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India Food and Feed Additives Market Outlook to FY'30 - Driven by growing demand for bakery and beverage products, increased use of amino acids in animal nutrition, and a rising preference for healthy ingredients

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1. Executive Summary

1.1. Industry Analysis

The food and feed additives industry serve as a critical enabler of food safety, quality enhancement, and livestock productivity worldwide. The market has been expanding due to growing consumer preference for processed foods, bakery product, rising demand for functional and fortified ingredients, and increasing regulatory scrutiny on food and feed formulations.

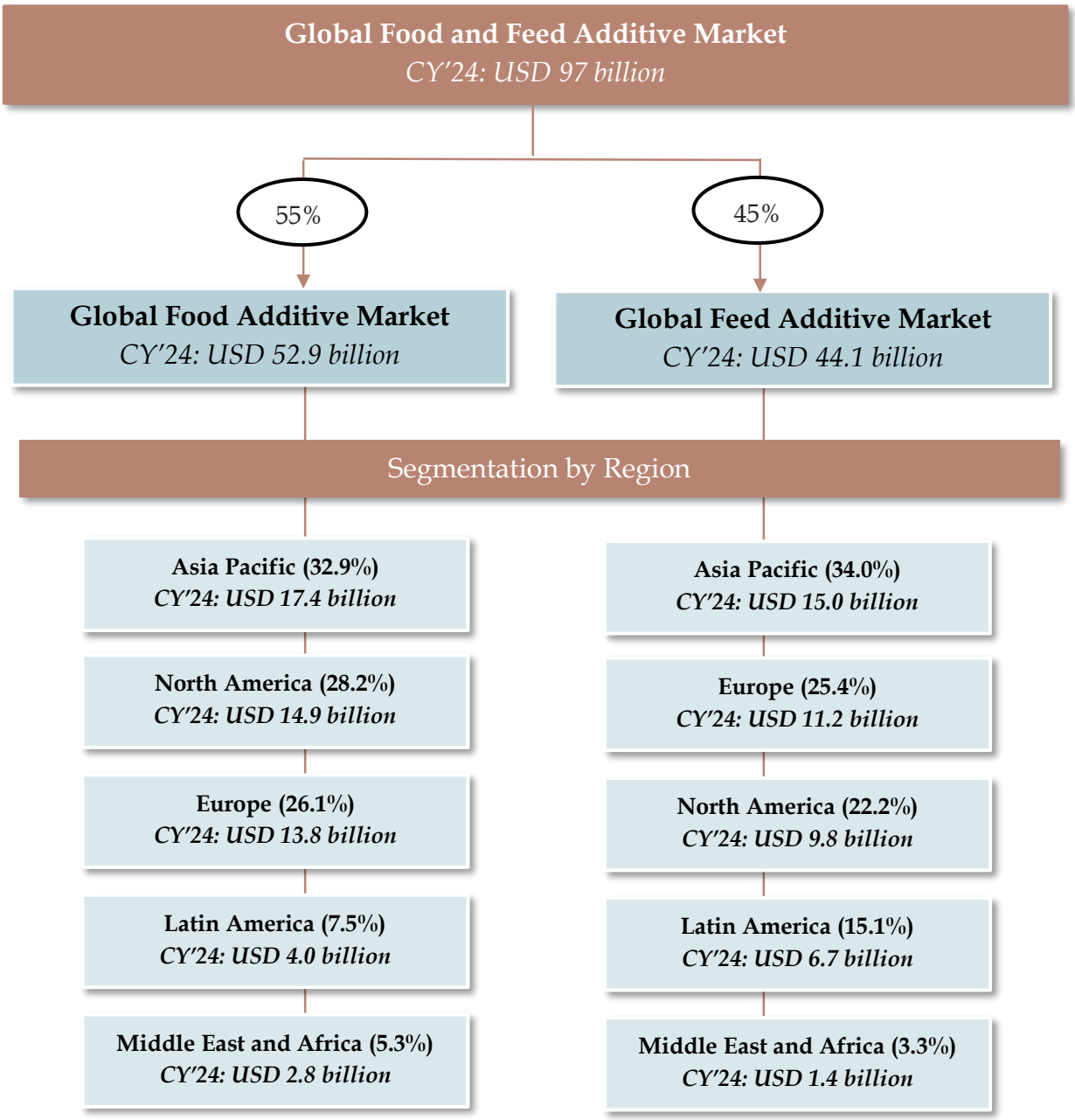
Global Food and Feed Additive Market

The global **food and feed additives market** is valued at **USD 97.0 billion in 2024**, with food additives contributing **USD 52.9 billion (54.5%)** and feed additives accounting for **USD 44.1 billion (45.5%)**.

The food additives segment has grown at a CAGR of 5.7% (2021-2024) and is forecasted to accelerate at a CAGR of 6.2% (2024-2030), reaching USD 75.9 billion by 2030F. Meanwhile, the feed additives segment, which has grown at a CAGR of 6.0% (2018-2023), and is projected to expand at a CAGR of 6.3% (2024-2030F), reaching USD 63.7 billion by 2030F. The rising demand for fortified food products, increased protein consumption, and clean-label initiatives are driving long-term growth in both segments.

The global market is led by Asia-Pacific, which holds a dominant share in both food (32.9%) and feed (34.0%) additives, owing to rapid urbanization, rising disposable incomes, and government-led quality regulations in India and China. North America (28.2% food; 22.2% feed) and Europe (26.1% food; 25.4% feed) remain mature markets, characterized by strict regulatory oversight (FDA, EFSA) and strong consumer demand for nutraceuticals, clean-label formulations, and antibiotic-free livestock feed. Emerging regions like Latin America (7.5% food; 15.1% feed) and the Middle East & Africa (5.3% food; 3.2% feed) are exhibiting high growth, fueled by expanding food processing industries, increasing meat production, and Western dietary influences.

Figure 1-1: Executive summary- Global Food and Feed Additive Market



Source: Interview by Industry Experts, Ken Research Analysis
Note: F represents Forecasted figures
CY refers to calendar year

India Food and Feed Additive Market

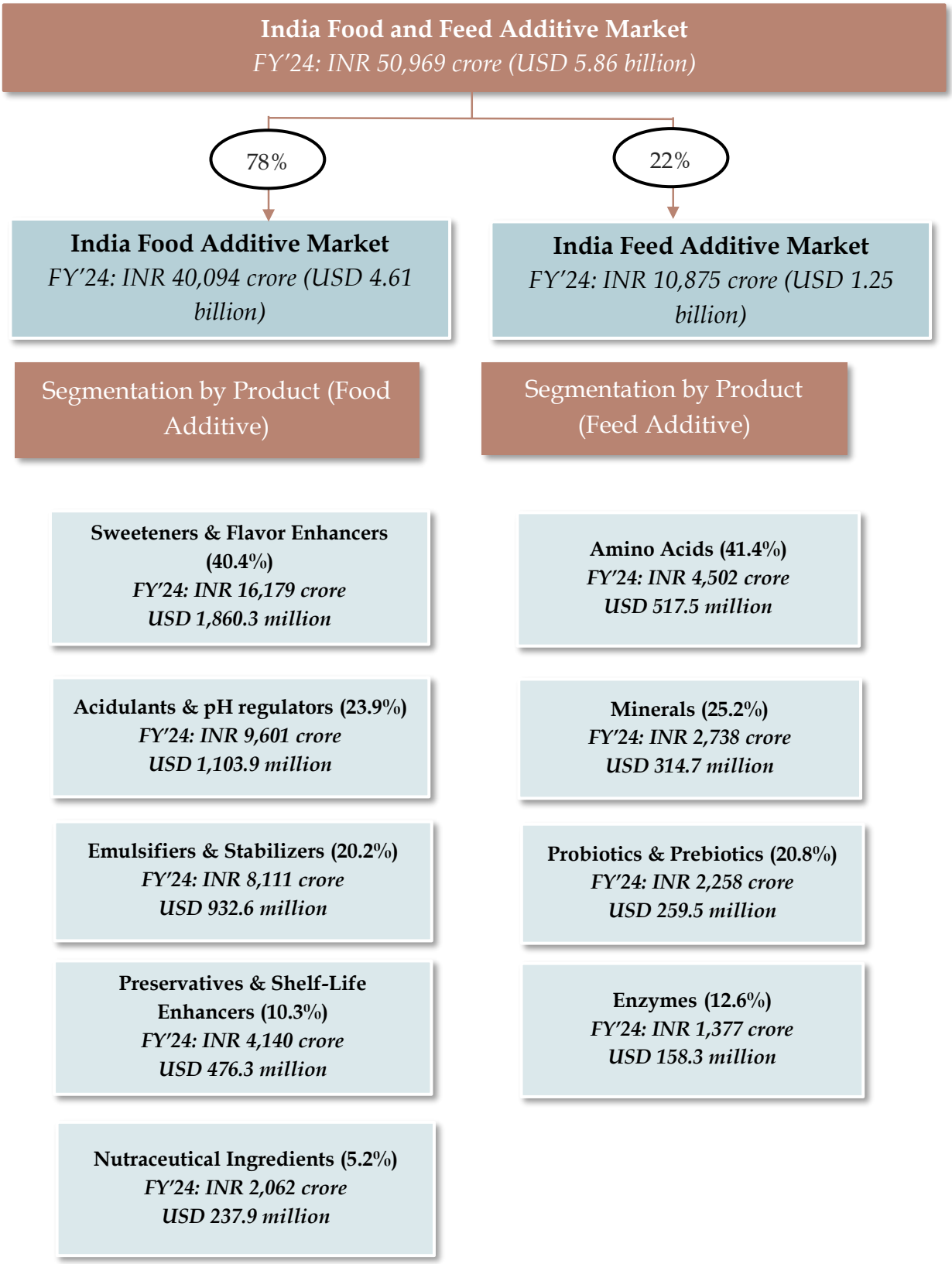
India's **food and feed additives market** is expanding rapidly, driven by rising processed food demand, regulatory mandates (FSSAI, MoFPI), and livestock productivity needs.

The food additives market, valued at INR 40,094.6 crore (USD 4.6 billion) in 2024, is projected to double to INR 61,396 crore (USD 7.1 billion) by 2030F (~CAGR of 7.4%). Key categories include Sweeteners & Flavor Enhancers (40.4%), Acidulants & pH Regulators (23.9%), and Emulsifiers & Stabilizers (20.2%), with Dairy & Beverages (37.5%) and Bakery & Confectionery (34.2%) as major end-users.

The feed additives market, valued at INR 10,875 crore (USD 1.25 billion) in 2024, is expected to reach INR 15620 crore (USD 1.80 billion) by 2030 (6-7% CAGR), led by Amino Acids, Enzymes, and Probiotics & Prebiotics, with Poultry Feed (60-65%) and Dairy & Cattle Feed (25-30%) as dominant segments.

The India food and feed additives market is highly fragmented, with over 3000 players. ~15-20 large players control ~28% of the market, with revenues of INR 300-500 crore, focusing on innovation and distribution. Medium-sized companies account for ~29%, while micro and small companies make up ~43%.

Figure 1-2: Executive summary- India Food and Feed Additive Market



Segmentation by End User (Food Additive)

- **Dairy & Beverages (37.5%)**
  FY'24: INR 15,019 crore
  USD 1,726.9 million
- **Bakery & Confectionery (34.2%)**
  FY'24: INR 13,730 crore
  USD 1578.7 million
- **Meat, Poultry & Seafood (17.2%)**
  FY'24: INR 6,897 crore
  USD 793.0 million
- **Functional & Fortified Foods (11.1%)**
  FY'24: INR 4,448 crore
  USD 511.4 million

Segmentation by End User (Feed Additive)

- **Poultry Feed (60.6%)**
  FY'24: INR 6,590 crore
  USD 757.5 million
- **Dairy & Cattle Feed (21.3%)**
  FY'24: INR 2,316 crore
  USD 266.3 million
- **Swine & Aquaculture Feed (13.7%)**
  FY'24: INR 1,489 crore
  USD 171.3 million
- **Pet Food (Dogs & Cats) (4.4%)**
  FY'24: INR 478 crore
  USD 55.0 million

1.2. WAY FORWARD

The Indian food and feed additives market presents a highly lucrative opportunity, set for exponential growth, backed by regulatory tailwinds, evolving consumer preferences, and rising industrialization in food processing and livestock nutrition. The shift towards clean-label, fortified, and sustainable ingredients will drive investments in R&D and strategic partnerships.

With global players expanding their footprint and domestic firms strengthening manufacturing capabilities, India is well-positioned to become a key supplier of specialty additives.

From a strategic viewpoint, innovation, scalability, and regulatory compliance will define industry leadership, while players focusing on nutraceuticals, alternative sweeteners, and precision livestock nutrition will capture the next wave of growth. Market consolidation, capacity expansion, and sustainability-driven innovations will shape the future, making India a critical hub in the global food and feed additives value chain.

2. Research Methodology

2.1. Market Definitions

Food Additives Market:
The Global Food Additives Market represents the total sales value at the retail level for additives used in food processing worldwide**.** This market includes a wide range of additives such as **Sweeteners & Flavor Enhancers (Includes Aspartame, Sucralose, MSG, Yeast Extracts)**, **Acidulants & pH Regulators (Includes Citric Acid, Phosphoric Acid, Malic Acid), Emulsifiers & Stabilizers (Includes Lecithin, Xanthan Gum, Guar Gum), Preservatives & Shelf-Life Enhancers (Includes Calcium Propionate, Sorbates, Nitrites) and Nutraceutical Ingredients (Includes Vitamin D2, DHA, Omega-3, Probiotics).** These additives are used in various food applications such as Dairy & Beverages, Bakery & Confectionery, Meat, Poultry & Seafood, and Functional & Fortified Foods.

The Indian Food Additives Market is determined by the total value of food additives consumed within India, considering both domestic production and imports. Additives in India are primarily used in sectors like dairy products, beverages, baked goods, processed meat, and fortified foods. The market size incorporates revenue at the retail level from both domestic manufacturers and international suppliers, catering to the growing demand for food processing in India.

Feed Additives Market:
The Global Feed Additives Market represents the total sales value at the retail level for additives used in animal nutrition across various sectors such as poultry, dairy, swine, aquaculture, and pet food. **This market includes products like Amino Acids (includes Lysine, Methionine, Threonine, Tryptophan), Enzymes (includes Phytase, Protease, Amylase), Minerals (includes Zinc, Copper, Chromium, Manganese Glycinate), and Probiotics & Prebiotics** that are essential for improving the growth, health, and productivity of animals.

The Indian Feed Additives Market is determined by the total value of feed additives consumed within India, considering both domestic production and imports. These additives are primarily used in sectors like poultry feed, dairy & cattle feed, swine & aquaculture feed, and pet food (dogs & cats). The market size incorporates revenue at the retail level from both domestic manufacturers and international suppliers, catering to the growing demand for animal nutrition and feed quality in India.

2.2. ABBREVIATIONS

ADI - Acceptable Daily Intake

ASEAN - Association of Southeast Asian Nations

BIS - Bureau of Indian Standards

CAGR - Compound Annual Growth Rate

CoA - Certificate of Analysis

Codex Alimentarius - FAO/WHO Food Standards

DIDF - Dairy Processing and Infrastructure Development Fund

DSIR - Department of Scientific and Industrial Research

EC - European Commission

EFSA - European Food Safety Authority

EPA - Environmental Protection Agency

EU - European Union

FAMI-QS - European Feed Additives and Premixture Quality System

FBO - Food Business Operator

FDA - Food and Drug Administration

FMCG - Fast-Moving Consumer Goods

FSSAI - Food Safety and Standards Authority of India

FY - Financial Year

GCC - Gulf Cooperation Council

GDP - Gross Domestic Product

GMP - Good Manufacturing Practices

GSO - Gulf Standardization Organization

HACCP - Hazard Analysis and Critical Control Point

HS Code - Harmonized System Code

IMF - IMF

INR - Indian Rupee

ISO - International Organization for Standardization

ISCMA - Indian Specialty Chemical Manufacturers' Association

JECFA - Joint FAO/WHO Expert Committee on Food Additives

KPI - Key Performance Indicator

MoU - Memorandum of Understanding

MSME - Micro, Small, and Medium Enterprises

NABL - National Accreditation Board for Testing and Calibration Laboratories

PAT - Profit After Tax

PMEGP - Prime Minister's Employment Generation Programme

PMFME - PM Formalization of Micro Food Processing Enterprises

PMKSY - Pradhan Mantri Kisan Sampada Yojana

PLI - Production Linked Incentive

R&D - Research and Development

REACH - Registration, Evaluation, Authorization, and Restriction of Chemicals

Rupee-Dollar - Refers to the exchange rate between the Indian Rupee and the US Dollar

SAM - Serviceable Available Market

SEZ - Special Economic Zone

SFDA - Saudi Food and Drug Authority

SFA - Singapore Food Agency

SOM - Serviceable Obtainable Market

TAM - Total Addressable Market

USD - United States Dollar

WHO - World Health Organization

2.3. Market Sizing and Modeling

CONSOLIDATED RESEARCH APPROACH

Hypothesis Creation: The research team initiated the study by formulating hypotheses related to the India Food and Feed Additive Industry, segmented by application (Animal Nutrition, Human Nutrition, Food Preservation, Flavor Enhancement, Fortification), end-user (Dairy, Poultry, Aqua, Livestock, Processed Food Manufacturers, Nutraceuticals, Bakeries, and Others), and additive type (Vitamins, Minerals, Enzymes, Amino Acids, Preservatives, Antioxidants, Flavors, Colors, and Emulsifiers).

The initial hypothesis was derived through a thorough review of industry reports, trade publications, scientific journals, regulatory filings (e.g., FSSAI guidelines), government notifications, and expert articles. The hypotheses focused on key areas such as demand growth across animal and human nutrition verticals, evolving regulatory frameworks, cost competitiveness of domestic versus imported additives, raw material price fluctuations, and technology advancements in additive formulation and delivery.

To estimate market size and segment-level contribution, factors such as average dosage/usage per ton of feed or food product, additive penetration rates, volume of feed and food produced, import-export dependencies, and average selling prices were considered. Additionally, shifts in consumer dietary preferences, disease control policies in livestock, and fortified food adoption trends were analyzed to validate the assumptions and refine the hypotheses further.

Hypothesis Testing: To validate the hypotheses, CATIs (Computer-Assisted Telephone Interviews) and virtual interviews were conducted with senior management from key companies in the food additive manufacturing and related segments, such as Fine Organics, Camlin Fine Sciences, AB Mauri, Jubilant Ingreva, Savannah Surfactants, Matangi Industries, BASF, Evonik Industries, and Nutreco.
Stakeholders interviewed included C-level executives, business development heads, regional managers, and strategy teams to gain insights into demand dynamics, pricing strategies, operational challenges, and market potential.
Hypotheses regarding preservatives, nutraceuticals, emulsifiers, acidulants, and sweeteners demand across different end-use industries were refined based on these insights.

Data Collection: Primary and secondary data collection methods were employed. Primary data sources included expert interviews, surveys, and feedback from industry stakeholders. Secondary data was gathered from company reports, industry publications, government documents, and databases to provide comprehensive coverage of the global and Indian markets.

Data Analysis: Collected data was analyzed using statistical models to estimate the market size, growth rates, and trends for each segment of the food additive industry. Segmentation by additive type (Preservatives, Nutraceuticals, Emulsifiers, Acidulants, Sweeteners), application (Food & Beverages, Pharmaceuticals, Animal Feed, Others), and region (India, APAC, Global) was conducted to produce targeted insights for each category within the food additive market.

Table 2-1: Sample Composition Table by Stakeholders and Respondents in (%)

By Stakeholders	Sample Size: ~40 Respondents	Description
Food Additive Manufacturers	40%	R&D Heads, Sales Heads, Operations Heads, Category Heads, Strategy Teams, CXOs, Distribution Heads
Food & Beverage and Pharmaceutical Companies	25%	Procurement Heads, Product Development Managers, Quality Control Heads
Distributors & Suppliers	20%	Regional Heads, Supply Chain Managers, Wholesalers

Industry Experts	15%	Regulatory Authorities, Food Scientists, Industry Consultants, and Market Analysts

Source: Ken Research Analysis

Sanity Checking and Decision Tree Analysis: Consensus on data from primary research and public and proprietary databases was reached through decision tree analysis. Primary and secondary data were cross-verified to ensure accuracy and consistency. Secondary data sources included industry reports, proprietary databases, online articles, and government publications, which helped establish initial market perceptions and validate key drivers influencing growth.
Additionally, market share analysis of prominent food additive manufacturers was conducted to ensure accuracy in projections.

Interpretation and Proofreading: The final analysis was interpreted and consolidated into a research report by our expert team with significant experience in the food additive industry. The report emphasized actionable insights for stakeholders, focusing on current market dynamics, growth opportunities, and emerging trends in the India Food Additive Market.

LIMITATIONS

Future growth rate is estimated based on the growth trajectory of the food & beverage, pharmaceutical, and animal feed industries, as well as the increasing demand for functional and clean-label food additives. This projection is then validated through interviews with industry experts from various segments of the food additive market. However, since these experts are also employees of industry players, their estimates may not be exact and may lean towards an optimistic outlook.
The sampling technique has limitations in extrapolating the market hypothesis. To minimize potential bias, Ken Research has used sufficient strata for sampling to reduce the significance level in the model. The significance level is maintained within an acceptable range of 5-10% to ensure data reliability.

CONCLUSION

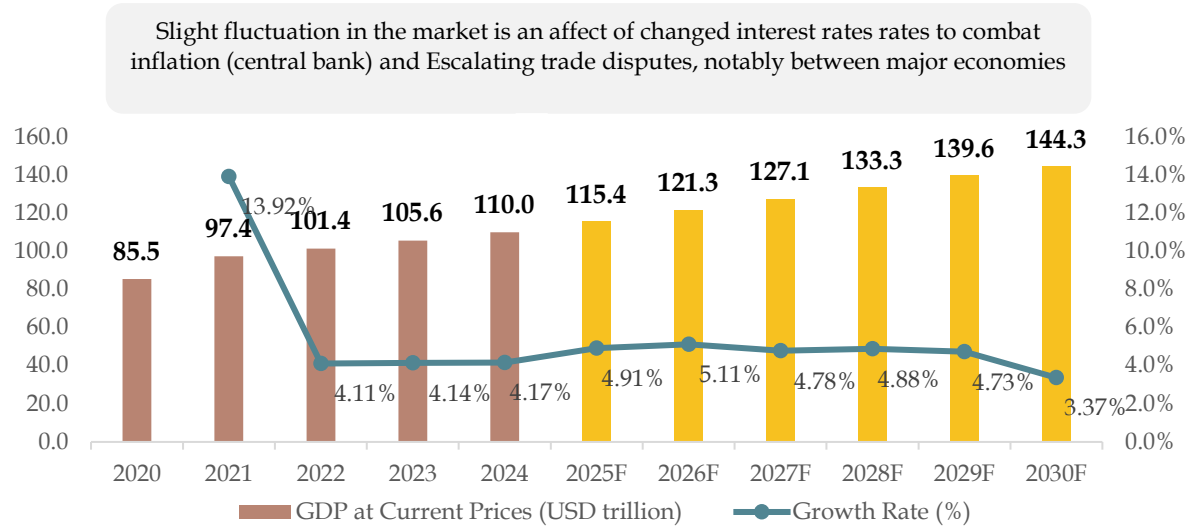
The expected value of the India Food Additives Market is determined using a weighted average of the outputs from primary research, secondary research, expert opinions, and subjective judgment. The weighted average method helps to filter out potential noise from each computation approach, ensuring the most accurate and reliable future market projections.

3. Global Macroeconomic Landscape

3.1. Global Economic Landscape

The nominal Gross Domestic Product at a global level stood at USD 110.0 trillion in 2024 and witnessed a CAGR of 6.5% between 2020-2024. Post COVID, the industry witnessed a revival phase, hence the growth rate reached 13%. In the future, it is expected to grow at a CAGR of 4.6% during 2024-2030, reaching USD 144.3 trillion by 2030.

Figure 3-1: Global GDP in USD trillion (at current prices) and Growth Rate in (%) Outlook, 2020-2030F



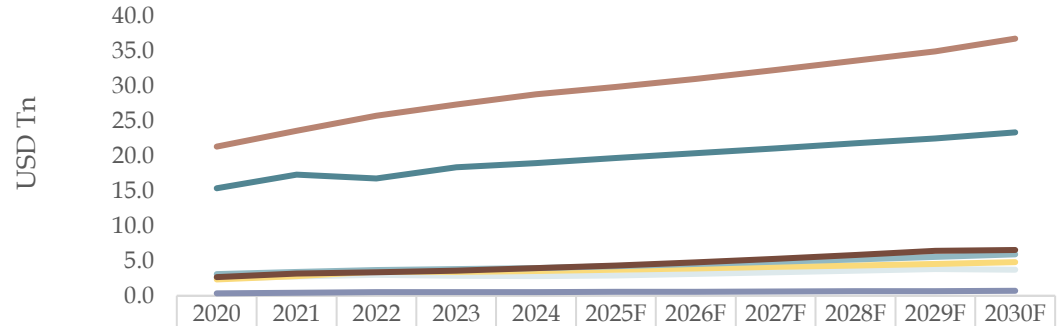
Source: World Economic Outlook, 2024 (IMF)
Note: F represents Forecasted figures

Advanced economies are expected to witness a stable growth rate of 1.8% in both 2024 and 2025, following a moderation from 1.7% in 2023. The United States is expected to see GDP growth drop from 5.2% in 2024 to 4.0% in 2025, with weakened consumer spending. However, emerging economies are expected to maintain steady growth at 4.2% in both 2024 and 2025. Southeast Asia's growth is expected to rise from 4.7% in 2024 to 6.8% in 2025 due to increased demand, stable prices, employment rates, and improved market confidence.

By 2027, India is projected to become the world's third-largest economy, surpassing Japan and Germany.

India has shown resilience to global challenges like COVID-19, geopolitical conflicts, and central bank actions. This resilience is supported by a stable financial sector, well-capitalized banks, and strong service exports. India's economic growth is expected to outperform other economies due to strong investment activity driven by government capital expenditure.

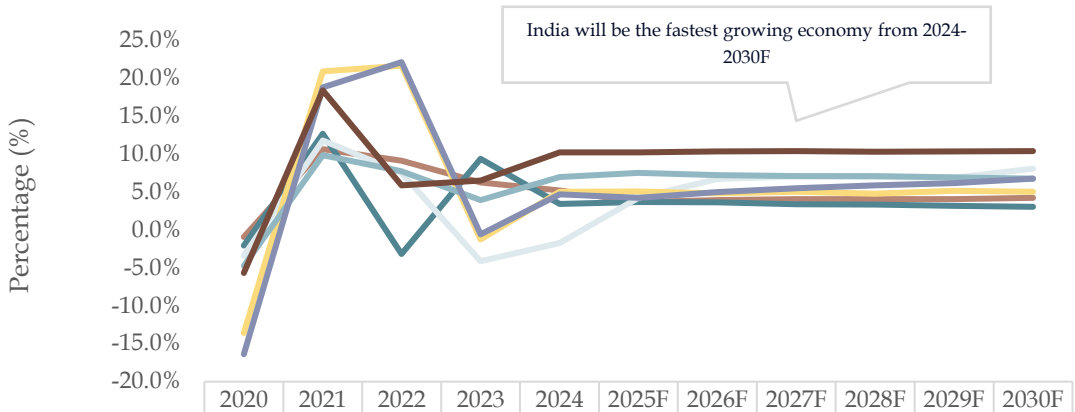
Figure 3-2: GDP at Current Prices of Major Economies (USD trillion) 2020-2030F



	2020	2021	2022	2023	2024	2025F	2026F	2027F	2028F	2029F	2030F
USA	21.3	23.6	25.7	27.4	28.8	29.8	31.0	32.3	33.6	35.0	36.8
European Union	15.4	17.3	16.8	18.3	19.0	19.7	20.4	21.1	21.8	22.5	23.4
Africa	2.5	2.8	3.0	2.9	2.8	2.9	3.1	3.3	3.6	3.8	3.8
Middle East	2.3	2.8	3.4	3.4	3.6	3.7	3.9	4.1	4.3	4.5	4.8
Southeast Asia	3.1	3.4	3.7	3.8	4.0	4.3	4.6	4.9	5.2	5.6	5.9
UAE	0.3	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7
India	2.7	3.2	3.4	3.6	3.9	4.3	4.8	5.3	5.8	6.4	6.5

Source: World Economic Outlook, 2024, IMF, Ken Research Analysis
Note: F represents Forecasted figures

Figure 3-3: GDP Growth of Major Economies (Growth Rates in %), 2020-2030F



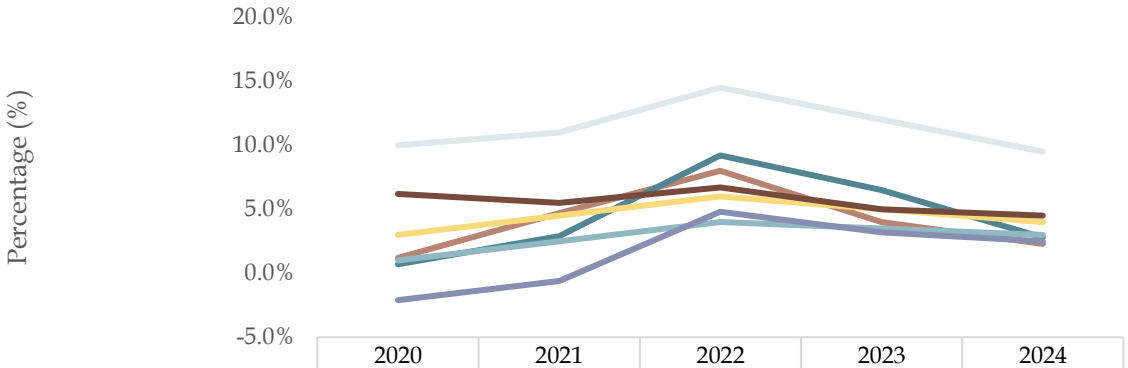
	2020	2021	2022	2023	2024	2025F	2026F	2027F	2028F	2029F	2030F
USA	-0.9%	10.7%	9.1%	6.3%	5.2%	3.7%	4.0%	4.0%	4.1%	4.1%	4.2%
European Union	-2.1%	12.7%	-3.2%	9.4%	3.4%	3.7%	3.6%	3.4%	3.4%	3.2%	3.1%
Africa	-3.4%	11.8%	7.5%	-4.1%	-1.7%	4.2%	6.7%	7.1%	7.0%	6.9%	8.1%
Middle East	-13.6%	20.9%	21.7%	-1.3%	5.0%	5.1%	4.8%	5.0%	4.8%	5.2%	5.0%
Southeast Asia	-4.7%	9.9%	7.7%	3.9%	7.0%	7.5%	7.2%	7.1%	7.1%	6.9%	6.8%
UAE	-16.4%	18.8%	22.1%	-0.6%	4.7%	4.3%	5.0%	5.5%	5.9%	6.2%	6.8%
India	-5.7%	18.4%	5.9%	6.5%	10.2%	10.2%	10.4%	10.4%	10.3%	10.3%	10.4%

Source: World Economic Outlook, 2024 (IMF), Ken Research Analysis
Note: F represents Forecasted figures

Within advanced economies, inflationary determinant - Consumer Price Index in the US increased from 1.7% in 2020 to 6.2% in 2022 due to rapid post-pandemic economic recovery, and fiscal stimulus, before moderating to 4.8% in 2023 as the Federal Reserve tightened monetary policy.

In Southeast Asia, inflation rose to 4.1% in 2023, from just 2.2% in 2019, due to increases in wages and supply chain disruptions from global events, leading to higher production costs and consumer prices. Meanwhile, India, despite facing inflationary pressures from rising food and fuel prices, maintained relatively stable inflation around 5.5% through 2023 due to volatile food prices, fuel costs, and supply chain disruptions. These trends highlight a gradual stabilization of inflation across regions as economies adapt to global shocks and implement corrective policies.

Figure 3-4: Inflation Rate (CPI Index) across Major Economies (Growth Rates, in %), 2020-2024



	2020	2021	2022	2023	2024
United States	1.20%	4.70%	8.00%	4.00%	2.30%
European Union	0.70%	2.90%	9.20%	6.50%	2.80%
Africa	10.00%	11.00%	14.50%	12.00%	9.50%
Middle East	3.00%	4.50%	6.00%	5.00%	4.00%
Southeast Asia	1.00%	2.50%	4.00%	3.50%	3.00%
United Arab Emirates	-2.10%	-0.60%	4.80%	3.20%	2.50%
India	6.20%	5.50%	6.70%	5.00%	4.50%

Source: World Bank, IMF, European Central Bank

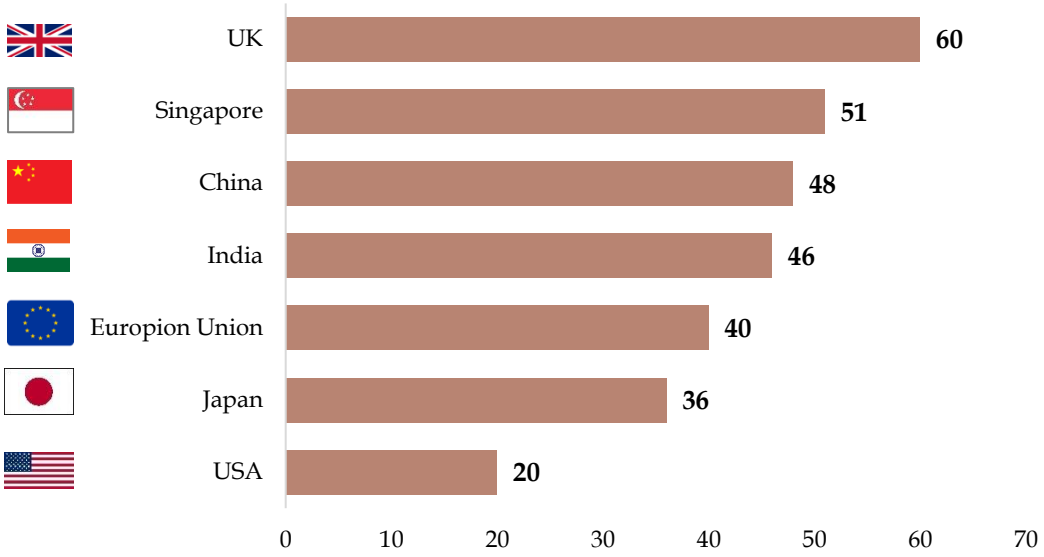
3.2. TRADE POLICIES & TARIFFS

In the wake of positive global economic outlook, countries are increasingly integrating their supply chains by adopting industry favoring trade policies that benefit both host and home countries.

Free trade agreements (FTAs) are the cornerstone of such policies, that result in tariff-free market access, reduced barriers to entry, and stronger economic ties and cooperation among countries. As a result, major trading blocs have signed multiple bilateral and multilateral FTAs.

However, major economies like the **US and Europe** face challenges as they **implement conservative measures**, including trade tariffs, **to protect domestic industries**. This impacted domestic players as well as their cost of imports on materials and components also increased which led to the passing of increased costs on to end customers.

Figure 3-5: Number of Free Trade Agreements by Major Economies, 2024



Source: Office of the United States Trade Representative, Asia Regional Integration Center, European Commission

3.3. Currency Dynamics Linked to US Dollar and Euro

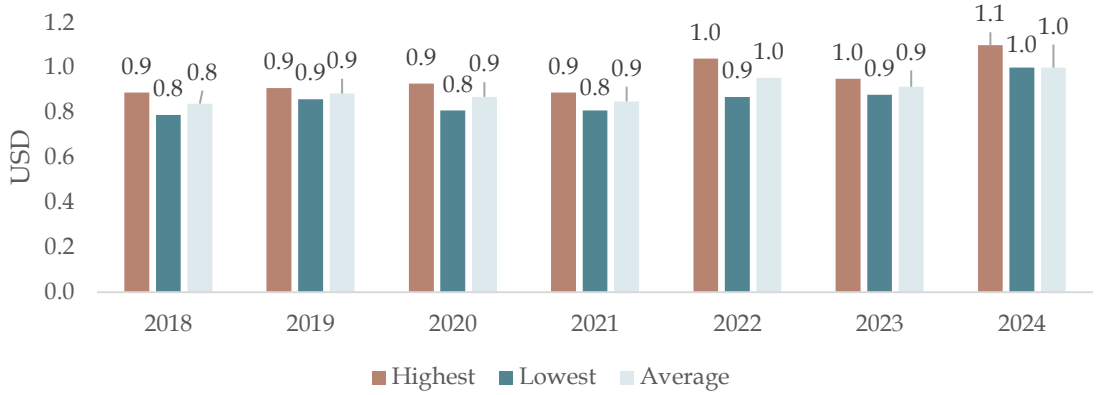
The exchange rates between the USD and the Euro have varied, reflecting major economic and geopolitical events over the past few years.

The most significant shift was witnessed in 2020, when the USD vs Euro exchange rate fell to 0.81, averaging 0.87. This period was marked by the global impact of the COVID-19 pandemic.

Initially, the USD strengthened as investors sought its safety amidst global uncertainty. However, as the pandemic progressed, the US opted for fiscal stimuli, leading to the depreciation of the USD.

In 2022, another significant shift was observed, with the USD vs Euro exchange rate reaching an average of 0.95. During this period, the Federal Reserve opted for interest rate hikes to contain inflation, strengthening the USD. Concurrently, the Euro faced pressures from the energy crisis due to the Russia-Ukraine conflict.

Figure 3-6: Currency Exchange Rate from Euro to USD, 2018-2024



Source: European Central Bank

3.4. Demand Drivers in Chemical & Additive Markets

Rising Demand for Processed & Functional Foods

Consumer Preferences: There's a global shift towards convenience foods, leading to increased consumption of processed items. This trend boosts the demand for food additives like natural sweeteners and preservatives.

Health Consciousness: Consumers are seeking functional foods that offer health benefits, such as fortified products with added nutrients, driving the need for specific additives.

Market Growth: The global processed food market is projected to grow at a CAGR of more than 4.0% from 2024 to 2030, directly influencing the additives sector.

Growing Livestock & Dairy Sector

Protein Demand: Rising global populations and incomes are increasing the demand for animal protein, leading to the expansion of livestock farming.

Feed Additives: To enhance animal health and productivity, there's a growing use of feed additives such as amino acids, enzymes, and probiotics.

Industry Expansion: The global feed additives market is expected to grow by 2030, with a CAGR of more than 5.0% from 2024.

4. Indian Economic Outlook Landscape

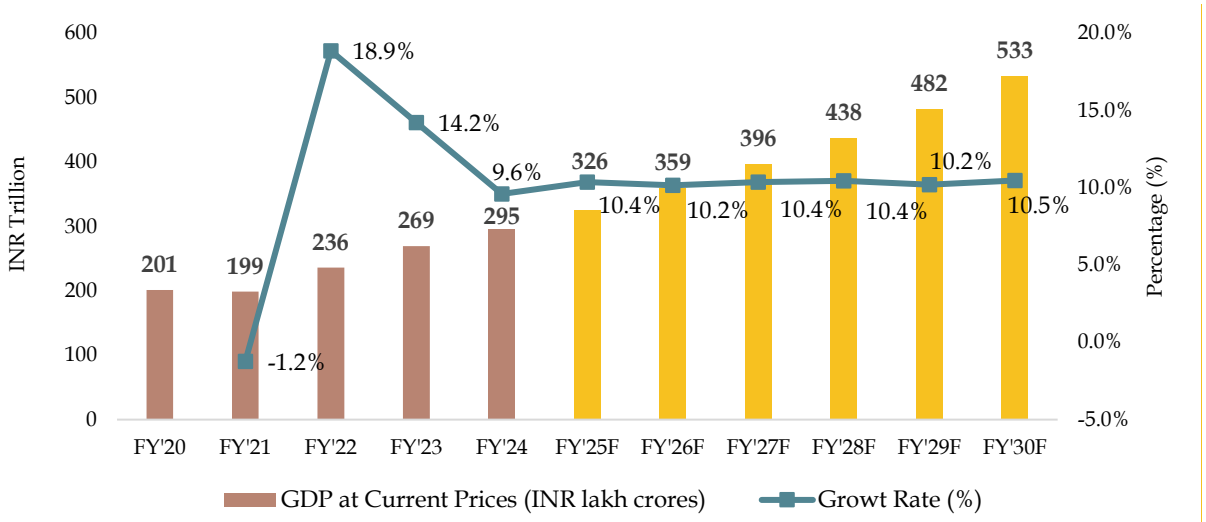
4.1. Overview of Indian Economic Environment

India has emerged as the fastest-growing major economy in the world with nominal GDP growth rate of 10.4% expected in FY'25, backed by its robust democracy and strong partnerships.

Strong economic growth in the first quarter of FY'23 helped India overcome the UK to become the fifth-largest economy.

India's appeal as a destination for investments has grown stronger and more sustainable because of the current period of global unpredictability and volatility, and the record amounts of money raised by India-focused funds in 2022 are evidence of investor faith in the "Invest in India" narrative.

Figure 4-1: Indian GDP (at current prices) in INR lakh crores and Growth Rate (in %), FY'20 - FY'30F



Source: Ministry of Statistics and Programme Implementation (MoSPI), World Economic Outlook, 2024 (IMF), Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: FY'20 represents Financial Year starting 1st April 2019 to 31st March 2020.

In FY'22, the economy recovered from the pandemic-related stress as restrictions were eased and economic activity resumed, though inflation spiraled in the last quarter due to geopolitical pressures, with a GDP of 18.9% vs -1.2% in FY'21.

In FY'23, GDP rose 14.2% on strong growth momentum propelled by investments and private consumption. The share of investments in GDP rose to an 11-year high of 34% and that of private consumption to an 18-year high of 58.5%.
(Source: IMF)

In FY'24, nominal GDP grew at 9.6% and was estimated at INR 295.4 lakh crores, driven by continued strong investment and subdued private consumption growth. Nominal GDP, or GDP at current prices in the March quarter of FY'23-24, is estimated at INR 78.2 lakh crores, against INR 71.2 lakh crores in the year-ago period, showing a growth rate of 9.9%.

Additionally, India has grown faster than China as well as the global average in FY'24. (Source: MoSPI).

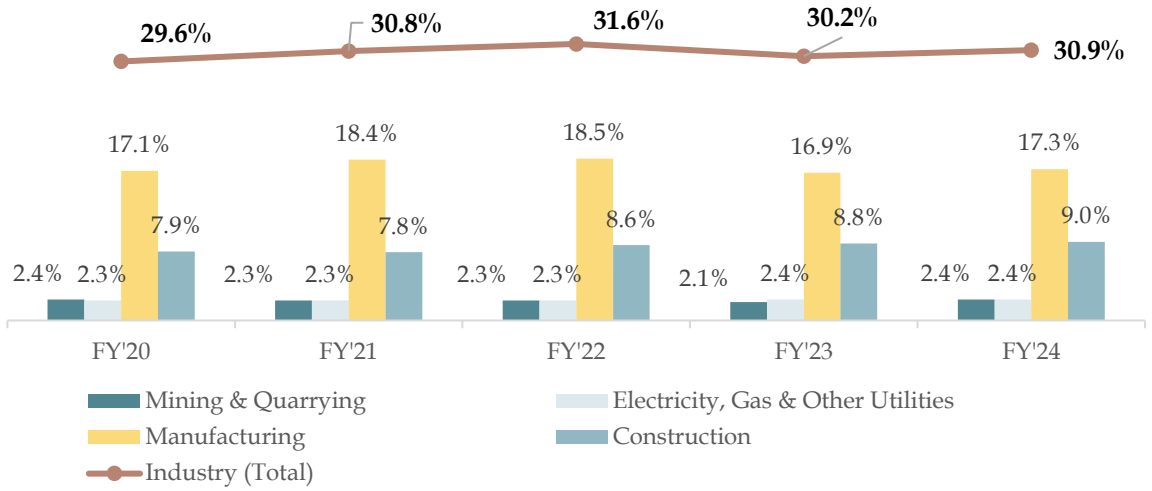
4.2. INDIA'S SECTORAL GROWTH

India's industrial and manufacturing sectors serve as key pillars of economic development, contributing significantly to employment generation, exports, and overall economic growth.

Contribution to Economic Growth: The industrial sector, contributing 30.9% to the country's Gross Value Added (GVA) in FY'24, reflecting sustained momentum despite global economic uncertainties. Within this sector, the manufacturing sub-sector accounts for 17.3% of the GVA, making it the largest industrial component.

Other significant contributors include construction (9.0%), electricity, gas & other utilities (2.4%), and mining & quarrying (2.1%). The sector's steady contribution highlights its resilience and growing influence in driving economic growth.

Figure 4-2: Share of Industry and Its Components in Total GVA (in Constant Prices) from FY'20 to FY'24



Source: Ministry of Statistics and Programme Implementation (MoSPI) & Ken Research Analysis
Note: FY represents Financial Year starting 1st April 2019 to 31st March 2020.

- **Growth Trends in the Industrial Sector:** The industrial sector demonstrated 9.5% growth in FY'24, marking a notable improvement from 2.1% in FY'23. This acceleration is driven by increased capital investments, infrastructure development, and strong domestic demand.

- **Manufacturing Sector Growth:** The manufacturing sector recorded a 9.0% growth rate in FY'24, rebounding from a slowdown in FY'23. This recovery is attributed to robust demand in key industries such as automobiles, pharmaceuticals, electronics, and consumer goods, alongside policy support through initiatives like "Make in India" and Production-Linked Incentive (PLI) schemes.

The manufacturing sector is poised for further expansion, fueled by rising domestic consumption and supply chain diversification. With ongoing reforms and industrial modernization, India's industrial and manufacturing sectors will remain key drivers of economic growth in the coming years.

4.3. MSME Sector's Role in India's Economy

The Micro, Small, and Medium Enterprises (MSME) sector is a vital pillar of India's economy, contributing significantly to employment, manufacturing, and exports. Recognized as a key driver of growth, MSMEs play a crucial role in fostering entrepreneurship, innovation, and regional development.

The Union Budget FY'26 has introduced several measures to strengthen the sector, ensuring its continued expansion and competitiveness.

- **Contribution to GDP:** The MSME sector's share in India's Gross Value Added (GVA) stands at 30.1% in FY'23, reflecting its growing importance in the national economy. With policy support and increasing market access, MSMEs are expected to further boost their contribution to economic output.

- **Export Performance:** Exports from MSMEs have surged, reaching INR 12.3 lakh crores in FY'25. The sector's share in total exports has also grown, standing at 45.7% in FY'25 (up to May FY'24). This steady increase highlights the sector's strengthening role in global trade and India's vision to become an export-driven economy.

- **Growth in MSME Enterprises:** The number of MSME exporters has expanded rapidly, reaching 1,73,350 in FY'25, reflecting growing integration into global markets. The government has raised investment and turnover limits for MSME classification to help businesses scale up.

Government Initiatives for MSMEs: Driving Growth & Employment

The Government of India has implemented various schemes to strengthen the MSME sector, fostering entrepreneurship, employment, and market integration. Impact of Key MSME Schemes:

- **PM Vishwakarma:** Launched in FY'23, this scheme supports artisans and craftspeople with financial aid, training, and credit access. Over 2.7 million applicants have been registered, with beneficiaries undergoing skill enhancement programs to improve product quality and market reach**.**

- **Udyam Registration & Udyam Assist:** The Udyam Portal has formalized 5.9 crore MSMEs, generating employment for 25.1 crore people. The Udyam Assist

initiative, launched in FY'23, has further integrated informal enterprises, enabling them to access financial benefits.

- **PMEGP (Prime Minister's Employment Generation Programme):** In FY'24, INR 30,938 million was disbursed, supporting 89,118 enterprises and creating 0.7 million jobs. The inclusion of Aspirational Districts and Transgenders in the Special Category has expanded the scheme's reach, fostering inclusive entrepreneurship.

- **SFURTI (Scheme of Fund for Regeneration of Traditional Industries):** Since its revamp in FY'14-15, SFURTI has established 376 functional clusters, benefitted 0.2 million artisans and disbursed INR 1,336 crore to sustain traditional industries.

4.4. Government Policies & Regulations Impacting Manufacturing and Trade

India's manufacturing sector is poised to achieve a milestone of **USD 1.0 lakh crores by FY 2026**, propelled by substantial investments across key industries, including **automobiles, electronics, and textiles**.

Government initiatives such as Make in India and the Production Linked Incentive (PLI) Scheme play a pivotal role in enhancing industrial infrastructure, attracting Foreign Direct Investment (FDI), and boosting domestic production.

Key Policies and Regulations:

Make in India & National Manufacturing Policy (NMP) The Make in India initiative promotes domestic manufacturing by encouraging foreign investments and increasing production capacities across industries.

Complementing this, the National Manufacturing Policy (NMP) aims to raise the sector's GDP share to 25.0% by FY'25, create 100 million jobs, and enhance global competitiveness through regulatory improvements, infrastructure development, and skill enhancement programs.

Production Linked Incentive (PLI) Scheme
The PLI scheme, launched across sectors like electronics, automotive, and pharmaceuticals, provides financial incentives to manufacturers meeting specific output targets. The Interim Budget FY'25 significantly increased allocations for PLI,

including USD 830.0 million for semiconductors and USD 421.0 million for automobiles, to strengthen domestic production and exports.

Startup and Innovation Ecosystem
The Department for Promotion of Industry and Internal Trade (DPIIT) is fostering the startup ecosystem by developing incubators and supporting collaborations between corporates and startups. Additionally, the government has created a USD 12.0 billion innovation fund to boost emerging industries and accelerate India's transition into high-tech manufacturing.

Ease of Doing Business & Tax Reforms
The government has introduced tax benefits to support manufacturing and trade:

- The corporate tax rate for new cooperative societies in manufacturing has been reduced from 22.0% to 15.0%.

- The eligibility period for startups to claim 100.0% profit deductions was extended to March 31, FY'24.

- MSMEs saw an increase in turnover limits for presumptive taxation, reducing their tax burden.

Strategic Trade Control System & Compliance Framework: India's Strategic Trade Control System regulates the movement of dual-use goods, services, and technologies to align with national security interests and international obligations. Additionally, GST compliance, adherence to quality management standards (e.g., ISO 9000), and sector-specific regulations ensure smooth trade operations and maintain product quality standards.

With targeted policies and regulatory measures, India continues to strengthen its manufacturing and trade ecosystem.

4.5. FDI Flow, Investment Climate and Trends in India

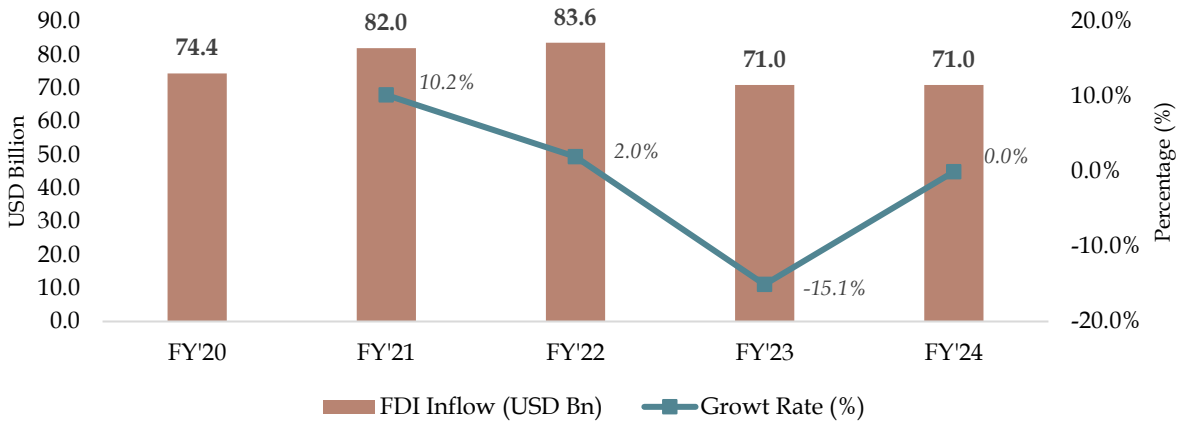
India is one of the most attractive FDI destinations in the world today with a total FDI inflow of USD 70.9 billion in FY'24.

The Government has put in place an investor-friendly Foreign Direct Investment (FDI) policy under which most sectors except certain strategically important sectors are open for 100.0% FDI under the automatic route.

Total FDI inflows in the country in the FY'24 is USD 70.9 billion and FDI equity inflows stands at USD 44.4 billion. Singapore (26.6%), Mauritius (18%), USA (11.3%), Netherland (11%) and Japan (7.2%) emerge as top 5 countries for FDI equity inflows into India FY'24. (Source: Invest India).

The top 5 sectors receiving the highest FDI Equity Inflow during FY'24 are Manufacturing (20.0%), Electricity and Other Energy Generation Distribution & Transmission (12.0%), Computer Services (11.0%), Financial Services (10.0%), Retail and wholesale trade (9.0%). (Source: Ministry of Commerce and Industry)

Figure 4-3: India Foreign Direct Investment in USD billion and Y-o-Y Growth Rates (in %), FY'20 - FY'24



Source: Invest India, Make in India, Press Information Bureau & Ken Research Analysis
Note: FY'20 represents Financial Year starting 1st April 2019 to 31st March 2020.

4.6. Currency Dynamics Linked to Rupee-Dollar Exchange Rate

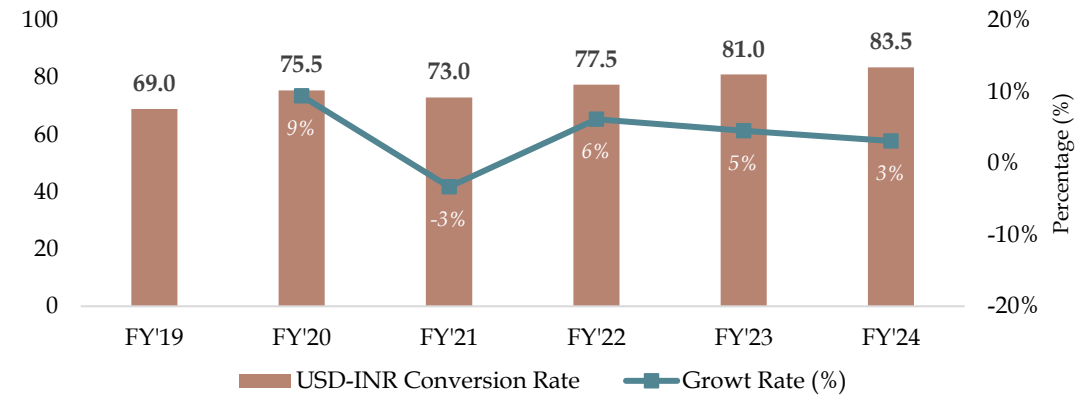
Understanding the dynamics of currency exchange between the INR and the USD is crucial for navigating India's economic landscape. As of FY'24, the exchange rate hovers around INR 83.0 per USD, influenced by key factors listed below.

- **Inflation rate:** The Y-o-Y inflation rate based on CPI is 5.0% (Provisional) for June 2024, reducing the INR's purchasing power. Higher inflation typically weakens the INR against the USD, making imports more expensive and exports more competitive.

- **Trade balance**: India recorded a trade deficit of USD 78.1 billion, a 35.7% improvement from USD 121.6 billion in FY'23, indicating a narrowing gap between imports and exports. However, the deficit shows imports still exceed exports, increasing demand for foreign currencies like the USD. FY'24 trade includes USD 776.6 billion in exports and USD 854.8 billion in imports.

- **Geopolitical events and economic trends**: Global oil prices rose from USD 55.6 per barrel in 2019 to USD 76.1 per barrel in 2023, increasing India's import costs and impacting the INR. As a major oil importer, higher prices drive up USD demand, weakening the INR.

Figure 4-4: Currency Exchange Rate from USD to INR and Growth Rate in (%), FY'19 – FY'24



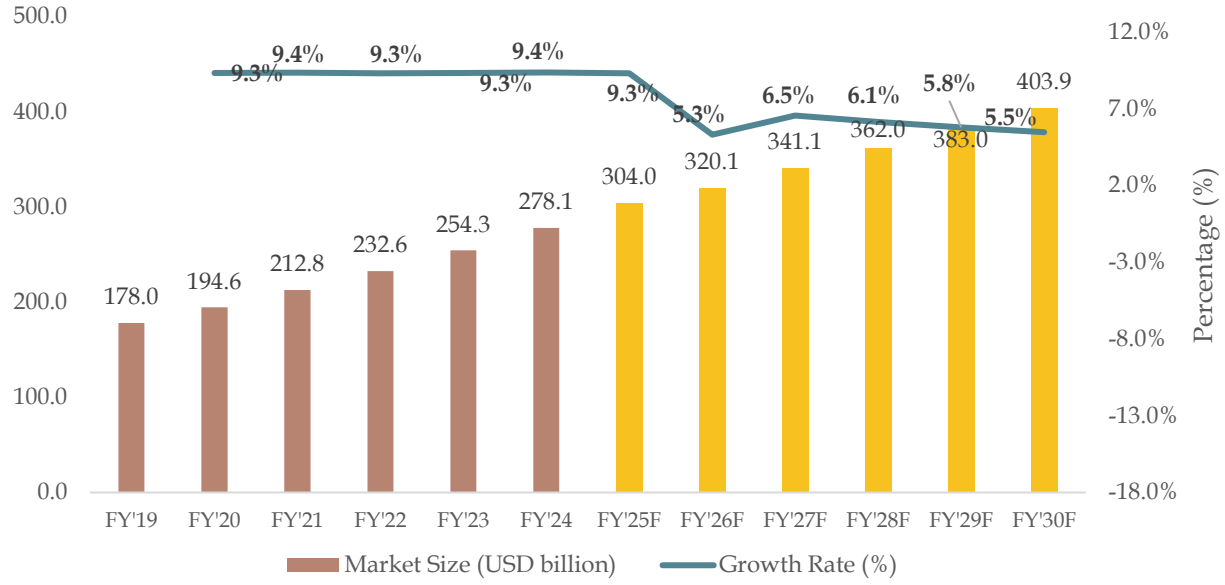
Source: Reserve Bank of India (RBI) & Ken Research Analysis
Note: FY represents Financial Year starting 1st April 2019 to 31st March 2020.

5. India's Chemical & Specialty Ingredients Market

5.1. Contribution of Chemicals & Additives Sector to GDP

The Indian Chemicals & Additives sector is playing a critical role in various end-use industries, including agriculture, pharmaceuticals, textiles, automotive, and construction. The growth is fueled by increasing investments, rising demand for specialty chemicals, and India's emergence as a global manufacturing hub for chemicals and petrochemicals.

Figure 5-1: India Chemical Market Size in USD billion and Growth Rate in (%), FY'19-FY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: FY'19 represents Financial Year starting 1st April 2018 to 31st March 2019.

India's chemical sector is a vital contributor to the national economy, accounting for around 7.0% of the country's GDP. The nation ranks as the 6th largest producer of chemicals globally and 3rd in Asia, reinforcing its pivotal role in the global supply chain.

The chemical and petrochemical industry in India is projected to attract investments of INR 8 lakh crore (USD 107.3 billion) by 2025, underlining its economic significance. Additionally, India has established itself as a world leader in generics and biosimilars, contributing over 50.0% of the global vaccine supply.

India's chemical sector, currently valued at INR 19.14 lakh crores (USD 220.0 billion), is poised for substantial growth, with expectations to reach INR 26.1 lakh crores (USD 300.0 billion) by 2030 and INR 87 lakh crore (USD 1.0 trillion) by 2040. The demand for chemicals is projected to grow at a CAGR of 9.0% annually by 2025. It holds a strong global position, ranking 14th in exports and 8th in imports of chemicals (excluding pharmaceuticals). The domestic chemicals industry covers more than 80,000 commercial products, with an overall market size of USD 278.1 billion in FY'24.

The Indian Specialty Chemical Manufacturers' Association (ISCMA) signed an MoU with USIIC on February 15, 2023, to strengthen international trade in specialty chemicals. Agrochemicals remain a key revenue driver, with 50.0% of total production being exported, reinforcing India's status as a major player in the global agrochemical market.

INVESTMENTS AND RECENT DEVELOPMENTS IN CHEMICALS & ADDITIVES SECTOR

- Exports and Imports: From April 2024 to September 2024, exports of castor oil, essential oils, and cosmetics and toiletries stood at INR 175.4 billion, reflecting strong global demand for plant-based and natural additives used in food and personal care.

- Bio-CNG Expansion: In March 2023, Chennai announced plans for new bio-CNG plants, which will facilitate a sustainable and clean energy supply for the food processing industry.

- Agrochemical Growth: According to the Agro Chem Federation of India, India's agrochemical exports are projected to exceed INR 800 billion in the next four years, supporting the demand for food preservatives and additives.

- Acquisition in Specialty Chemicals: In April 2022, Dorf Ketal, a manufacturer of research-based specialty chemicals, acquired Khyati Chemicals for INR 3-4 billion, strengthening its portfolio of food-grade specialty chemicals and emulsifiers.

GOVERNMENT INITIATIVES SUPPORTING CHEMICALS & ADDITIVES SECTOR

- The Government of India is planning to introduce a Production Linked Incentive (PLI) scheme in the chemical sector to enhance domestic manufacturing and boost exports.
- A 2034 vision for the chemicals and petrochemicals industry has been outlined to strengthen domestic production, reduce dependency on imports, and attract investments.
- The government aims to implement a PLI system with output incentives for the agrochemical sector, fostering an integrated manufacturing ecosystem through the development of industry clusters.
- Between April 2000 and June FY'24, FDI inflows in the chemicals sector (excluding fertilizers) reached INR 1.9 lakh crores.
- The government has proposed various incentives for setting up sourcing or manufacturing platforms within Special Economic Zones (SEZs), including Single-window clearance for approvals at both central and state levels.

5.2. GROWTH TRENDS IN INDUSTRIAL & FOOD-GRADE CHEMICALS

The industrial and food-grade chemicals sectors have experienced notable trends in recent years, influenced by technological advancements, regulatory changes, and evolving market demands.

1. Industrial Chemicals

Sustainability Initiatives: Chemical companies are increasingly adopting sustainable practices to reduce their environmental footprint.

Digital Transformation: The integration of digital technologies, such as the Internet of Things (IoT), artificial intelligence (AI), and blockchain, is revolutionizing the chemical industry.

Economic Outlook: The American Chemistry Council projects global chemical production to rise by 3.4% in 2024 and 3.5% in 2025, indicating a recovery from previous stagnation. However, challenges like regulatory impacts and geopolitical tensions continue to pose risks to sustained growth.

2. Food-Grade Chemicals

Regulatory Scrutiny: There is increasing attention on the safety of food additives. The FDA has been reviewing various chemicals in the food supply to ensure consumer safety.

Consumer Preferences: A growing consumer demand for clean-label products has led to a reduction in the use of synthetic additives. This shift encourages manufacturers to seek natural alternatives, aligning with trends toward transparency and health consciousness.

Technological Advancements: Innovations in food processing technologies are enabling the development of safer and more efficient food-grade chemicals. These advancements support the creation of high-quality products while maintaining nutritional value and extending shelf life.

These trends underscore a dynamic landscape where industrial and food-grade chemical sectors are adapting to sustainability goals, technological innovations, and evolving regulatory environments to meet future challenges and opportunities.

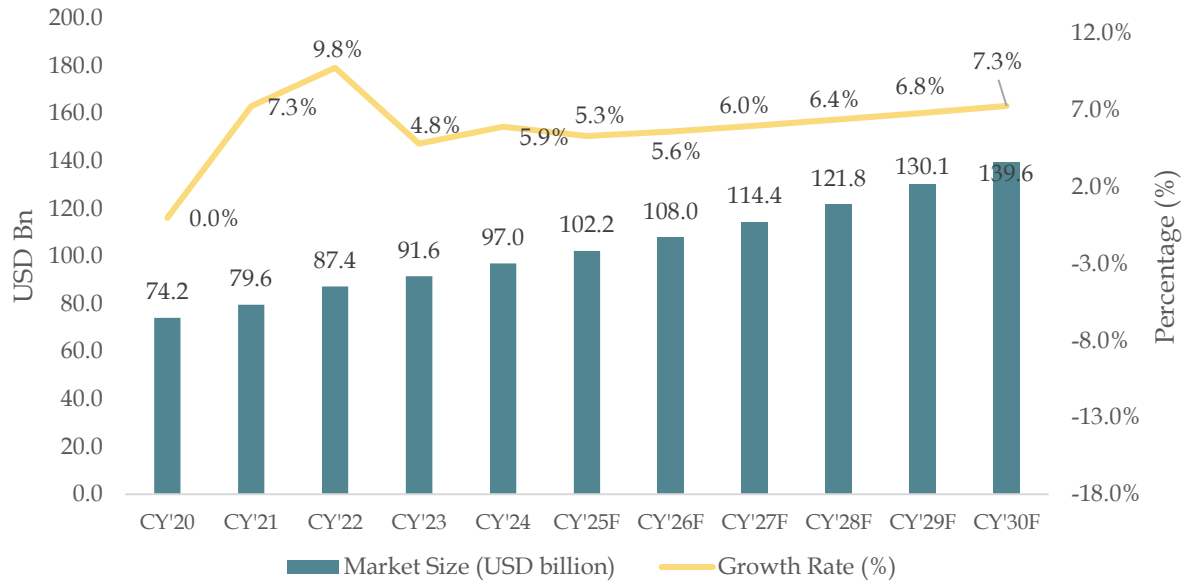
6. Industry Overview – Food & Feed Additives Market

6.1. Global Food & Feed Additives Market

As of 2024, the combined market for food and feed additives globally is valued at ~**USD 97 billion**. Within this market, **food additives constitute about 54.5%** (**USD 52.9 billion**), while **feed additives account for the remaining 45.5%** (**USD 44.12 billion**).

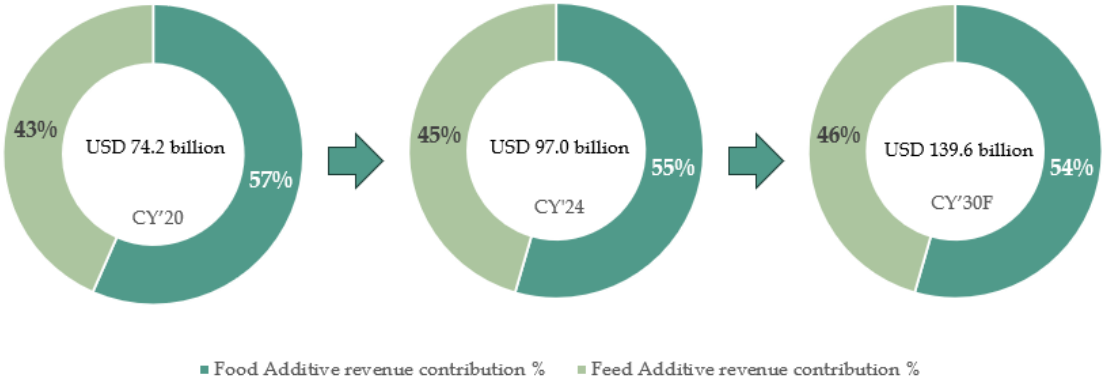
This growth trajectory is driven by rising demand across preservatives, flavorants, nutritional supplements and other additives for the Global food additive market. Likewise, **Global feed additive consumption (**(e.g. amino acids, enzymes, vitamins for animal nutrition) is buoyed by over **1.26 billion tons** of feed produced annually.

Figure 6-1: Global Food and Feed Additive Market Size in USD billion and Growth Rate in (%), CY'20-30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY'20 represents Calendar Year starting 1st January 2020 to 31st December 2020.

Figure 6-2: Market segmentation by food and Feed Additive Market Size in USD billion and Growth Rate in (%), CY'20, CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY'20 represents Calendar Year starting 1st January 2020 to 31st December 2020.

6.1.1. Global Food Additive Market

The global food additives market **demonstrated** robust yet fluctuating growth from **USD 42.0 billion in CY'20** to an estimated **USD 75.9 billion by CY'30F**.

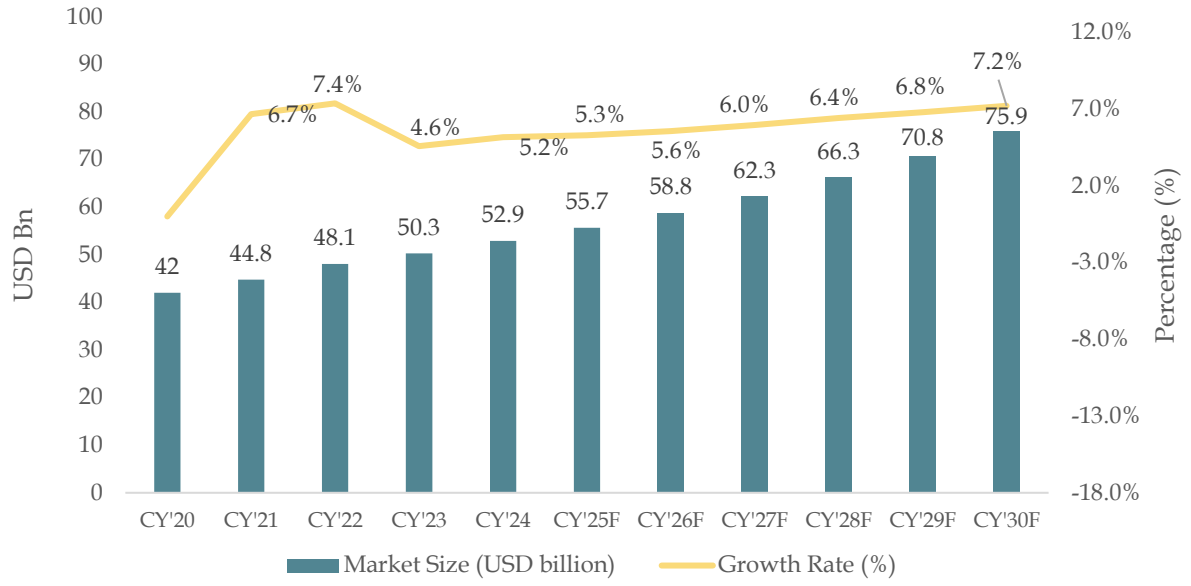
Initially, the market surged strongly at **6.7% in CY'21** and peaked at **7.4% in CY'22**, driven by heightened demand for processed, shelf-stable foods during the pandemic-driven shift in consumer preferences toward convenience products. However, growth moderated sharply in **CY'23 to 4.6%**, with the market size reaching **USD 50.3 billion**, reflecting increased cost pressures from inflation, global supply chain disruptions, and geopolitical uncertainties.

In the recovery phase (**CY'24 onwards**), growth stabilized to **5.1% (USD 52.9 billion)**, supported by adaptive market strategies including new product formulations, regulatory-driven innovations (e.g., sugar reduction initiatives and natural additives adoption), and consolidations in the additives landscape (notably mergers between major global players).

Growth gradually accelerated each subsequent year—from **5.3% in CY'25** to **7.2% in CY'30F**, reaching **USD 75.9 billion by 2030**. This uptick is primarily driven by increasing global demand for natural ingredients, enhanced regulatory frameworks promoting safer additives, expansion of processed food categories, and innovation-led competition among top industry players, who continue investing heavily in R&D

for clean-label and nutraceutical solutions to align with evolving consumer health preferences and strict global standards.

Figure 6-3: Global Food Additive Market Size in USD billion and Growth Rate in (%), CY'20-30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY'20 represents Calendar Year starting 1st January 2020 to 31st December 2020.

Regional Segmentation

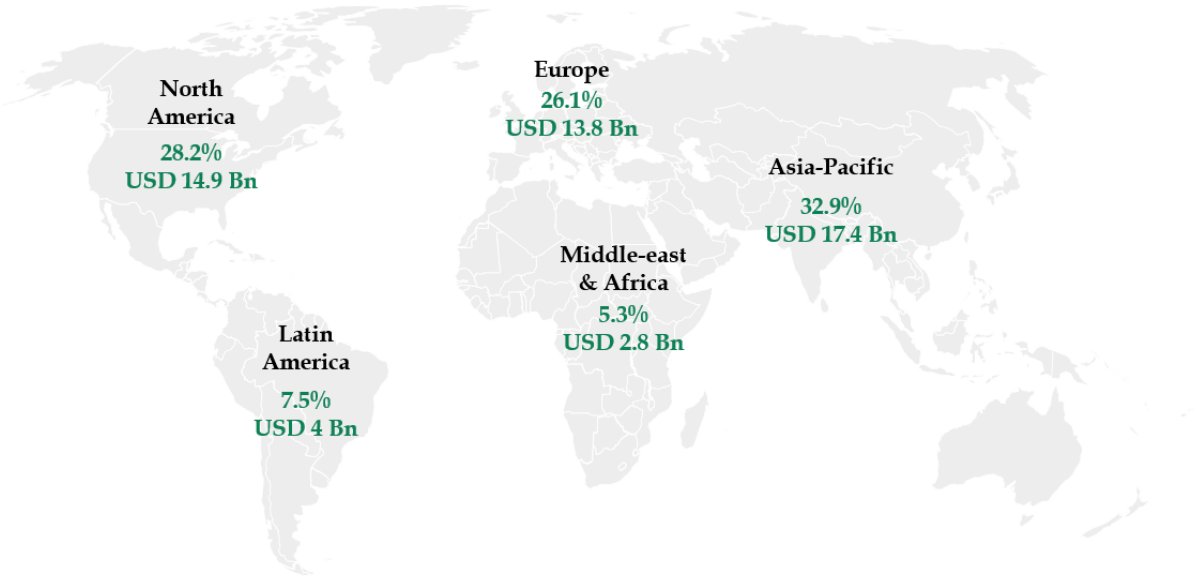
Asia-Pacific emerges as the leading region, commanding the largest market share of 32.9% (USD 17.4 billion), driven by rapidly increasing processed food consumption, rising incomes, and enhanced regulatory frameworks. Following closely, North America accounts for 28.2% (USD 14.9 billion), underpinned by mature processed-food markets, stringent FDA regulations, and strong consumer demand for nutraceuticals, clean-label additives, and diet-friendly ingredients.

Europe holds 26.1% (USD 13.8 billion), influenced by strict EU standards (EFSA, REACH) and growing consumer preference for organic and natural additives.

Smaller yet rapidly evolving markets include Latin America (7.5%, USD 4.0 billion) and the Middle East (5.3%, USD 2.8 billion), both experiencing rising additive demand

due to urbanization, dietary shifts toward convenience foods, and expanding food-processing industries.

Figure 6-4: Market segmentation of the Food Additive Market by region in USD billion and Growth Rate in (%), CY'24



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY'24 represents Calendar Year starting 1st January 2024 to 31st December 2024

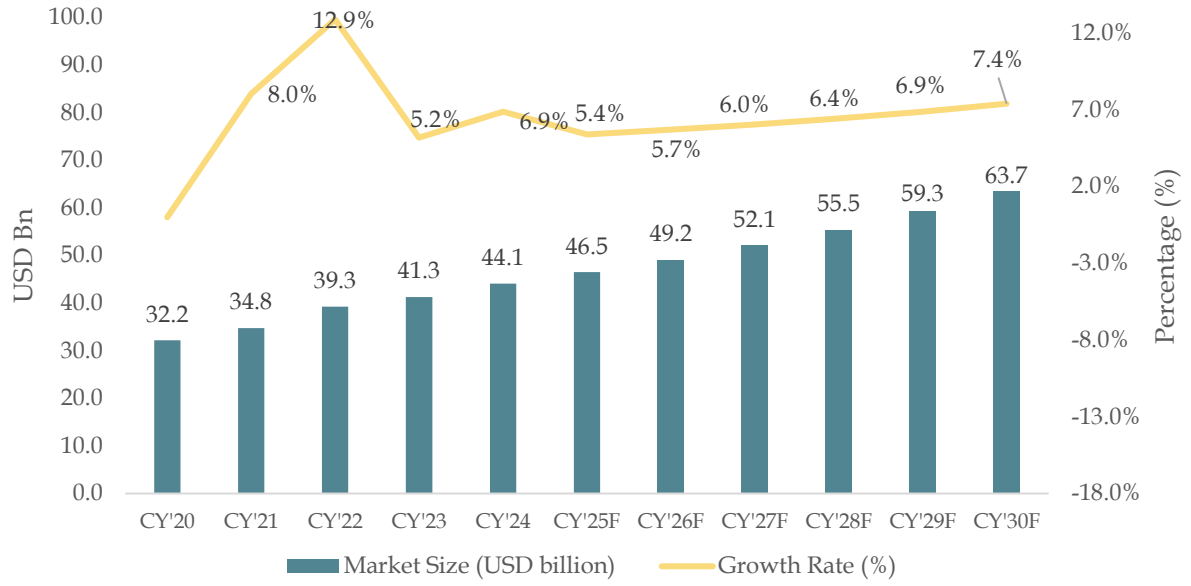
Overall, regional differences reflect varied consumer preferences, economic development, and regulatory landscapes, shaping the global additive market in diverse yet complementary ways.

6.1.2. GLOBAL FEED ADDITIVE MARKET

In **2024**, the global feed additives market is valued at **USD 44.1 billion**, following consistent growth from **USD 32.9 billion in 2020**. The market witnessed notable fluctuations—experiencing accelerated growth of **~12.9% in 2022**, reflecting strong post-pandemic recovery in livestock production, followed by moderation (**5.2% in 2023**) due to global inflation, supply chain constraints, and volatile raw material prices. From **2024 onward**, the market is projected to sustain steady growth at a compound annual growth rate (**CAGR**) of **6.3%**, reaching ~ **USD 63.7 billion by 2030**. This consistent growth trajectory is driven by increasing demand for high-quality livestock products, growing adoption of precision nutrition practices, regulatory

encouragement of antibiotic-free and sustainable feed solutions, and rising utilization of specialized feed additives such as enzymes, amino acids, and probiotics, which collectively enhance livestock productivity and animal health.

Figure 6-5: Global Feed Additive Market Size in USD billion and Growth Rate in (%), CY'20-30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY'20 represents Calendar Year starting 1st January 2020 to 31st December 2020.

Regional Segmentation

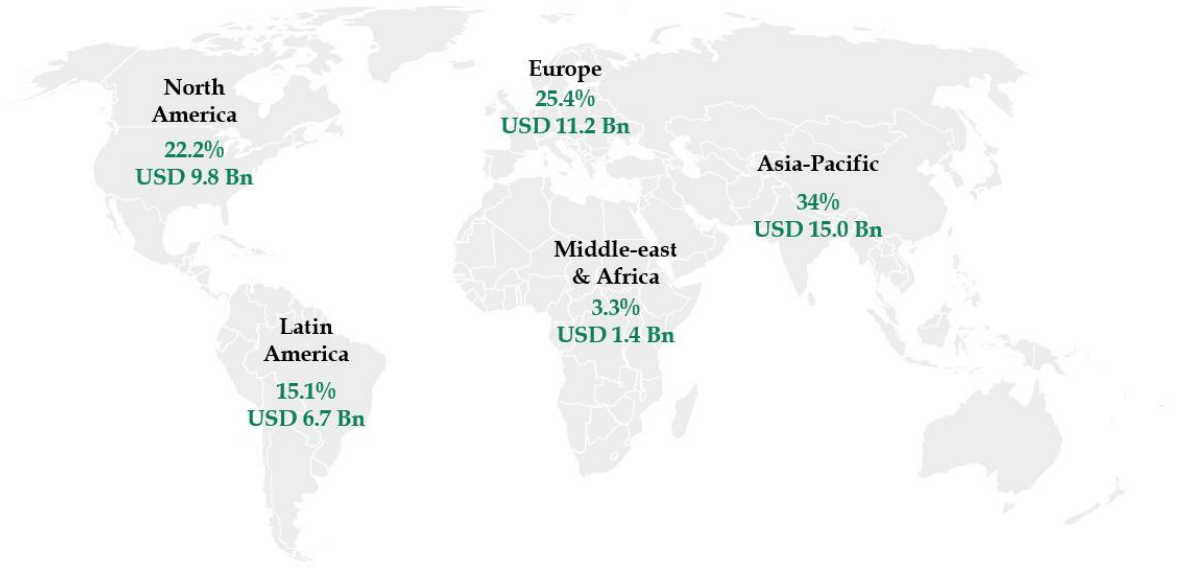
The region's dominance is driven by its vast livestock population, increasing demand for high-protein diets, and widespread adoption of nutritional additives in animal feed, particularly in China and India. Rising government regulations promoting antibiotic-free feed and sustainable animal nutrition solutions further contribute to APAC's growth momentum.

Europe follows with a 25.4% market share (USD 11.2 billion), benefiting from stringent EU regulations (such as the ban on antibiotic growth promoters) that have accelerated the adoption of probiotics, prebiotics, and functional amino acids. The region also has a well-established livestock sector, particularly in dairy and poultry farming, which drives continued demand for specialty feed additives.

North America holds 22.2% (USD 9.8 billion) of the global market, supported by its highly industrialized meat and dairy sectors. The region is a leader in technological innovations, including precision nutrition and enzyme-based feed formulations, while stringent FDA and USDA regulations ensure consistent additive adoption. Growth in North America is steady but slower than emerging markets due to market maturity.
Latin America represents 15.1% (USD 6.7 billion), with strong expansion in Brazil, Argentina, and Mexico, where increasing cattle and poultry farming are boosting feed additive demand. Growth is further fueled by the expansion of compound feed production and government initiatives to enhance livestock productivity in export-oriented economies.

While smaller in size, the Middle East accounts for 3.2% (USD 1.4 billion) and is a rapidly growing market. The poultry and dairy industries are expanding, supported by growing feed mills and increasing adoption of enzymes, minerals, and vitamins to enhance feed efficiency in the arid climate. Food security initiatives in the Gulf Cooperation Council (GCC) nations are further driving investments in the animal feed sector.

Figure 6-6: Market segmentation of the Feed Additive Market by region in USD billion and Growth Rate in (%), CY'24



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY'24 represents Calendar Year starting 1st January 2024 to 31st December 2024

Overall, Asia-Pacific remains the dominant player, while North America and Europe lead in regulatory-driven innovation, Latin America shows strong expansion, and the Middle East is emerging as a niche but high-growth region for feed additives.

6.2. INDIA'S FOOD ADDITIVES MARKET

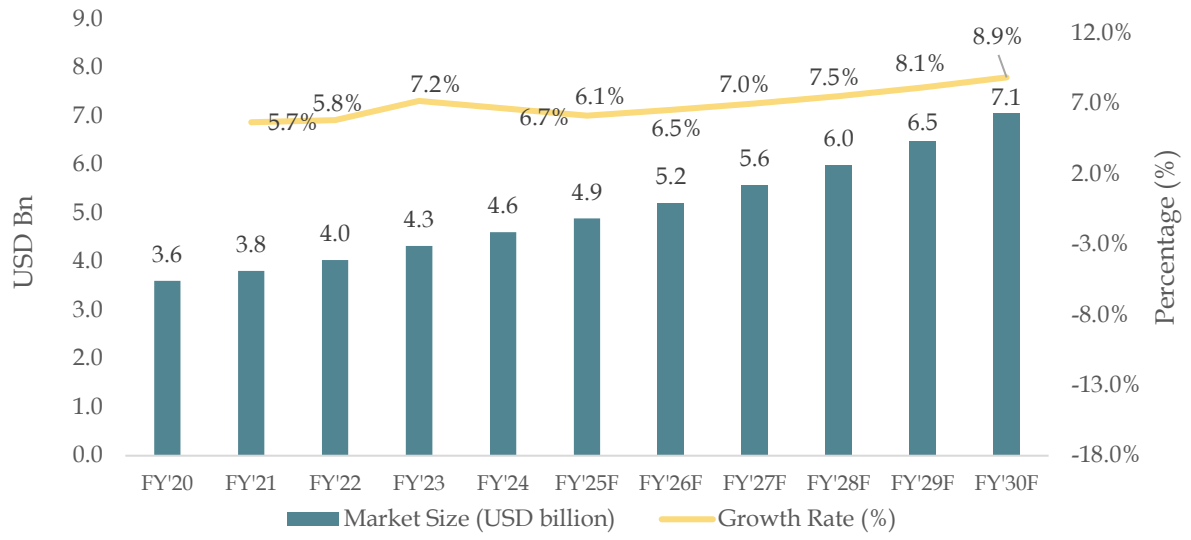
India's food additives market has been expanding rapidly, in tandem with the growth of the food processing sector. In 2024, the India food additives market (covering preservatives, flavors, nutraceutical ingredients, etc.) reached INR 40,094.6 crore (USD 4.6 billion) in revenue.

This implies a robust trajectory – indeed, at a CAGR of ~7.4%. The market would roughly double by 2030. Internal industry projections anticipate India's food additives market reaching INR 61,396 crore (USD 7.1 billion) by 2030F, making it one of the fastest growing in Asia. This growth is underpinned by the surge in domestic processed food consumption, the entry of multinational food brands, and increasing enforcement of food quality standards.

Notably, the Government of India (MoFPI) has highlighted the untapped potential: as the packaged foods industry grows from USD 33.7 billion in 2023 to more than USD 46 billion by 2028 additive demand will climb correspondingly. The trend is clearly upward, with double-digit growth in certain sub-categories (e.g. nutraceutical additives).

India's rising exports of processed foods also contribute, as exporters must use permitted additives to meet global requirements. Overall, the outlook through 2030 is robust – India is set to become a significant additive market in its own right, while also supplying additives (like guar gum, herbal extracts) to the world. change the numbers of this content.

Figure 6-7: India Food Additive Market Size in USD billion and Growth Rate in (%), FY'20-30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
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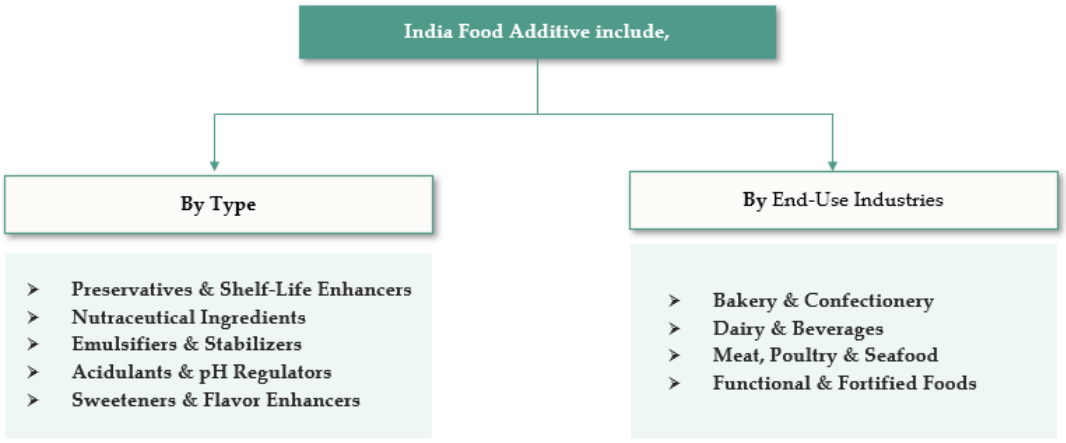


Product Type Segmentation

Preservatives & Shelf-Life Enhancers play a crucial role in India's climate-sensitive logistics, with calcium propionate, sorbates, and nitrites widely used in bakery, beverages, and meat. **Nutraceutical & Functional Ingredients** are surging, fueled by health-conscious consumers and government-backed fortification programs, with vitamins, probiotics, and omega-3s gaining traction.

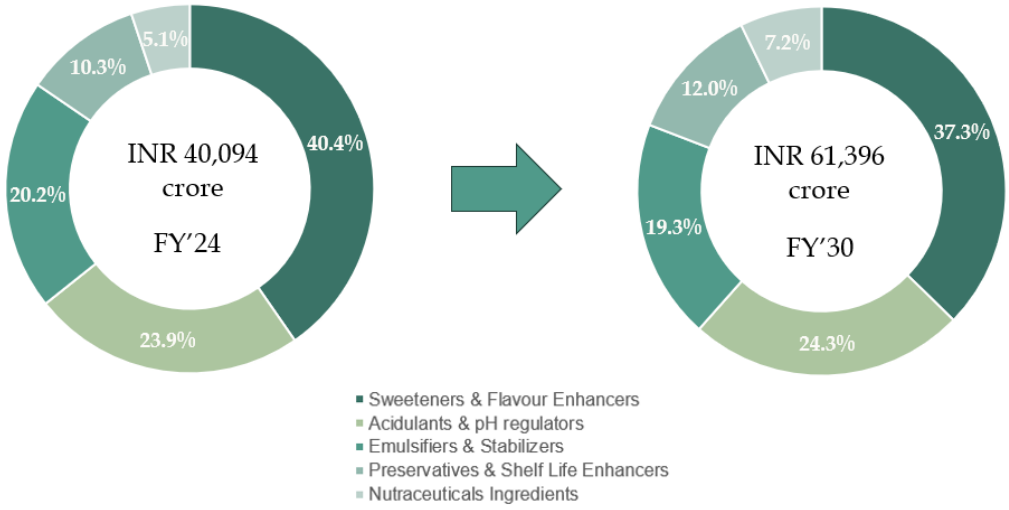
Emulsifiers & Stabilizers, such as lecithin, guar gum, and xanthan gum, ensure texture stability in bakery, dairy, and frozen desserts, supported by India's strong raw material base.

Acidulants & pH Regulators, led by citric acid, phosphoric acid, and malic acid, are integral to beverages, sauces, and confectionery, with India relying on imports for citric acid.

Sweeteners & Flavor Enhancers dominate, with artificial sweeteners like aspartame and stevia catering to sugar-conscious consumers, while MSG and yeast extracts enhance flavors in snacks and instant foods.

With the demand for healthier, convenient, and longer-lasting foods rising, India's food additives market continues to expand, balancing regulatory shifts and consumer trends.

Figure 6-8: India Food Additive Market Segmentation by Product type in INR crore, FY'24 & 30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: FY'20 represents Calendar Year starting 1st April 2019 to 31st March 2020.

Product	% Share	Value in INR Crore, FY'24
Sweeteners & Flavor Enhancers	40.4%	16,180
Acidulants & pH regulators	23.9%	9,601
Emulsifiers & Stabilizers	20.2%	8,111
Preservatives & Shelf-Life Enhancers	10.3%	4,140
Nutraceutical Ingredients	5.1%	2,062

End-User Industry Segmentation

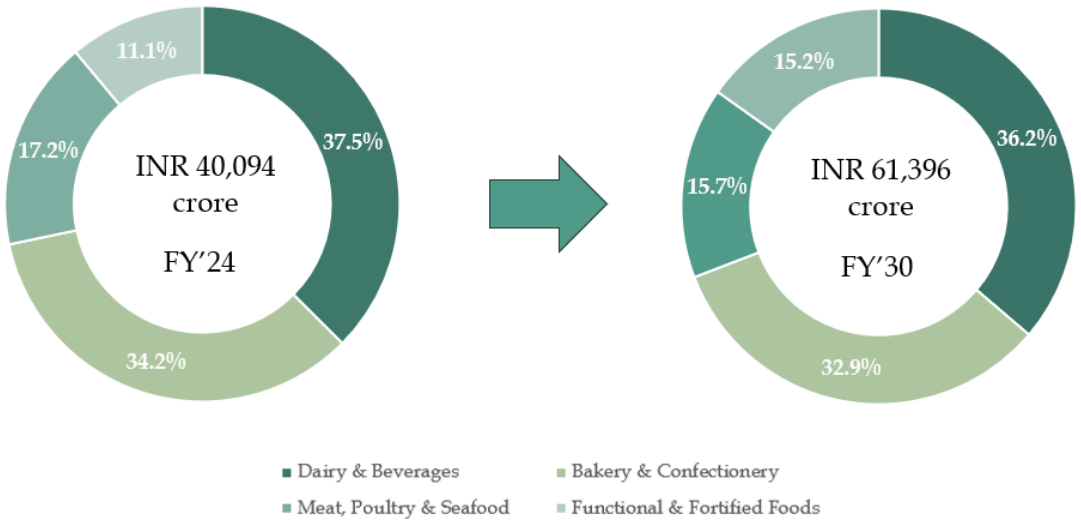
India's **food additives market** is driven by key end-use sectors, each with distinct demands. **Bakery & Confectionery**, a major consumer, relies on preservatives (calcium propionate, sorbates), emulsifiers, and flavors to enhance shelf-life, texture, and taste. Growth in premium packaged bakery and regional confectionery flavors is expanding additive use (~9–10% annual growth).

Dairy & Beverages use stabilizers, emulsifiers, sweeteners, and fortificants (e.g., vitamin A/D in milk, guar gum in ice cream). The booming packaged beverage market (~20% CAGR) fuels demand for flavors, acidulants, and sugar substitutes.

Meat, Poultry & Seafood Processing employs preservatives (nitrites, antioxidants), moisture retainers (phosphates), and flavor enhancers, with growing frozen and processed meat demand driving additive usage.

Functional & Fortified Foods, the fastest-growing segment (~15–20% annually), incorporates vitamins, minerals, protein, probiotics, and botanicals in fortified staples, health snacks, and nutraceuticals. Backed by consumer wellness trends and government initiatives, this segment is reshaping additive consumption, ensuring sustained market expansion.

Figure 6-9: India Food Additive Market Segmentation by End User industry type in INR crore, FY'24 & 30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: Note 2: FY'20 represents Calendar Year starting 1st April 2019 to 31st March 2020.

Product	% Share	Value in INR Crore, FY'24
Dairy & Beverages	37.5%	15,019
Bakery & Confectionery	34.2%	13,730
Meat, Poultry & Seafood	17.2%	6,897
Functional & Fortified Foods	11.1%	4,448

6.3. India's Feed Additives Market: Growth Dynamics & Segmentation

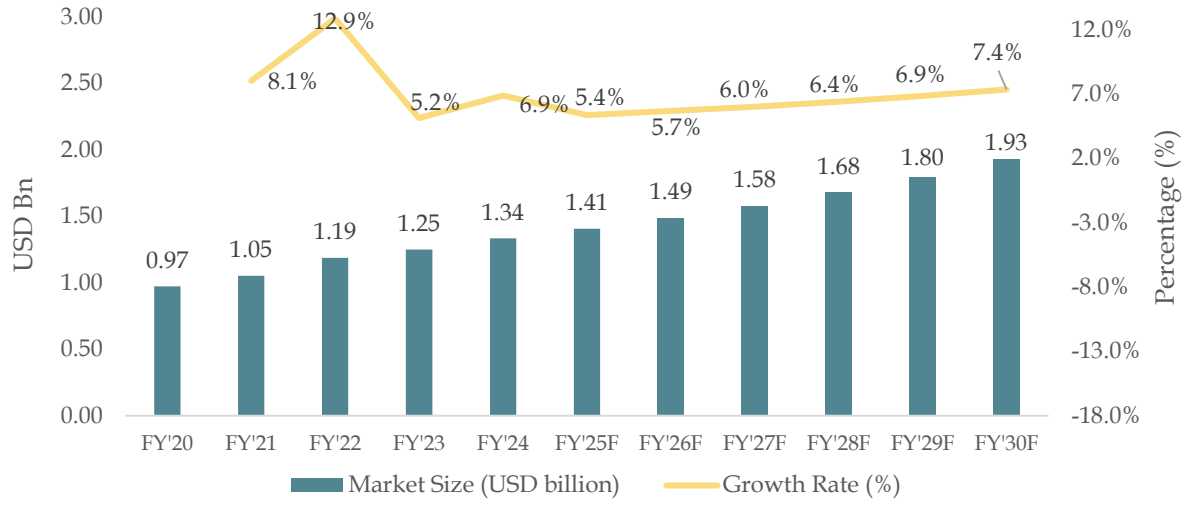
India's market for **feed additives** (additives used in animal feed) is a substantial subset of the overall additives industry. With India being one of the world's top 5 animal feed producers, the volume of additives used in feed is significant and growing.

As of 2024, the India feed additives market is estimated to **INR 10,875 crore (USD 1.25 crore)** in value. This includes amino acids added to poultry/dairy feed, vitamin and mineral premixes, enzymes, probiotics, etc.

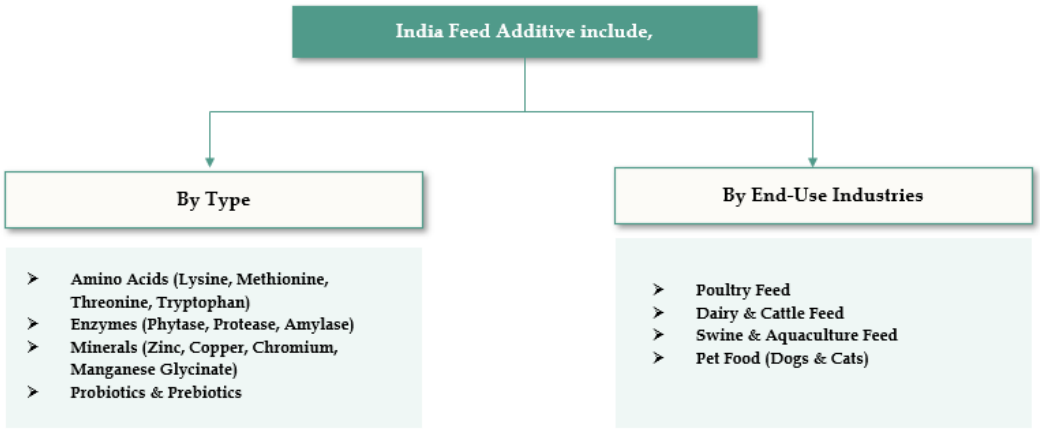
The feed additives sector is poised for steady growth in the coming years – projected around 6.2% CAGR to 2030F. This implies the market could reach roughly **INR 15620 crore (USD 1.80 billion) by 2030F**. Several factors support this growth: the overall **compound feed industry in India is expanding (~6.9% CAGR)** as livestock producers shift from traditional forages to formulated feeds.

Additionally, there is a trend towards **higher inclusion of performance additives** to improve feed efficiency and animal productivity, especially in poultry and dairy sectors. The relatively low current usage rates of certain additives (e.g. enzymes, probiotics) indicate room for growth as farmers adopt these to cut costs and comply with any upcoming regulations (like antibiotic-free feeding). Thus, the outlook is that India's feed additives market will see healthy growth through 2030, in line with increasing demand for eggs, meat, and milk in the country.

Figure 6-10: India Feed Additive Market Size in USD billion and Growth Rate in (%), FY'20-30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: FY'20 represents Financial Year starting 1st April 2019 to 31st March 2020.



Product Type Segmentation

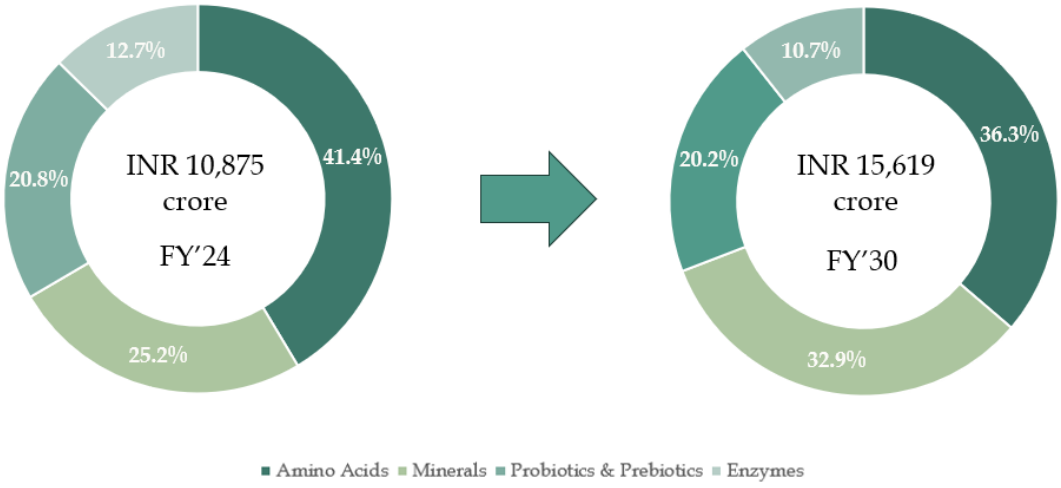
India's **feed additives market** is segmented into key categories, each enhancing livestock nutrition and productivity. **Amino Acids** (Lysine, Methionine, Threonine) are essential for poultry and swine, optimizing protein balance in feeds. With poultry accounting for ~66% of usage, demand is high, though India relies on imports.

Enzymes (Phytase, Protease, Amylase) improve nutrient absorption and feed efficiency, with phytase widely adopted in poultry and pig feeds to reduce phosphate waste. This segment is growing fast, driven by sustainability needs.

Minerals (Zinc, Copper, Chromium) are essential in all feed formulations, with a shift toward organic chelates for better bioavailability, especially in dairy and poultry.

Probiotics & Prebiotics are rapidly gaining traction (~10–15% growth), replacing antibiotic growth promoters (AGPs) with Bacillus, Lactobacillus, and MOS to improve gut health in poultry, dairy, and aquaculture. With rising demand for efficient, sustainable feed solutions, India's feed additive market continues to expand, driven by poultry dominance and innovations in enzyme and probiotic applications.

Figure 6-11: India Feed Additive Market Segmentation by Product type in INR crore, FY'24 & 30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: FY'20 represents Calendar Year starting 1st April 2019 to 31st March 2020.

Product	% Share	Value in INR Crore, FY'24
Amino Acids	41.4%	4,502.3
Minerals	25.2%	2,738.0
Probiotics & Prebiotics	20.8%	2,257.8
Enzymes	12.7%	1,376.9

End-User Industry Segmentation

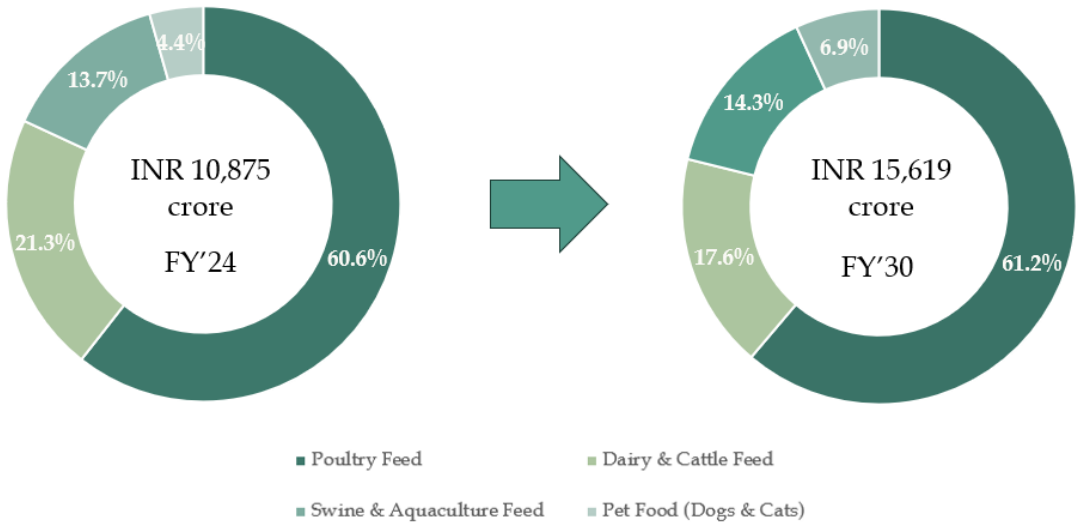
India's **feed additives market** is driven by diverse end-use applications. **Poultry Feed** dominates (~60% of total feed volume), requiring amino acids (methionine, lysine), vitamins, enzymes, and yolk colorants for broiler growth and egg production. With poultry growing at ~8% annually, additive demand remains strong.

Dairy & Cattle Feed (~20–25%) relies on mineral-vitamin premixes, probiotics (yeast culture), and protected methionine to enhance milk yield and fertility. Increased adoption of balanced feed and government support for mineral supplementation are expanding additive use.

Swine & Aquaculture Feed (~10–15%) sees limited swine demand but high aquafeed growth, incorporating binders, vitamins, pigments (astaxanthin for shrimp), and probiotics to enhance fish health and survival.

India's **Pet Food** market, though small, is growing rapidly (~15% CAGR), with premium formulations using taurine, glucosamine, omega-3s, and herbal extracts. As livestock and pet nutrition trends evolve, feed additives will continue to see sustained growth across sectors, particularly in poultry, dairy, and aquaculture.

Figure 6-12: India Feed Additive Market Segmentation by End User industry type in INR crore, FY'24 & 30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: Note 2: FY'20 represents Calendar Year starting 1st April 2019 to 31st March 2020.

Product	% Share	Value in INR Crore, FY'24
Poultry Feed	60.6%	6,590.3
Dairy & Cattle Feed	21.3%	2,316.4
Swine & Aquaculture Feed	13.7%	1,489.9
Pet Food (Dogs & Cats)	4.4%	478.5

7. PESTLE ANALYSIS – INDIA FOOD AND FEED ADDITIVE INDUSTRY

Political	**Regulatory Oversight:** The Food Safety and Standards Authority of India (FSSAI) regulates food additives through the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011, ensuring safe usage and quality control. **Trade Policies:** The Government of India's Production Linked Incentive (PLI) scheme for food processing aims to boost domestic manufacturing, attracting investment and enhancing competitiveness. However, global tariffs may increase the cost of imported raw materials. **Government Initiatives:** Initiatives like Make in India and Special Economic Zones (SEZs) provide tax incentives, fostering domestic manufacturing and strengthening the food additives industry's competitive edge.
Economic	**Inflation and Cost Pressures:** India's 5.2% CPI inflation in 2024 has raised raw material costs for food additives, increasing production costs and potentially leading to higher consumer prices. **Increasing Processed Food Consumption:** The growing demand for processed foods in India, with the packaged food industry projected to grow from USD 33.7 billion in 2023 to USD 46 billion by 2028, is driving higher demand for food additives like preservatives, emulsifiers, and sweeteners.
Social	**Changing Consumer Preferences**: Urbanization and busy lifestyles are driving demand for processed and ready-to-eat foods, increasing the need for additives like preservatives, flavor enhancers, and emulsifiers. **Health Trends**: Consumers are increasingly seeking natural and clean-label products, influencing the types of additives used in food products.
Technological	**Innovation in Additives:** Advancements in food processing and food-grade additives are focusing on safer, cleaner, and more efficient options, such as bio-based feed additives driven by sustainability concerns. Digital transformation in the food manufacturing process is also enhancing product quality and consistency. **E-commerce Growth:** The rise of online grocery stores and food marketplaces is expanding access to food additives, boosting the market as e-commerce continues to grow in India.
Legal	**Food Safety and Standards:** India's food additive market is regulated by FSSAI, which sets limits on additives like preservatives and flavor enhancers. Non-compliance can lead to penalties, recalls, and loss of market access.

	Export Compliance: Indian manufacturers must comply with international standards like Codex Alimentarius, ISO, and EU regulations to export additives, ensuring competitiveness in the global market.
Environmental	**Sustainability Initiatives:** India is shifting toward bio-based additives, like plant-derived emulsifiers and natural preservatives, to meet consumer demand for cleaner, environmentally friendly products. **Regulatory Push for Sustainability:** Global regulations are tightening on sustainability, prompting manufacturers to adopt eco-friendly production processes and seek alternatives to antibiotic growth promoters (AGPs) in feed additives.

8. Regulatory Landscape

8.1. FSSAI Regulations & Compliance Requirements

8.1.1. Food Additives:

Regulation Type	Description	Impact
Food Additives Regulations	Defined by the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011. Specifies permissible additives, maximum limits, and purity standards for preservatives, emulsifiers, flavor enhancers, stabilizers, and colorants.	Must adhere to approved additives and limits. Higher R&D cost for compliance. Risk of product recall or ban if non-compliant.
Societies Registration Act, 1860	The Societies Registration Act, 1860 provides a legal framework for the formation and registration of societies dedicated to charitable, scientific, literary, or social welfare purposes. Once registered, these societies gain legal recognition and are empowered to own property, enter contracts, and undertake legal proceedings.	Although not directly regulating commercial operations, this Act plays an enabling role by facilitating the formation of non-profit, cooperative, and research institutions that support the sector. Notable societies operating under this Act include: • Indian Council of Agricultural Research (ICAR) • National Egg Coordination Committee (NECC) • National Horticulture Board

		(NHB) Such institutions contribute to research, training, policy advocacy, and capacity building, forming a vital part of the broader food and feed additives ecosystem.
Bureau of Indian Standards Act, 2016	The BIS Act, 2016 establishes the Bureau of Indian Standards (BIS) as the national body responsible for the development and certification of Indian Standards. The Act empowers BIS to mandate conformity to standards for notified goods and services, ensuring quality assurance through marking and certification schemes.	BIS formulates standards for food and feed additives to ensure their safety, consistency, and effectiveness. Certain additives may fall under mandatory certification, requiring compliance with BIS standards before being marketed. The Act enforces conformity assessment, third-party certification, and testing procedures. BIS certification influences import and export eligibility, making it crucial for market access and global competitiveness. • Through alignment with international standards, BIS supports the industry's integration with global trade and quality frameworks.
Contaminants, Toxins, and Residues	As per the Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011. Sets permissible limits for chemical/toxic residues in food additives to protect consumer health.	Need for strict raw material sourcing and hygiene. Increased testing costs. Non-compliance can lead to penalties or brand damage.
Food Business Operator (FBO) Licensing	Licensing is mandatory for manufacturers, importers, and distributors to ensure safety, accountability, and quality protocols.	Legal requirement to operate. Promotes traceability. Entry barrier for new or small players due to licensing timelines.
Labeling and Packaging Regulations	Enforced by FSSAI to ensure transparent labeling of ingredients, nutritional values, and health warnings.	Cost for compliant packaging and design.

	Supports informed consumer choices.	Risk of legal consequences for mislabeling. Helps build consumer trust.
Testing and Certification	Food additives must be tested in NABL-accredited labs for safety, purity, and quality. Third-party certification assures regulatory compliance.	Adds to operational/testing costs. May slow down product launch. Enhances credibility and market access.

8.1.2. FEED ADDITIVES:

Regulation Type	Description	Impact
Contaminants, Toxins, and Residues	The Food Safety and Standards (Contaminants, Toxins, and Residues) Regulations, 2011 ensure feed additives are free from harmful substances like heavy metals, pesticides, or mycotoxins, protecting both animal and human health.	Requires rigorous contaminant testing and quality control. Increases compliance costs. Non-compliance may lead to product bans or legal action.
Fertilizer (Control) Order, 1985 (Under Essential Commodities Act, 1955)	The Fertilizer (Control) Order, 1985 (FCO), issued under the Essential Commodities Act, 1955, is administered by the Department of Agriculture Cooperation, Government of India. It outlines the regulatory framework for what substances qualify as fertilizers, establishes product-specific standards, and prescribes methods for sampling and analysis.	The FCO has a direct bearing on the feed additives segment, particularly for mineral mixtures, urea, and other nutrient supplements also used in agriculture. It necessitates regulatory compliance for licensing, quality testing, and packaging. The Order ensures uniform quality, preventing adulteration and protecting livestock health. It also affects pricing and availability in rural and agri-linked regions.
Animal Feed Regulations	Animal Feed Regulations ensure that feed additives promote animal health and growth without causing antibiotic resistance or toxicity, while also safeguarding the environment and food chain.	Limits the use of certain additives like antibiotics. Promotes innovation in safe alternatives.

		Ensures sustainable and responsible production.
Licensing and Registration	Licensing and registration ensure only approved and compliant manufacturers and importers operate in the market, maintaining traceability and accountability.	Creates regulatory barriers for entry. Encourages transparency and accountability. Prevents entry of non-compliant or low-quality players.

8.2. ISO & GMP Standards for Manufacturing Additives

8.2.1. Food Additives:

Regulation Type	Description	Impact
ISO 22000 - Food Safety Management System	ISO 22000 sets the requirements for an effective food safety management system, ensuring food additives do not introduce contaminants. It emphasizes preventive measures, continuous monitoring, and corrective actions.	Encourages systematic risk management. Improves internal food safety controls. Certification enhances trust and opens business opportunities.
ISO 9001	The ISO 9001 standard, internationally recognized for its focus on quality management, offers key processes that can be gracefully incorporated into an organization's operations. By constructing a Quality Management System (QMS) based on ISO 9001, an organization ensures that quality permeates all its operational sections.	Enhances customer trust and satisfaction by delivering consistent quality products and services. Improves operational efficiency through streamlined processes and reduced waste. Supports market access and competitive advantage by providing global credibility and meeting procurement requirements.
Good Manufacturing Practices (GMP)	GMP guidelines ensure food additives are produced in hygienic, controlled environments. It covers facility cleanliness, employee hygiene, raw material storage, equipment maintenance, and quality control.	Requires disciplined production processes. Increases operational and training costs. Ensures product consistency and safety.

Codex Alimentarius (FAO/WHO Food Standards)	Codex Alimentarius provides international standards for the safe use of food additives, considering toxicity, usage levels, and long-term impacts. It promotes global harmonization of food safety regulations.	Helps align with international best practices. Facilitates export and market acceptance. Drives formulation transparency and scientific validation.
EU & US FDA GMP Compliance	EU and US FDA regulations mandate strict safety, quality, and manufacturing standards for food additives, ensuring international market compliance and consumer safety.	Mandatory for global trade. Increases regulatory burden. Builds credibility and trust in international markets.

8.3. Environmental & Sustainability Regulations

8.3.1. Food Additives:

Regulation Type	Description	Impact
REACH (EU Chemicals Regulation)	REACH ensures food additives comply with environmental and health safety standards in the EU. It focuses on reducing risks from chemicals to human health and the environment.	Requires thorough chemical safety evaluations. May limit certain additives. Enables access to EU markets while enhancing environmental compliance.
BIS Environmental Standards	BIS Environmental Standards promote sustainable practices in the Indian food industry by encouraging environmentally friendly manufacturing and reduced energy/waste.	Mandates cleaner production practices. Drives innovation in waste reduction and energy efficiency. May increase initial investment but lowers long-term environmental impact.
JECFA (Joint FAO/WHO Expert Committee on Food Additives)	JECFA conducts scientific risk assessments to determine safe use and acceptable daily intake (ADI) of food additives, setting global safety benchmarks.	Aligns products with international safety standards. Strengthens scientific validation and regulatory acceptance globally.
DSIR & FSSAI Guidelines on	DSIR & FSSAI encourage adoption of sustainable and eco-	Promotes green manufacturing.

Sustainable Practices	friendly production methods to reduce environmental impact in the manufacture and application of food additives.	Encourages long-term sustainability and brand reputation. May attract eco-conscious consumers and investors.
Punjab Groundwater Extraction and Conservation Directions, 2023	Introduced on January 27, 2023, under the Punjab Water Resources (Management and Regulation) Act, 2020. It aims to improve water balance by promoting conservation through volumetric extraction charges and conservation credits. Exemptions include agriculture, drinking, and domestic use.	By imposing volumetric charges, it encourages water conservation and efficient use. Charges collected are used for water conservation efforts. Offers incentives like water-conservation credits for users who conserve water. Fosters economic activities while safeguarding environmental resources.
Maharashtra Groundwater (Management and Regulation) Act, 2009	Regulates Groundwater Extraction. Requires industries and large users to obtain permits and implement water-saving measures.	Conserves Groundwater: Reduces over-extraction by regulating industrial use. Encourages Water Efficiency: Mandates water-saving technologies in industries. Protects Aquifers: Safeguards groundwater quality by controlling pollution

8.4. Export Regulations for Food & Feed Additives

8.4.1. Food Additives Regulations

Regulation Type	Description	Impact
Middle East Regulations	GSO 2500/2015 sets safety standards for food additives in GCC countries. SFDA mandates halal certification and safety assessments, ensuring health and cultural compliance in Saudi Arabia.	Must ensure additives meet GCC safety and halal standards. Requires investment in certification and testing. Enables access to growing Middle Eastern markets.
ASEAN Regulations	ASEAN Food Safety Policy creates a unified framework for food additive regulation across ASEAN.	Streamlines regulatory compliance across multiple ASEAN countries. Facilitates trade.

	Singapore and Malaysia (Singapore Food Agency (SFA) & Malaysia Food Act 1983) enforce strict national standards, while Vietnam and Thailand provide rules for permitted additives.	Necessitates understanding of each country's individual and collective standards.
European Union Regulations	EU Regulation (EC) No 1333/2008 defines allowed food additives and usage levels. REACH ensures chemical safety. EFSA conducts evaluations and sets limits. Documentation (CoA, halal/kosher, safety data) is required for import compliance.	Requires comprehensive documentation and safety validation. High compliance costs but opens access to a large and regulated market. Enhances product credibility and traceability.

8.4.2. FEED ADDITIVES REGULATIONS

Regulation Type	Description	Impact
Middle East Regulations	GSO regulations require approval and registration of feed additives before import. UAE and Saudi FDA enforce safety and quality checks to protect animal health and ensure feed safety.	Must complete approval and registration before market entry. Adds compliance cost and time. Ensures safety and builds market trust.
ASEAN Regulations	ASEAN Feed Additive Guidelines standardize import requirements. Indonesia and Vietnam mandate local safety testing and certification to ensure safe use in animal feed.	Need to meet both ASEAN-wide and country-specific regulations. Requires local testing and documentation. Streamlines trade within the region.
European Union Regulations	EU Regulation (EC) No 1831/2003 mandates approval of all feed additives. EFSA reviews safety and efficacy. Labeling and traceability requirements ensure quality and transparency in the supply chain.	High regulatory standards and documentation required. Cost-intensive, but provides access to a highly regulated and trusted market. Improves brand credibility and traceability.

8.5. Import and Trading Regulations for Food and Feed Additives

Regulation Type	Description	Impact
FSSAI Import License	Importers must obtain an FSSAI Import License to bring food and feed additives into India. This license ensures that the importer complies with FSSAI standards.	Without this license, imports cannot be legally processed. Leads to penalties or shipment rejection.
Department of Animal Husbandry and Dairying (DAHD) regulation	Importers of animal feed additives and livestock products must obtain an import license from DAHD to legally bring these products into India.	Without this license, importation cannot proceed, and the products will be rejected at customs.
Approved Additives List	The Food Safety and Standards Authority of India (FSSAI) has a list of approved food additives, including preservatives, antioxidants, improvers, and flour treatment agents, with specific permissible levels for each.	Only approved additives can be imported. Non-compliance leads to banned or rejected goods.
Certificate of Analysis (COA)	A Certificate of Analysis from the manufacturer or an accredited lab is required to verify that the product complies with FSSAI's safety and quality standards.	Without a COA, the additives may be rejected by customs or FSSAI. Impacts smooth customs clearance.
Bureau of Indian Standards (BIS) Compliance	BIS may require additives to meet specific quality standards. BIS certification ensures that products are in line with Indian safety requirements.	Lack of BIS certification can prevent clearance of products, especially for certain additives.

9. Supply Chain Analysis

9.1. Overview of Supply Chain for Raw Material for Additives Production

India's food and feed additive industry significantly depends on imported raw materials due to limited domestic production capabilities for specialized and high-purity ingredients. The sourcing is structured clearly along import-driven and locally produced categories. Below is a structured breakdown of the key stages:

Figure 8-1: Supply Chain for Food and feed Additives (Part-1)

Parameter	Commonalities	Differences (Food Additives)	Differences (Feed Additives)
Raw Material Sourcing	Both require enzymes, emulsifiers, stabilizers, and vitamins from domestic and global suppliers.	Includes oleochemicals, antioxidants, sweeteners, and hydrocolloids for texture enhancement.	Includes amino acids, probiotics, minerals, and carotenoids for animal nutrition.
Regulatory Compliance	Both comply with FSSAI, BIS, and international safety standards like EU (EFSA) and FDA.	NA	NA
Manufacturing & Processing	Both involve large-scale production with strict quality and safety protocols.	Specialized production for FMCG with a focus on allergen control and clean-label formulations.	Focus on bulk production ensuring nutritional efficacy and digestibility for animals.
Quality Control & Testing	Both undergo rigorous testing for purity, safety, and regulatory compliance.	Allergen testing, stability analysis, and microbial safety assessments are emphasized.	Testing involves nutritional composition verification and contamination checks for animal feed.
Distribution & Logistics	Both require warehousing, specialized logistics, and cold chain storage for sensitive ingredients.	Cold chain is crucial for perishable food additives	Bulk shipments to feed mills, integrated into livestock and aquaculture supply chains.
End-Use Industries	Both cater to industries focused on human or animal consumption, requiring strict compliance.	Used in bakery, confectionery, dairy, processed food, and beverages.	Used in poultry, cattle, aquaculture, and pet food industries.

Key Importing Countries & Major Products

Imported Raw Materials

- **China:** Major supplier of amino acids such as Lysine and Methionine, essential preservatives, and artificial sweeteners including Aspartame and Sucralose.
- **USA:** Crucial provider of premium vitamins, enzymes, probiotics, and nutraceutical components.
- **Germany:** Leading exporter of emulsifiers, acidifiers, natural extracts, and specialty chemical derivatives required in high-quality additive formulations.

Domestically Manufactured Ingredients

- **Natural Food Colors:** Widely produced ingredients include Curcumin and Annatto, used extensively in domestic food processing industries.
- **Common Preservatives:** Sodium Benzoate, widely used in various food processing applications.
- **Mineral Supplements:** Calcium, Zinc, and other essential mineral compounds produced domestically to meet local and partial international demands.

Distribution Channel

The food and feed additives market employ a multi-tiered distribution network catering to both bulk and retail buyers:

Online Distribution:

- **B2B Channels:** Platforms such as IndiaMART, TradeIndia, and Alibaba India target large-scale industrial customers, manufacturers, and institutional purchasers seeking bulk procurement.
- **B2C Channels:** Consumer-focused platforms including Amazon, Flipkart, and 1mg deliver nutraceutical and specialized additive products directly to retail customers, ensuring accessibility and ease of purchase.

Offline Distribution:

- **Wholesale & Distribution Networks:** Serve bulk purchasing requirements of food processing firms, dairy companies, poultry and livestock farms, as well as aquaculture operations, ensuring consistent and reliable supply chains.
- **Specialty Retail Stores:** Cater directly to end consumers with tailored offerings including nutritional supplements, functional food additives, and bakery enhancement products.

End User and Application Segments

Food and feed additives serve a wide range of industries, enhancing product quality, safety, and nutritional value.

Food Additives:

- **Processed Food & Beverage Industry –** Used in dairy, bakery, confectionery, and ready-to-eat food products for emulsification, preservation, and flavor enhancement. Beverages like soft drinks, energy drinks, and alcoholic drinks use sweeteners, stabilizers, and acidity regulators. The market size of food processing sector in India is estimated to reach USD 1,274 billion in 2027.
- **Nutraceutical Industry –** Functional foods and dietary supplements depend on vitamins, probiotics, and other bioactive additives to enhance nutritional value. India's nutraceutical market is expected to grow ~ USD 18 billion by 2025.

Feed Additives

- **Poultry & Livestock Farming:** Amino acids, minerals, and probiotics improve weight gain, egg production, and milk yield for broilers, dairy cattle, and other livestock. India, the world's largest milk producer, recorded a CAGR of 5.3% (FY'22), contributing ~25% to global milk production.
- **Aquaculture (Fish & Shrimp Farming)**: Feed additives enhance nutrient absorption, disease resistance, and growth rates in fish and shrimp farming. The sector has shown an impressive CAGR of 10%, significantly contributing to foreign exchange earnings.
- **Pet Food Industry**: Specialized formulations for pet nutrition include essential vitamins, amino acids, and omega fatty acids for improved pet health and longevity. India pet food market is expected to double to reach INR 0.2 million crore by 2030.

Figure 8-2: Supply Chain for Food and feed Additives (Part-2)

Parameter	Commonalities	Differences (Food Additives)	Differences (Feed Additives)
Key Importing Countries & Major Products	China, USA, and Germany are key suppliers of essential raw materials for both food & feed additives.	China supplies Aspartame & Sucralose | USA supplies premium vitamins & nutraceuticals | Germany exports emulsifiers & acidifiers.	China supplies Lysine & Methionine | USA exports enzymes & probiotics | Germany supplies specialty chemical derivatives.

Domestically Manufactured Ingredients	Common preservatives, mineral supplements, and natural food colors used in both segments.	Curcumin & Annatto (natural food colors) and Sodium Benzoate (common preservative).	Mineral supplements like Calcium & Zinc to meet domestic and partial export demand.
Distribution Channels	Both utilize online (B2B & B2C) and offline (wholesale & specialty retail) distribution networks.	B2B: IndiaMART, TradeIndia, Alibaba India | B2C: Amazon, Flipkart, 1mg | Offline: Specialty stores for direct consumers.	B2B: Bulk supply to feed mills & livestock farms | Offline: Wholesale networks catering to poultry, dairy, & aquaculture sectors.

Source: Company Websites, Annual Reports, Interviews with Industry Experts, Industry Articles & Ken Research Analysis

10. Trade & Export Trends in Chemicals & Additives

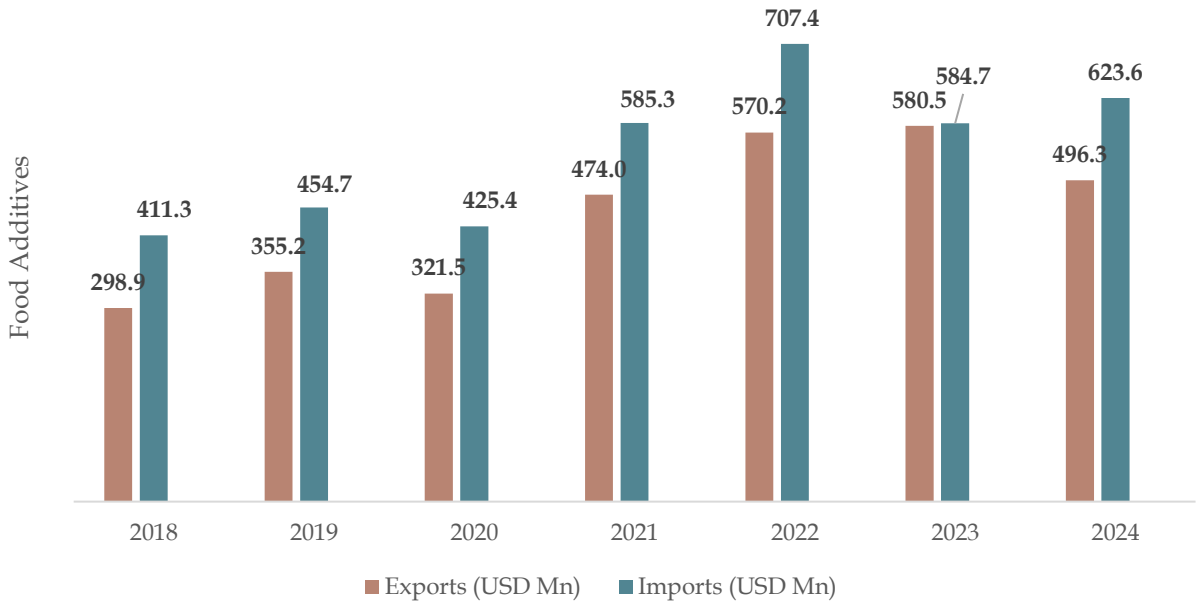
10.1. Food Additives Trade Analysis

India remains a major importer of **preservatives, flavor enhancers, emulsifiers, and stabilizers**, sourcing high-quality formulations primarily from **China, the USA, Germany, and France** to support its expanding food processing industry. However, the country is rapidly **scaling exports**, particularly in **natural and clean-label additives**, gaining traction across **Asia, the Middle East, and Africa** with plant-based herbal extracts, natural sweeteners, and bio-preservatives.

As of April 2025, the United States has implemented a 26% reciprocal tariff on a broad range of Indian exports, including food preservatives and feed additives. This policy shift is part of a broader strategy to address perceived trade imbalances and has significant implications for Indian exporters. The 26% tariff directly raises the cost of Indian food preservatives and feed additives in the U.S. market, potentially reducing competitiveness compared to products from countries not subject to such tariffs.
In response to these tariffs, Indian exporters are exploring alternative markets. For instance, Coastal Corporation, a major seafood exporter, is expanding its presence in China, Russia, and Canada to mitigate reliance on the U.S. market. India is engaging in trade discussions with the U.S., offering tariff reductions on certain American agricultural products in hopes of easing the reciprocal tariffs on Indian exports. Exporters may need to reassess pricing strategies, consider absorbing some tariff costs, or explore joint ventures with U.S.-based companies to circumvent tariffs.

To reduce import reliance, the **government is driving investments in domestic manufacturing and food processing technologies**, with a focus on **regulatory alignment and quality enhancement** to meet global standards. **Innovation, R&D, and advanced formulations** will be critical to strengthening India's position in the **global food additives market**, fostering self-sufficiency while expanding international reach.

Figure 9-1: India Food Additives Import and Export Scenario (in USD Mn), 2018 - 2024



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: FY'19 represents Financial Year starting 1st April 2018 to 31st March 2019.
HS Code: 292320, 130190, 350510, 391390, 291619, 291631, 293627, 320420, 320300, 330210

We have included Dual-Use Additives (Food & Feed) in this category such as Monosodium Glutamate (MSG) - 292242, Amino Acids (Lysine, Methionine) - 292242 / 292249, antioxidants - - 290719, enzymes - 350790, yeasts - 210210, Vitamins (A, D, E, B-series) - 293621 / 293629, Organic Acids (Citric, Lactic, Fumaric) - 291814 / 291811 / 291719.

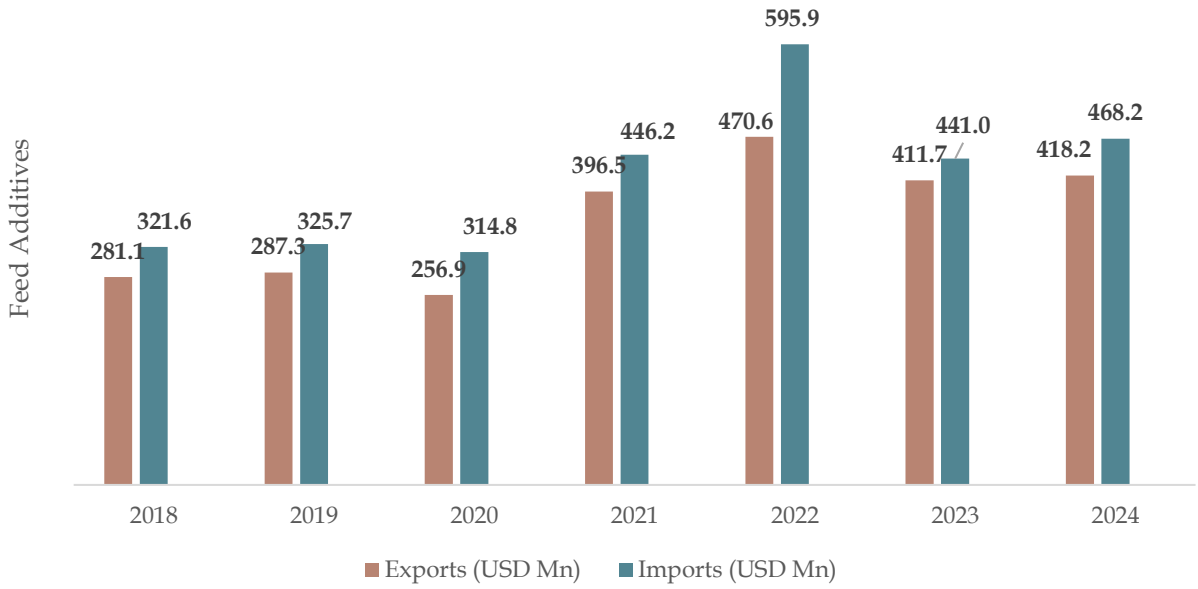
10.2. Feed Additives Trade Analysis

India imports key feed additives, including vitamins, amino acids, enzymes, and probiotics, to enhance animal nutrition and productivity across the poultry, livestock, and aquaculture sectors. The majority of imports originate from China, the USA, and Europe, where advanced formulations are widely available.

Conversely, India has established a strong export presence in herbal and organic feed additives, catering to Asia, the Middle East, and Africa with natural growth promoters and toxin binders that offer cost-effective and antibiotic-free solutions.

To reduce import reliance, the government is incentivizing local manufacturing and investing in R&D to enhance production capabilities. With a growing shift toward sustainable and bio-based solutions, India is well-positioned to emerge as a leading global supplier of high-quality feed additives.

Figure 9-2: India Feed Additives Import and Export Scenario (in USD Mn), 2018 - 2024



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: FY'19 represents Financial Year starting 1st April 2018 to 31st March 2019.
HS Code: 292320, 130190, 350510, 391390, 291619, 291631, 293627, 320420, 320300, 330210

11. Industry Growth Drivers, Challenges, and Threats

11.1. Key Demand Drivers

EXPANSION OF DAIRY INDUSTRY

India, the world's largest milk producer, has been steadily increasing its **dairy exports**, positioning itself as a key player in the global dairy market. The India dairy market is on a strong growth trajectory, with significant increases projected in the coming years. The market size, valued at **INR 1,679.2 thousand crore** in 2023, is expected to rise steadily, reaching **INR 2,660.4 thousand crore** by 2028.

The country's diverse **dairy portfolio**, **cost-effective production**, and improving quality standards have contributed to growing demand for **Indian dairy products** in international markets. However, challenges such as export restrictions, trade policies, and quality compliance continue to limit its full potential.

India's dairy export portfolio includes a range of products catering to different global markets. Key products include **skimmed milk powder (SMP)**, **casein** and **casein derivatives**, **butter and ghee**, **milk cream and condensed milk**, and **cheese and paneer**. India is a major exporter of SMP, used widely in **food processing**, **confectionery**, and **bakery industries**

Global demand for Indian dairy products is fueled by factors such as **cost competitiveness**, **rising demand for ghee and clarified butter** in South Asia and the Middle East, and the **quality improvements** in Indian dairy products due to modern processing techniques and stringent quality control measures. **Casein** and **whey protein** are seeing increased demand due to the rise of the **sports nutrition** and **functional food** industry.

Government support mechanisms, such as **export incentives**, **subsidies**, and programs like the **Dairy Processing and Infrastructure Development Fund (DIDF)**, are helping improve processing capabilities, **cold chain logistics**, and **product quality**. Initiatives such as the **Pradhan Mantri Kisan Sampada Yojana (PMKSY)** and **PM Formalization of Micro Food Processing Enterprises (PMFME)** scheme provide financial, technical, and business support to enhance dairy export growth.

The **future of India's dairy exports** looks promising, with greater demand for **premium dairy categories** such as **organic dairy**, **A2 milk**, and **specialty cheese** varieties. As **cross-border e-commerce** grows, Indian dairy brands are increasingly using online platforms like **Amazon** and **Flipkart** to reach global consumers. **Sustainable dairy practices**, such as **eco-friendly packaging** and **low-carbon processing techniques**, will also be crucial for continued growth in international markets.

Figure 10-1: India Dairy Market at Retail Price (in INR thousand crores), 2023-28

Source: Industry Reports & Ken Research Analysis
Note: 2023 represents Calendar Year starting 1st January 2023 to 31st December 2023.

STRINGENT FOOD SAFETY REGULATIONS & INCREASED ADOPTION OF CLEAN-LABEL INGREDIENTS

The increasing implementation of **stringent food safety regulations** is shaping the food industry globally, as governments and regulatory bodies aim to ensure the safety, quality, and traceability of food products. Regulatory authorities such as the **Food Safety and Standards Authority of India (FSSAI)**, the **U.S. Food and Drug Administration (FDA)**, and the **European Food Safety Authority (EFSA)** have set rigorous standards concerning **ingredient sourcing**, **manufacturing processes**, **packaging**, and **labeling**. These regulations aim to safeguard consumers against foodborne illnesses, contamination, and fraudulent claims. Food manufacturers are now required to adopt advanced technologies and processes that comply with these

strict standards, resulting in improvements in **testing protocols**, **quality assurance systems**, and **traceability** across the food production process.

Simultaneously, the **adoption of clean-label ingredients** has been gaining momentum, driven by consumers' increasing demand for **transparency** and **natural ingredients** in their food. Clean-label products are those that use **minimally processed** ingredients, are free from **artificial additives**, **preservatives**, and synthetic chemicals, and prioritize **natural** and **organic** components. This has led to a shift towards **natural preservatives**, **flavorings**, and **colorants**, which align with the growing consumer desire for foods that are perceived as **healthier** and more **authentic**. For instance, natural preservatives such as **vinegar** and **citric acid**, as well as **colorants** like **turmeric** and **beet juice**, are being used more frequently to replace artificial counterparts.

Moreover, the demand for clean-label ingredients is not only driven by health-conscious consumers but also by an increasing awareness of sustainability and **ethical sourcing**. Consumers now expect companies to be transparent about their **environmental impact**, **ethical sourcing practices**, and **supply chain transparency**.

As a result, **food manufacturers** are increasingly focusing on **clean-label strategies** and **safety compliance** to meet evolving consumer expectations and adhere to stringent regulatory standards.

In summary, the **convergence of food safety regulations** and the **clean-label movement** is driving innovation in the **food and feed additives market**, pushing manufacturers to focus on **safe**, **natural**, and **compliant additives** that meet consumer demands for healthier, more sustainable, and transparent products. This shift is reshaping both the food and feed sectors, resulting in new opportunities for growth and product development that meet evolving market expectations.

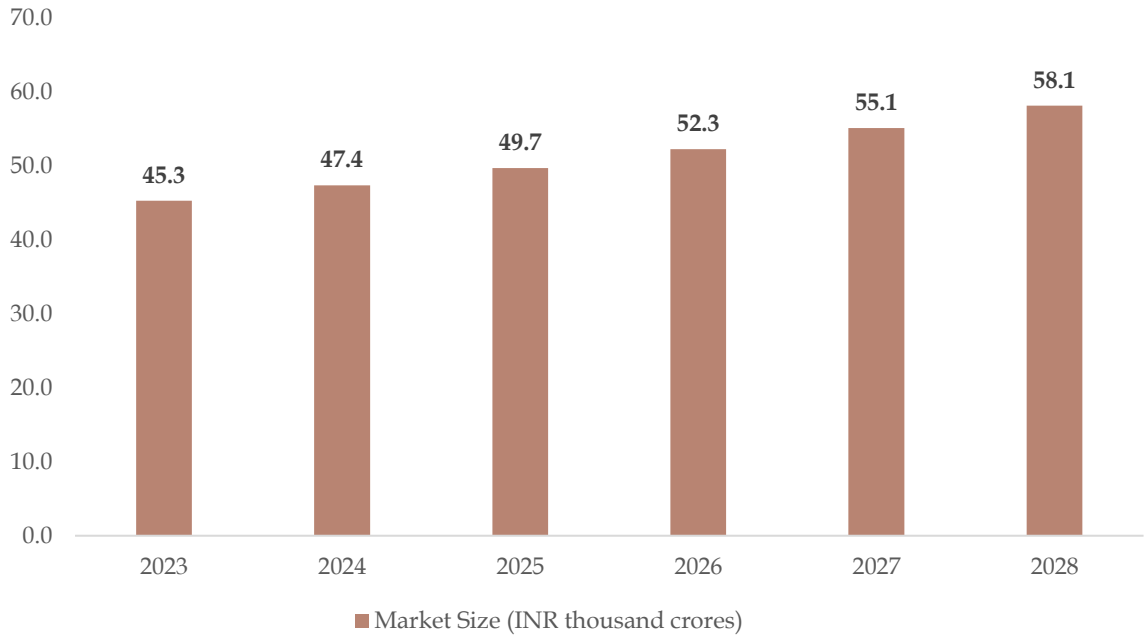
RISING AWARENESS OF FUNCTIONAL & FORTIFIED FOODS

The health and wellness (H&W) sector in India have witnessed robust growth in recent years, driven by shifting consumer preferences towards healthier lifestyles and an increasing awareness of **functional foods**. Functional foods, which encompass fortified, organic, and naturally healthy food and beverages, have become key drivers of market growth. The **Indian health and wellness market** grew by **5.8%** year-over-year in 2021, significantly outpacing the **Asia-Pacific region (3.7%)** and **global growth (1%).** This growth highlights the immense potential in the market, with India ranked

as the **15th largest health and wellness market globally** in 2021, indicating significant room for further expansion.

N**aturally healthy** and **fortified/functional** products have emerged as the most important segments. Organic food, with a **CAGR** of **13.3%** from 2016 to 2021, has been the fastest-growing segment within packaged food. Additionally, the **fortified/functional food** market, including fortified dairy, beverages, and snacks, is poised to continue growing, with a forecasted **CAGR of 5.3%** through 2026.

Figure 10-2: Retail Sales of functional and fortified foods in India (In INR thousand crores), CY'2023-2028



Source: Ministry of Food Processing Industries (MoFPI), PIB & Ken Research Analysis
Note: 2023 represents Calendar Year starting 1st January 2023 to 31st December 2023.

Functional snack bars also emerged as one of the fastest-growing categories. This demand for fortified foods aligns with the rising consumer preference for products that not only satisfy hunger but also contribute to overall health. **Fortified/functional breakfast cereals**, which grew modestly from 2016 to 2021, are forecasted to more than double in market size by 2026, reflecting increasing consumer desire for healthier, more nutritious options.

E-commerce has played a significant role in expanding the availability of functional foods across India. Though traditional grocery retail channels still dominate, **e-commerce** has experienced rapid growth from 2020 to 2024. This growth is

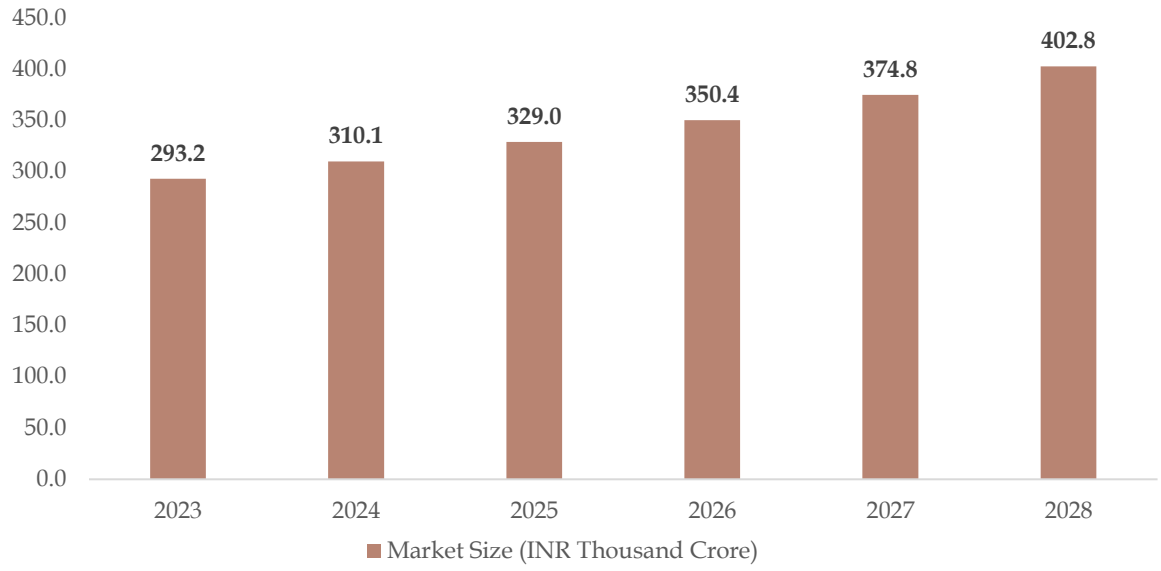
particularly notable in the sale of niche **health and wellness products**, making it easier for consumers to access functional foods that might not be available in physical stores. The increasing shift to online shopping for functional foods is expected to continue, further boosting the rise of food additives in the coming years.

GROWING CONSUMPTION OF PROCESSED & PACKAGED FOODS

The **Indian packaged food market** is witnessing substantial growth in market spend. The retail spend on packaged foods in India is expected to grow **from INR 293.2 thousand crore** in 2023 to **INR 402.8 thousand crore** by 2028, with a CAGR of ~5%. This growth reflects a steady increase in consumer demand for processed and packaged food products.

The rise in consumption of processed and packaged foods is due to the changing lifestyles, increased disposable income, and a growing preference for convenience foods. As more consumers opt for ready-to-eat or easy-to-prepare food products, the packaged food industry is expanding rapidly.
The growth is also influenced by increased urbanization and the shift towards modern retail formats such as supermarkets and e-commerce platforms. With a wider variety of packaged food options becoming available, both traditional and contemporary food categories are seeing greater demand. The packaged food sector, therefore, represents a significant portion of the food industry's overall consumption trend, with consumers embracing new food formats that meet their changing needs for convenience, taste, and nutrition.
This growing trend reflects a larger shift in consumer behavior, as packaged and processed foods become an integral part of daily living in India.

Figure 10-3: India Packaged Food Industry Spend at Retail Prices (in INR thousand crores), 2023-28F



Source: Ministry of Food Processing Industries (MoFPI), IBEF, PIB & Ken Research Analysis
Note: 2023 represents Calendar Year starting 1st January 2023 to 31st December 2023.

INCREASING ADOPTION OF NUTRITIONALLY ENHANCED FEED ADDITIVES

Globally, feed additives are regulated by a variety of standards and guidelines aimed at ensuring their safety, effectiveness, and sustainability. The **Codex Alimentarius**, set by the **World Health Organization (WHO)** and the **Food and Agriculture Organization (FAO)**, provides an international framework for the safety of feed additives, including guidelines for their approval, safety evaluation, and maximum residue limits. This is further supported by **European Union (EU) regulations**, specifically **Regulation (EC) No 1831/2003**, which governs the approval, safety, and labeling of feed additives in the European market. The **European Food Safety Authority (EFSA)** plays a critical role in the assessment of these substances to ensure they meet safety and efficacy standards before approval for use.

In the United States, feed additives are regulated by the **FDA**, under the **Federal Food, Drug, and Cosmetic Act** and **Food Safety Modernization Act (FSMA)**, which ensure premarket approval, good manufacturing practices, and accurate labeling for all feed additives. Similarly, **Canada** and **Australia** have their own regulatory frameworks, with **Canada's Food Inspection Agency (CFIA)** overseeing feed additives, and **Australia's APVMA** ensuring safety under the **Agricultural and Veterinary**

Chemicals Code Act. These regulatory agencies ensure that feed additives are safe for animal consumption, do not pose risks to human health, and meet country-specific safety and quality standards.

Moreover, global sustainability efforts are increasingly influencing feed additive regulations. Guidelines focus on the environmental impact of feed production, including the sustainable sourcing of raw materials for feed additives, and the reduction of greenhouse gas emissions. Additionally, **International Feed Safety Assurance (IFSA)** standards are being adopted to ensure feed safety management systems and traceability in the use of feed additives. These regulations, combined with growing environmental concerns, are driving the development of sustainable and nutritionally enhanced feed additives, contributing to overall growth and innovation in the market.

11.2. Industry Challenges & Risk Factors (From Demand and Supply Side)

PRICE SENSITIVITY IN B2B MARKET

Price sensitivity in the **B2B market** for food and feed additives is a significant challenge for companies operating in India. Many businesses in this sector, particularly **smaller manufacturers**, face pressure to offer **competitive pricing** due to the **cost-conscious nature** of their clients.

In the B2B space, buyers - ranging from **food manufacturers to livestock producers** - are highly focused on maximizing their **return on investment.** Consequently, companies in the food and feed additives market are often compelled to adjust their pricing strategies to remain attractive to buyers while maintaining profitability. Price sensitivity can make it difficult for smaller players to compete against larger, more established companies that benefit from **economies of scale** and can afford to offer lower prices.

Additionally, the growing demand for natural, clean-label, and nutritionally enhanced additives adds complexity to the pricing dynamics in the Indian market. These specialty ingredients typically come at a higher cost due to the **advanced technology, sourcing, and production processes** involved. B2B buyers in industries like **food processing and animal feed** often find themselves weighing the trade-offs between cost and quality.

While there is a demand for high-quality additives, businesses may prioritize cheaper alternatives if they perceive that the added value does not justify the price increase. This price sensitivity is compounded by fluctuating raw material costs, which can further increase the pressure on suppliers to maintain competitive pricing without sacrificing quality.

STRINGENT QUALITY & SAFETY REGULATIONS (FSSAI, ISO, GMP)

Stringent quality and safety regulations in the food and feed additives industry are crucial for ensuring consumer safety and maintaining industry standards. In India, **the Food Safety and Standards Authority of India (FSSAI)** governs food safety and plays a central role in regulating the use of food and feed additives. FSSAI sets the permissible limits for various additives, ensures proper labeling, and establishes guidelines for manufacturing practices. Companies must ensure their products comply with FSSAI's stringent regulations regarding ingredient safety, quality control, packaging, and labeling. Non-compliance with FSSAI regulations can lead to penalties, legal issues, and even product recalls, which can significantly harm a company's reputation and financial stability.

In addition to local regulations, international certifications such as **ISO (International Organization for Standardization) and Good Manufacturing Practices (GMP)** are also essential for companies that want to ensure their products meet global standards. ISO certifications, particularly ISO 22000 (Food Safety Management System), require companies to demonstrate a commitment to food safety by maintaining high standards in their operations, including sourcing, manufacturing, and distribution processes.

Similarly, GMP standards are crucial for ensuring that food and feed additives are produced under hygienic conditions and meet quality standards consistently. These international standards help ensure that products are safe for consumption and of the highest quality, which is vital for companies seeking to export products globally.

Meeting these regulatory and safety standards can be a challenge, especially for smaller companies with limited resources. The cost of maintaining **certifications, conducting regular audits, and implementing safety systems** can be high. Additionally, the constantly evolving nature of quality and safety regulations means that companies must invest continuously in **training, infrastructure upgrades, and monitoring systems** to stay compliant. Failure to do so could lead to unsafe products

entering the market, which not only risks consumer health but also exposes the company to legal liabilities and reputational damage.

FOOD SAFETY COMPLIANCE IN EXPORT MARKETS

Food safety compliance in export markets is a critical factor for companies involved in the food and feed additives industry, particularly when expanding into international markets. Different countries have varying food safety standards, which means that manufacturers must ensure their products meet the specific requirements of each export destination. For example, in the **European Union**, **the European Food Safety Authority (EFSA)** sets strict regulations regarding the use of food additives, ensuring that only substances that are proven to be safe for human health are approved. Similarly, in the **United States, the Food and Drug Administration (FDA)** oversees the safety of food additives, requiring rigorous testing and approval before they can be used in products sold in the market.
Companies must not only comply with the local regulations but also align their practices with international standards such as **Codex Alimentarius**, which provides global food safety guidelines and standards. Exporting companies are required to adjust their production processes, labeling, and packaging to meet these international standards. Failure to comply with these regulations can result in delays in product approvals, fines, and potential bans on products entering foreign markets, which can severely impact a company's revenue and market presence. For instance, in the **EU**, food additives must be listed on the **"Positive List"** of approved substances, and any deviation can lead to product rejection at the border.

In addition to regulatory compliance, food safety standards for export markets often require **detailed documentation and traceability**. Companies need to maintain comprehensive records of their production processes, ingredient sourcing, and testing results to provide evidence of compliance during audits or inspections by regulatory bodies. This is especially important when exporting to markets with highly regulated food safety frameworks like **Japan and the US**, where traceability and transparency are vital to ensure product safety. The documentation must include product specifications, safety testing results, and compliance certifications from recognized agencies such as **ISO 22000 & HACCP (Hazard Analysis and Critical Control Point).**

ENVIRONMENTAL & SUSTAINABILITY COMPLIANCE

Environmental and sustainability compliance is increasingly becoming a crucial factor in the food and feed additives industry, as both consumers and regulatory bodies

place greater emphasis on eco-friendly practices. Companies are required to adhere to various environmental regulations related to waste management, energy consumption, and the sourcing of raw materials.

In many countries, environmental agencies have set stringent rules for the manufacturing processes, such as reducing carbon emissions, managing water usage, and ensuring that waste byproducts are properly handled or recycled. For example, in the **European Union, the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals)** regulation controls the use of chemicals in food production, including additives, to protect both human health and the environment. Similarly, the **U.S. Environmental Protection Agency (EPA)** sets environmental standards for food production, including regulations regarding air and water pollution.

Maintaining environmental and sustainability compliance can pose significant challenges for food and feed additive manufacturers, particularly **small and medium-sized enterprises (SMEs)** that may lack the resources to implement sustainable practices. The cost of transitioning to environmentally friendly technologies, sourcing sustainable raw materials, and ensuring that the supply chain is fully compliant with environmental regulations can be high.

DEPENDENCY ON IMPORTED RAW MATERIALS & CURRENCY FLUCTUATIONS

Dependency on imported raw materials and currency fluctuations present significant operational risks for companies in the food and feed additive markets, particularly in emerging markets like India. Many food and feed additive manufacturers rely on raw materials sourced from **international suppliers,** as **local supply** may not always meet the **required quality, volume, or cost-efficiency standards**. The dependency on global supply chains makes companies vulnerable to disruptions such as delays in shipping, geopolitical tensions, trade tariffs, and logistical challenges, with Red Sea disruptions impacting the market by delaying raw materials and impacting trade. Any interruption in the supply of critical raw materials can lead to **production delays, increased operational costs,** or even **the inability to meet market demand**, ultimately affecting a company's bottom line and market reputation.

In addition to supply chain risks, companies in this sector are highly susceptible to currency fluctuations, which can affect **the cost of imported raw materials**. Since most raw materials are priced in foreign currencies, any adverse exchange rate movements can significantly increase **procurement costs**.

Currency fluctuations also pose risks for companies engaged in international trade. When companies export products to foreign markets, they receive payments in foreign currencies, and unfavorable exchange rates can lead to reduced revenue when converted back to the local currency. This situation is particularly critical for companies with large international market shares. Furthermore, **foreign exchange risk management strategies, such as hedging**, can incur additional costs or may not always provide adequate protection against volatile currency movements. Therefore, companies must carefully monitor currency trends and assess their exposure to foreign exchange risks to mitigate potential financial losses.

SCALE-UP CHALLENGES IN MANUFACTURING & R&D

As companies look to expand their production capacities to meet growing market demand, they often face difficulties in scaling up their manufacturing operations. These challenges include the need for significant investment in **upgrading existing facilities, purchasing new equipment, or building new production plants**. Moreover, ensuring that manufacturing processes remain efficient and cost-effective at a larger scale can be complex. Companies may encounter issues such as maintaining product consistency, adhering to stringent quality standards, and managing the increased complexity of supply chain logistics. A failure to properly manage these factors can lead to delays, higher operational costs, and potential loss of market share to more agile competitors.

In addition to manufacturing challenges, scaling up **R&D efforts** presents its own set of difficulties. **Research and development** are crucial for innovation in the food and feed additive sector, especially as consumer preferences shift toward healthier, more sustainable, and functional products. However, as companies scale up their R&D efforts, they must ensure that they have the necessary resources, expertise, and infrastructure in place to support larger and more complex projects. This includes hiring skilled professionals, investing in advanced laboratories, and obtaining the necessary regulatory approvals for new formulations. Additionally, the time and financial investments required for successful R&D can be substantial, and there is always the risk of failure, which can result in sunk costs and delayed market entry for new products.

SUPPLY CHAIN BOTTLENECKS & LOGISTICS CONSTRAINTS

Supply chain bottlenecks and logistics constraints represent significant operational risks for companies in the food and feed additive industries, especially in the context of global sourcing and distribution. The food and feed additive markets are heavily reliant on timely deliveries of raw materials and ingredients, many of which are sourced from international suppliers. Vegetable oil price fluctuations, caused by changes in demand and supply, have an indirect effect on those in the additives market.

Any disruptions along the supply chain, whether due to transportation delays, customs issues, or shortages of key ingredients, can severely impact production schedules. Disruptions such as **port congestion, lack of shipping containers, or customs bottlenecks** can lead to delays in receiving critical raw materials, causing manufacturing delays and affecting the ability to meet customer demand.

The Red Sea crisis caused significant disruptions for major players in the food and feed additives market, leading to **a rise in lead times for exports** to Europe and the US, which extended by **1 to 1.5 months**. This disruption, along with higher freight costs, resulted in **increased logistical expenses in 2024**. Furthermore, the crisis **negatively impacted export market** demand by delaying the delivery of raw materials, adding further pressure to the already escalating costs.

Additionally, logistics constraints, such as **limited warehouse space, inefficient inventory management, and reliance on third-party logistics providers**, can exacerbate the problem. When raw materials and finished products are not stored or moved efficiently, it can result in stockouts, overstocking, or the need for expensive last-minute shipping solutions. These inefficiencies increase operational costs and can result in lost sales or customer dissatisfaction. Companies may struggle to maintain product availability across multiple markets, particularly in times of heightened demand or when production schedules are tightly aligned with seasonal trends. Furthermore, companies often face challenges in managing the logistics of shipping and storing highly regulated food and feed ingredients, where maintaining compliance with safety and quality standards is critical.

12. Evolving Business Models and Ecosystem Dynamics in India's Food and Feed Additives Industry

The Indian feed and food additives industry is experiencing significant transformation in its business models, with established companies increasingly pivoting toward manufacturing with private labels while newer, smaller players focus on trading with price-competitive strategies. This shift represents a fundamental restructuring of the industry's competitive landscape, creating new opportunities and challenges for stakeholders across the value chain.

12.1. Traditional Manufacturers' Shift to Private Label Production

In India, legacy companies in the food industry are increasingly shifting their business models from purely branded manufacturing to offering private label production services. This strategic pivot allows these companies to leverage their existing manufacturing capabilities while addressing market fragmentation and meeting the changing demands of a diverse customer base.

A prime example of this trend in India is **Godrej Agrovet**, a company that has positioned itself as a leader in the production of private label feed and food additives. They focus on both powder and liquid products, adopting a holistic approach that supports clients in building their own brands. The company offers services ranging from formulation design to packaging solutions, allowing customers to maintain brand identity while relying on their expertise for manufacturing. This model enables established manufacturers in India to maintain high production volumes, reduce dependency on third-party suppliers, and help clients grow their brand equity.

Driving Factors Behind Manufacturing Evolution in India: Several factors are propelling established companies in India to embrace private label manufacturing as part of their strategic evolution:

1. **Maximization of Production Capacity**: As the feed and food additives market in India grows, companies are using private label manufacturing to make better use of their current facilities. With increased production capacity, manufacturers can offer a wider variety of products and serve more customers, all while keeping their operations efficient. For example, Fine Organics has increased its manufacturing capacity by about 60% since FY2019.

2. **Monetization of Technical Expertise**: Established Indian companies are capitalizing on their deep technical knowledge in food and feed additives. Companies like **Fine Organics**, which specializes in food additives, emphasize their **deep understanding of chemistry, process, and engineering** as key competitive advantages. By offering specialized additives, these companies can cater to the increasing demand for high-quality and innovative products in both food and animal feed sectors.

3. **Value-Chain Extension**: Indian companies are expanding their value chains by offering comprehensive services that span from product formulation to final packaging. This strategy enables manufacturers to capture additional margins while fostering stronger relationships with clients. For example, companies like **Amul** and **Nestlé India** extend their services beyond just manufacturing, integrating value-added services such as custom product development and end-to-end solutions for clients in the dairy and feed sectors.

4. **Market Differentiation**: As the market becomes more competitive, especially with the influx of price-driven traders, established manufacturers in India are using their expertise to differentiate themselves. Unlike smaller players who compete mainly on price, these larger companies leverage their manufacturing capabilities and quality standards to stand out in the market, allowing them to build a defensible competitive position based on consistent quality and reliability.

12.2. Emerging Players' Focus on Trading Business Models

In India, the food and feed additives market is observing a rise in smaller and emerging players who are focusing primarily on trading business models. These companies are avoiding the heavy capital requirements associated with manufacturing and instead capitalize on price competitiveness, flexibility, and market responsiveness. This approach offers a variety of structural advantages that are particularly appealing to new entrants. In 2023, **Divi Enterprises** led India's animal feed additives imports with 298 shipments (32% market share), followed by **Danisco India Pvt Ltd** with 134 shipments (14%), and **Huvepharma Sea Pune** with 113 shipments (12%).

They benefit from lower capital requirements by importing and distributing products. They offer competitive pricing, are flexible in responding to market trends, and face lower barriers to entry. Additionally, they enjoy geographic flexibility by sourcing

globally, allowing them to capitalize on price advantages and supply disruptions while maintaining cost efficiency.

13. Competition Landscape

13.1. Industry Overview and Key Trends

The Indian food and feed additives industry is growing rapidly, driven by rising processed food consumption, expanding livestock production, and a shift toward health and nutrition. Demand is boosted by the growth of **dairy (CAGR of ~6%) and bakery (CAGR of ~9%) sectors.**

COMPETITIVE DYNAMICS

The India food and feed additive market is highly fragmented, with **~3000** players, where **~15-20 large players (average revenue of INR 300-500 crore)** control **~25%** of the market share, contributing **INR 14,000+ crore** out of **INR 50,969 crore.**

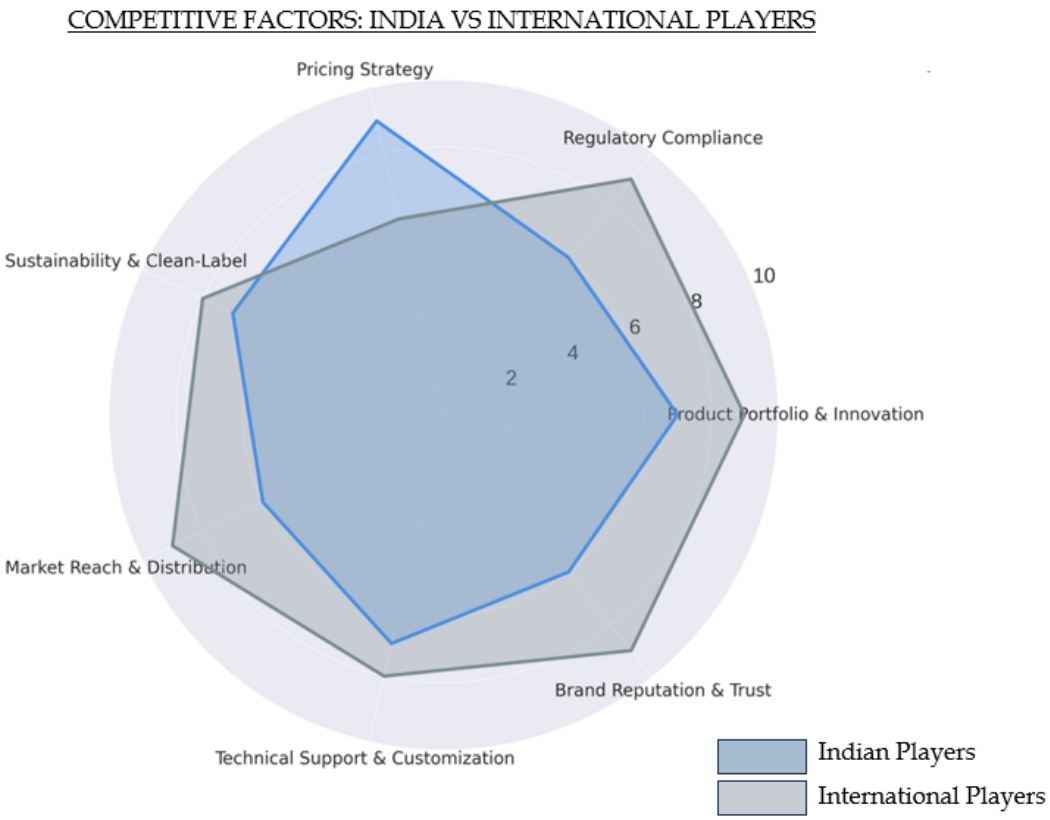
These players are market leaders, mostly with extensive resources for innovation, marketing, and distribution, and they have a well-established presence across multiple verticals. They majorly invest **0.5-2%** on average in their R&D and regulatory compliance, leveraging scale for diverse portfolios. Medium-sized companies account for the **~29% share** in the market, with individual revenues falling between **INR 50 crore and INR 300 crore.** Micro and Small companies make up **~43%** of the market.

Distinct performance trends emerged between Indian and international players when analyzed across key competitive parameters such as **Pricing Strategy, Regulatory Compliance, Product Portfolio & Innovation, Brand Reputation & Trust, Technical Support & Customization, Market Reach & Distribution, and Sustainability & Clean-Label.**

Indian players demonstrate a competitive advantage in Pricing Strategy, primarily driven by cost efficiencies, localized production capabilities, and supply chain optimization. However, they lag behind international counterparts in **Regulatory Compliance, Product Portfolio & Innovation, and Brand Reputation & Trust**, where global firms benefit from advanced R&D capabilities, adherence to stringent international quality standards, and well-established brand equity. Additionally, **Market Reach & Distribution and Technical Support & Customization** remain areas of relative weakness for Indian players, reflecting limited global penetration, lower

customer engagement, and the absence of highly tailored solutions compared to their international counterparts.

Figure 11-1: Competitive Factors among Indian and International Players



Source: Interview with Industry experts, Ken Research Analysis
Note: 2 represents the lowest level of competitiveness and 10 represents the highest level of competitiveness

13.2. Comparative Analysis of Major Players

Around **15-20 large players** are operating in the India Food and Food Additives industry, with some of the key competitors benchmarked based on operational and financial parameters as follows:

COMPANY OVERVIEW

Fine Organics is a prominent Indian manufacturer specializing in oleochemical-based additives, with a well-established footprint in the food and feed additives industry. The company offers a diversified portfolio of products, including emulsifiers, stabilizers, antioxidants, and preservatives, primarily catering to the processed food, bakery, confectionery, dairy, and animal nutrition segments. Leveraging a strong in-house R&D infrastructure, Fine Organics has consistently introduced innovative, high-performance additives that improve the texture, taste, and shelf life of food products. The company has a strong export orientation, with a wide global distribution network spanning over 80 countries. Fine Organics' emphasis on sustainable chemistry, backward integration, and process innovation enables it to maintain a competitive edge in the specialty chemicals and food additive segments.

AB Mauri, a division of Associated British Foods plc, is a global leader in yeast and bakery ingredients, with a strategic presence in the Indian food and feed additives market. The company's food additive portfolio includes functional ingredients such as yeast extracts, enzymes, dough conditioners, emulsifiers, and texturizers, catering to bakery, meat processing, dairy, and beverage applications. AB Mauri's operations are supported by its global R&D capabilities and application laboratories, which enable product customization to suit regional preferences and regulatory standards. In India, AB Mauri operates through manufacturing and distribution channels that support both B2B and industrial customers, offering tailored solutions for enhancing product consistency, flavor, and nutritional value. The company's expertise in fermentation-based technologies further strengthens its positioning in the growing functional food and nutraceuticals space.

Camlin Fine Sciences Ltd. (CFS) is a leading player in the specialty chemicals space, with a strong focus on food and feed additives. The company is widely recognized for its high-purity antioxidants, shelf-life extension solutions, and aroma ingredients that find application across a broad spectrum of industries including food, beverages, animal nutrition, and pet care. CFS's product suite includes value-added functional ingredients like tert-butylhydroquinone (TBHQ), butylated hydroxyanisole (BHA),

natural antioxidants, and proprietary antioxidant blends. In the feed segment, the company offers performance additives that enhance nutrient absorption, improve gut health, and boost livestock productivity. With manufacturing facilities across India, Mexico, Brazil, and China, and a growing global customer base, CFS has built a vertically integrated model for quality control, cost efficiencies, and innovation in the food protection and safety domain.

OPERATIONAL PARAMETERS COMPARISON

Table 11.2: Cross-Comparison of Major Food Additive Players in India on Basis of Operational Parameters, FY'21-FY'24

Company	Fine Organics	AB Mauri	Camlin Fine Sciences
Inception year	1970	2004	1993
HQ	Mumbai, India	Peterborough, United Kingdom	Mumbai, India
Geographic Presence	80+	100+	80+
Product Range	Food Preservatives, Emulsifiers & Stabilizers Feed Additives – Enzymes, Minerals, Probiotics & Prebiotics	Preservatives & Shelf-Life Enhancers, Emulsifiers & Stabilizers, Enzymes & Leavening Agents	Preservatives & Shelf-Life Enhancers, Emulsifiers & Stabilizers, Acidulants & pH Regulators, Flavor Enhancers, Toxin Binders, Growth Promoters

Source: Ken Research Analysis, Companies' Websites, Annual Reports, Proprietary Databases

FINANCIAL PARAMETERS COMPARISON

Table 11-3: Cross-Comparison of Major Food Additive Players on basis of Financial Parameters, FY'21-FY'24

Company	Financial Year	Fine Organics	AB Mauri	Camlin Fine Sciences
Revenue From Food Additives (INR Crore)	FY'24	1,300-1,400	1,200-1,300	1,100-1150
	FY'23	2,000-2,100	1250-1350	1,150-1,200
	FY'22	1,300-1,400	1050-1150	950-1050
	FY'21	700-800	850-950	800-900
Revenue From Operations (INR Crore)	FY'24	2,122.9	188,860	1,613
	FY'23	3,023.1	186,041	1,682
	FY'22	1,876.2	159,732	1,412
	FY'21	1,133.2	130,604	1,187
EBITDA Margin	FY'24	24.6%	14.5%	4.6%

	FY'23	25.8%	12%	12.7%
	FY'22	18.5%	13.3%	10.8%
	FY'21	17.1%	13.4%	15.3%
PAT Margin	FY'24	18.8%	7.4%	(6.5%)
	FY'23	19.5%	5.4%	2.4%
	FY'22	13.5%	4.2%	4.3%
	FY'21	10.3%	NA	5.5%
R&D Expense %	FY'24	0.09%	0.2%	0.8%
Return on Net Worth	FY'24	19.7%	37.7%	NA
	FY'23	38.8%	53.3%	16.3%
	FY'22	26.2%	46.5%	10.01%
	FY'21	15.6%	28.9%	1.8%
Debt (INR Crore)	FY'24	0	33,732	497.7
	FY'23	27.2	34,324	594.5
	FY'22	58.5	35,357	391.8
	FY'21	89.2	NA	291.4
Equity (INR Crore)	FY'24	1921	36,926	715.7
	FY'23	1541	23,593	642.1
	FY'22	959	21,705	592.3
	FY'21	739	NA	464.6
Debt/Equity	FY'24	0	0.9	0.7
	FY'23	0.02	1.5	0.9
	FY'22	0.06	1.6	0.6
	FY'21	0.12	NA	0.6
Return on Capital Employed	FY'24	22.8%	18.1%	7.9%
	FY'23	47.3%	13.6%	9.8%
	FY'22	30.3%	14%	6.6%
	FY'21	17.6%	9.8%	11.8%
EBIT (INR Crore)	FY'24	494	18,153	143
	FY'23	793	14,216	150
	FY'22	337	13,483	96.8
	FY'21	156	9,621	137
Shareholder Equity & Long-Term Liabilities	FY'24	2,166.6	100,293	1,810
	FY'23	1,676.5	104,529	1,531
	FY'22	1,112.2	96,307	988
	FY'21	886.4	98,173	1,165

Source: Ken Research Analysis, Companies' Websites, Annual Reports, Proprietary Databases
Note 1: FY'24 indicates financial year which starts from 1st April 2023 and ends on 31st March 2024
Only the revenue figures for food additives are provided here, while the remaining financial details are for the overall group.

13.3. Comparative Analysis for Peers

COMPANY OVERVIEW

BASF India: BASF India Limited, a subsidiary of BASF SE, one of the world's leading chemical conglomerates, operates across multiple industry verticals, including a strong presence in the food and feed additives segment. The company offers an extensive portfolio of solutions that enhance food safety, preservation, nutrition, and production efficiency. Its product offerings in India span emulsifiers, vitamins, carotenoids, enzymes, and other performance ingredients used in processed foods, dairy, beverages, and animal nutrition. BASF India draws on its global R&D infrastructure and technical know-how to introduce scientifically advanced and regulatory-compliant solutions tailored for the Indian market.

Evonik: Evonik Industries AG is a globally recognized leader in the specialty chemicals sector, with a significant footprint in the food and feed additives market. In India, Evonik operates through its subsidiary Evonik India Pvt. Ltd., delivering a wide array of performance additives aimed at improving food safety, nutritional value, and feed efficiency. The company's product suite includes amino acids, probiotics, enzymes, and functional additives that support livestock health, enhance food product shelf life. Backed by global research capabilities, Evonik offers science-based, sustainable solutions customized for the Indian food processing and animal nutrition industries. The company's emphasis on environmental stewardship, product efficacy, and technical support strengthens its position as a leading partner in the functional ingredients space

OPERATIONAL PARAMETERS COMPARISON

Table 11.4: Cross-Comparison of Major Feed Additive Players in India on Basis of Operational Parameters, FY'21-FY'24

Company	BASF India	Evonik
Inception year	1865	2007
HQ	Germany	Germany
Geographic Presence	190+	100+
Product Range	Amino Acids, Enzymes, Minerals	Amino Acids, Enzymes, Minerals

Source: Ken Research Analysis, Companies' Websites, Annual Reports, Proprietary Databases

FINANCIAL PARAMETERS COMPARISON

Table 11-5: Cross-Comparison of Major Feed Additive Players on basis of Financial Parameters, FY'21-FY'24

Company	Financial Year	BASF India	Evonik
Revenue From Feed Additives (INR crore)	FY'24	250-300	250-300
	FY'23	250-300	250-300
	FY'22	200-250	300-350
	FY'21	150-200	250-300
Revenue From Operations (INR Crore)	FY'24	13,767	142,415
	FY'23	13,645	143,449
	FY'22	13,100	173,713
	FY'21	9,558	140,517
EBITDA Margin	FY'24	12.1%	13.6%
	FY'23	8.2%	10.8%
	FY'22	12.3%	13.5%
	FY'21	14.4%	15.9%
PAT Margin	FY'24	4.1%	1.5%
	FY'23	2.9%	(3.1%)
	FY'22	4.5%	2.9%
	FY'21	5.8%	4.9%
R&D Expense %	FY'24	7%	2.9%
Return on Net Worth	FY'24	19%	2.4%
	FY'23	16%	-5.2%
	FY'22	28.9%	4.8%
	FY'21	36.5%	7.9%
Debt (INR Crore)	FY'24	0	30,565
	FY'23	0	31,101
	FY'22	0	30,603
	FY'21	151.7	26,844
Equity (INR Crore)	FY'24	3,223.6	85,503.6
	FY'23	2,701.2	84,432.5
	FY'22	2,336.1	103,882
	FY'21	1,786.1	88,059.3
Debt/Equity	FY'24	0	0.35
	FY'23	0	0.36
	FY'22	0	0.29
	FY'21	0.8	0.30
Return on Capital Employed	FY'24	26.1%	7.1%
	FY'23	21.5%	3.4%
	FY'22	35.8%	8.3%
	FY'21	24.7%	9%
EBIT INR Crore	FY'24	774.5	9,649.6
	FY'23	542.0	4895.3
	FY'22	764.8	12684.6
	FY'21	475.4	12571.8

Shareholder Equity & Long-Term Liabilities	FY'24	2,967.4	135,909.8
	FY'23	2,520.9	143,979.4
	FY'22	2,136.3	152,826.5
	FY'21	1,924.7	1,39,686.6

Source: Ken Research Analysis, Companies' Websites, Annual Reports, Proprietary Databases
Note 1: FY'24 indicates financial year which starts from 1st April 2023 and ends on 31st March 2024
Only the revenue figures for food additives are provided here, while the remaining financial details are for the overall group.

13.4. SWOT Analysis

The **food and feed additives industry** in India is expanding rapidly, driven by strong domestic manufacturing, rising global demand, and innovation in clean-label solutions. While industry leaders and niche specialists fuel growth, mid-tier firms face challenges like high costs and import dependence. Opportunities in functional additives and government support are promising, but competition, regulatory pressures, and supply chain risks remain key threats.

Table 11-6: SWOT Analysis

Category	Factor	Description
Strength	**Rising Demand**	Processed food market in India is growing at 7.4% CAGR; fortified animal feed in India is valued at INR 10,875 crore (USD 1.25 billion) in 2024.
	Expanding Exports	India's food additives export is growing with a projected increase in exports reaching USD 792 million in 2024
	Clean-Label Innovation	35% of global food additives are now focused on clean-label products. Clean-label food products are expected to grow by 5% annually
Weakness	**High Costs**	Small-scale players control 29% of the market, facing higher production costs and limited scale.
	Limited R&D Focus	Only 12-15% of market leaders invest in specialized R&D for innovative additives.
	Regulatory Complexity	Compliance costs are increasing, with FSSAI regulations adding 15-20% to total operational costs.
Opportunity	**Dairy & Poultry Boom**	Poultry feed demand is expected to increase by 8% annually in India, driving feed additive demand.
	Functional Additives	The market for omega-3 fatty acids is growing at a 6-7% CAGR in the next five years.
	Global Expansion	Strong demand in Middle East and Africa & South East Asia for bakery and dairy additives.
		The bakery additives market in Southeast Asia is expected to grow by 8-10% annually.
Threat	**Stricter Food Safety Standards**	Regulatory compliance costs have risen by 20-30% for manufacturers.
	Trade Policy Risks	Trade tariffs have increased raw material costs by up to 10% for certain additives like preservatives.

	Raw Material Volatility	The cost of vitamins and enzymes has fluctuated by 15-20% in the last year due to supply chain disruptions.

Source: Company website, Interview from Industry Experts, Ken Research Analysis

13.5. BENCHMARKING INNOVATORS AGAINST LARGE SCALE PLAYERS

Production Capacity & Scale Expansion

To strengthen their market positioning, several players are enhancing their manufacturing capabilities, moving from small-scale production to medium-scale capacities. By increasing output volumes, these firms can secure large-scale orders, improve cost efficiencies, and establish a stronger supply footprint in both domestic and export markets.

Product Portfolio & Market Differentiation

A diverse yet specialized product portfolio is becoming a key competitive advantage. Many companies are focusing on bio-synthesized and value-added ingredients, such as:

- Vegetarian Vitamin D2 – Addressing the rising demand for plant-based nutraceuticals.
- Calcium Propionate – A critical preservative for bakery applications, reducing import reliance.
- Customized Additives & Solutions – Companies are integrating R&D with real-world applications, offering tailored solutions that cater to industry-specific needs.

Innovation & R&D Leadership

With increasing emphasis on bio-based formulations, industry players are investing in research and development (R&D) to drive innovation. Firms with DSIR-certified R&D centers or equivalent capabilities are focusing on fermentation-derived ingredients, clean-label solutions, and high-performance additives that align with global market trends and regulatory requirements.

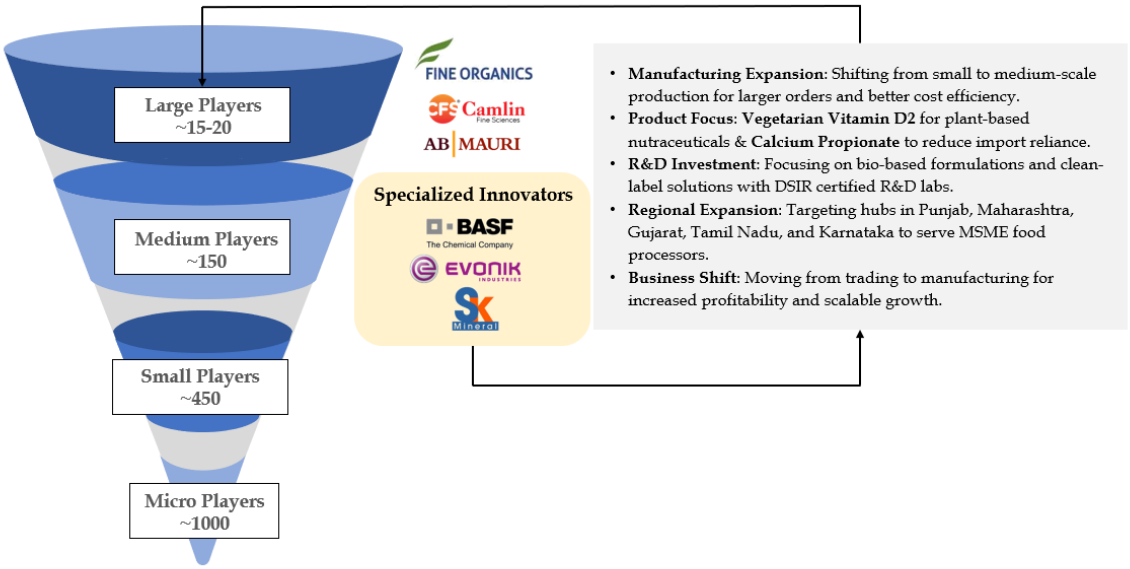
Market Presence & Regional Expansion

Strategic market expansion is being driven by a targeted presence in key industrial hubs, such as Punjab, Maharashtra, Gujarat, Tamil Nadu, and Karnataka, which serve as major centers for food processing, dairy, and feed industries. By engaging with regional MSME food processors and feed mills, companies can offer personalized solutions and strengthen client relationships through flexibility and responsiveness.

Financial Growth & Business Transformation

Many emerging players are transitioning from a trading-focused model to a manufacturing-driven approach, aiming to significantly increase revenues and market share. This strategic transformation enhances profitability, long-term sustainability, and industry competitiveness, positioning them for scalable growth in the rapidly evolving food and feed additives sector.

Table 11-7: Funnel View of the Industry Ecosystem and Positioning of Micro, Small, Medium and Large Sized Players



Source: Ken Research Analysis

Note:

1. Large Players: Companies with revenue of INR 300-500 crore and above

2. Medium Players: Companies with revenue between INR 50 - 300 crore

3.Small Players: Companies with revenue between INR 10 - 50 crore

4.Micro Players: Companies with revenue below INR 10 crore

14. Way Forward

14.1. Total Addressable Market (TAM) & Growth Projections

The Total Addressable Market (TAM), combining food and feed additives, is valued at ~ INR 50,969 crore (USD 5.8 billion) in 2024. The food additives segment constitutes ~ 78.7% of the total market, with feed additives accounting for the remaining 21.3%. By 2030F, the Total Addressable Market (TAM) for food and feed additives in India is projected to reach ~INR 76,491 crore (USD 8.7 billion), growing at a CAGR of 7%.

The food additives sector, currently valued at ~ INR 40,094 crore (USD 4.61 billion), is anticipated to expand significantly to INR 61,396 crore (USD 7.1 billion) by 2030F, marking an annual growth rate of 7–8%. Key growth drivers include increasing urbanization, higher disposable incomes, and evolving consumer demand for healthier and fortified food products.

The feed additives market, currently estimated at INR 10,875 crore (USD 1.25 billion), is forecasted to grow at a CAGR of 6.2%, reaching INR 15,620 crore (USD 1.93 billion) by 2030F. This growth is propelled by rising livestock production, enhanced focus on animal health and productivity, and increased domestic initiatives in feed fortification.

14.2. Serviceable Available Market (SAM) & Market Penetration

Growing demand for high-quality food and feed additives is primarily driven by significant growth in India's dairy, bakery, and beverage sectors. The Indian dairy industry, currently valued at ~ INR 13 lakh crore (USD 160 billion), is expanding steadily with a CAGR of 6%, while the bakery segment demonstrates robust growth at a CAGR of 9.1%, both highlighting substantial opportunities for additive manufacturers.

Market innovators such as SK Minerals targeting niche segments of Preservatives and Nutraceutical ingredients such as **Calcium Propionate, Omega 3, Sorbates etc.** represents a serviceable market equivalent to ~13% of the Total Addressable Market (TAM), estimated at INR 6,600 crore (USD 0.8 billion) in FY'24 and estimated at INR 11,000 crore (USD 1.4 billion) in FY'30F at a CAGR of ~10%. Consumer preferences are progressively evolving towards clean-label products, bio-synthesized additives

such as Vitamin D2, and fortified nutritional solutions with a robust and expanding presence.

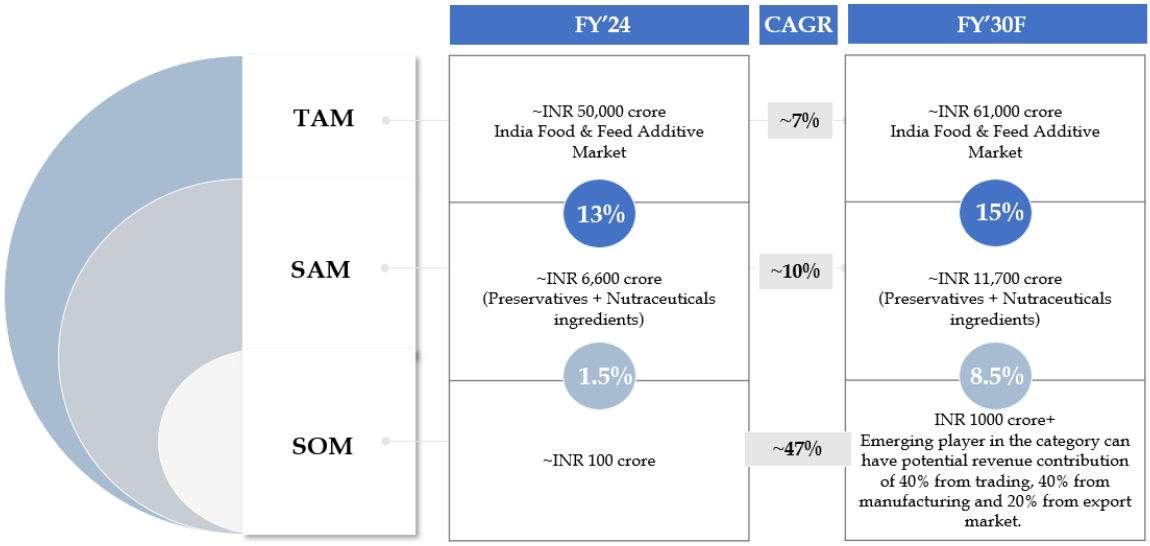
14.3. Serviceable Obtainable Market (SOM) & Competitive Positioning

The Indian specialty ingredients and functional additives market is poised for consistent growth, supported by rising consumption from the food processing, dairy, poultry, and nutraceutical sectors. With demand shifting toward cleaner, application-specific solutions, the market offers considerable opportunities for mid-sized companies that possess operational agility and product specialization.

The Serviceable Obtainable Market (SOM) for emerging innovators such as SK Minerals is estimated at ~1.5% of the broader Serviceable Available Market (SAM) in FY'24, indicating a potential revenue opportunity of ~INR 100 crore in the near to medium term while in another six years, it is expected to reach ~INR 1,000+ crore. This reflects both the depth of the sector and the scope for well-positioned players to expand their footprint.

Key regional markets such as Gujarat and Maharashtra contribute significantly, accounting for nearly 60% of India's food processing activity. Similarly, Tamil Nadu and Karnataka serve as important hubs for the dairy and poultry industries, collectively representing a major share of national demand in targeted end-use categories. Hence, players targeting these segments can unlock the substantial growth opportunities by strategically aligning with regional processing hubs, optimizing supply chain efficiencies, and catering to the increasing demand.

Figure 12-1: Target Market Opportunity for SK Minerals in the Food & Feed Additive Market, FY'24- FY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
TAM: Target addressable market; SAM: Serviceable addressable market and SOM: Serviceable obtainable market
Note: F refers Forecasted
Note: FY refers to financial year starting from 1st April to 31st March
Note: Preservatives and Nutraceutical category has high moving products such as Calcium Propionate, Omega 3, Sorbates, etc.

14.4. Export Market Expansion & Growth Potential

The Indian food and feed additive industry faces several export barriers and logistics cost challenges that hinder its global competitiveness. One of the primary hurdles is the lack of harmonization with international regulatory standards such as those set by the US FDA, EFSA, and Codex, making it difficult for Indian manufacturers to access key export markets. Additionally, many players, especially small and mid-sized firms, lack global certifications like GMP+, BRC, Halal, and Kosher, which are often prerequisites for international trade.

However, exports offer a substantial growth avenue especially for domestic established player with certified DSIR R&D center, targeting an export revenue of INR 100–150 crore within the next 3–5 years. Primary target markets include the Middle East, ASEAN countries, and Near Asia, driven by robust demand from dairy, bakery, and nutraceutical sectors.

The diversified sourcing strategy of emerging players that encompassing raw material sourcing from suppliers from China, Dubai, Vietnam, Japan, Taiwan, and domestic partnerships with large enterprises such as Adani and Tata can strengthen supply-chain reliability and market responsiveness. Emphasizing streamlined regulatory approvals (FSSAI, US FDA, Codex) and optimized logistics infrastructure will further bolster export competitiveness and profitability.

14.5. Scaling Manufacturing & Sustainable Growth

To align with global benchmarks and capitalize on emerging opportunities, companies operating in India's food and feed additive industry are systematically expanding their **production capacities such as Camlin**. This approach is intended to enhance supply reliability, reduce dependence on imports, and meet the specific requirements of both domestic and international markets.

Concurrently, there is a notable increase in **investments towards research and development (R&D)**, particularly through **DSIR-recognized in-house facilities**, as firms focus on developing innovative formulations, improving functional performance, and catering to evolving end-use applications. These innovation-led efforts are being reinforced by structured **sustainability and compliance strategies**, including the adoption of environmentally responsible manufacturing practices and adherence to chemical safety and global food regulatory standards. Collectively, these measures reflect a shift in industry priorities from volume-led expansion to capability-driven, quality-focused growth.

"Make in India" Manufacturing opportunity in the feed and food additive category poises a potential obtainable opportunity of 400 Cr of topline addition in the space in next 5 years for emerging innovators that are positioned today with an DSIR recognized in-house facility and is consistently investing in R&D for innovative formulations.

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