United States Department of Agriculture, Data is for Sugar Season Year which span from October to September

India's sugar industry has demonstrated a trend where production consistently outstripped consumption, although this gap has narrowed over time. Between season year 2019-20 and 2023-24, gross sugar output in India has increased at CAGR of 4.5% while its consumption has increased at 3.5%. Initially, production significantly exceeded consumption, reflecting a surplus in the market. By SY 2022 and 2023, production peaked at 37 million metric tons, while consumption also showed an upward trend but lagged slightly, reaching 31 million metric tons by 2023-24. As per ISMA first advance estimate, grows sugar output during the next 2024-25 season (October -September) is fall to slightly to 33.3 Mn Metric Tonnes (MT) i.e before diversion against 34.6 Mn MT output in 2023-24 season due to the adverse impact of last year's patchy rains in Maharashtra and Karnataka states.[6] Also, the net sugar production is likely to be 29.3 million tonnes (mt), lower than 31.96 mt in the previous season.

This gradual alignment between supply and demand suggests a shift towards a more balanced sugar market, indicative of enhanced market efficiency and possibly adjustments in production strategies or shifts in both domestic and global sugar demand. This trend towards equilibrium is crucial for maintaining stable market conditions and ensuring the long-term sustainability of the sugar industry in India.

On demand side, sugar consumption in India has steadily increased during the period taken under consideration. India's annual sugar consumption is estimated to be around 31 Mn MT rising from 27 Mn metric tonnes between season year 2019-20 to season year 2023-24. This steady growth is primarily driven by rising population and increasing urbanization. Sugar is an essential ingredient in Indian

[6] https://www.business-standard.com/economy/news/centre-to-extend-sugar-export-ban-to-boost-local-supplies-ethanol-output-124090600491_1.html

households, used in everyday cooking, traditional sweets, desserts, and beverages like tea and coffee. The demand is also high during festivals such as Diwali, Eid, and Christmas, where sweets are a significant part of the celebrations.

Historical Production, Area under Cultivation and Yield of Sugarcane

From 2010-11 to 2023-24, the area under sugarcane cultivation has seen fluctuations, generally ranging between 4.5 to 5.6 million hectares. This reflects variations in planting decisions influenced by factors such as water availability, market prices, and government policies.

Sugarcane production has also followed a cyclical pattern. For example, production was around 342 Mn MT in 2010-11, dipping slightly in 2012-13 due to lower yields, and then gradually increasing to 405 Mn MT by 2018-19. The production reached a about 433 Mn MT in 2022-23, marking a decade-high output.

The yield (measured in tonnes per hectare) has shown a gradual improvement over the years, rising from 70.1 tonnes per hectare in 2010-11 to 82.5 tonnes per hectare in 2022-23. This growth in yield can be attributed to the adoption of better crop varieties, improved farming practices, and enhanced irrigation techniques.

Overall, the data reflects a positive trend in sugarcane productivity in India, driven by both expansion in cultivated area and improvements in agricultural practices, although annual variations still depend significantly on weather conditions and market dynamics. The total area under sugarcane cultivation in India for the 2023-24 season is estimated to be around 5.64 Million hectares.

Year	Area Under Cultivation (Million hectares)	Production (Million Tonnes)	Yield (Tonnes per Hectare)
2018-19	5.06	405.42	80.11
2019-20	4.60	370.50	80.49
2020-21	4.85	399.26	82.20
2021-22	5.17	439.43	84.91
2022-23	5.88	490.53	83.35
2023-24	5.64	446.43	79.03

Source: Directorate of Sugarcane Development

During the sugar season (SS) 2023-24 ended on September 30, 2024, 534 sugar mills were in operation. Collectively, these mills crushed approximately 316 million metric tonnes (MMT) of sugarcane, yielding 34 MMT of sugar, out of which 31.9 MMT was obtained as sugar besides 2.1 MMT utilised for ethanol. This

represents a decrease from the 33 MMT of sugar produced in the 2022-23 season, besides 3.8 MMT diverted to ethanol.

State-wise Sugar Production in 2023-24.

State-wise sugar production in India varies significantly, with key contributions from a few states that dominate the sugarcane belt. These states collectively produce majority of India's sugar.

Summary Table of State-Wise Production (Approximate Shares)

State	Production Share (%)
Uttar Pradesh	30-35%
Maharashtra	30%
Karnataka	10-12%
Tamil Nadu	4-5%
Gujarat	3-4%
Andhra Pradesh & Telangana	2-3%
Bihar	1-2%

Source: Directorate of Sugar

As per estimates published by the Ministry of Agriculture and Farmers Welfare to area under sugarcane cultivation during SS 2023-2024 is 5.64 million ha as compared to 5.88 million hectares in the previous year.

In their 1st Advance estimate, ISMA assessed the sucrose production during SS 24-25 at 33.3 MMT, After the estimated diversion of 4 MMT of sucrose to ethanol, sugar production is estimated at 29.3 MMT, which compares with an estimated demand of 29 MMT.

Trade Scenario

India has been a consistent sugar exporter since the SS 2009-10, the year from which sugarcane cultivation received a major boost by away of adoption of Fair & Remunerative Price (FRP) as against Statutory Minimum Price regime prevalent till then. Exports, however, gathered pace from SS 2018-19 onwards.

Sugar Exports from India (MMT)

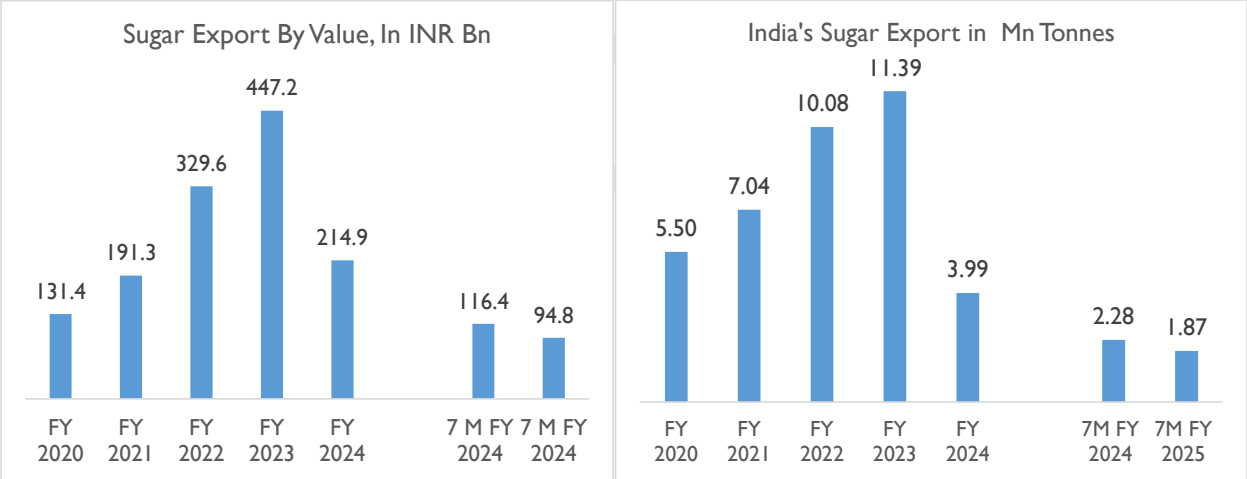
Sugar Season	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Export	3.8	6.0	7.0	11.0	6.2	0.5

Till the middle of SS 2022-23 sugar exports needed to be subsidized as the Indian cost of production was higher than the global price. Thereafter, the rise in global prices has rendered exports viable without subsidy. The brisk pace of exports worked off the accumulated stock of sugar. Moreover, the ethanol blending programme adopted by the Government in 2018 has resulted in the diversion of a substantial amount of sugar production more than domestic demand to ethanol, relegating sugar exports to the third in ranking after fuel uses.

Sugar exports have been placed under the "restricted list on 1st June 2022. Thereafter small quantities are permitted to be exported under specific authorizations issued by the DGFT on diplomatic considerations.

Financial Year Reporting of Sugar Trade [7]

India's sugar exports continued to decline during FY 2024 and 7M FY 2025, as its export continued to remain under the "restricted list."

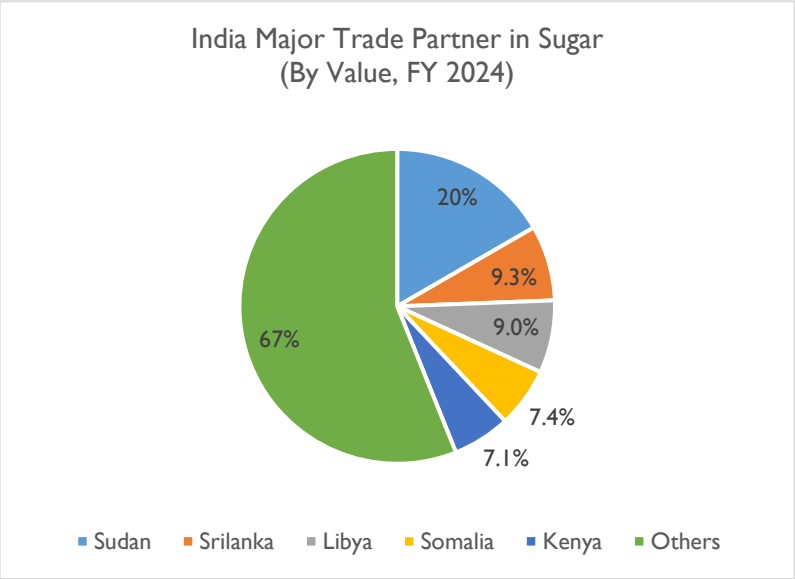


Source: Trade Statistic by Ministry of Commerce & Industry,

Trade Partners

Sudan stood as India's largest trade partner for sugar export followed by Sri-Lanka, Libya, Somalia, Kenya, contributing 20%, 9.3% 9%, 7.4% and 7.1%, respectively. Together, these 5 countries contributed about 53% share in India's total earnings from sugar export.

[7] HS Code 17019990 for Refined Sugar and 17011490: Raw Sugar



Sources: Department of Commerce

India has two port-based standalone refineries. The business model is to import raw sugar under the Advance Authorization Scheme of DGFT without payment of duty and export refined sugar produced therefrom. This sugar does not enter the domestic stream. The volume of this business is about 3 MMT a year. The import of raw sugar is entirely from Brazil.

Traditional Sweeteners (Jaggery & Khandsari)

Jaggery

Jaggery production is a traditional, labour-intensive process primarily located in rural areas. India is the largest producer of jaggery globally, with an estimated 70% of the world's production. Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, Bihar, and Gujarat are the leading jaggery producing states in India. The production of jaggery fluctuates from year to year as this industry has to compete with sugar industry for sugarcane. India exports around 8% of its jaggery production.[8] India exported 516.75 thousand metric tonnes of jaggery and confectionery products to the world for the worth of INR 35.71 billion during the year 2023-24.[9] Major export destinations were Indonesia, USA, Kenya, UAE and Nepal.

Khandsari

Khandsari is a sugar produced without employing a vacuum pan. Khandsari factories are small and medium units, mean sugarcane crushing capacity being 500 tpd (tonnes per day), the range being 200 to 2000 tpd.

[8] Insight based on interaction with industry stakeholder.
[9] https://apeda.gov.in/apedawebsite/subhead_products/jaggery_and_confectionary.htm

On the other hand, sugar factories have a mean crushing capacity of 4,000 tpd, ranging from 2500 to 20000 tpd. [10]Khandsari production is estimated to be about 4 to 5 lakh tonnes per year. Uttar Pradesh, Maharashtra, and Karnataka are key regions for Khandsari production.

Khandsari is emerging as a healthier alternative to sugar as it has the look of sugar but possesses essential nutrients while sugar is just empty calories. The industry is subject to licensing by the State Governments, which also gives the Khandsari units allocation of cane, subject to renewal every year. Therefore, a significantly capacity expansion of Khandsari industry is not visualized. The increasing popularity of the product is, however, prompting some sugar mills to add Khandsari and jaggery-making capabilities.

Major Exporter of Khandsari

In FY 2024, below companies emerged as a top 10 leading exporter of Khandsari from India:

Top 10 Exporter of Khandsari from India in FY 2024		
Company Name	**Export Value in USD Thousand**	**% Share**
KPS Agro Product	295.28	71.8%
Elite Green Pvt Ltd	25.14	6.1%
Maanas Foods And Spices Impex	17.32	4.2%
Meir Commodities India Pvt Ltd	17.16	4.2%
Goel Overseas	14.14	3.4%
Dhampure Speciality Sugars Ltd	10.35	2.5%
Kyzaf Overseas Pvt Ltd	9.37	2.3%
Euroasias Organics Pvt Ltd	5.22	1.3%
Arhaan International	2.80	0.7%
Hindustan Exports	2.55	0.6%
Total of the Above	**399.32**	**97.1%**
Total Export Value of Khandsari	**411.162**	**100%**

Top 10 Exporter of Khandsari from India in FY 2024		
Company Name	**Export quantity in Thousand Kgs**	**% Share**
KPS Agro Product	21.35	36.0%
Kyzaf Overseas Pvt Ltd	9.72	16.4%
Maanas Foods And Spices Impex	7.85	13.2%
Meir Commodities India Pvt Ltd	6.94	11.7%
Hindustan Exports	2.55	4.3%
Euroasias Organics Pvt Ltd	2.30	3.9%
Sriveda Sattva Pvt Ltd	1.99	3.4%
Treta Agro Pvt Ltd	1.75	3.0%
Shapes And Weaves	1.35	2.3%
Goel Overseas	1.04	1.7%

[10] Insight based on interaction with Industry stakeholder

Total of the Above	**56.84**	**95.9%**
Total Export Volume of Khandsari	**59.281**	**100%**

Sources: The Trade Vision

In FY 2024, Meir Commodities India Limited emerged as the fourth largest exporter of Khandsari both by value and volume accounting for as share of 4.2% by value and 11.7% by volume exported from India.

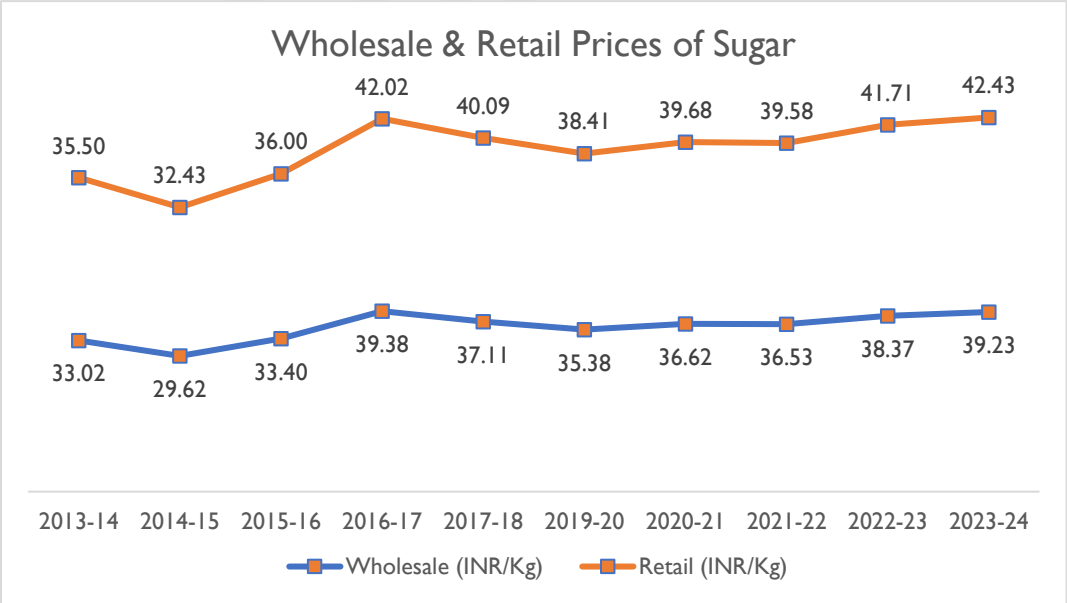
Sugar Price Trend in Domestic and International Market

Domestic Market

The government of India has mandated a Minimum Ex-factory Selling Price (MSP) of sugar wef June ,2018 at INR 2,900 per quintal as it was apprehended that the glut in sugar availability should lead to a fall in sugar prices below the cost of production, resulting inter alia, in inability of the sugar factories to make timely payments to farmers. The MSP was increased to Rs 3100 per quintal in February 2019 and has not been increased in line with increases in the cost of production since then. As the price fixation is the minimum below which sugar cannot be sold, this has not impacted the sugar prices which are determined on the basis of demand-supply factors. The glut of sugar has neither occurred since then, nor is it expected. The excess stocks of sugar have been exported by the industry as exports during the years ss 2019-23 have totaled 34 million metric tons. About 2 to 4 million metric tons of sucrose is being absorbed in ethanol, depending upon availability. Consequently, there is a match between demand and supply of sugar.

The sugar industry has, however, been urging the government to update the MSP for sugar as MSP, working as a reference, influences market sentiment during the peak production period of December and January. It is expected that the update of MSP will come through soon.

Sugar prices have depicted a steady increase during the last 10 years. There was, however, a blip in 2016-17 because of lower production.



Source – Department of Food and Public Distribution

International Market

Global sugar prices have surged due to supply constraints caused by occurrence of La Nina conditions for continuous three years till 2022-23, which adversely impacted the sugar production in Brazil,[11] the principal supplier to the global markets, accounting for 43% of global sugar exports value in 2023. During the year 2023-24 the importers had to depend upon Brazil to the extent of 70% of their import requirements as El Nino conditions adversely impacting the sugarcane output kept India out of exports and reduced the participation of Thailand. The International Sugar Organization (ISO) has forecast a global sugar deficit of 2.52 million metric tons for the 2024-25 season.

The global sugar market witnessed an increase in prices by ~50% from 2019 to 2023. The increase is driven by reduced production levels in key producing countries, like Brazil, India, and Thailand due to weather issues, while the increase in demand has been steady @ 0.90 % pa. (OECD-FAO Agricultural Outlook 2022 – 2031)

In 2023, sugar prices reached their highest levels, driven by concerns over tighter global supplies as production forecasts were revised downward due to adverse weather conditions, affecting major producers like India and Thailand.

Despite the ongoing upward trend for the last five years, the prices in 2024 are expected to decline. The Sugar futures market in October 2024 recorded a dip of ~12% compared to October 2023.

Year	Price Range (USD/MT)	Key Factors
2019	340-360	Surplus production, government export subsidies, competitive pricing
2020	320-340	Global prices drop due to COVID-19, increased exports with subsidies
2021	370-400	Onset of La Nina adversely impacted production in Brazil
2022	420-450	Surge in global prices, due to weather issues (La Nina) in Brazil
2023	450-480	Export restrictions, reduced production, high global demand, tight supply
2024 YTD	576[12]	Tighten global supply market and export restrictions

Source: Indian Sugar Mills Association (ISMA), Market Analysis

In recent years, sugar prices have seen periods of volatility, driven by shifts in production, consumption, and supply chain disruptions. For example, after a significant drop during the COVID-19 pandemic in 2020

[11] Brazil's sugarcane production increased from 655 Mn MT in 2020 to a projected 705 Mn MT in 2023, further the market is expected to witness a marginally decline to 645 Mn Mt in 2024. Brazil sugar export has increased from 30.6 Mn Mt in 2020 to 35.9 Mn MT in 2023. However, the export volume is expected to fall in 2024, reaching 34.5 Mn Mt. In terms of value in 2023, Brazil is the leading export of sugar, capturing 43.4% of the total export.

[12] Average as on 20 Dec 2024 for calender year 2024.

due to lower demand from the food and beverage sector, prices began to recover in 2021 and continued to rise into 2023. By mid-2023, sugar prices reached multi-year highs, influenced by factors such as weather conditions affecting major producers, continued absence of India from export market, now into the third year, and increased demand recovery post-pandemic. There is remarkable price increase witnessed during the current year as depicted in the above graph.

Growth Drivers

Several factors drive the growth of sugarcane-based sweetener products in India, such as sugar, jaggery, and Khandsari. Being an essential consumption commodity, the demand scenario for sugar will continue to remain buoyed led by the sustained demand growth from household consumers for the direct consumption segment and bulk consumers such as food and beverages, and bakery products, amongst other, driven by rising incomes and growing preference for processed foods. .

As per industry sources, bulk consumers account for 65% of consumption, and household consumers account for the balance share where all India's per capita Direct Household Consumption of sugar is estimated 20 Kg per person[13]. This compares with the global consumption of 22 kg per capita (ISO).

Some of the key factors driving sugar demand in the country include:

- **Sugarcane Production:** India is the second largest producer of sugarcane in the world, just behind Brazil. Factors like favourable climate, large cultivable area, government support & policies, high-yield varieties, well-established supply chain are instrumental in India's high sugarcane production.
- **Large consumer base:** India, boasting a staggering population exceeding 1.428 billion in 2023, represents about 17.2% of the world's total inhabitants, with a consistent 1.39% annual growth rate over the past 25 years. Furthermore, according to the Handbook of Urban Statistics 2022, India's urban population has been steadily rising, reaching over 469 million in 2021 and projected to exceed 558 million by 2031, with estimates soaring to over 600 million by 2036. With sugar becoming an indispensable ingredient in everyday diet, the presence of such a large population base ensures a stable demand for the commodity.
- **Demand from institutional consumers: food processing industries.** The food processing sector is one of the largest sectors in India in terms of production, growth, consumption, and export. Helped by the higher level of agriculture production and government support, the sector has witnessed strong growth. Moreover, the changing consumption pattern have ensured healthy demand growth for processed food & beverage segment. Sugar is one of the key ingredients in the food

[13] https://pib.gov.in/PressReleasePage.aspx?PRID=1828247

processing industry, and the strong demand for processed food & beverages have in turn helped create strong demand for sugar. In the long term, the country's vast population base, growing preference for value added products, increasing awareness, increasing income as well as affordability of processed food augur well for the sector. Growth will be also fueled by change in the dietary habit and the demand for healthy and nutritional products. India's annual household consumption is believed to quadruple by 2030, making it the fifth-largest consumer in the world which is expected to boost the demand for processed food and present a favorable business opportunity for FPI to expand its footprint further.

- **Changing Consumption pattern:** The changes in consumption pattern, in favour of packaged & processed foods is benefitting the overall sugar demand. Lifestyle changes have prompted a change in overall consumption pattern among consumers, resulting in higher demand for convenience products / packaged food products. The volume of sugar used in all these packaged & processed food products is on the higher side. Hence, the strong demand growth for packaged food have benefitted sugar demand.

Regulatory Landscape

Sugar Directorate in the Department of Food & Public Distribution, Ministry of Consumer Affairs, Food & Public Distribution is responsible for the management of the sugar sector in India, which includes framing and administration of policies relating to sugarcane and sugar. The following laws govern this sector.

The Essential Commodities Act 1955	The Sugarcane (Control) Order1966	The Sugar (Control) Order 1966	The Sugar Price (Control) Order 2018
All essential commodities, which include sugar and sugarcane, are covered under this Act.	Gives powers to fix FRP of sugarcane, ensure payment of cane dues to farmers. Provisions to establish sugar factory and plants for production of ethanol only from sugarcane juice.	To regulate production, sale, packaging, stocks, movement, and international trade of sugar	To notify Minimum Selling Price (MSP) of Sugar

Source: www. dfpd.gov.in

Subsidies:

The sugar sector has been the recipient of subsidies in the past.

The Sugar Development Fund (SDF) was established through the Sugar Development Fund Act 1982. This act imposed a cess to be collected on dispatches of sugar from the factory as (in addition to) a duty of

excise. The cess financed a fund that was utilised to provide easy and cheap finance to sugar mills for end uses like sugarcane development, modernization, export subsidy, buffer stock subsidy, production incentive, etc. The loans for capital subsidy had a repayment requirement, grants were for use for stipulated end-use.

With the introduction of GST on 1st July 2017, the SDF Cess has been abolished, being an ultra-virus in the new tax regime. The fund is, therefore, non-operational, except for the collection of loan repayments. The accumulated funds under the scheme, however, continued to be utilised for grant of need-based subsidies to the sugar industry.

Subsidies in the post SDF regime:

Subsidies have been extended for sugar exports from SS 2018-19 through 2022-23 (limited to 6 MMT although exports during the year were 11 MMT), production subsidy to enable sugar factories to make payments to farmers, interest subsidy to finance holding of excess stocks of sugar. Interest subvention on loans for capex incurred on creation and expansion of distillation capacity for production of ethanol for ethanol blending programme. (the interest subvention was available to distilleries set up by entities other than sugar mill companies as well). These subsidies were financed by the government from the Consolidated Fund of India.

The changed price dynamics in the global sugar matrix, where Indian sugar has parity without subsidy and the ethanol blending programme, which in the medium term, has the potential of diversion of 6 MMT of sugar to ethanol, has placed the sugar industry on affirmed footing not requiring any subsidies.

Timeline of Sugar Export Restrictions

Sugar Season	Time Period of Restriction	Details
Till 2021-22	No Restriction	Open General License (OGL): Under the OGL regime, sugar mills and through them brokers/ distributors/ merchant exporters are not subject to quantitative restrictions on sugar export where you can export as much you require without any interference by the Ministry of Food.
For 2021-22	From June, 01 2022 upto October 31, 2022	First Restriction Imposed: On May 24, 2022, the Ministry of Food issued a notification restricting sugar exports. This measure aimed

		to ensure domestic availability and stabilize sugar prices.
For 2022-23	From October 31, 2022 till October 31, 2023, or further orders	Second Restriction Order: On October 28, 2022, the Ministry of Food issued another notification further restricting sugar exports.
2022-23 (Only)	November 01, 2022 till October 31, 2023	Export Release Order (ERO): The Ministry of Food has decided to allocate export quota of 10 LMT of sugar for sugar season 2024-25. Sugar mills could only sell or dispatch sugar to exporters with EROs. The Ministry of Food allocated a mill-wise export quota of 60 LMT of sugar for the 2022-23 sugar season, effective November 1, 2022, to October 31, 2023, as per the issued letter dated November 5, 2022.
2023-24	October 31, 2023 till further orders	Third Restriction Order: On October 18, 2023, the Ministry of Food issued notification further extending restrictions on sugar exports for the third time.
2024-25 (Only)	Until September 30, 2025	Export Release Order (ERO): The Ministry of Food has decided to allocate export quota of 10 LMT of sugar for sugar season 2024-25. The Ministry of Food allocated a mill-wise export quota of 10 LMT of sugar for the 2024-25 sugar season, effective January 20, 2025, to September 30, 2025, as per the issued letter dated January 20, 2025.

Note:

Open General License (OGL): Under the OGL regime, sugar mills and through them brokers/ distributors/ merchant exporters are not subject to quantitative restrictions on sugar export and one may export any quantity without any interference by the Government of India.

Export Release Order (ERO): The Food Ministry regulates sugar exports by issuing notifications known as Export Release Orders (EROs), which set specific quantitative limits for exports. These orders allow sugar

mills to export within the allocated quantities. Sugar mills (and through them brokers/ distributors/ merchant exporters) are allowed to sell or dispatch only the quantity specified in the ERO issued to them.

Subsidies for Ethanol Production: With the Ethanol Blending Program (EBP), the government encourages sugar mills to divert surplus cane to ethanol production, providing price support for ethanol to promote this shift. Ethanol production subsidies help stabilize the domestic sugar market and generate additional revenue streams for mills. As of September 2024, a total of 1,212 Ethanol projects have been approved under various Interest Subvention Schemes by the Government across various states.[14]

Ethanol Blending in Petrol Programme (EBP Programme)

Targets under EBP Porgramme	Capacity Creation & Ethanol Supply	Diversion of Excess sugar to Ethanol
• Target of 10% blending in petrol by 2022 achieved successfully. • Target of 20% blending in petrol by 2025. • To achieve this, ethanol production capacity of about 1,700 crore litres must be established by 2025, with plants workng at 80% efficiency. • Government encouraging sugar mills to divert excess sugarcane to ethanol.	• Ethanol production capacity reached 1,623 crore litres in as on September 18, 2024 from 215 crore litres in 2013. • Supply of Ethanol increased almost 13 times to 502 crore litres in ESY 2022-23 from 38 crore litres in ESY 2013-14	• In SS 2022-23, 3.8 Million tonnes sugar was duverted for ethnoal against 3.5 in the SS 2021-22. • In the current ESY 2023-24, the blending percentage surpassed 13% with approximately 545.05 crore litres of ethanol blended as of August 31, 2024. • By 2025, target of diversion of 6 Million MT sugar to Ethanol.

Source: www.dfpd.gov.in

With a view to support sugar sector and in the interest of sugarcane farmers, the Government has also allowed production of ethanol from B-Heavy Molasses, sugarcane juice, sugar syrup and sugar. Government is also encouraging distilleries to produce ethanol from food grains such as Damaged Food Grains (DFG), maize & surplus rice available with FCI.

State Advised Prices Vs Fair and Remunerative Price (FRP)

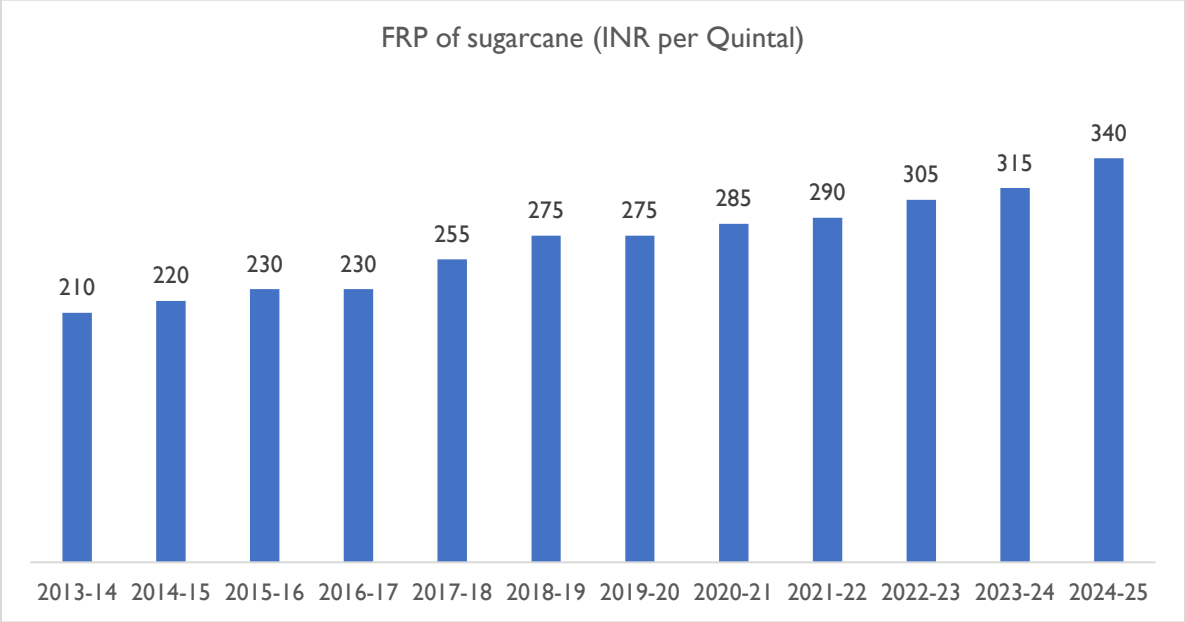
In India, State Advised Prices (SAP) and Fair and Remunerative Price (FRP) are two distinct pricing mechanisms that govern the purchase price of sugarcane, set by state governments and the central government respectively.

[14] https://dfpd.gov.in/Home/ContentManagement?Url=directorate-of-sugar1.html&ManuId=3&language=1

FRP	SAP
• FRP of sugarcane is fixed before to ensure guaranteed price to sugarcane growers. • FRP is decided on recommendations of the Commission for Agricultural Costs and Prices (CACP) in consultation with the State Governments & other stakeholders. • FRP is linked to a basic recovery rate of sugar, with a premium payable to farmers for higher recoveries, to ensure that higher sugar recoveries are adequately rewarded.	• Four States viz. Punjab, Haryana, Uttar Pradesh & Uttarakhand announces SAP which is normally higher than FRP. • In UP and UK, Responsibility of cane payment at SAP is on sugar mills. Therefore, SAP puts additional burden on sugar mills of these States. • In Punjab, State Govt. pays SAP which is 100% in case of co-operative sugar mills and 2/3 (66.6%) in case of private sugar mills of differential amount exceeding FRP. • In Haryana, State Govt. provides subsidy to sugar mills based on recovery % to meet the gap between SAP and FRP.

Source: www.dfpd.gov.in

The government raised the FRP of sugarcane for the 2024-25 season (Oct-Sept) by INR 25 to INR 340 per quintal.[15]



One quintal = 100 kgs, Source: www.dfpd.gov.in

[15] https://money.rediff.com/news/market/sugar-export-reconsideration-isma-urges-govt-amid-surplus/12181120240703, https://dfpd.gov.in/Home/ContentManagement?Url=directorate-of-sugar1.html&ManuId=3&language=1

Export Import Policy of Sugar

Export Policy

In order to prevent uncontrolled export of sugar & with a view to ensure sufficient availability of sugar for domestic consumption at a reasonable price, Directorate General of Foreign Trade (DGFT), Ministry of Commerce has also amended export policy in respect of sugar and covered it under restricted category w.e.f. June 22 for 2021-22 sugar season. Government has also decided to allow export of sugar up to a reasonable limit w.e.f. 01.11.2022 till 31.10.2023 for the current sugar season.

Import Policy

Import of sugar, which was placed under Open General License (OGL) with zero duty in March 1994, continued with zero duty upto 27.04.1999.

Due to surplus stocks of sugar in the country and to check any possible imports, the Government increased the import duty from 15% to 25% on 21.08.2014, which was subsequently increased to 40% w.e.f. 30.04.2015 and further increased to 50% w.e.f. 10.07.2017. To prevent any unnecessary import of sugar and to stabilize the domestic price at a reasonable level, the Central Government has further increased custom duty on import of sugar from 50% to 100% in the interest of farmers w.e.f. 06.02.2018.

Duty Structure

Sugar is an essential commodity. Its sale, delivery from mills, and distribution were regulated by the Government under Essential Commodities Act, 1955. Till 15.01.1997, the exports of sugar were being carried out under the provisions of the Sugar Export Promotion Act, 1958, through the notified export agencies, viz. Indian Sugar & General Industry Export Import Corporation Ltd. (ISGIEIC) and State Trading Corporation of India Ltd. (STC).

The import duty on sugar has been increased several times over the years:

- 1999: The basic customs duty was increased from 5% to 20%.
- 1999-2000: The duty was increased from 20% to 25% with a surcharge of 10%.
- 1999: The customs duty was increased to 40%.
- 2000: The customs duty was increased to 60%.
- 2014: The duty was increased from 15% to 25%.
- 2015: The duty was increased to 40%.
- 2017: The duty was increased to 50%

- 2018: The duty was increased to 100%

Applicable GST Rate:

Product	**GST Rate**
Refined Sugar	5%
Cane Sugar and Jaggery	Cane Jaggery (Gur) and Khandsari Sugar: Both products are exempt from GST (0%).
Sugarcane	Raw Sugarcane: Exempt from GST (0%)
Molasses (a Sugar Byproduct)	28%
Ethanol for Blending in Fuel	5%
Bagasse and Press Mud (Sugarcane Byproducts)	Exempt (0%)

Sources: Central Board of Indirect Taxes and Customs (CBIC), Goods and Services Tax (GST) Council, Ministry of Finance, India

Capex Trend

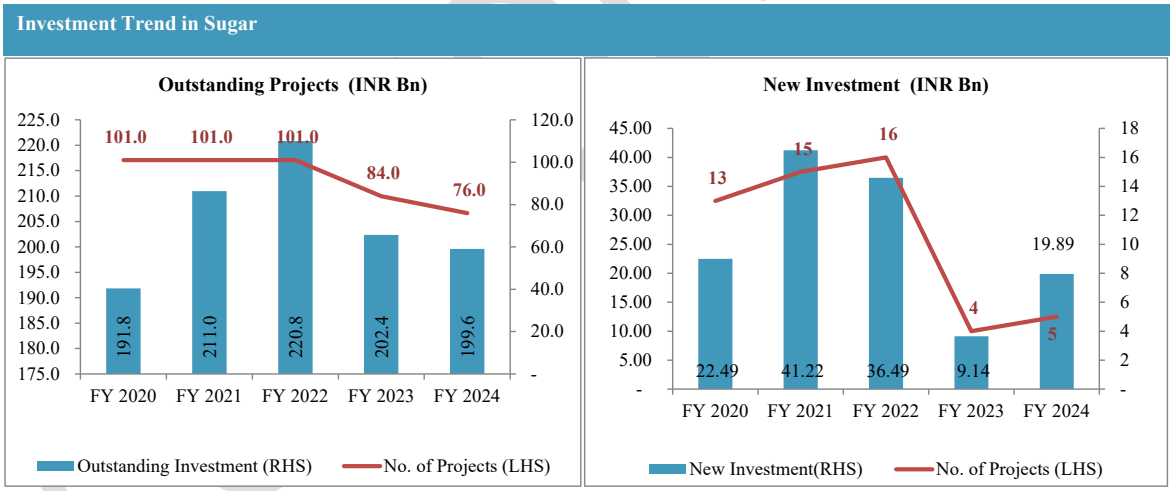
The capital expenditure (CapEx) trend in the sugar industry in India has been shaped by modernization, diversification, and policy-driven initiatives. The following key areas highlight how CapEx is evolving within the sector:

Expansion of Production Capacity

Companies often invest in setting up new mills or expanding existing ones to increase sugar production capacity. This includes upgrading machinery, automation, and better processing technologies. Investment in facilities that allow diversification, such as producing by-products like jaggery, molasses, and bagasse, is also being done.

Ethanol Production Facilities

Significant CAPEX has been directed toward setting up ethanol production units as part of the government's ethanol blending program. The government has aimed to increase ethanol blending with petrol to 20% by 2025, leading to an estimated investment requirement of around INR 400-500 billion in the ethanol sector alone over the next few years.



Sources: CMIE Capex

New investment in sugar industry strengthened in FY 2024. During FY 2024, new investment in the sugar sector stood at INR 19.89 Bn spread across 5 projects while outstanding investment in the sector stood at INR 199.6 Bn spread across 76 projects. Few major projects announced last one year is listed below:

- Balrampur Chini Mills Ltd. announced INR 12 billion CAPEX plan for setting up new ethanol plants and upgrading sugar mills between 2022 and 2024.
- Dalmia Bharat Sugar & Industries Ltd planned an investment of around INR 4 billion to increase ethanol production capacity, in the next three years.

Impact on Sugar, Khandsari, and Jaggery Markets

- **Increased Sugarcane Demand**: Higher ethanol blending is expected to drive the demand for sugarcane, as more raw materials will be needed for ethanol production. This could lead to increased prices for sugarcane, benefiting farmers but potentially raising costs for sugar manufacturers.
- **Capacity Expansion**: To meet the ethanol production goals, sugar mills need to invest in expanding their processing capacities. This could result in enhanced production capabilities not only for ethanol but also for sugarcane and its by-products. The expected increase in production capacity helps to stabilize sugar supply amidst a fluctuating market.

Capital Expenditure Implications

- Ethanol production has surged from 0.38 billion liters in 2013-14 to over 5 billion liters in 2022-23, reflecting a robust market demand that justifies increased capex in the sector.
- India's gross sugar production for the 2024-25 season is projected to reach 34.5 Mn MT, with 4 Mn MT earmarked for ethanol production. This reflects a commitment to increasing ethanol blending targets.
- Since, 2018, The Central Government has approved over 1,200 projects aimed at producing a total capacity of 44 billion liters of ethanol. The Ethanol Blending Programme (EBP) has achieved significant progress, with the ethanol blending percentage doubling in just over two years. This initiative has generated additional revenue exceeding INR 510 billion for sugar-based distilleries, underscoring its economic impact and the role of ethanol in enhancing energy security

Technological Innovations

In 2024, the Indian sugar industry is witnessing several technological advancements aimed at enhancing efficiency, sustainability, and productivity,

- **Precision Agriculture** - Utilizing drones and IoT sensors allows for precise monitoring of sugarcane fields. This technology optimizes resource management, such as water and fertilizers, leading to higher yields and reduced environmental impact.
- **Automation and Robotics** - The integration of robotic harvesters and automated sorting systems has revolutionized sugarcane harvesting and processing. This advancement reduces labour costs and increases operational efficiency.

- **Biotechnology** - Genetic engineering is being employed to develop high-yielding and disease-resistant sugarcane varieties. These innovations enhance crop resilience and productivity, crucial for meeting the growing demand.
- **Energy Efficiency Technologies** - Advances in energy-efficient equipment, such as improved boilers and cogeneration systems, enable sugar mills to generate electricity from bagasse (sugarcane residue). This reduces reliance on external energy sources and lowers operational costs.

Threat and challenges pertaining to the industry.

Sugar industry in India is plagued with several serious and complicated which has impacted the operational performance of sugar companies. The Indian sugar industry faces a range challenges, stemming from economic, environmental, and policy-related factors. Here are the primary issues:

Low yield of sugarcane:

From 2021 to 2023, sugarcane yields in India decreased from approximately 84 metric tons per hectare to 79 metric tons. This decline is primarily attributed to waterlogging and red rot infestations, particularly in western Uttar Pradesh, where yields have dropped by 5-10%. Additionally, labor shortages and erratic weather patterns further complicate the challenges faced by farmers. While yields in central Uttar Pradesh have remained stable, slight improvements have been noted in eastern regions, highlighting regional disparities in production outcomes that significantly impact the sugarcane sector's productivity.

Short crushing season

Manufacturing of sugar is a seasonal phenomenon with a short crushing season varying normally from 4 to 7 months in a year. The mills and its workers remain idle during the remaining period of the year, thus creating financial problems for the industry. Industry experts suggest increasing the crushing season by sowing and harvesting sugarcane at proper intervals in different areas adjoining the sugar mill. This will increase the duration of supply of sugarcane to sugar mills.

Fluctuating Production Trends Due Dependence on Monsoon and Water Scarcity:

Sugarcane competes with several other food and cash crops like cotton, oil seeds, rice, etc. which have comparatively lower harvesting period and water requirement when compared to sugarcane production.

Cultivation of sugar cane crop takes ~12 to 18 months compared to crops such as wheat, paddy etc. which takes ~4 months. Hence, cane development becomes an integral part for Sugar Mills to induce farmers to produce Sugar cane instead of other crops requiring shorter duration.

Sugarcane is a water-intensive crop, making the industry vulnerable to monsoon variability and water shortages. Prolonged droughts or irregular rainfall can severely impact crop yields, leading to inconsistent production levels. Over-dependence on water for sugarcane cultivation has led to environmental concerns, particularly in water-scarce regions like Maharashtra and Karnataka, where groundwater levels are depleting rapidly. Consequently, the land available to sugarcane cultivation is not the same and the total production of sugarcane fluctuates. This affects the supply of sugarcane to the mills and the production of sugar also varies from year to year.

High Production Costs

High cost of sugarcane, inefficient technology, and uneconomic process of production result in high cost of manufacturing. The production cost of sugar in India is one of the highest in the world with high cane price and one of lowest retail sugar price when compared with other major sugar producing countries. The Fair and Remunerative Price (FRP) and State Advised Prices (SAP) set for sugarcane are often high, especially in states with SAPs that exceed the FRP. This creates cost pressures for mills, as they must pay farmers high prices regardless of sugar market conditions. Rising input costs, including labour, energy, and transportation, further squeeze margins, particularly for smaller mills that may lack the resources for efficient cost management.

Small and uneconomic size of mills

Most of the sugar mills in India are of small size with a capacity of 1,000 to 1,500 tonnes per day. This makes production uneconomic. Many of the mills are economically not viable.

Old and obsolete machinery

Most of the machinery used in Indian sugar mills, particularly those of Uttar Pradesh, notably in Gorakhpur, Meerut, Muzaffarnagar and in Maharashtra with key centers in Nasik, Pune, and Kolhapur is old and obsolete, being 50-60 years old and needs rehabilitation. But low margin of profit prevents several mill owners from replacing the old machinery by the new one.

As of February 15, 2024, a total of 71 sugar mills had ceased operations during the ongoing crushing season, a decrease from 93 closures reported during the same period in the previous season. Specifically, 15 sugar mills in Karnataka were closed by mid-February 2024, reflecting a decline in both sugarcane crushing and production rates within the state. However, by the end of 2024, India is expected to witness several new sugar mills, particularly in Uttar Pradesh. A notable addition is the mill located in Bahadurpur village, Baheri, which is scheduled to commence trial operations by December 2024, featuring a crushing capacity of 25,000 quintals per day, with potential expansion to 50,000 quintals. Additionally, the Bindal Group has inaugurated a new mill in the Chandpur area of Bijnor district, capable of crushing 1,000 tonnes

of sugarcane daily. These developments signify a renewed investment in the sugar sector, aimed at enhancing production capacity and providing vital support to local farmers.

Price Volatility and Surplus Production: India often faces surplus production, which depresses domestic prices and makes it challenging for mills to remain profitable. This excess supply, combined with fluctuating global sugar prices, can destabilize the industry. Indian sugar is often more expensive than sugar from countries like Brazil, making it less competitive on the international market. This issue is worsened when global prices are low, making exports less viable.

Debt and Financial Stress: High cane prices often lead to delayed payments to farmers due to mills' cash flow issues. This results in significant debt burdens, impacting both mills and the rural economy dependent on sugarcane farming. Farmer arrears have been a recurring issue in sugar industry, particularly during years of low sugar prices. This leads to financial stress for mills and creates a cycle of debt and dependency on government support, such as soft loans and subsidies. Simultaneously, delayed payment to farmers hinders their capacity to invest in agricultural practices while they also encounter several other associated challenges such as inadequate access to quality seeds, fertilizers, and irrigation facilities.

Policy and Regulatory Challenges: The industry relies on government subsidies, export incentives, and soft loans, especially during periods of surplus. However, these support measures can be inconsistent and subject to change, making long-term planning difficult for mills. Export policies, including duties and quotas, are frequently adjusted by the government, which can impact the industry's ability to stabilize prices through exports. Changes in global trade policies, like WTO regulations, also affect India's sugar exports.

Ethanol Industry

Ethanol, scientifically referred to as ethyl alcohol, is a volatile, flammable, and colourless liquid primarily used as a biofuel, industrial solvent, and in beverage production. It is represented by the chemical formula C_2H_5OH. Ethanol's physical properties make it highly adaptable: it has a boiling point of 78.37°C, is completely miscible with water, and has a slightly sweet yet pungent odour in its undiluted form.

The production of ethanol from starch- or sugar-based crops is one of humanity's earliest advancements in adding value to agriculture-based processes. This practice dates to innovators like Henry Ford and Alexander Graham Bell, who recognized the potential to convert plant sugars into clean-burning, renewable alcohol fuels. While the basic principle remains the same, the ethanol industry has undergone substantial modernization. Today, ethanol refineries operate with the sophistication of chemical refineries, producing not only ethanol but also a variety of renewable fuels and by-products. Using advanced technology, these biorefineries transform grains, food waste, cellulosic biomass, and other feedstocks into high-efficiency ethanol.

Currently, the ethanol industry primarily relies on the dry milling process, responsible for over 90% of grain-based ethanol production, with the remainder generated through wet milling. The key distinction between these processes lies in the initial treatment of the grain.

Based on purity level ethanol is classified in several grade Fuel-Grade Ethanol (95-99% Purity), Industrial-Grade Ethanol (95% Purity), Absolute Ethanol (99-100% Purity), Denatured Ethanol and Beverage-Grade Ethanol (Extra Neutral Alcohol - ENA).

Fuel-Grade Ethanol (95-99% Purity)

- **Description**: Fuel-grade ethanol typically possesses a purity level between 95-99%, formulated specifically for blending with gasoline to create biofuels. This form is most commonly used in the automotive industry as an oxygenate to reduce emissions.
- **Production Process**: Produced from feedstocks like sugarcane molasses or corn, fuel-grade ethanol undergoes a series of fermentation and distillation processes. The distillation removes impurities, making it suitable for blending with petrol.
- **Regulatory Standards**: In India, fuel-grade ethanol must meet the standards set by the Bureau of Indian Standards (BIS) to ensure compatibility with the transportation sector's ethanol-blending requirements.

End-Use Applications of Ethanol

- **Automotive Fuel (Ethanol Blending in Petrol)**:
  - **Description**: Ethanol is used extensively in the automotive sector as a biofuel, typically blended with petrol to produce ethanol-blended gasoline. This approach is driven by the Ethanol Blending Program (EBP) in India, which aims to achieve a 20% ethanol blending target by 2025.
  - **Advantages**: Blending ethanol with gasoline reduces dependency on fossil fuels, enhances energy security, and contributes to a reduction in carbon emissions.
  - **Application**: Ethanol-blended petrol, ranging from E5 (5% ethanol) to E20 (20% ethanol), is increasingly being adopted in India's transportation sector as a cleaner alternative to conventional fuels.
- **Pharmaceuticals and Healthcare**:
  - **Medicinal Solvent**: Ethanol serves as a solvent for a wide variety of pharmaceutical formulations, enabling the effective mixing of compounds in liquid medicines.
  - **Disinfectants and Sanitizers**: With its germicidal properties, ethanol is a primary component in disinfectants and hand sanitizers. The demand for ethanol skyrocketed during the COVID-19 pandemic as it became essential in personal and hospital-grade sanitation products.
- **Cosmetics and Personal Care**:
  - **Solvent in Personal Care Products**: Ethanol is used as a solvent in cosmetic and personal care products such as perfumes, lotions, hair sprays, and deodorants. It serves as a quick-drying agent and helps other ingredients blend evenly.
  - **Antimicrobial Properties**: Due to its ability to inhibit microbial growth, ethanol is used in products like mouthwashes and facial astringents, where both sanitation and evaporation rate are critical.
- **Chemical Industry**:
  - **Intermediate for Chemical Synthesis**: Ethanol is a versatile intermediate in producing several chemical derivatives such as ethyl acetate, butanol, and acetaldehyde, used in manufacturing resins, coatings, and adhesives.

- **Solvent in Industrial Processes**: Its ability to dissolve a wide range of substances makes ethanol an essential solvent in the production of paints, varnishes, and inks, where consistency and volatility are critical.

- **Beverage Alcohol**:
  - **Potable Alcohol Production**: In regulated environments, beverage-grade ethanol is used to produce alcoholic beverages such as spirits, wines, and liquors. This segment is highly regulated in India, requiring producers to adhere to strict excise laws and standards.
  - **Medicinal Applications**: Beverage-grade ethanol is also used in some medicinal tinctures and syrups, where its purity and flavor profile are required for consumption.

Key Raw Materials

- **Sugarcane Molasses**:
  - **Source and Availability**: Molasses is a byproduct of sugar production and is the primary feedstock for ethanol production in India, especially in sugarcane-rich states like Maharashtra and Uttar Pradesh.
  - **Advantages**: Using molasses aligns with government policies to promote ethanol from non-food crops, supporting both the ethanol industry and the sugar industry by generating additional value from a byproduct.
- **Grains (Corn, Broken Rice, Sorghum)**:
  - **Source and Availability**: Grains like corn and broken rice serve as alternative raw materials, especially when molasses supply is limited or as part of efforts to diversify ethanol sources.
  - **Advantages**: Diversifying to grain-based ethanol production provides additional demand for these crops, supporting farmers and reducing over-dependency on sugarcane.
- **Cellulosic Biomass**:
  - **Source and Availability**: Agricultural residues, forestry waste, and municipal waste are emerging sources of cellulosic biomass for ethanol production.
  - **Advantages**: Cellulosic ethanol production addresses environmental concerns by recycling waste into a valuable fuel source, and it supports a circular economy by reducing crop residue burning and landfill waste.

The diverse product profile of ethanol reflects the evolving landscape of this industry in India. With a combination of fuel-grade, industrial, absolute, denatured, and beverage-grade ethanol, producers are equipped to meet the increasing demand across various sectors, while key raw materials like molasses, grains, and biomass provide flexibility in production inputs.

Current Scenario

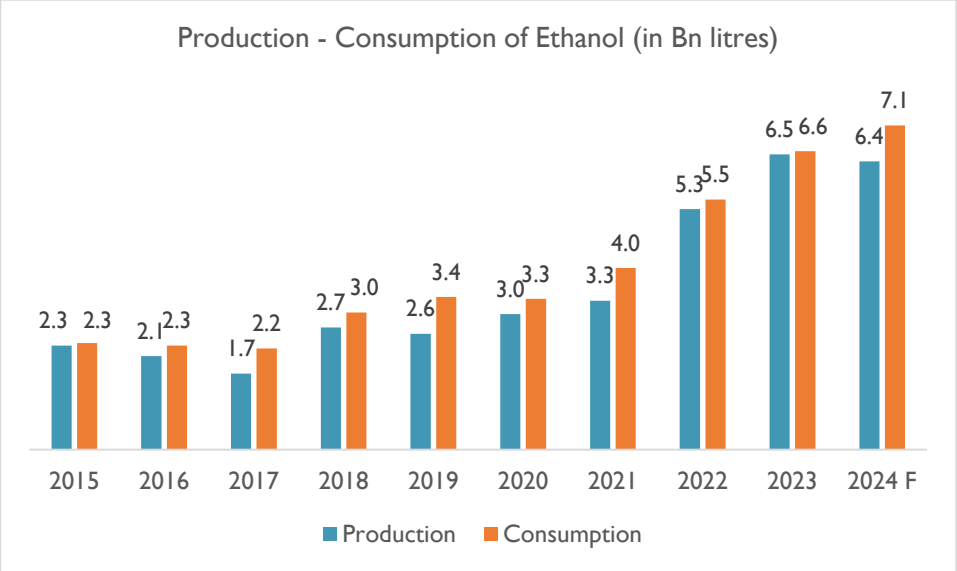
The ethanol industry in India is undergoing rapid expansion, with the government's recent regulatory easing expected to boost production to meet national blending targets. With the full resumption of ethanol production from sugarcane-based feedstocks, production from B-heavy molasses alone is projected to reach 3.29 billion liters, while direct juice is expected to add around 7.186 billion liters. This production increase will support India's target of achieving a 20% ethanol-petrol blending ratio by 2025, which currently stands at 10.5%. The ethanol sector plays a crucial role in India's energy diversification strategy, reducing dependency on crude oil imports. Furthermore, this shift is expected to provide financial relief to sugar mills, where ethanol production generally offers higher returns than sugar, enhancing their ability to pay competitive prices to farmers and ensuring a steady demand for sugarcane.

Production & Consumption Scenario

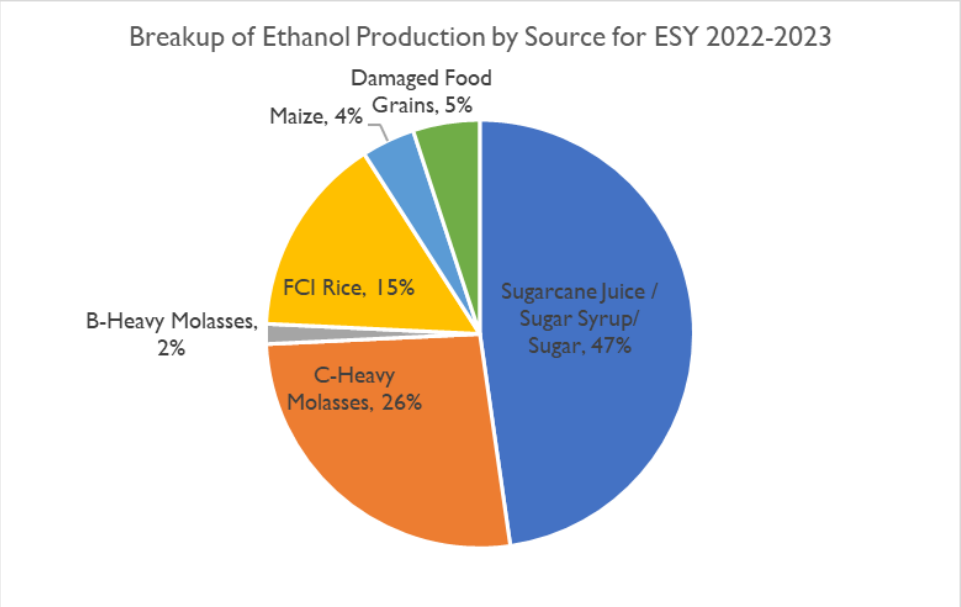
India's ethanol production landscape has advanced significantly, primarily driven by government policies that aim to expand biofuel use and foster energy sustainability. As of September 2024, India's ethanol production capacity stands at 1,648 crore liters (approximately 164.8 billion liters), a substantial increase from previous years. This growth is aligned with the Ethanol Blended Petrol (EBP) Programme, a government initiative that promotes ethanol as a renewable addition to petrol, reducing fossil fuel dependency. The blending percentage has risen sharply from 1.53% in 2014 to 15% in 2024, with the ambitious target of reaching a 20% blend by 2025. The increase in blending rates reflects policy effectiveness and a strengthened focus on ethanol as a key player in India's renewable energy framework.

India's ethanol production has shown consistent growth over the past decade, with efforts to boost capacity to meet both domestic and industrial needs. Starting from 2.3 billion liters (BL) in 2015, production saw minor fluctuations before reaching a significant milestone in 2022, when output jumped to 5.3 BL. This increase aligns with the government's push for higher ethanol blending rates and the expansion of ethanol production facilities across key agricultural states. By 2023, production further increased to 6.5 BL. While projections for 2024 anticipate a slight dip to 6.4 BL, the compound annual growth rate (CAGR) of 12% from 2015 to 2024 underscores the sector's commitment to expanding production capacity and supporting renewable fuel objectives.

Over the past several years, India's ethanol distillation capacity and infrastructure have expanded substantially, driven by policy initiatives to boost renewable energy production. Between 2013-14 and 2021-22, the distillation capacities of molasses-based distilleries surged by over 2.5 times, with the number of operational distilleries increasing by 66%, rising from 157 to 262. Concurrently, the country's ethanol storage capacity has grown over sixfold, from 5.39 crore liters in 2017 to 34.4 crore liters in 2022, enhancing India's ability to meet rising ethanol demand and support its ethanol blending targets.



Source: USDA Foreign Agriculture Service



Source: Ministry of Petroleum and Natural Gas (MoPNG), Dun & Bradstreet Research
Data for 2022-23 is till mid-October 2023.

Consumption Scenario

In ESY 2022-23*, source-wise procurement data is as follows:
(Quantity in Crore Litres)

Feedstock	Total LoI Quantity	Total Contracted Quantity	Receipt Quantity
Sugarcane Juice / Sugar Syrup / Sugar	144.27	90.53	84.98
B-Heavy Molasse	242.77	272.95	253.34
C-Heavy Molasses	6.52	12.69	10.21
Damaged Food Grains / Maize	26.17	36.99	23.49
Surplus Rice from Food Corporation of India	147.32	50.34	46.72
Maize	2.70	20.36	31.51
Total	**569.75**	**483.86**	**450.25**

*Provisional *Data as of October 31st, 2023*

Ethanol is a significant product with a strong daily impact, extending beyond its use in alcoholic beverages and fuel. It is a versatile chemical widely employed as a solvent and additive, finding applications across various industries including plastics, polishes, plasticizers, cosmetics, and pharmaceuticals

India's non-potable ethanol consumption is projected to grow by 13% in 2024, reaching 7.2 billion liters (BL), with fuel ethanol making up the largest share since 2019. Fuel ethanol consumption is expected to total 6.2 BL this year, driven by the government's commitment to meeting the 2025 E-20 ethanol blending target. However, recent government restrictions on the use of sugar feedstocks for fuel ethanol, aimed at controlling high domestic sugar prices, have led to a slight decline in consumption compared to the previous year. In October 2023, India achieved a record 12% blending rate with gasoline, though sustaining this rate in 2024 may be challenging due to limited feedstock availability amid a low sugar production year. As a result, forecasts predict an average blending rate of 11.5% for 2024. Over the past decade, non-potable ethanol consumption has consistently outpaced production, reflecting the growing demand driven by India's expanding population and middle class. In recent years, consumption has surged, from 2.3 BL in 2015 to 6.6 BL in 2023, with a further increase to 7.1 BL expected in 2024. These trends, supported by a compound annual growth rate (CAGR) of 13% from 2015 to 2024, highlight ethanol's increasing role as a critical component in India's fuel and industrial sectors, with demand forecasted to grow if blending rates continue to grow.

Key Drivers

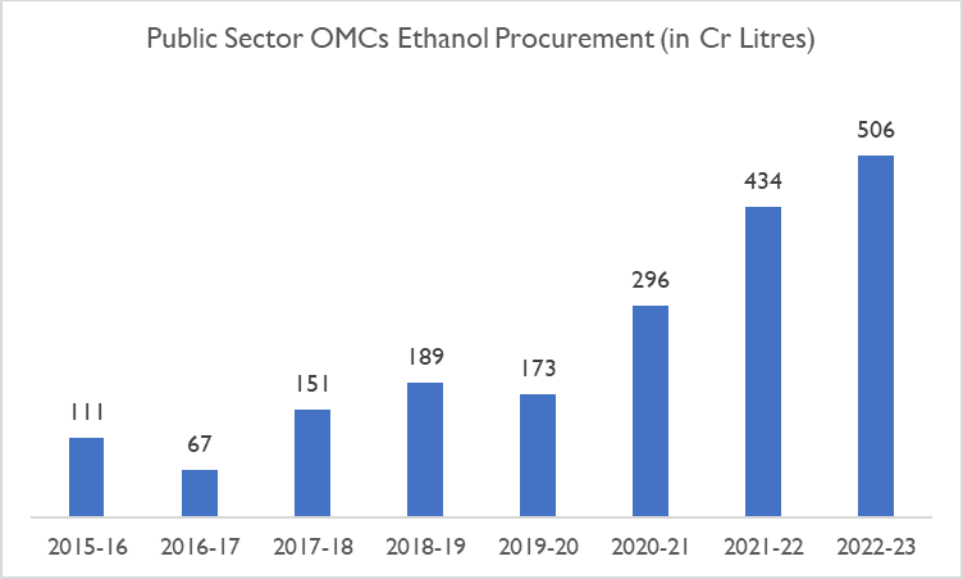
Gasoline Blending

The gasoline blending initiative in India was kickstarted in January 2003, with the launch of Ethanol Blended Petrol (EBP) program. EBP program was initiated to popularize the usage of alternative fuel as well as lower the dependence on traditional fuel sources, which are largely imported. This was followed by pilot programs in select states, with the objective of supplying 5% ethanol blended petrol. However, Cabinet Committee on Economic Affairs, in 2012-2013, have pointed out that the actual ethanol blending ratio was only 2% as against the mandatory requirement of 5% blending.

The major push to EBP program came in September 2006, when the Ministry of Petroleum & Natural Gas directed the Oil Marketing Companies (OMCs) to sell 5% ethanol blended petrol, subject to commercial viability. However, then the program was notified only in 20 states & Union Territories, while the remaining regions were not covered. The program was extended to cover all of India only in 2019, when the notification to that effect came in 1st April 2019. The notification also raised the ethanol blending ratio by OMCs from 5 to 10%, resulting in higher demand for ethanol from OMCs. Seeing the progress of increasing ethanol blending rate since 2019, the government has revised the timelines to achieve 20% blending rate by 2025-26 which was originally planned to be achieved 2030.

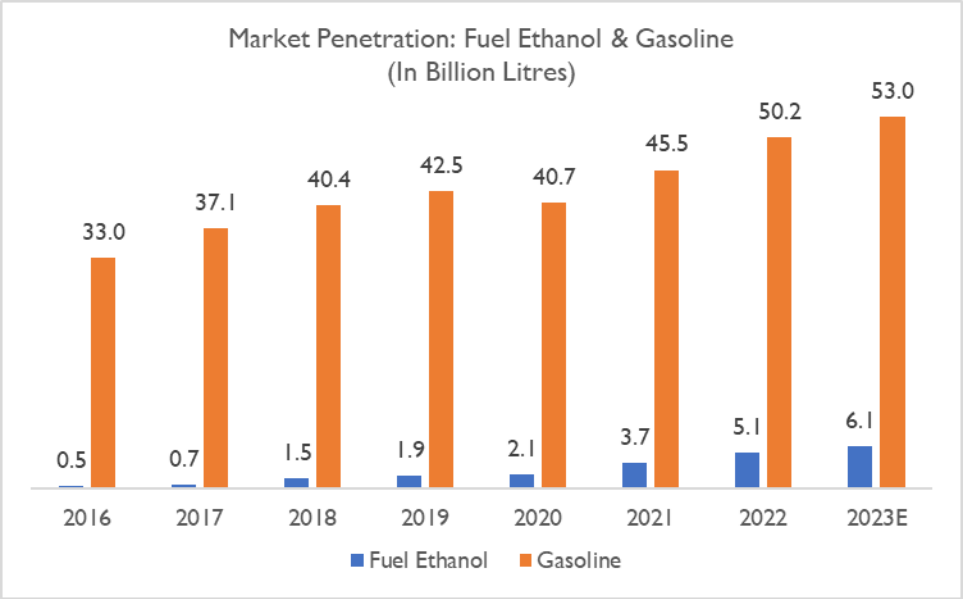
For sugar mills struggling with excess sugar production, the mandated increasing the ethanol blending ratio comes as a relief. With surplus sugar production and softening sugar prices, the higher ethanol blending ration paves the way for additional revenue for the sugar mills. Furthermore, in September 2019, the Government increased the price paid by public sector OMCs for procuring ethanol from sugar mills, with effect from December 1, 2019. Additionally, the decision by Cabinet Committee of Economic Affairs to convert old sugar into ethanol would further help the sugar mills who were forced to hold excess sugar due to surplus scenario.

Ethanol procurement by state-owned OMCs has increased from 38 crore litre in Ethanol Supply Year (ESY) 2013-14 to 599.7 crore litres in ESY 2022-23. For 2023-24, 3 large OMCs in PSU i.e., IOC, BPCL, and HPCL together invited a cumulative bid for 562 crore litres of ethanol.



Dun & Bradstreet Research
Supply Year: December to November in Current Season

Since, actual petrol consumption is expected to fall short of expected petrol consumption, OMCs will not be able to lift the committed quantities for specific depots. Drop in committed offtake is adding additional concern for ethanol manufacturer as they have been asked to deliver ethanol to other locations which is usually far away from the assigned depots, leading to high transportation cost while its reimbursement from OMC is much lower than the actual cost incurred.



Source: USDA Foreign Agriculture Service

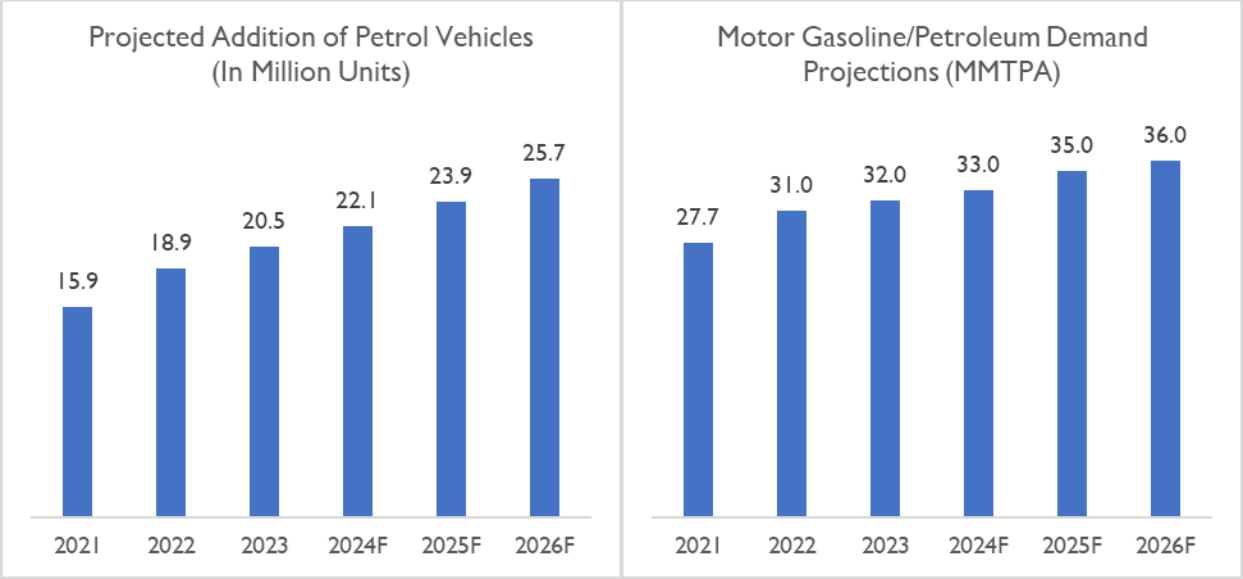
The blending ratio have seen an improvement, increasing from 2.31% in 2015 to nearly 12% in 2023. Despite several Government initiatives to promote biofuel, the penetration of fuel ethanol in India's fuel consumption is yet to reach scale. As against the gasoline penetration of 53 billion litres in 2023, fuel ethanol consumption is estimated at just 6.1 billion litres.

In February 2023, the government of India launched Ethanol-20 (petrol with 20 per cent ethanol), which was made available at 84 petrol pumps in 11 states and Union Territories on pilot basis ahead of schedule.

Among OMCs, Indian Oil Corporation is the largest buyer of ethanol for fuel blending, followed by Hindustan Petroleum and Bharat Petroleum. It is estimated that IOC accounts for nearly 45% of ethanol procured by OMCs for fuel blending. In terms of blending ratio, Uttar Pradesh is poised to become the largest ethanol producer in India during the current fiscal year of 2023-24, boasting approximately 100 functioning distilleries. As of June 2023, 85 distilleries are operational in UP, with an additional 15 expected to commence operations in the coming months. Furthermore, the state government has outlined a goal of augmenting the number of distilleries to 140 within the next three years. Notably, Uttar Pradesh has been ensuring a near 12% ethanol blending rate.

Need for Gasoline Blending

Gasoline / automotive fuel consumption in India has been growing by a CAGR of 7% since 2011. This high growth in gasoline consumption can be attributed to the steady growth in automobile sales, which has transformed India into a major automobile market in the world. Addition of petrol vehicles in India stood at approximately 20.5 million units per annum in 2023 and is expected to grow to 25.7 million units per annum by 2026. This impressive growth in automobile sale was fueled by higher income levels, aspirational changes, as well as availability of flexible financing options.



Source: NITI Aayog

The growing in automobile sales in the country had a similar effect on fuel consumption, which is expected to rise from an estimated 32 MMTPA in 2023, from nearly 36 MMTPA in 2026.

For long term, the automobile industry has seen the introduction of several policy measures, starting with the Auto Policy in 2002, Automobile Mission Plan 2006-2016 Phase-1, Automobile Mission Plan 2016-26 Phase-II, National Automotive Testing and R&D Infrastructure (NATRiP), National Electric Mobility Mission Plan 2020 (NEMMP 2020), and Faster Adoption & Manufacturing of Electric Hybrid Vehicles (FAME) Scheme (I & II) and most recently the 2021. Together, these policies have helped in improving the manufacturing practices, quality standards, and efficiency standards in Indian automobile industry while vehicle Scrappage Policy it is likely to encourage new vehicle purchases thereby driving OEMs (Original Equipment Manufacturers) sales, benefitting allied industries and help in improving overall capacity utilization. To bush the EBP program, all new vehicles as per Society of Indian Automobile Manufacturers (SIAM) shared plan, will be able to use 20% ethanol blending by 2023 while by 2025 all new vehicles released will not just be E20 material-compatible but will also have engines tuned for the same. All existing vehicles, on the other hand, continue to use fuels blended with 10% ethanol.

The lack of domestic hydrocarbon resources to fuel this higher demand for automotive fuel (as well as fuel demand from other sources) forced the country to depend on imports. Today, India is entirely dependent on imports for its energy needs, becoming one of the largest importers of crude oil in the world. Annual import of crude oil, in value terms, reached USD 158 billion in FY 2023. This high import bill as well as the risk to energy security – in the case of disruption in imports – has forced the Government

to increase the popularity of alternate fuel. Ethanol blending in gasoline is a result of this policy, resulting in the creation of biofuels.

To bush the EBP program, all new vehicles as per Society of Indian Automobile Manufacturers (SIAM) shared plan, will be able to use 20% ethanol blending by 2023 while by 2025 all new vehicles released will not just be E20 material-compatible but will also have engines tuned for the same. All existing vehicles, on the other hand, continue to use fuels blended with 10% ethanol.

Increasing popularity of biofuels

The demand for biofuels has surged globally as countries pursue alternative energy sources to reduce greenhouse gas emissions and lessen their dependence on fossil fuels. Over the next five years, biofuel use is expected to rise by approximately 38 billion liters—a nearly 30% increase. This growth is primarily led by emerging economies such as Brazil, Indonesia, and India, which have introduced robust biofuel policies and harnessed abundant feedstock resources to meet their rising transportation fuel demands. Ethanol and biodiesel remain the predominant biofuels in these regions, while developed economies, such as the European Union, United States, and Canada, also contribute to biofuel demand through focused policies, particularly for renewable diesel and biojet fuel.

India's biofuel sector has expanded rapidly, making it the world's third-largest ethanol producer. This rise is due to coordinated policy efforts, such as India's National Policy on Biofuels, which set ambitious ethanol and biodiesel blending targets for 2030 and established feedstock guidelines and production incentives. Accelerated by this policy framework, India recently moved its ethanol blending target to 2025-26. This growth has been supported by government actions, including pricing guarantees and feedstock diversification incentives, that have nearly tripled ethanol demand in recent years. However, to sustain this momentum, India will need to expand its vehicle fleet capable of high ethanol blends, encourage flex-fuel vehicles, and continue to diversify feedstock sources to avoid supply shortages.

Expanding the use of biodiesel and biojet fuel in India and other emerging economies also presents significant opportunities. India's target of 5% biodiesel blending by 2030 would require production support mechanisms similar to those for ethanol, as well as policies that encourage the use of residue oils and sustainable feedstocks. In the aviation sector, India recently announced indicative biojet fuel targets of 1% by 2027 and 2% by 2028, providing further impetus to biofuel adoption. Although nascent, the development of advanced biofuel technologies, such as cellulosic ethanol and alcohol-to-jet pathways, is critical to meeting global biofuel targets in the net zero scenario outlined by the International Energy Agency (IEA).

Alcohol Beverage Segment

India's alcoholic beverage sector, the third largest in the world, continues to be a key driver of ethanol demand, providing substantial opportunities for ethanol suppliers despite structural challenges. Valued at USD 44 billion in 2023, the industry is projected to grow to USD 55 billion by 2027, highlighting an impressive growth trajectory driven by a young, expanding middle class and a growing trend toward premium products. The sector's expansion is fuelled by rising disposable incomes, urbanization, and lifestyle changes among India's large demographic of legal drinking-age consumers.

The demand for potable ethanol, used in producing alcoholic beverages, is set to grow in parallel with the sector's robust market expansion. Although India's high import tariff structure, varied state excise rates, and state-specific regulations can pose challenges, these factors have not deterred the growth trajectory of this segment. Additionally, India's alcoholic beverage imports reached USD 1 billion in 2023—a 74% year-on-year increase—with distilled spirits accounting for 56% of the market share. U.S.-origin exports rose by 32% to USD 20.5 million, underscoring the market's appetite for imported products.

India's strong demand outlook in the alcoholic beverage segment presents a significant growth potential for ethanol producers, as the industry's current low per capita consumption suggests considerable room for expansion. Moreover, with imports supplementing unmet demand, particularly in the industrial, alcoholic, and medicinal grades, the sector's prospects remain highly favorable for the next five years.

Regulatory landscape for Ethanol

India's energy security would remain vulnerable until alternative fuels to substitute or supplement petrol-based fuels are developed based on indigenously produced renewable feedstocks. Biofuels are environment friendly fuels, and their utilization would address global concerns about containment of carbon emissions. Consequently, the government has introduced several initiatives including Ethanol Blend Policy to achieve this objective. EBP is the practice of blending petrol with ethanol to encourage use of renewable energy resources as supplement to motor transport fuels to improve India s energy security. Usage of ethanol is promoted by the government as it contains oxygen which allows to burn more completely than petrol it is blended into and therefore helps to reduce vehicle exhaust emission as it and reduce the crude oil imports on other hand. Usage of ethanol in petrol at 5% blend rate is estimated to result in replacement of 1.8 Mn barrel of crude oil and therefore translate in net reduction in the emission of carbon dioxide, carbon monoxide (CO) and hydrocarbons (HC). The Central Government has steadily scaled up blending targets from now 20% is expected to be achieved by 2025-26 that was initially planned to be achieved by 2030.

National Policy on Biofuels - 2018

The initiative to promote biofuels was first taken by Ministry of New and Renewable Energy in 2009, through the introduction of a national policy on biofuels. Since then, the policy has gone through several iterations to keep it relevant. The current edition (National Policy on Biofuels) was approved in 2018 and is called National Policy on Biofuels 2018. The policy categories of biofuels to enable extension of appropriate financial and fiscal incentives under each category.

The policy aims to reduce India's dependency on crude oil, and crude oil imports; reduce CO2 emissions, create multiple sources of feedstock, spur infrastructural investment in rural areas, boost rural employment, and provide additional income to farmers. It will also reduce Green House Gas emissions by reducing crop burning and conversion of agricultural residues and waste into biofuels.

The policy also seeks to use advance technologies, waste, and plastic to convert Municipal Solid Waste in use fuels. One ton of such waste has potential to provide around 20% of drop in fuels. The new policy categorizes biofuels into three segments to enable extension of appropriate financial and fiscal incentives under each category:

- **Basic Biofuels / First Generation Biofuels:** Bioethanol & Biodiesel (derived from feed stocks such as cereals (rice, wheat, barley, corn & sorghum), sugarcane, sugar beet etc.)
- **Advanced Biofuels / Second Generation Biofuels:** Ethanol, Municipal Solid Waste (MSW) to drop-in fuels.
- **Third Generation Biofuels:** Bio-CNG

2G Ethanol

The country has been promoting 2G bioethanol to achieve its E20 target. After opening of alternate route i.e., 2G route for ethanol production, Oil Marketing Companies in PSU segment under the administrative control of Ministry of Petroleum and Natural Gas are in the process of setting up 12 2G bio-refineries with a total investment worth INR 140 billion.

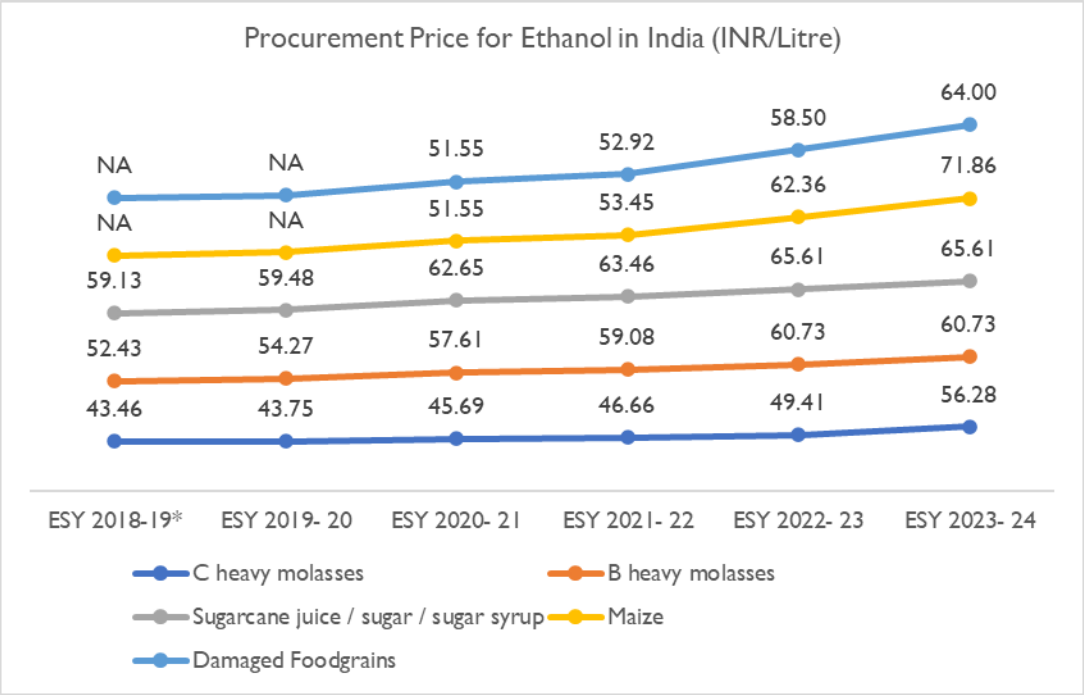
Moreover, the government is laying special emphasis on advanced biofuels i.e., 2G ethanol manufacturing with additional tax incentives, higher purchase price as compared to 1G biofuels. To promote setting up of 2nd generation bio-fuels plants, Government has launched "Pradhan Mantri JI-VAN (Jai Vindhan - Vatavaran Anukool Fasal Awashesh Nivaran) Yojana" for providing financial support to integrated bio-ethanol projects, using lignocellulosic biomass and other renewable feedstocks. To start with, financial support to 12 such Integrated Bio ethanol Projects with total financial outlay of INR 19.7 billion for the

period 2018-19 to 2023-24 along with support to ten demo projects for 2G technology have been announced under Pradhan Mantri JI-VAN scheme.

Ethanol Procurement Policy & Procurement Price

Since 2014, the Government has been administering the procurement price for ethanol, that is procured under the Ethanol-blended Petrol program. For ethanol produced from sugar based raw materials, the procurement price is fixed by the Government while for that produced from damaged & surplus food grains is fixed by OMCs. Annual ethanol demand is estimated by OMCs and an Expression of Interest (EoI) is floated to procure the estimated volume. The tender is floated every year during August – September period for ethanol procurement for the upcoming Ethanol Supply Year (ESY).

Procurement price for ethanol (derived from sugar based raw materials) is revised on a regular basis by the Government (Cabinet Committee of Economic Affairs). The Ethanol procurement price (in INR per litres) details for Ethanol Supply Year (ESY) 2023-24 (December 2023 to October 2024) and previous year prices, for Ethanol Blended Petrol Program are as follows:



Oil marketing PSUs such as Indian Oil, HPCL and BPCL obtain ethanol from distilleries at government-determined rates to mix with petrol. For ESY 2023-24, India kept the ex-mill price oil companies must pay for ethanol made from surplus FCI rice at Rs 58.50 / litre while ethanol prices from damaged food grain was increased to Rs 64 per litres from Rs 58.5/litres.

In July 2023, the Indian government made a decision to halt the utilization of FCI rice for ethanol production within the nation. Additionally, to bolster ethanol production, states were instructed against purchasing FCI rice. The government expressed concerns regarding the anticipated decrease in rainfall due to El Nino, which could negatively impact Kharif crop production in the country. This situation poses a threat to the National Food Security Act and other welfare programs designed for the welfare of the general populace, and it could potentially lead to higher inflation rates. To prevent such an outcome and to maintain sufficient stock levels under

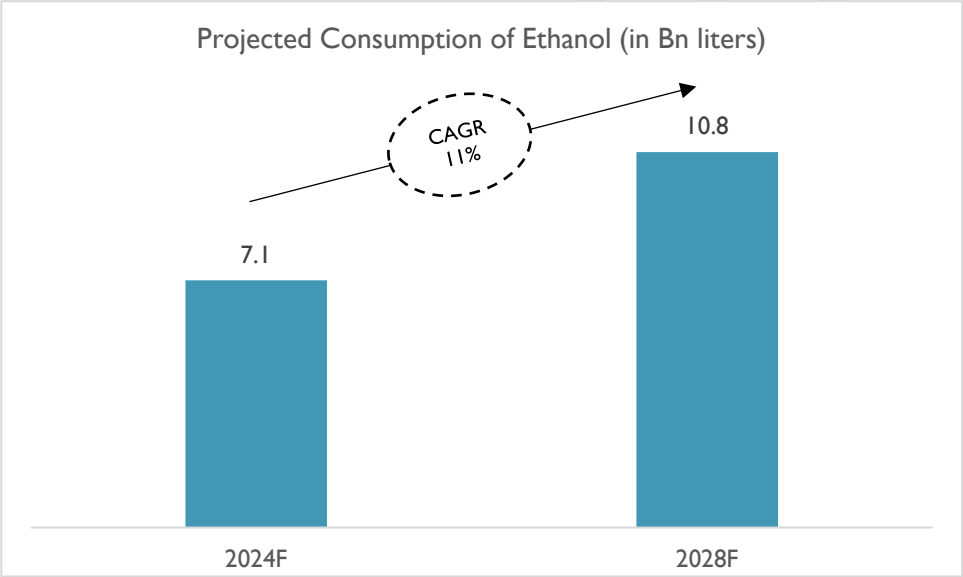
Increase in price hike is likely to support price stability and provide remunerative prices to ethanol suppliers. Such move will eventually help in reducing crude oil imports, foreign exchange saving and benefits to the environment. Additionally, GST and transportation will also be paid by OMCs, but OMCs has been advised to fix transportation charges so as to disincentivize long distance transportation of ethanol. Furthermore, OMCs will fix the priority status of various ethanol sources after considering transportation cost, availability, and other related factors. This is done with the objective of providing equal opportunity to local industry within the state. The revision of prices along with policies that prioritize ethanol procurement is expected to help distilleries that take part in ethanol blending program.

Other Major Policy Initiatives

- The procedure of procurement of ethanol under the EBP has been simplified to streamline the entire ethanol supply chain and remunerative ex-depot price of ethanol has been fixed.
- Offer acceptance time reduced from 4-6 months to 15 days.
- To facilitate achieving of new blending targets, a "grid" which networks distilleries to OMC depots and details quantities to be supplied has been worked out.
- Support for research and development on biofuel feedstock production, including second generation biofuels. Biofuel technologies and projects would be allowed 100 percent foreign direct investment (FDI), provided the biofuel is for domestic use only. Plantations of inedible oil-bearing plants would not be open for FDI participation.
- Unrestricted movement of Ethanol to push blending rate under EBP.
- Since, OMCs require ethanol throughout the years, ethanol manufacturers have been asked to set up storage facilities to better manage their produce.

Growth Forecast

Ethanol demand is anticipated to grow significantly over the next five years, driven by increased policy support, evolving consumer demand, and technological advancements in sustainable fuel production. Many countries, particularly emerging economies, are strengthening their biofuel mandates to reduce dependency on fossil fuels and cut greenhouse gas emissions. India, for instance, is aiming to achieve a 20% ethanol blending rate by 2025-26, accelerating its original target set for 2030. This shift toward higher ethanol blends not only aligns with global sustainability goals but also addresses domestic energy security concerns, reducing oil imports. Similarly, the United States, Brazil, and European countries are raising their blending mandates, creating robust demand channels that will drive ethanol consumption upwards. In the global context, these combined efforts are expected to increase total ethanol demand by nearly 30% by 2028, representing a key growth area within the renewable energy landscape.



Source: USDA Foreign Agriculture Service, IEA report

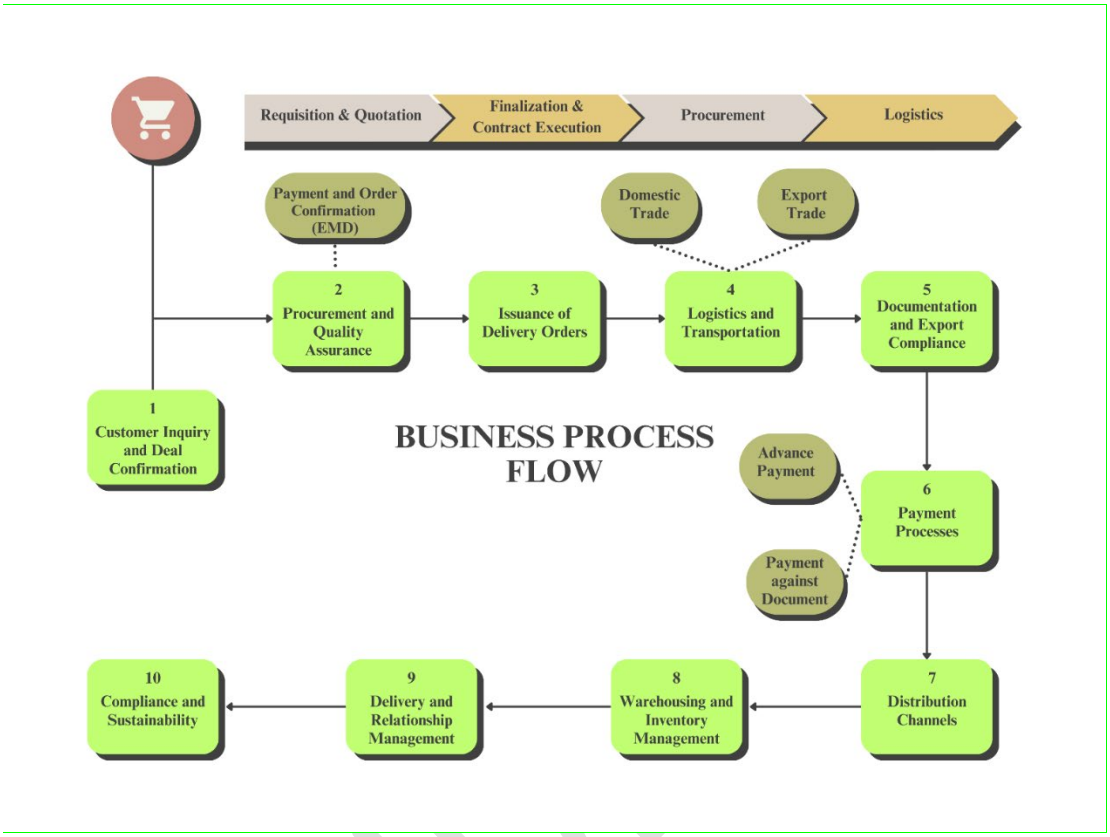
Despite this optimistic outlook, achieving the anticipated growth in ethanol demand will require overcoming certain challenges, particularly related to feedstock availability, production costs, and infrastructure readiness for higher blend levels. To accommodate a 20% blend, regions like India are encouraging the use of flexible-fuel vehicles, as well as retrofitting existing vehicles, thereby expanding the consumer base capable of adopting higher ethanol blends. Governments will need to continue providing financial support and incentives for ethanol production facilities and advance infrastructure adaptations to enable ethanol's widespread use.

Competitive Landscape

Sugar is a primarily based on agriculture, relying on sugarcane cultivation. It is an essential part of India's agricultural sector and contributes significantly to the economy. The Indian sugar industry is a vital component of the nation's agricultural sector, characterized by a diverse and competitive landscape. The industry comprises numerous players, including large private enterprises and cooperative mills. This fragmentation fosters competition, influencing pricing and production strategies. Key aspect that influences the operation of sugar industry:

- Seasonality: The production of sugar is seasonal, as it depends on the harvesting of sugarcane, which typically takes place during a specific period each year. Thus, variations in sugarcane yields due to climatic conditions lead to supply inconsistencies, affecting market stability.
- Regional Concentration: Sugar production is concentrated in states like Uttar Pradesh, Maharashtra, and Karnataka, each hosting a significant number of mills. This regional clustering affects local competition and market dynamics.
- Diversified Products: While the primary product is sugar, the industry also produces by-products such as molasses (used for ethanol production), bagasse (used as a biofuel and for power generation), and press mud (used as fertilizer). Many sugar companies are investing in ethanol production, leveraging government policies promoting ethanol blending in fuels. This diversification enhances revenue streams and reduces reliance on sugar sales alone.
- Government-regulated: The industry is heavily regulated by the government in terms of pricing, production quotas, and export policies. Various incentives and subsidies are offered to support farmers and sugar mills. The government sets fair and remunerative prices for sugarcane, impacting cost structures and profitability across the industry.
- Large-scale and Cooperative Sector: The industry consists of both large-scale private sector mills and cooperatives. Cooperatives are especially common in states like Maharashtra, where farmers hold shares in the mills. Adoption of advanced technologies in farming and processing improves efficiency and product quality, providing a competitive edge to technologically adept players.
- Reliance on labour: Sugarcane farming in India is heavily reliant on manual labour, especially for planting and harvesting, due to low levels of mechanization. Most sugarcane cultivation, particularly in states like Maharashtra, Uttar Pradesh, and Karnataka, still uses traditional farming methods with limited use of machinery. From planting to harvesting, labour-intensive practices dominate, partly due to the high costs of mechanized equipment and limited accessibility.

Supply Chain of Sugar Trading Company



Customer Inquiry and Order Placement: The process begins with receiving inquiries from domestic or international customers about sugar and related products. This could be a bulk purchase for industrial use or small quantities for retail. Based on the inquiry, the company provide a quotation that includes price, quantity, quality, delivery schedules, and payment terms. Once the customer agrees to the terms, an order is placed. This could be formalized via sales agreement or purchase order.

Sugar Sourcing: Sugar trading companies procure sugar from local sugar mills or refineries depending on the demand and supply condition. If the company has its own warehouse, the required quantity may be drawn from existing inventory. If the company doesn't have enough stock, it buys directly from sugar producers.

Quality Assurance: Sugar batches undergo internal quality test to ensure compliance with industry standards. To maintain high standards, the company engage qualified surveyors to inspect the product quality and quantity before dispatch. These checks ensure compliance with both domestic and international standards, such as ICUMSA grading for sugar.

Packaging: Sugar is either packed in bulk (for industrial customer) or smaller retail size. The packaging is done according to customer's order.

Transportation and Logistic: Once the sugar is packed, it is dispatched to customer using local transport methods such as truck or rail. During this process company ensure that the logistics are handled efficiently, minimizing delays and damages. The company often works with professional transport agencies to manage this process.

The export logistics process begins with the procurement of cargo from mills, followed by the appointment of various companies to handle the transportation. Each transporter receives specific instructions regarding the mills, cargo quantity and quality, grade, and the destination, typically the Container Freight Station (CFS), although some cargo may be stored in nearby warehouses. A Custom House Agent (CHA) manages the documentation process on the behalf of company. The cargo is procured per contract terms, containers are booked through forwarders. The CHA receives booking details, collect containers from the yard upon arrival, and transport them to the CFS for stuffing. Once stuffed, the CHA arrange transportation to port for vessel loading.

Documentation and Export Compliance: The trading company prepares and submits all necessary export documents, including commercial invoices, packing lists, bills of lading (B/L), certificates of origin, shipping bills, etc. Moreover, CHAs ensure that all products comply with government export regulations.

Payment Processes: After delivery, the company issues the invoice based on the terms agreed earlier (advance payment, post-delivery payment). In case of export, Customers release payment after receiving of shipping documents. The final documents, including the Bill of Lading, are issued to the customer for cargo collection at the destination.

Post Delivery Services: After delivery the company check with customer to ensure the product meet their expectation and resolves any issues regarding quality, quantity and damage.

Barriers to entry of a new player in the sugar industry

- **High Capital Investment -** Establishing a sugar mill requires substantial initial capital investment for infrastructure, machinery, and technology. This high financial barrier can deter new entrants
- **Regulatory Compliance** -The sugar industry is heavily regulated by government policies, including licensing requirements, environmental regulations, and compliance with the Sugar Control Order.
- **Access to Raw Materials -** Securing a consistent supply of sugarcane is critical for a sugar mill's operation. Established players often have long-term contracts with farmers, making it challenging for new entrants to source adequate raw materials.
- **Labor Shortage -** The industry requires skilled labor for various operations, from harvesting to processing. New entrants may face difficulties in attracting and retaining skilled labor, especially during peak seasons.
- **Stagnant Minimum Selling Price (MSP) -** Despite rising production costs, the Minimum Selling Price of sugar has remained stagnant since 2018-19. This lack of adjustment has further strained the financial viability of sugar mills, as they struggle to cover their operational expenses.
- **Sugarcane Sourcing –** Sugar mills are restricted in their procurement process, as they can only purchase sugarcane from farmers within a defined area known as "command area". This command area, typically covering 15-25 km radius around the mill, is allocated by government. Each sugar mill is allotted a defined area. So, if anyone wants to set up a new sugar mill and if an existing mill is already operating, it will not be given the license to operate sugar mill as command area has already been allocated to existing sugar mill. In such case for opening new sugar mill, the owner will need to identify and develop command area which involves many farmers, time, and effort which possess high entry barrier for the new entrant.

Some of the leading company engaged in the trading of agricultural products, including sugar include Sakuma Exports Ltd., Uma Exports Ltd., JK Sugars & Commodities Pvt. Ltd.

Profiling of Leading Players

Sakuma Exports Ltd.

Sakuma Exports Ltd., established in 2005, is a prominent player in India's agro-commodities trading sector. Originally Sakuma Exports Limited was formed as a partnership firm with the name of Sakuma during 1998 at Mumbai. Thereafter, the Company was incorporated as a public limited company in 2005. Sakuma Exports Ltd, is engaged in trading of commodities and wind power generation. In agro trading segment, the company specializes in the procurement, processing, marketing, export, and import of bulk agricultural

commodities, including sugar, edible oils, oil seeds, pulses, and cotton. As of November 1, 2024, Sakuma Exports has a market capitalization of approximately INR 6.7 billion.

Operational Strengths:

- **International Footprint:** The company has a robust international presence, catering to markets across the Middle East, South and Southeast Asia, the Far East, Australia, Europe, and Africa. This global reach enhances its competitive edge and provides access to a wider customer base.

  Strategic Contracts: In April 2024, Sakuma secured a significant contract worth approximately INR 1.5 billion for supplying sugar to regions like the North-East, West Bengal, and Bihar. Such strategic moves are indicative of the company's proactive approach to strengthening its market presence.

Financial Performance [16]

Sakuma Exports Limited) (INR Mn)	FY 2022	FY 2023	FY 2024
Total Income	25,386.6	28,631.2	18,849.6
Revenue from Operations	25,316.5	28,558.7	18,743.0
EBITDA	345.9	418.0	278.3
EBITDA Margin	1.4%	1.5%	1.5%
PAT	227.3	240.4	163.2
PAT Margin	0.9%	0.8%	0.9%
Operating Cash Flow	(839.3)	879.9	(915.0)
Net Worth	2,545.3	2,763.0	2,910.4
Long Term Borrowing	15.4	7.7	-
Debt Equity Ratio	0.01	0.00	-
Return on Capital Employed	12.8%	14.6%	9.2%
Return on Equity	8.9%	8.7%	5.6%

Source: Company Annual Reports

The total income for Sakuma Exports peaked in FY2023 at INR 28,631.2 million, followed by a decline 34% y-o-y decline in FY2024. A similar trend is observed in revenue from operations, which increased from INR 25,316 million in FY2022 to INR 28,558.7 million in FY2023, then dropped to INR 18,743 million in FY2024. This indicates a reduction in overall income and operational revenue in FY2024 compared to previous years.

[16] Financial indicators taken on standalone basis.

The EBITDA too exhibited a decline in FY 2024 against an increase in the previous fiscal however, the EBDITA margin hovered at similar level and measured at 1.5% in FY 2024, suggesting strict control on operating expenses.

Profit After Tax (PAT) margin remain more or less stable measuring between 0.8% to 0.9%.

Operating cash flow shows fluctuations, with a notable increase from INR -839.3 million in FY2022 to INR 879.9 million billion in FY2023, followed by a slight decline to INR -915 million in FY2024. This demonstrates positive cash generation from core business operations across all years.

The company's net worth grew steadily from INR 2,545.3 million in FY2022 to INR 2,910.4 million in FY2024, indicating an increase in equity value. Sakuma Exports reported reducing long-term borrowing between FY 2022-23 and became a debt free in FY 2024. This is reflected in the debt-equity ratio, which remains low at 0.01 in FY2022 and 0.0028 in FY2023.

ROCE saw an improvement from 12.8% in FY2022 to 14.6% in FY2023, but it declined to 9.2% in FY2024, indicating reduced capital efficiency. ROE, which shows the return on shareholders' equity, remained low but saw a gradual decline from 8.9% in FY2022 to 5.6 in FY2024, reflecting reducing profitability to equity shareholders.

Uma Exports Ltd.

Uma Exports Limited, established in 1988, is a Kolkata-based company specializing in the trading and marketing of agricultural produce and commodities. The company operates as a B2B trader, focusing on products such as sugar, spices (including dry red chilies, turmeric, coriander, and cumin seeds), food grains (like rice, wheat, corn, and sorghum), tea, pulses, and agricultural feeds like soybean meal and rice bran de-oiled cake. The company deals in Indian white crystal sugar, offering various grades to meet diverse market requirements. As of November 1, 2024, Uma Exports has a market capitalization of approximately INR 3.9 billion. This positions the company favorably in the market and reflects investor confidence in its operations.

Operational Strengths:

- **International Expansion:** The establishment of subsidiaries such as Graincomm Australia Pty Ltd enhances Uma's ability to trade pulses and related products globally. This international footprint not only increases market access but also strengthens the company's supply chain by

Financial Performance [17]

Uma Exports Limited (INR Mn)	FY 2022	FY 2023	FY 2024
Total Income	12,660.8	14,377.0	13,897.6
Revenue from Operations	12,602.0	14,343.4	13,861.0
EBITDA	444.9	412.5	174.7
EBITDA Margin	3.5%	2.9%	1.3%
PAT	240.8	267.0	60.7
PAT Margin	1.9%	1.9%	0.4%
Operating Cash Flow	317.8	(1,134.9)	(148.9)
Net Worth	837.3	1,670.4	1,728.8
Long Term Borrowing	5.8	11.7	4.7
Debt Equity Ratio	0.0	0.0	0.0
Return on Capital Employed	52.6%	24.3%	9.7%
Return on Equity	28.8%	16.0%	3.5%

Source: Company Annual Reports

The company's total income increased from INR 12,660.8 million in FY 2022 to a peak of INR 14,377.0 million in FY 2023 before slightly declining to INR 13,897.6 million in FY 2024. Revenue from operations followed a similar trend.

Profitability metrics, however, reveal a concerning trend. EBITDA, which was INR 444.9 million in FY 2022, declined to INR 412.5 million in FY 2023 and further to INR 174.7 million in FY 2024. This decline in absolute EBITDA was accompanied by a drop in EBITDA margins from 3.51% in FY 2022 to a low of 1.26% in FY 2024, signaling challenges in managing operational costs effectively. Similarly, PAT grew modestly from INR 240.8 million in FY 2022 to INR 267 million in FY 2023 but dropped significantly to INR 60.7million in FY 2024. The PAT margin declined from 1.90% in FY 2022 to 0.44% in FY 2024, reflecting weaker bottom-line performance.

[17] Financial considered on standalone basis

The company's cash flow position experienced significant volatility. Operating cash flow was positive at INR 317.8 million in FY 2022 but turned negative at INR –1,134 billion in FY 2023 and INR – 148.9 million in FY 2024. Despite these profitability and cash flow concerns, Uma Exports maintained a strong financial structure with negligible long-term borrowings, as evidenced by a consistently low debt-equity ratio (0.007 in FY 2022 and FY 2023, reducing to 0.003 in FY 2024). The company also grew its net worth from INR 837.3 billion in FY 2022 to INR 1,728.8 million in FY 2024, signifying equity accretion over the years.

However, the company's return ratios weakened sharply over the period. ROCE declined from an impressive 52.57% in FY 2022 to 9.74% in FY 2024, and ROE dropped from 28.76% to 3.51% over the same period.

Company Profile: Meir Commodities India Limited[18]

[18] Sourced from Company Brochure Shared by the Company, Audited Financial Results and Company Website

Founded in 2018 and headquartered in Mumbai, MEIR Commodities India Limited is engaged in the trading of agricultural products. The company is engaged in both the import and export of primarily sugar and diverse range of agricultural products. MEIR's diverse product portfolio includes various types of sugar such as khandsari, jaggery, mishri, and molasses and other agricultural product including Rice, Coriander, Pigeons Pea, Pulses, Soyabean, Red Lentils etc. Meir Commodities has developed a robust operational presence, engaging effectively in both domestic and international markets. The company has initiated sugar exports to several countries, such as Afghanistan, Dubai, the United Kingdom, Singapore, and Hong Kong.

In recent years, MEIR Commodities India Limited has strategically expanded its operations for backward integration in the value chain in sugar sector through several key acquisitions.

- In October 2023, the company acquired Shakumbari Sugar and Allied Industries Limited, which has a sugar production capacity of 5,000 tonnes of cane per day and operates a distillery unit with a capacity of 60 kiloliters per day, utilizing surplus molasses from sugar production.
- Following this, in June 2024, MEIR further expanded its portfolio by acquiring **Shivaji Cane Processors Limited**, which specializes in organic sugar processing with a daily sugarcane crushing capacity of 1,700 metric tonnes. This facility also produces khandsari and jaggery powder, with specific production capacities of 150 metric tonnes per day for jaggery powder and 100 metric tonnes per day for khandsari sugar.
- In August 2024, MEIR acquired a Dubai based global trading company name Sir Agro Trading LLC, establishing a robust international trading hub that enhances its global agricultural trading network.
- Furthermore, to reinforce its presence in the Sri Lankan market, MEIR incorporated Sir Agro Lanka (Pvt) Ltd in April 2024, focusing on the trade of sugar and agricultural commodities.

Through these acquisitions, MEIR in coming year have plan to enter the manufacturing segment and explore the opportunity in emerging sugar linked business like sugar, Khandsari, jaggery, ethanol, press mud etc.

Additionally, MEIR has formed a strategic partnership with MAREX, a renowned brokerage and data powerhouse based in London. Through this collaboration, MEIR provides valuable insights into India's agricultural sector, equipping MAREX's clients with the research inputs necessary to shape effective market strategies. Currently, MEIR's research focus spans sugar, wheat, and related products, with plans underway to extend this expertise to other agricultural commodities, further solidifying MEIR's position as a knowledge-driven leader in the industry. Thus, through its strategic operations and partnerships, MEIR continues to enhance its position in both domestic and international markets.

Awards and Achievements

The company has received various awards such as:

- Tefla's Globoil Asia Super Star of the Year 2020
- Outstanding Supplier 2020 by Elite Green,
- Emerging Export House of the Year 2022, Sugar Summit (Teflas),
- Agri Start-up of the Year at the Sugar and Ethanol International Awards (SEIA) 2024 presented by Chini Mandi.
- Unique Indian MNC at the Sugar and Ethanol International Awards (SEIA) 2025 presented by Chini Mandi.

Financial Indicator[19] (INR Mn)	FY 2022	FY 2023	FY 2024
Total Income	10,037.5	15,854.7	9,163.5
Revenue from Operations	9,982.0	15,789.8	9,030.3
EBITDA	220.6	308.4	261.3
EBITDA Margin	2.2%	1.9%	2.9%
PAT	152.7	211.7	154.1
PAT Margin	1.5%	1.3%	1.7%
Operating Cash Flow	134.0	245.1	377.5
Net Worth	281.4	493.1	647.2
Long Term Borrowing	90.9	408.1	959.4
Debt Equity Ratio	0.3	0.8	1.5
Return on Capital Employed	59.0%	34.0%	16.1%
Return on Equity	54.3%	31.3%	32.7%

The total income and revenue from operations witnessed a significant increase from INR 10,037.5 million in FY2022 to 15,854.7 million in FY2023. However, the total income dipped by ~42% to INR 9,163.5 million in FY2024. The revenue from operations follows a similar trend, indicating a decline in FY2024 compared to FY2023.

[19] Financial indicators taken on standalone basis.

EBITDA exhibited improvement from INR 220.6 million in FY2022 to INR 308.4 million in FY2023 and a decline in following year to INR 261.3 million in FY2024. However, the EBITDA margin improved to 2.9% in FY2024 against 1.9% in the previous year.

Profit After Tax (PAT) declined from INR 211.7million in FY2023 to INR 154.1 million in FY2024, while the PAT margin increased from 1.3% in FY2023 to 1.70% in FY2024. This indicates a recovery in net profitability despite low revenue generation.

Meir's operating cash flow showed an upward trend in the last three years increasing from INR 134.0 million in FY2022 to INR 245.1 million in FY2023, eventually settling at INR 377.5 million in FY2024.

The company's long-term borrowing increased significantly to INR 959.4 million in FY2024 from INR 408.1 million in FY2023 and INR90.9 million in FY2022. The debt-equity ratio of the company thus increased from 0.32 in FY2021 to 1.48 in FY2024, indicating the company is aggressively leverage. ROCE decreased significantly from 59% in FY2022 to 34% in FY2023, further declining to 16.1 in FY2024, indicating fluctuating capital efficiency. ROE exhibited similar trend, declining from 54% in FY2022 to 32.7% in FY 2024, however it measured marginally higher than FY 2023 level (31.3%).

Financial Benchmarking KPI [20]

[20] Financial indicators taken on standalone basis.

Company Name	Uma Exports Limited	Sakuma Exports Limited	Meir Commodities India Limited
Parameter (INR Mn)	**FY 2024**	**FY 2024**	**FY 2024**
Total Income	13,897.6	18,849.6	9,163.5
Revenue from Operations	13,861.0	18,743.0	9,030.3
EBITDA	174.7	278.3	261.3
EBITDA Margin	1.3%	1.5%	2.9%
PAT	60.7	163.2	154.1
PAT Margin	0.4%	0.9%	1.7%
Operating Cash Flow	(148.9)	(915.0)	377.5
Net Worth	1,728.8	2,910.4	647.2
Long Term Borrowing	4.7	-	959.4
Debt Equity Ratio	0.0	-	1.48
Return on Capital Employed	9.7%	9.2%	16.1%
Return on Equity	3.5%	5.6%	32.7%

Sources: Company's Annual Report

Sakuma Exports Limited has recorded the highest total income in FY 2024 of INR 18,849 million, compared to Uma Export Limited (INR 13,897.6 million) and Meir Commodities India Limited (INR 9,163.5 million).

In terms of EBDITA and PAT margin , Meir Commodities India Limited outperformed the other two peers where its PAT measured 1.7% in FY 2024 while for Sakuma Exports Limited it measured 0.9% and for Uma Exports Limited it stood at 0.4%.

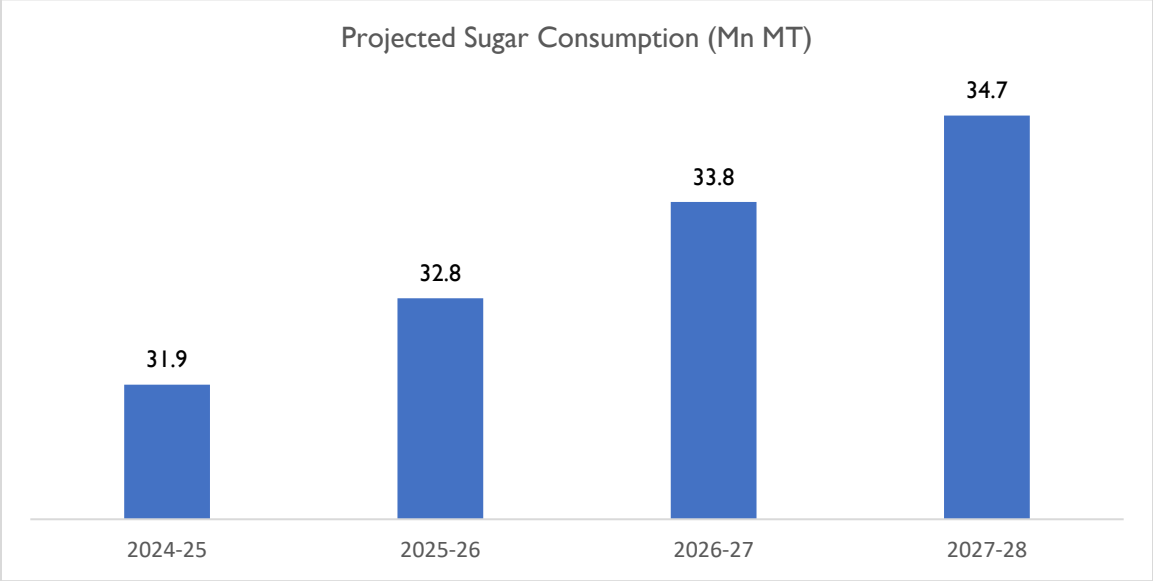
Sakuma Exports Limited and Uma Exports Limited recorded a negative Operating Cash flow, which indicates higher spending than its earnings from its business activities. Whereas Meir Commodities reported positive operating cashflow of INR 377.5 million.

Also, the Meir Commodities India Limited outperformed its peers based on ROCE and ROE, suggesting higher operating efficiency against its peers.

Growth Outlook

On consumption side, annual sugar consumption in India is projected be at 32 Mn MT of sugar during 2024-25, 32.8 Mn MT during the next year, 33.8 Mn MT during 2026-27 and about 34.7 Mn MT during

2027-28. The strong increase in consumption is expected to be on the back of rise in consumption of processed & packaged foods, growth in sales of confectionary & bakery products, increasing affordability, and higher usage of sugar during festivals & special occasions.



Source: Dun & Bradstreet Desk Research

On supply side, The Indian Sugar Mills Association (ISMA) has projected a gross sugar production of 33.4 million tonnes for the current season 2020-25, indicating a marginal decline in the sector owing to

Agriculture & Agro Commodity Trading in India

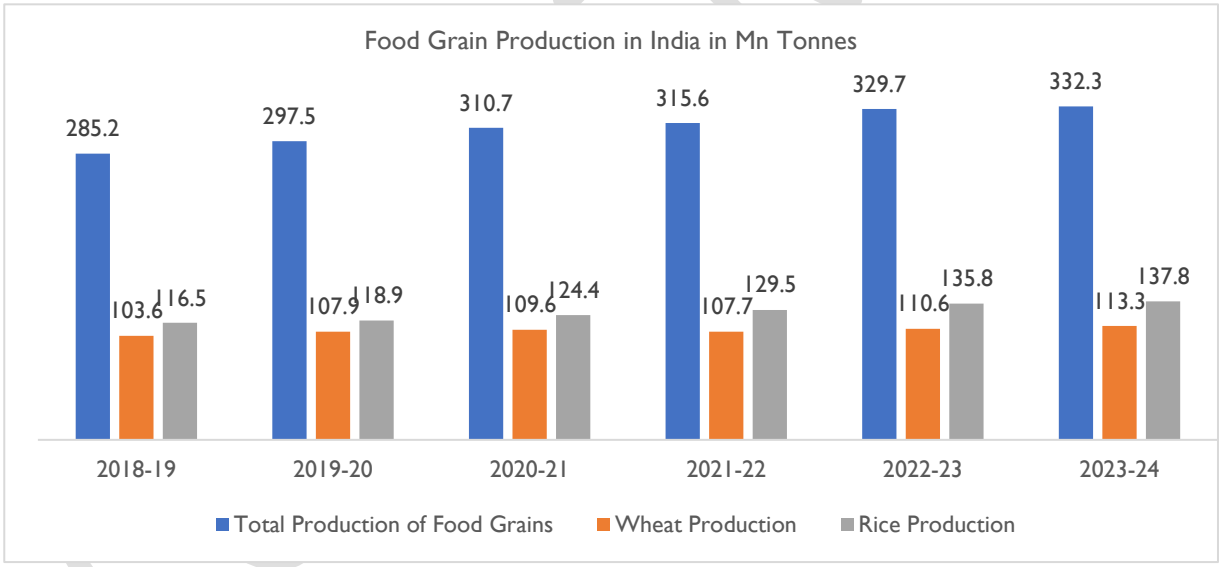
India has the second-largest arable land resources in the world. With 20 agri-climatic regions, all the 15 major climates in the world exist in India. The country also has 46 of the 60 soil types in the world. India is the largest producer of spices, pulses, milk, tea, cashew, and jute, and the second largest producer of wheat, rice, fruits and vegetables, sugarcane, cotton, and oilseeds. Further, India is second in the global production of fruits and vegetables and is the largest producer of mango and banana.

Agriculture is the backbone of Indian economy for about 70% of Indian population depends directly on agriculture, which accounts for around 13% of GDP in FY 2024. India is one of the leading producers of s and exporter of several agriculture commodity. Agricultural or Agro commodities usually refer to the soft commodities grown by farmers or entities. Some examples are wheat, corn, soybean, rice, barley, sugar, coffee, and cocoa. Thus, agro-trading is a vital component of the global economy in the overall value chain.

Also, agro commodities are one of the most important commodities traded within India as well as foreign trade. Agro commodity trading is one of the largest sectors for export revenue in India. Domestic trade is generally taken care in the APMC markets across various states.

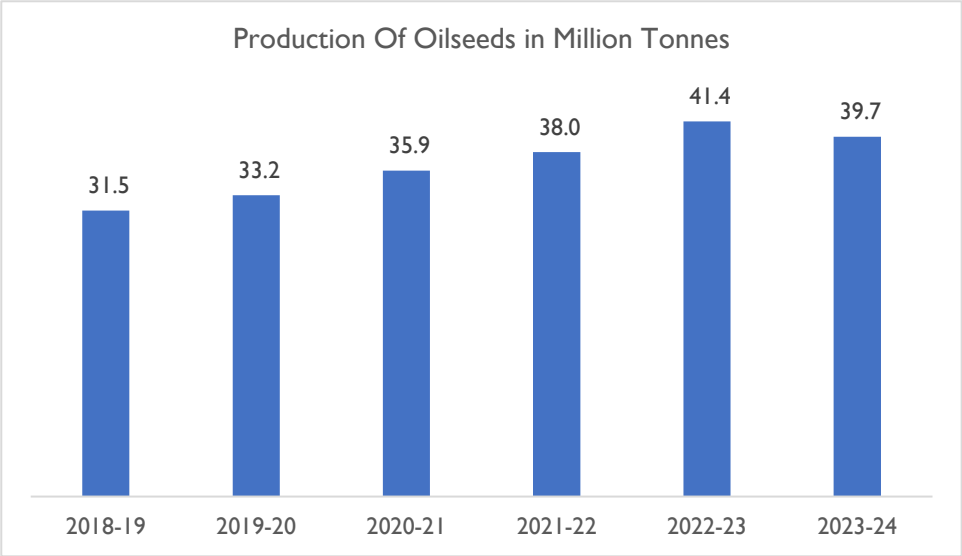
Current Market Scenario in Foodgrain Production

Annual food grain production in India is estimated to be 332 million tonnes in 2023-44, growing at a CAGR of 3.1% between season 2019 -2024. Within this, the wheat production category increased at a CAGR of 1.8%, while other rice production increased at a CAGR of 3.4%. Total Rice production during season 2024 is estimated to be 137.82 million tonnes. It is higher by 2.07 million tonnes than previous year's rice production of 135.75 million tonnes. Whereas wheat production during 2023- 2024 is estimated at record 113.29 million tonnes. It is higher by 2.73 million tonnes than previous year's wheat production of 110.55 million tonnes and production of Shree Anna (millets) is estimated at 17.57 million tonnes as compared to 17.32 million tonnes during previous year. Moreover, Nutri / Coarse Cereals production is estimated to be 56.93 million tonnes, Maize 37.66 million tonnes, Total Pulses 24.24 million tonnes, Tur 3.41 million tonnes, and Gram to be 11.03 million tonnes in 2023-24.



Source: Department of Agriculture & Farmers Welfare, season

Additionally, total oilseeds production in India is estimated to be 39.66 million tonnes in 2023-24, growing at a CAGR of 4.7% between season 2019 to 2023-24. Under this Rapeseed & Mustard production is estimated to be 13.25 million tonnes followed by groundnut production estimated to be 10.18 million tonnes, and Soybean to be 13.06 million tonnes.



Source: Department of Agriculture & Farmers Welfare, season

Moreover, in 2024, there were drought-like conditions in southern states, including Maharashtra & prolonged dry spell during August especially in Rajasthan. The moisture stress from the drought also affected the Rabi Season. This mainly impacted production of pulses, coarse cereals, soybean & cotton. ***For FY 2025, the Government has announced food grain production target of 341.5 million tonnes. Meanwhile annual production of horticulture products (including fruits & vegetables, cash crops and spices) is estimated to be 352 million tonnes per annum in FY 2024.***

India's consistent growth in production of major agriculture commodity has supported the agro trading business in India.

Domestic Demand Scenario: Demand for Agro Commodity

India is the second most populous country in the world, and this massive population automatically creates high demand for agro commodities, which forms the core of Indian diet. Unlike western economies, Indian diet is primarily carbohydrate rich with grain and pulses taking up the maximum portion.

On top of that, the last couple of decades have witnessed a drastic transformation of Indian consumers. Improvement in income levels have lifted millions out of poverty and improved the disposable income levels of millions of households. Subsequently the per capital spending on food products have gone up, as demand increased.

The increase in income level was accompanied by the changes in consumption pattern, with higher intake of processed and packaged food products. The proportion of processed food consumed by Indian consumers have gone up substantially. All these factors have put pressure on agriculture sector which strives to meet this demand.

The increase in consumption of agro commodities, together with spread in retail channels have created the need for a robust distribution system. Agro trading network, comprising of wholesalers / dealers / retailers, play a vital role in meeting the agro commodity demand.

Export Demand

India is also a major exporter of food grains and other agriculture products. Powered by Government initiatives and programs like Green Revolution, Indian agriculture sector has moved from one that depended on imports to self-sufficiency. India is today the leading producer of grains, pulses, and dairy products. Along with the development of agriculture sector, Food processing sector contributes 32% to this food market and is also one of the largest industries in the country, contributing 13% to total export and 6% of industrial investment. Today, the country is amongst the top 10 exporters of agriculture products in the world. This strong export demand has in turn fueled the agriculture commodity industry, benefitting all players in the value chain.

Factors that Influence Agricultural Commodity Prices:

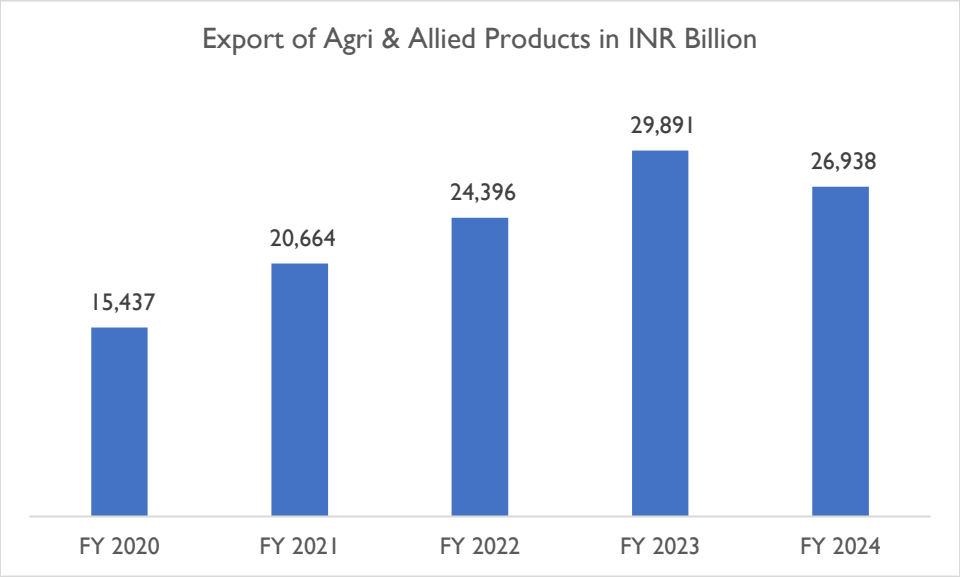
The factors that impact the prices of agricultural commodities, includes:

- **Weather/Climate Conditions:** Raw materials produced through agriculture depend heavily on weather conditions.
- **Supply/Demand Dynamics**: Prices of commodities depend on demand and supply. They will increase due to high demand in different markets. They might also increase due to decreased supply, as there will be a shortage of agricultural commodities.
- **Exchange Rate Changes:** The prices of commodities are directly linked to different currencies in derivatives. Changes in the exchange rate can impact the commodity prices.
- **Disasters and Outbreaks**: Pest outbreaks, pandemics, and other disasters can damage the production of raw materials that can lead to a change in commodity prices.
- **Government Policies:** Government policies can impact the prices of agricultural commodities. Import/export laws, tax policies, and other factors can influence traders' decisions, thus impacting the prices.

Foreign Trade

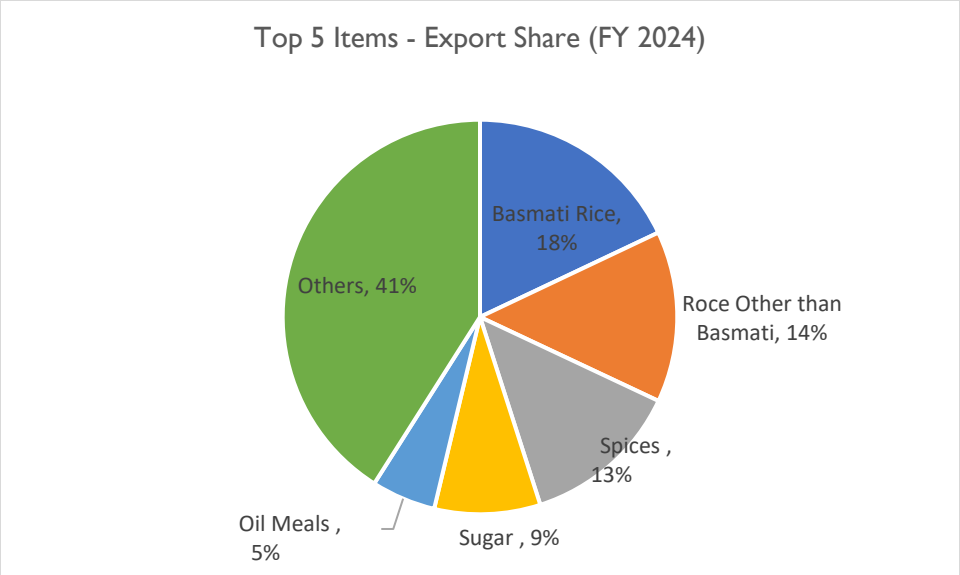
Export Demand[21]

The export of Agri & allied products has displayed a remarkable trajectory over the given years. In FY 2020, the export value stood at INR 15,437 billion, and by FY 2023, it reached an impressive INR 29,891 billion. This is majorly due to several key initiatives taken by the Central government to increase the production of food grains in recent years. However, there was slightly decrease in the export in FY 2024, by 10% at INR 26,938 billion. Between FY 2020 and 2024, exports have increased by a CAGR of 15%, indicative of sustained and substantial growth.



Source: Ministry of Commerce and Industry

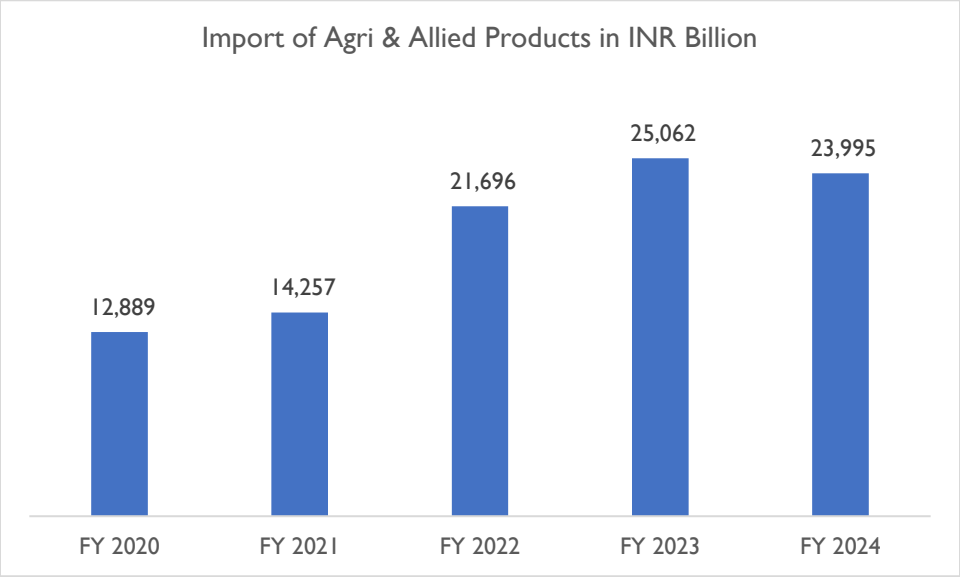
[21] Agri & allied products that are included are rice, spices, sugar, oil, fresh fruits, castor, tobacco, processed fruit and juices, fresh vegetable, ground nut, cereal processed vegetable, pulses, guergam meal, sesame seeds, vegetable oil, other cereals, tobacco manufactured, cashew, cocoa products, milled products, molasses, fruit/vegetable seeds, shellac, wheat, other oil seeds, cashew nut shell, and Niger seeds.



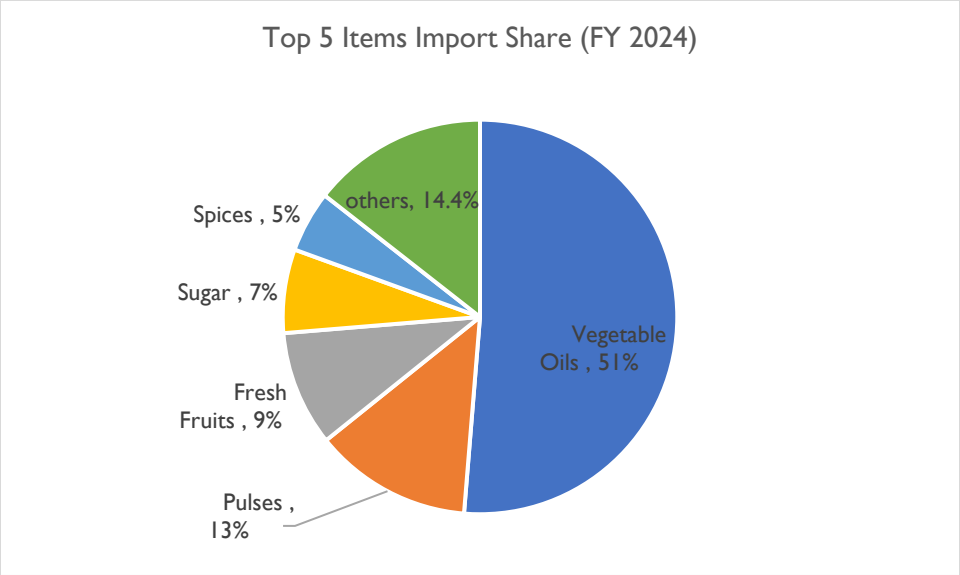
Source: Ministry of Commerce and Industry

Import Scenario

According to Ministry of Commerce and Industry, India's annual imports reached INR 23,995 Bn in FY 2024. The import of Agri & allied products to India has grown at a CAGR of nearly 17% in the last four years. During FY 2024, The import was dominated by single commodity namely vegetable oil accounted 51%, followed by pulses, fresh fruit, sugar, and spices.



Source: Ministry of Commerce and Industry



Source: Ministry of Commerce and Industry

Regulatory Landscape

Agricultural and Processed Food Products Export Development Authority (APEDA) is responsible for promotion of agricultural and processed agricultural food products from India. They have improved the market for Indian agricultural products globally. APEDA has been actively engaged in the development of markets besides upgradation of infrastructure and quality to promote the export of agro products.

In its endeavor to promote agro exports, APEDA, under its Plan Scheme titled 'Agriculture Export Promotion Scheme of APEDA' provides financial assistance to the registered exporters under sub-components of the Scheme - Market Development, Infrastructure Development, Quality Development and Transport Assistance. The Electronic National Agriculture Market (eNAM) was launched in April 2016 to create a unified national market for agricultural commodities by networking existing Agriculture Produce Marketing Committees (APMCs).

Major initiatives / policies to promote agriculture sector in India

- The allocation to agriculture and allied activities has been budgeted at ₹1.52 tn in FY25 (BE), from ₹1.45 tn in FY24 (RE).
- The subsidy on fertiliser has been moderately reduced by 13% to ₹1.64 tn in FY25 (BE) and the subsidy on food has been reduced by 3.3% to ₹2 tn in FY25 (BE).
- The allocation for Pradhan Mantri Annadata Aay Sanrakshan Yojna (PM-AASHA) has been increased to ₹64.4 bn in FY25 (BE), from ₹22 bn in FY24 (RE).

- The allocation for Production-Linked Incentive (PLI) Scheme in the Food Processing Industry has been increased to ₹14.4 bn in FY25 (BE), from ₹11.5 bn in FY24 (RE).
- The allocation for Pradhan Mantri Kisan Samman Nidhi (PM-Kisan) remained unchanged at ₹600 bn in FY25 (BE), as compared with FY24 (RE).
- The allocation to Blended Capital Support to Finance Startups for Agriculture and Rural Enterprise Relevant for Farm Produce Value Chain has been increased to ₹625 mn in FY25 (BE), from 'nil' in FY24 (RE).
- NAMO DRONE DIDI Scheme has been allocated ₹5.0 bn in FY25 (BE).
- The allocation for Rashtriya Krishi Vikas Yojna for FY25 (BE) has been increased to ₹75.53 bn, from ₹61.53 bn in FY24 (RE).
- Under PM-KISAN SAMMAN, the government has extended a financial assistance of ₹60 bn to farmers for FY25 (BE)
- The allocation to Agricultural Financial Institutions has been increased to ₹207 bn in FY25 (BE), from ₹176.5 bn in FY24 (RE).
- The custom duty on shea nuts has been reduced from 30% to 15%.
- The government will collaborate with states to promote DPI for agriculture and has plans to establish around 10,000 need-based, bio-input resource centres in partnership with state governments.
- The government plans to initiate natural farming by supporting farmers through certification and branding.
- The government plans to achieve 'atmanirbharta' for pulses and oilseeds (such as mustard, groundnut, sesame, soybean, and sunflower) to strengthen their productivity, storage, and marketing.

Above announcements are expected to have a favorable impact on the overall agriculture industry.