Indian food processing industry

Growth opportunities post the Covid-19 pandemic

May 2021

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Overview

The food processing industry is one of the mainstays of the global economy with a value addition of USD 1.7 trillion (2019E). United States of America (USA), China, Germany, Netherlands and Japan are the top markets for the global processed food industry. Meat, beverages, fruits and nuts, fish and cereals account for 43 per cent of the total exports. USA, Netherlands and Germany are major exporters of processed food.

The Indian food processing market is expected to double from USD 263 billion (2019-20) to USD 535 billion (2025). India is the world’s fourteen largest exporter of food products with a 2.6 per cent share in global exports (2010) and growing at a CAGR of 2.6 per cent during 2015-2019.

India’s food processing levels (<10 per cent) are much lower than its global counterparts however, its strategic geographical location gives it a unique competitive advantage when it comes to exports. With abundant raw material supply and a huge domestic market for processed food, the opportunities for food processing industry are innumerable. The conditions are thus right for a food processing boom in India across all sub-segments.

In recent times, rural and semi-urban India has been witnessing a growing demand for processed foods and the pandemic has further enhanced acceptability and demand for packaged food, snacks, dairy and ready-to-eat (RTE) segment. Demand for allied industries such as food processing equipment and food logistics is also likely to rise.

India has the potential to be the food export hub in the post-Covid-19 era and with the right interventions, can become the global leader in this industry. This paper explores the opportunities for India in the food processing industry.

1. FAO data accessed on 29 March 2021, KPMG in India Analysis
2. UN Comtrade data accessed in July 2020
3. National Account Statistics, KPMG in India Analysis
4. Ministry of Food Processing Industries (MoFPI), July 2020
Indian food processing industry - One view

The Indian food processing industry comprises of 6 key sub-segments: dairy, meat & marine, cereals, grains & oilseeds, fruits & vegetables, beverages (non-alcoholic) and packaged food. The Indian industry grew by 10 per cent over the last 5 years led by meat & marine, dairy and packaged foods segments.

The industry generates an employment of 7 million and is the 5th largest industry in the manufacturing segment. It is the 13th largest recipient of Foreign Direct Investment (FDI) in India attracting over USD 9.98 billion (April 2000-March 2020).

As per Agricultural and Processed Food Products Export Development Authority (APEDA), India’s exports of Agri & Processed Food stood at USD 32.5 billion in 2019 contributing 10 per cent to overall exports from India at growing a Compound Annual Growth Rate (CAGR) of 5.9 per cent (2015-2019).

Segment wise landscape

The industry consists of 6 major sub-segments. Packaged foods followed by Cereals, Grains & Oilseeds are the highest contributors to the overall Gross Value Added (GVA) of the industry.

<table>
<thead>
<tr>
<th>Item</th>
<th>Dairy</th>
<th>Cereals, Grains &amp; Oilseeds</th>
<th>Meat &amp; Marine</th>
<th>Packaged Food</th>
<th>Fruits &amp; Vegetables</th>
<th>Beverages (Non-alcoholic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to GVA (USD million) (2017-18)</td>
<td>2,009</td>
<td>4,004</td>
<td>959</td>
<td>8,310</td>
<td>607</td>
<td>925</td>
</tr>
<tr>
<td>CAGR (5 year) (2012-2018)</td>
<td>16%</td>
<td>1%</td>
<td>18%</td>
<td>16%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>Exports (2019-20) (USD million)</td>
<td>353</td>
<td>10,466</td>
<td>9,940</td>
<td>7,670</td>
<td>4,027</td>
<td>26</td>
</tr>
<tr>
<td>% share in global exports (2019)</td>
<td>0.11%</td>
<td>3.17%</td>
<td>3.17%</td>
<td>2.53%</td>
<td>1.46%</td>
<td>0.1%</td>
</tr>
<tr>
<td>India’s competitive position (% global share)</td>
<td>• 1st in Milk (22%) Production</td>
<td>• 1st in Pulses (25.06%) production</td>
<td>• 5th in meat (3%) production</td>
<td>• 1st in Sugar (10%) production</td>
<td>• 2nd in F&amp;V (11.5%) production</td>
<td>• NA</td>
</tr>
<tr>
<td>National Industrial Classification (NIC) code</td>
<td>105</td>
<td>104 &amp; 106</td>
<td>101 &amp; 102</td>
<td>107 &amp; 108</td>
<td>103</td>
<td>1104</td>
</tr>
</tbody>
</table>

5. NIC codes, KPMG in India analysis
6. In terms of GVA, MOFPI economic data bank, accessed in July 2020, KPMG in India Analysis
7. CII- Report, Indian Food processing Sector Trends & Opportunities, August 2019
8. IBEF website accessed in July 2020
10. APEDA Website, accessed July 2020
11. Ministry of Food Processing Industries, July 2020
12. UN COMTRADE database, Accessed in July 2020
13. Various websites- Government of India, EMIS

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The Indian food processing industry is evolving rapidly with rise of newer product segments. This trend is an indicator of shift in consumer preference for processed food. Further, many States which were traditionally not strong in food processing have seen rising food processing capacities. The industry is thus expected to witness an expansion by product types and geographies.

All the 6 major sub-segments witnessed strong growth with meat & marine and dairy followed by packaged foods fueling a rise in demand as preference for value added dairy products, frozen meat, RTE and snacks grew. Given the low levels of processing especially in the fruits and vegetables (F&V) segment, increase in consumer income and push from the industry, there is ample growth potential for processed food in India.

The processing capacity is concentrated in few States as top 5 States account for more than 50 per cent share in GVA (2017-18). The GVA share of traditionally stronger States such as Maharashtra, Madhya Pradesh, Punjab and Haryana witnessed a decline while that of States such as Tamil Nadu, Karnataka, Uttar Pradesh, Gujarat witnessed a rise in the last 10 years.

Changing segmental composition & emergence of new States are shaping the future of the industry

**Evolving landscape of the Indian food processing industry**

### Changing segmental composition & emergence of new States are shaping the future of the industry

#### Segment wise share in Processed Food GVA

<table>
<thead>
<tr>
<th>Segment</th>
<th>2007-08</th>
<th>2017-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereal Grains &amp; Oilseeds</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>Packaged Food</td>
<td>17%</td>
<td>15%</td>
</tr>
<tr>
<td>Beverages</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Dairy</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Meat &amp; Marine</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables</td>
<td>1%</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Growing segments:** Packaged Food, Dairy, Meat & Marine

**Losing segment:** Beverages, Cereals, Grains & Oilseeds

**Fastest growing segments:** Meat & Marine, Dairy and Packaged Food

#### State wise share in Food Processing

<table>
<thead>
<tr>
<th>State</th>
<th>2007-08</th>
<th>2017-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharashtra</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>MP</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Karnataka</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>UP</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Gujarat</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Punjab</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>Haryana</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Kerala</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>West Bengal</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

**Growing States:** Tamil Nadu, Karnataka, UP

**Losing States:** Maharashtra, MP, Punjab

**Fastest Growing States:** West Bengal, UP, Tamil Nadu

Source: Annual Survey of Industries

Note: Andhra Pradesh with 5th largest share in 2018-19 not included as data not available for 2007-08

14. Annual Survey of Industries
Analysis of the processing capacities of different States indicates that the growth is concentrated within few segments. There is ample scope for diversification within segments and expanding to new geographies as the manufacturers shift their focus towards adopting regional cuisines and flavours in processed food.

Top 5 production centres for food processing (2017) – segment wise analysis

<table>
<thead>
<tr>
<th>Segment</th>
<th>Top Producing States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>Uttar Pradesh: 16 per cent, Rajasthan: 13 per cent, Madhya Pradesh: 8 per cent, Gujarat: 8 per cent, Andhra Pradesh: 8 per cent</td>
</tr>
<tr>
<td>Meat &amp; Marine</td>
<td>Andhra Pradesh: 21 per cent, West Bengal: 12 per cent, Uttar Pradesh: 9 per cent, Maharashtra: 8 per cent, Tamil Nadu: 6 per cent</td>
</tr>
<tr>
<td>Cereals, Grains &amp; Oilseeds</td>
<td>Uttar Pradesh: 18 per cent, Madhya Pradesh: 12 per cent, Punjab: 11 per cent, Rajasthan: 7 per cent, West Bengal: 6 per cent</td>
</tr>
<tr>
<td>Beverages (non-alcoholic)</td>
<td>Maharashtra: 26 per cent, Uttar Pradesh: 15 per cent, Madhya Pradesh: 9 per cent, Karnataka: 6 per cent, West Bengal: 5 per cent</td>
</tr>
<tr>
<td>Fruits &amp; Vegetables</td>
<td>Uttar Pradesh: 12 per cent, West Bengal: 10 per cent, Madhya Pradesh: 8 per cent, Gujarat: 7 per cent, Andhra Pradesh: 7 per cent</td>
</tr>
<tr>
<td>Packaged Food</td>
<td>Maharashtra: 13 per cent, Uttar Pradesh: 8 per cent, Karnataka: 8 per cent, Tamil Nadu: 7 per cent, Gujarat: 3 per cent</td>
</tr>
</tbody>
</table>

Source: Annual Survey of Industries
Key government led initiatives to boost infrastructure in the food processing industry

The food processing infrastructure has expanded significantly in recent years led by the Ministry of Food Processing Industries (MOFPI). Under Pradhan Mantri Kisan Sampada Yojana (PMKSY), quality infrastructure for modern food processing is being developed across the country with grant from the Government of India. The current status of infrastructure is depicted in the infographic below.

While, steps have been taken to augment the food processing infrastructure, more needs to be done to scale up infrastructure across various segments such as dairy, fisheries, etc. to utilize the full potential of the industry. In addition, there are significant opportunities in storage and supply chain infrastructure- cold chain logistics, smart logistics etc. To ensure a faster augmentation/upgradation of quality infrastructure in line with industry requirements, government partnerships with private players through appropriate PPP models should be considered.

15. Ministry of Food Processing Industries, as on 27.02.2020
16. APEDA as on July 2020
17. Ministry of Food Processing Industries as on 27.02.2020
18. Ministry of Food Processing Industries, as on 01.09.2020
Adopting a collaborative approach is the key to catalyse growth in the industry

**Vision & policy**
- Ministry of Agriculture
- Ministry of Food Processing Industries
- Ministry of Health
- Ministry of Commerce & Industry
- Ministry of Animal Husbandry & Dairying
- Ministry of Fisheries
- State Ministries
- National Dairy Development Board
- Spice/ Tea Board

**Trade/ FDI**
- Embassies
- Trade promotion agencies / associations
- Multilateral Financial Institutions (MFIs)

**Industry & suppliers**
- Large players/ MSMEs
- Foreign investors
- Startups
- Exporters
- Processors
- Equipment providers
- Warehousing & logistics
- Farmers/ cattle breeders

List not exhaustive
Adopting a focused approach with collaboration from diverse stakeholders is critical for catalytic growth of the industry. An inter-ministerial committee led by MOFPI and consisting of various ministries may be constituted for bringing various stakeholders together in a coordinated manner.

**Research & development**
- National Bank for Agriculture and Rural Development (NABARD)
- National Institute of Food Technology Entrepreneurship and Management (NIFTEM)
- Indian Council of Agricultural Research (ICAR)
- Indian Institute of Food Processing Technology (IIFPT)

**Food standards/ exports**
- Agriculture and Processed Food Products Export Development Authority (APEDA)
- Marine Products Export Development Authority (MPEDA)
- Food Safety and Standards Authority of India (FSSAI)

**Knowledge/investment promotion**
- Department for Promotion of Industry and Internal Trade
- National Investment Promotion Agency
- State Investment Promotion Agencies
- Consulting Agencies
Several schemes have been rolled out by various ministries for the development of food processing and allied industries. However, most schemes are standalone schemes with little reference to other schemes even though the beneficiary sub-segments are common. This has resulted in a fragmented approach where the advantages of one scheme are not captured by another scheme. Integrating various schemes considering the common components involved and to avoid overlaps may be considered going forward.

Adopting an integrated approach is the need of the hour

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Ministry</th>
<th>Outlay (in INR Cr.)</th>
<th>F&amp;V</th>
<th>Dairy</th>
<th>Cereals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PM FME)</td>
<td>Inter-Ministerial</td>
<td>10,000</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Operation Greens (TOP to TOTAL)</td>
<td>MoFPI</td>
<td>500</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pradhan Mantri Kisan Sampada Yojana (PMKSY)</td>
<td>Agriculture &amp; farmers welfare</td>
<td>6,000</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Mission for Integrated Development of Horticulture</td>
<td></td>
<td>~16,000</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisheries and Aquaculture Infrastructure Development Fund (FiDF)</td>
<td></td>
<td>7,522</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy Processing And Infrastructure Development Fund (DIDF)</td>
<td>Fisheries, animal husbandry and dairying</td>
<td>11,184</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Dairy Plan</td>
<td></td>
<td>2,242</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pradhan Mantri Matsya Sampada Yojana (PMMSY)</td>
<td></td>
<td>20,050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Husbandry Infrastructure Development Fund (AHIDF)</td>
<td></td>
<td>15,000</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>
## Indian food processing industry – growth opportunities post the Covid-19 pandemic

<table>
<thead>
<tr>
<th>Sector</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat &amp; Marine</td>
<td>✔</td>
</tr>
<tr>
<td>Packaged Food</td>
<td>✔</td>
</tr>
<tr>
<td>Beverages</td>
<td>✔</td>
</tr>
<tr>
<td>Infra</td>
<td>✔</td>
</tr>
<tr>
<td>Marketing</td>
<td>✔</td>
</tr>
<tr>
<td>Cap building</td>
<td>✔</td>
</tr>
<tr>
<td>Exports</td>
<td>✔</td>
</tr>
</tbody>
</table>

### Scheme

- **Ministry Outlay (in INR Cr.)**
  - Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PM FME)
  - Inter-Ministerial 10,000 Operation Greens (TOP to TOTAL)
  - MoFPI 500 Pradhan Mantri Kisan Sampada Yojana (PMKSY)
  - Agriculture & farmers welfare 6,000 Mission for Integrated Development of Horticulture, Fisheries, animal husbandry and dairying ~16,000
  - Fisheries and Aquaculture Infrastructure Development Fund (FIDF) 7,522
  - Dairy Processing And Infrastructure Development Fund (DIDF) 11,184
  - National Dairy Plan 2,242
  - Pradhan Mantri Matsya Sampada Yojana (PMMSY) 20,050
  - Animal Husbandry Infrastructure Development Fund (AHIDF) 15,000

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Impact of Covid-19 pandemic on the food processing industry

During the recent pandemic, the overall impact on food processing industry was low compared to other Industries. The food processing industry was among the least impacted sectors across most segments except meat & marine segment, which witnessed a negative impact due to low demand. An interaction with industry stakeholders revealed that the acceptability of processed food products increased as customers focused on hygienic and easily available products with long shelf lives.

### Production
- **Meat & Marine**: No impact on Livestock/Marine population
- **Fruits & Vegetable**: Labour shortage after migration to home states
- **Packaged Foods**: Increased production
- **Beverages**: Impact on Raw Juice supply
- **Cereals, Grains & Oilseeds**: Delayed sowing and harvesting due to labour shortage
- **Dairy**: Increased surplus

### Procurement and Storage
- **Meat & Marine**: Piled up inventory and reduced demand
- **Fruits & Vegetable**: Low specialized warehousing capacity for perishables
- **Packaged Foods**: No significant impact
- **Beverages**: Inventory pile-up, reduced demand
- **Cereals, Grains & Oilseeds**: Higher procurement by govt. helped farmers, storage remains a challenge
- **Dairy**: Low specialized warehousing capacity for perishables

### Processing
- **Meat & Marine**: Labour shortage after migration to home states
- **Fruits & Vegetable**: No significant impact on processing
- **Packaged Foods**: No significant impact
- **Beverages**: Production shutdown
- **Cereals, Grains & Oilseeds**: Slight delay in purchase of new crop produce
- **Dairy**: Increased production of value added products

### Retail & Distribution
- **Meat & Marine**: Low impact in the domestic market
- **Fruits & Vegetable**: Low in the domestic market
- **Packaged Foods**: No significant impact after lifting of movement curbs
- **Beverages**: No significant impact after lifting of movement curbs
- **Cereals, Grains & Oilseeds**: No significant impact
- **Dairy**: No significant impact after lifting of curbs

### Consumption
- **Meat & Marine**: Reduced consumption in domestic market due to Covid-19 apprehensions
- **Fruits & Vegetable**: Sustained demand from homes, reduced demand from HORECA
- **Packaged Foods**: Increased demand from homes and D2C channel, reduced demand from HORECA
- **Beverages**: Growing demand from homes, reduced demand from HORECA
- **Cereals, Grains & Oilseeds**: No significant impact
- **Dairy**: Reduced consumption from HORECA, slight increase in household demand

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The pandemic has given rise to a new normal with sustainable food chains, growing preference for healthy food, localised food supply and increased trade barriers

Post Covid-19, the European Union (EU) nations and the USA are expected to avoid ‘business as usual’ practices such as having stringent measures and practices in place pertaining to the food processing industry. Going forward, nations will require to strengthen their industrial practices and norms to keep in consonance with the changing landscape, or the New Normal.

Food safety & surge in Non-Tariff Measures (NTMs)

In the post Covid-19 era, there is likely to be a surge in non-tariff measures including stringent Sanitary and Phytosanitary Measures (SPSs) and Technical Barriers to Trade (TBT) by major economies to ensure food safety against transmitted chemicals and diseases.

Sustainability of food systems & value chain

There has been a significant shift from non-sustainable food systems to environmentally sustainable food systems across the entire value chain for food processing.
Another significant trend has been a steady growth in use of organic and bio-ingredients in the food supply chain including use of chemicals and fertilizers.

Shift towards organic and healthy food

Demand for foods perceived to be healthy such as organic food and related products is likely to increase significantly. Further, adoption of traceability in food products is likely to witness a steep rise.

Localisation of food supply

Localisation of food supply is likely to gain prominence as an emerging and increasingly credible concept.

Food security

Recognising the essence of food security and shortages, adoption of Information & Communication Technologies (ICTs) such as Artificial Intelligence (AI) and Big Data to improve on-farm handling, post-harvest, storage and transportation processes is likely to gain traction in future.

Resilience

Resilience needs to be strengthened from production of traditional crops to storage, transportation, processing and preparation.
Overview of India’s exports of food products

India’s exports to China, Iran and Bangladesh grew by 62 percent, 41 percent and 22 percent (y-o-y) respectively. Conversely, exports to UAE and Vietnam, declined by 6.8 percent and 19 percent (y-o-y) respectively.

Exports from India form a major share of food products imported by Nepal, Iran and Bangladesh.

Commodity wise exports of food products from India (2019- USD billion)

* India commands a high share in global export of lac/gum (11 per cent), cereals (7 per cent), coffee/tea (7 per cent), and fish (5 per cent).

19. Trademap database, as on July 2020
Compared to the developed economies and other BRICS nations, India’s share of value-added products i.e. processed food in exports is low\(^\text{20}\)

Exports from India are dominated by low value added food products (raw material/semi-processed) (69 per cent) compared to Mexico (50 per cent), China (48 per cent), Germany (28 per cent) and Netherlands (41 per cent).

High value added food processing products that do not feature prominently in India’s export basket are:

- Soya bean
- Bread, pastry, cakes, & other bakery items
- Alcoholic and non-alcoholic beverages including fruit juices, wines and beer
- Cheese and yogurt
- Chocolate & cocoa items
- Processed marine items
- Maize and corn
- Edible nuts (dried, fresh, peeled or shelled)
- Sauces and pasta

\(^{20}\) Trademap Database; Product Grouping basis USDA report on Market Access for High Value Food
Significant opportunities for India in the top 10 global markets for processed foods

Globally top 5 exporting nations account for 34 per cent share in export of food products. India is 14th largest exporter in the world with only 2 per cent share in global export of food products.

There is a significant potential for India’s export of processed food to the top 10 global markets (53 per cent share in imports). Currently, India has a low share (less than 2 per cent) in these markets, and is significantly behind leaders such as Brazil, Mexico, Netherlands and Germany.

<table>
<thead>
<tr>
<th>Global trade of food products (2019): USD 1,465 billion</th>
<th>Top exporters of food products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Importers</td>
<td>USA (USD137 billion)</td>
</tr>
<tr>
<td>USA (USD156.59 billion)</td>
<td>-</td>
</tr>
<tr>
<td>China (USD136.68 billion)</td>
<td>9.2%</td>
</tr>
<tr>
<td>Germany (USD96.59 billion)</td>
<td>3.2%</td>
</tr>
<tr>
<td>Netherlands (USD67.91 billion)</td>
<td>3.9%</td>
</tr>
<tr>
<td>Japan (USD66.15 billion)</td>
<td>21.0%</td>
</tr>
<tr>
<td>UK (USD62.58 billion)</td>
<td>2.8%</td>
</tr>
<tr>
<td>France (USD58.93 billion)</td>
<td>1.9%</td>
</tr>
<tr>
<td>Italy (USD45.18 billion)</td>
<td>3.2%</td>
</tr>
<tr>
<td>Spain (USD40.04 billion)</td>
<td>4.3%</td>
</tr>
<tr>
<td>Canada (USD37.38 billion)</td>
<td>55.0%</td>
</tr>
</tbody>
</table>

Thrust market: Export growth positive, Import share growth positive.
Growth market: Export growth positive, Import share growth negative.
Declining market: Export growth negative, Import share growth positive.
Losing market: Export growth negative, Import share growth negative.

21. Trademap Database
## Market scenario for India

<table>
<thead>
<tr>
<th>India’s exports of food products (USD32.5 billion)</th>
<th>India’s export potential</th>
<th>Growth in export of food products from India</th>
<th>Top 5 potential products (HS02)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% Market share</td>
<td>10% Market share</td>
<td>2018-19 (1 Year)</td>
<td>2017-19 (2 Year)</td>
</tr>
<tr>
<td><strong>Thrust</strong></td>
<td>3.2%</td>
<td>$7.8</td>
<td>$15.6</td>
</tr>
<tr>
<td><strong>Thrust</strong></td>
<td>1.7%</td>
<td>$6.8</td>
<td>$13.6</td>
</tr>
<tr>
<td><strong>Thrust</strong></td>
<td>0.9%</td>
<td>$4.8</td>
<td>$9.6</td>
</tr>
<tr>
<td><strong>Growth</strong></td>
<td>1.1%</td>
<td>$3.4</td>
<td>$6.8</td>
</tr>
<tr>
<td><strong>Declining</strong></td>
<td>1.2%</td>
<td>$3.3</td>
<td>$6.6</td>
</tr>
<tr>
<td><strong>Losing</strong></td>
<td>1.2%</td>
<td>$3.1</td>
<td>$6.2</td>
</tr>
<tr>
<td><strong>Declining</strong></td>
<td>0.8%</td>
<td>$2.94</td>
<td>$5.8</td>
</tr>
<tr>
<td><strong>Declining</strong></td>
<td>0.9%</td>
<td>$2.25</td>
<td>$4.5</td>
</tr>
<tr>
<td><strong>Losing</strong></td>
<td>0.8%</td>
<td>$2</td>
<td>$4</td>
</tr>
<tr>
<td><strong>Thrust</strong></td>
<td>1.4%</td>
<td>$1.8</td>
<td>$3.6</td>
</tr>
</tbody>
</table>

**Beverages, edible fruits & nuts, marine, edible vegetables, and processed fruits & vegetables.**

**Oil seeds, meat, marine, edible fruits, nuts, and oils.**

**Edible fruits and nuts, dairy, beverages, meat, and edible vegetables.**

**Edible fruits and nuts, oils, cocoa items, meat, and beverages.**

**Marine, meat, cereals, oil seeds, and beverages.**

**Beverages, edible fruits and nuts, meat, preparations of cereals, milk, and marine.**

**Edible fruit and nuts, marine, meat, beverages, and dairy.**

**Meat, marine, dairy, oils, fruits & nuts, and cereals.**

**Marine, cereals, fruits and nuts, oils, and oil seeds.**

**Beverages, fruits and nuts, vegetables, preparations of cereals, milk and vegetables.**
Case study: India’s export potential in the processed food category to the USA (Among top 3 in fish, significant scope in other categories especially beverages)\(^2\)

<table>
<thead>
<tr>
<th>HS Code</th>
<th>Products</th>
<th>Imports (USD billion)</th>
<th>Average share in USA’s food imports (2016-19)</th>
<th>Import growth 2016-19</th>
<th>Top exporters &amp; share in USA’s imports</th>
<th>India’s export potential (average 2016-19) USD billion (5% share)</th>
</tr>
</thead>
<tbody>
<tr>
<td>'22</td>
<td>Beverages, spirits and vinegar</td>
<td>27.6</td>
<td>40.3%</td>
<td>4.1%</td>
<td>1. Mexico (23.4%) 2. France (19.1%) 3. Italy (10.5%) 4. India (0.01%)</td>
<td>1.38</td>
</tr>
<tr>
<td>'08</td>
<td>Edible fruit and nuts; peel of citrus fruit or melons</td>
<td>19.6</td>
<td>32.8%</td>
<td>5.6%</td>
<td>1. Mexico (43.2%) 2. Chile (11.1%) 3. Peru (7.7%) 4. India (0.3%)</td>
<td>0.98</td>
</tr>
<tr>
<td>'03</td>
<td>Fish and crustaceans, molluscs and other aquatic invertebrates</td>
<td>18.5</td>
<td>14.1%</td>
<td>6.1%</td>
<td>1. Canada (16.3%) 2. India (12.3%) 3. Chile (12.2%)</td>
<td>3</td>
</tr>
<tr>
<td>'07</td>
<td>Edible vegetables and certain roots and tubers</td>
<td>11.5</td>
<td>2.5%</td>
<td>4.5%</td>
<td>1. Mexico (62.2%) 2. Canada (17.4%) 3. Peru (4.1%) 4. India (0.6%)</td>
<td>0.6</td>
</tr>
<tr>
<td>'20</td>
<td>Preparations of vegetables, fruit, nuts or other parts of plants</td>
<td>8.9</td>
<td>2.3%</td>
<td>5.5%</td>
<td>1. Canada (17.6%) 2. Mexico (16.9%) 3. China (8.2%) 4. India (1.5%)</td>
<td>0.5</td>
</tr>
<tr>
<td>Top 5 Imports by USA</td>
<td></td>
<td>86.2</td>
<td>55.1%</td>
<td>4.5%</td>
<td>1. Mexico (28.1%) 2. Canada (9.4%) 3. France (6.4%) 4. India (3%)</td>
<td>6.4</td>
</tr>
<tr>
<td>Total Processed Foods and Beverages</td>
<td></td>
<td>156.6</td>
<td>2.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^2\) Trademap Database
Way forward

The Indian food processing industry holds tremendous growth potential and has gained further traction due to the pandemic. Going forward, India needs to recalibrate its strategy taking into account the opportunities created in both, domestic and export market.

1. Domestic demand

Covid-19 pandemic has led to increased acceptance for processed food. Rural areas and Tier 2/3 cities are expected to continue driving the demand for processed food. Health foods, snacks and RTE segment are likely to drive demand. Hotel/Restaurant/Café (HoReCa) segment shall play a critical role as it recovers from the aftermath of Covid-19. E-commerce and Direct to Customer (D2C) are displacing traditional retail as producers redistribute their supply chains post Covid-19 and reach consumers at their doorstep.

The industry is expected to move towards an organised structure. PM FME Scheme has been launched with the aim of formalising the unorganised micro players in food processing industry. This shall expedite the intended shift from unorganised to organised structure.

Regional players and national manufacturers offering products catering to regional tastes have found greater success. Players with national footprint and offering a huge variety of products are likely to be more sustainable while competing against local and unorganised segment.

2. Exports

India’s processed food products exports have remained low and continue to be dominated by low value-added products. Furthermore, the industry experts feel that the Indian products are non-competitive in terms of price and quality in export market.

In the post Covid-19 era, India has an opportunity to become the food hub of the world and increase its share in exports. There is significant potential for enhancing exports from India to the top 10 global food markets, especially where it has limited presence. Major segments of export potential include meat & marine and dairy.

There is a need to develop scale, quality & cost-effective export capabilities meeting global certification requirements so that the Industry is competitive.

Government of India can support the exporters by negotiating Free Trade Agreements (FTAs), lowering Non-Tariff Barriers (NTBs) and expediting implementation of Remission of Duties and Taxes on Exported Products (RoDTEP) scheme.
3. **Processing capacity and quality infrastructure**

Opportunities in domestic and international markets in post Covid-19 era require that the processing capacities in food processing industry be enhanced significantly at all levels of value chain. Government of India has rolled out several schemes for encouraging processing capacity in meat & marine, dairy and F&V segments.

Production Linked Scheme (PLI) Scheme is likely to encourage players in food processing industry to enhance their processing capacities and meet the demand for rising challenges. Food processing industry is gearing up to the challenge and is likely to see enhanced investment into product expansion and geographical expansion. There is a huge potential for complimentary industries such as food ingredients, food processing equipment, food logistics and food packaging. To enhance competitiveness and meet the hygiene needs at a scale, the players specially MSMEs will require high quality testing and certification infrastructure.

4. **Technology**

Technology applications across value chain can help reduce wastage, maintain quality and enhance shelf life of food products. In a price sensitive market dominated by unorganised and small players, technology has taken a back seat.

There is a direct need to increase cold storage capacity in the absence of which scalability of perishable products is likely to be a challenge.

Traditionally dominated by imports, food processing equipment market is likely to see an increased demand. With the right interventions this can result into opportunity for domestic industry in line with India’s quest for Atmanirbharta or self-sufficiency.

Digitalised supply chain, smart warehousing and logistics using industry 4.0 technologies can help India reduce wastage during storage and transit. Intelligent supply chain management systems can help reduce wastage for perishables.

5. **Institutional structure**

A coordinated approach is the need of the hour for development of all segments of the food processing industry taking into account opportunities in regional preference, exports, quality management systems and measures to enhance competitiveness of Indian products.

Initiatives such as National Single Window Clearance System and Project Development Cell are steps in the right direction for a coordinated approach in industry facilitation.

Inter-Ministerial Body led by MOFPI and participation from APEDA, MPEDA, FSSAI supported by a Food Processing Council (consisting of Industry representatives) can prove to be a catalyst in the future industry development at segment/product level, tapping value added exports and addressing issues and challenges – infrastructure bottlenecks, quality bottlenecks etc.
6. Driving growth through innovation

Food and food-tech startups have registered a CAGR of more than 35 per cent since 2014. Most of the startups are either in agri-tech domain or food retail & service domain with very few in the middle layer of processing.

A thriving ecosystem for startups in food processing is critical to driving food innovation and expedited growth of the industry. Innovative products focused on wellness, health and nutrition are likely to see a huge opportunity in the domestic market. During and after the pandemic, many companies have innovated and launched new products meeting the traditional and new cuisines catering to the regional tastes. Some areas where startups can play a role in driving innovative solutions include product innovation, shelf life enhancement solutions, smart supply chain, logistics and warehousing. In order to succeed, the startups will need to be supported by the industry to create enough demand for building scalable solutions.

Case study

Food Valley, Netherlands
- Collaboration with international food companies, research institutes, and Wageningen University & Research Centre.
- Food Valley is home to a large number of international food companies and close to 15,000 professionals engaged in food related sciences & technological development.

Food Nation, Denmark
- Public–Private Partnership (PPP) established by the Danish Government, leading private organisations and companies.
- Food Nation serves as a gateway for international private & public decision-makers seeking information about the Danish food cluster, providing access to the food cluster’s innovative solutions and products and helps in global positioning of Danish food technology solutions.

The post Covid-19 world looks promising for India’s food processing industry as it provides India with an opportunity to capitalize on increased opportunities in the industry, calibrate its strategy and gear up to capture new markets.
The Industry Perspective

The Indian food processing industry is gradually moving to maturity thanks to rising income prosperity, increasing customer aspirations and globalisation. The sector is currently characterised with limited value addition and low usage of technology with MSMEs accounting for majority of market share. The cold chain infrastructure is nascent and with lesser shelf life of products coupled with low margins, beverage companies (especially fruit juice companies) are struggling to compete with the unorganised sector. Further, with Covid-19, out of home consumption has suffered significant losses. Segments such as hygiene, health & wellness, and immunity-based products have seen increasing sales.

India is a large source of raw material as well as packaging material and this provides a huge opportunity for it to become a ‘Food Factory’ to global supply chains especially for regions like Europe, Middle East and Asia Pacific. However, there are associated factors such as lower quality perception, uncertainty on trade policies etc. which could pose a challenge for exports. Technology adoption can help address quality and enhance value addition to achieve economies of scale for Indian producers, thus making the products competitive in the global market. Innovations in products can help achieve scale to become successful in a price sensitive market like India. Government support by way of schemes for technology adoption and FTA revisions could further augment the potential that we have to offer.

With only about 10 per cent contribution of packaged food to the total food production, India is at a very nascent stage in the overall food processing landscape. Covid-19 has brought a change in consumer behavior with a positive mindset towards processed and packaged food. Segments such as convenience foods, health foods, packaged foods have witnessed gains during lockdown whereas out-of-home channels and HoReCA as a segment have faced challenges. E-commerce, local kiranas and the Direct-2-Consumer channels have gained a strong momentum resulting into revamping the overall distribution strategy. Further, food companies have quickly adapted to the changing realties and introduced innovative products focused on wellness, health and nutrition such as ‘Haldi Milk’ or ‘Golden Milk’ which is a fine fusion of lifestyle and Ayurveda.

Post the pandemic, significant opportunities exist for India in the food processing sector both in domestic market and exports market. There is a large dependence on imports for raw materials for global products being exported by Indian companies. With the right government interventions, this can be turned into a big opportunity for MSMEs in the food processing ecosystem. Recently proposed PLI schemes may also be relooked at to include more players. In a bid to augment exports and potentially make India a food factory for the world, Government needs to support exporter companies by smooth transition and favorable incentives from MEIS to the RoDTEP scheme so that Indian companies can compete on a global canvas.

Mr. Yogesh Bellani
CEO
FieldFresh Foods

Mr. Aditya Bagri
Director
Bagrry’s Group
Food processing sector in India is a consumption dependent sector. During Covid-19, the sector wasn’t much impacted as most of the consumption fell into essentials as a category. However, the scale of impact will require at least 2-3 quarters for the sector to return to normalcy. Rural market, a value for money market was initially hampered by limited geography but has since picked up demand as affordability in rural areas isn’t an issue.

E-commerce has the potential to play an integral part in the overall retail landscape. With digital now gaining traction, supply chain disruptions especially in packaged food have helped to close last mile deliveries in semi urban and rural areas, thereby driving growth. When it comes to dairy, since this is a highly localised product, E-commerce has not been able to penetrate well except for urban areas by grocery players. There is a huge opportunity in that segment going forward.

The food processing sector has low entry barriers with presence of several small players, the cost of processing is high and tech interventions are hampered due to lack of scale. Currently, cost of engineering favours regional players. However, national players with good and efficient cost structure will be sustainable in future. It is very important that players scale up and engineer their costs through use of technology. An important gap in technology is building and leveraging the cold chain infrastructure, which needs to be plugged.

During Covid-19, exports have been disrupted significantly and recovery is expected to take time. However, it is also important to know that there is a significant opportunity in exports as India is well-placed to serve a larger platter of Indian and global diaspora.

Post lockdown, there is an enhanced acceptance for processed food especially frozen food and fish products. With consumers now spending more time at home, segments such as snacks, ready-to-eat or ready-to-fry have managed to gain significant traction. Gradually, with the economy now opening up, the HoReCa segment is expected to lead the recovery along with new channels such as cloud kitchens and prepared meals.

Previously, lack of good quality retail space and associated cold chain infrastructure hampered the growth of frozen fish segment. Building a solid cold chain ecosystem is the need of the hour today. The industry needs to invest to meet incremental demand for frozen foods specially for new products within the ready-to-cook/fry segment. Relaxed FDI in retail can be leveraged for development of good quality cold chain infrastructure. Government may incentivise and subsidise 100 per cent frozen retail stores. It could also consider incentivising cold chain set-ups for frozen retail space (veg/ non-veg) as this will enhance domestic demand significantly. Further, with rise of E-commerce and rapid digital acceleration, digital marketing can be a game changer. The industry will need to invest in digital marketing to create an impulse in the minds of the modern consumer.

There is a huge scope for India to explore in terms of exports. In order to compete with our global counterparts, it is important to review and rework the current FTA arrangements. Major export processed food also requires consumption of ingredients like additives, colours, starches etc. which are not easily available in India. There is a huge potential for value added manufacturing of food ingredients in India.
On behalf of Poultry sector, I would like to firstly thank our Honourable Prime Minister for establishing a focused Ministry of Animal Husbandry to support and grow the sector. This shows the commitment of our Government towards Poultry sector and the way Honourable Minister of Animal Husbandry, Mr. Giriraj Singh, has shown his commitment by initiating the ‘Animal Husbandry Infrastructure Development Fund’ and supporting the sector through spreading required awareness in the media during the testing times of Covid-19 linked false bird flu rumours. Poultry industry does see a better future with such commitment and focus. The sector can achieve even greater growth if Government can provide incentives or announce stimulus packages to accelerate growth.

India ranks highest in the world in terms of cost of grain and raw material, largely due to the ban of GM crop, Indian farmers are not able to import seeds (like GM Soya and GM Corn). These GM seeds have better productivity (yield/hector), which is more than double as compared to the current yield. This will not just help the maize and soya farmers double their income but also help poultry and other livestock industries cut-down their input cost. Today our industry uses soya and maize as the key input, which is sourced at 40 per cent and 70 per cent respectively. This is a higher cost as compared to global average. This will have long term sustainable impact on our country’s ability to grow consumption locally and also help us look at export opportunities.

India is 70 per cent protein deficient, our policies need to be relooked as the industry needs support considering the health benefits that it has to offer. Promoting protein consumption for better nutrition is critical for ‘Healthy India’ and our industry growth. A program can be carved by Government of India to promote right intake of protein by everyone. We also need to find innovative ways to manage poultry waste, an initiative that can complement the ‘Swacch Bharat Abhiyan’ by our Honourable Prime Minister.

I firmly believe in the long term, with the increasing productivity and earnings per capita of our citizens, with the vision by the Government to make India a five trillion dollar economy, our people will need better nutrition (including protein). To achieve all of this we would need better food processing infrastructure, I do see that as a future growth driver for poultry and overall food sector.

Mr. Bahadur Ali
Founder & Managing Director
IB Group
Indian food processing industry – growth opportunities post the Covid-19 pandemic
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