Global Overview

- World population is expected to grow by over a third, or 2.3 billion people, between 2009 and 2050*.
- Growth is forecast to take place majorly in the developing countries, especially Asia and Pacific regions.
- Urbanization is foreseen to continue at an accelerating pace with urban areas to account for 70% of world population in 2050*.
- Increases in per capita food consumption combine with population growth, resulting in overall increases in consumption.
- This growth trend will lead to growing market demand for food, especially package food in urban areas.
- Demand for cereals, for food uses is projected to reach some 3 billion tonnes by 2050, up from today’s nearly 2.1 billion tonnes.*

Feeding a world population of more than 9 billion people in 2050 would require raising overall food production by some 70 percent between 2005/07 and 2050.

*Source: Global agriculture towards 2050, EY research
Agri & Food Processing: Value Chain

Agro-processing involves techno economic activities to carry out conservation and handling of agricultural produce and to make it usable as food, feed, fibre, fuel or industrial raw material.

Value Chain in Food Processing Sector

Production
- Farmers, Cooperatives & Private Companies

Procurement & Storage
- Warehouse, Cold Storage and Silos

Processing
- Grading, sorting, milking and packing

Retailing
- Retail shops, malls, cash and carry

Agro-processing Activities

Primary Processing
- Crop drying
- Shelling/threshing
- Cleaning
- Grading
- Packaging

Secondary Processing
- Depending on product type to increase market value. For instance:
  - Milling grain into flour
  - Grinding groundnuts into peanut butter etc.

Key components involved in Secondary Process

- Raw Material Storage
- Refining & storage
- Value addition/Processing
- Testing
- Preservation & Storage
- Packaging & Warehousing
Fisheries

- Globally, total fish production is anticipated to grow by 1% per annum, which is a reduction from last decade i.e., 2.4% per annum.
- Average nominal Traded fish prices are projected to grow by 0.8% per annum and 7.3% by 2026.
- There is an increase in trade prices 2016, supported by sustained demand, in particular for a number of highly traded seafood commodities.

Diseases in Aquaculture Production

Factors affecting Aquaculture

El Nino

Regulatory Constraints

Inability of Capture production under exploitation condition

Aquaculture & Fish Capture

- In absolute terms, total production is expected to reach 194 Mt by 2026, growing by a total of 15.2% (25.6Mt) from the base period i.e., 2007-16.
- Aquaculture production is the main driving force behind global fish production for at least last 3 decades.
- Fish meal and fish oil production is projected to increase by 7.7% (0.34 Mt) and 5% (0.04%) respectively.

Production

Consumption

- Demand of fish is expected to grow and World fish food consumption is projected to increase by 19% in 2026 from base period 2007-16.
- Slowdown mainly due to reduced production expansion, higher fish prices and a deceleration in population growth.
- Growth in demand mostly from developing countries, responsible for 93% of increased consumption.
- In developed countries, consumption is expected to growth of 6.1% from 2007-16 to 2026, due to economic and population slowdown together with ageing population.

Trade

- Fish and fishery products are expected to continue among the most traded commodities.
- Trade of fish is projected to reach 44 Mt.
- Key exporting countries are China, Vietnam, Thailand etc.
- India will remain the top producer of butter. Given its large and expanding domestic market, however, India will not become an important player on the export market.

Source: OECD-FAO Agricultural Outlook 2017-2026
Animal Husbandry and Dairy

Market shrunk from 2013-14 but expected to recover by 2022

International Dairy prices increased in 2016, majorly in butter and whole milk powder (WMP).

While world milk production increased slightly in 2016, production by important exporters (Australia, New Zealand and Argentina) slumped. As a result, prices started to recover in the second half of 2016, especially for butter and whole milk powder (WMP).

Due to low prices in the beginning of 2016, the average price for the year was lower than in 2015.

Commodity-Wise Production and Consumption

In contrast with fresh dairy products, the growth in global consumption of processed dairy products is expected to slow down in the next decade to 1.7% p.a., despite renewed interest in consumption of butter and dairy fat in developed countries.

Source: OECD-FAO Agricultural Outlook 2017-2026
The production of processed dairy products is expected to grow between 2.3% p.a. for skim milk powder (SMP).

Skim milk powder have seen strong growth in the share in production traded between 2007 and 2016.

Milk powders remain the most traded agricultural commodities and fresh dairy products will continue to be among the least traded.

Source: OECD-FAO Agricultural Outlook 2017-2026
**Floriculture**

- Total production value of floriculture will reach to 49082.37 million USD in 2023, with the CAGR of 0.84% during the period of 2016-2023*.

- Low cost cut flower exporting countries close to equator, such as Kenya, Ethiopia, Ecuador, Colombia and Malaysia, have increased their global market share in cut flower trade.

- Market presence strengthening by producers is mainly driven by favourable growing circumstances, rising demand for competitively priced flowers in the destination markets and improved logistics.

- In 2013, global exports of cut flowers, cut foliage, living plants and flower bulbs amounted to USD 20.6 billion**.

- Netherland dominates central market position in exports while others being Malaysia and Colombia.

- Emerging markets include Brazil, China, India, Mexico and Turkey.

**Horticulture**

- Greenhouse Horticulture market comprises North America, Europe, China, Japan, Southeast Asia and India.

- Production shows rising trend, driven by Asian countries.

- At regional level, Asia is the largest producer of fruits and vegetables followed by USA, Europe, Africa and Ocenia.

- China is the largest fruit growing market.

- The most grown fruits are bananas, watermelons and apples, followed by grapes and oranges.

---


**Leading Producers**

- Italy (48.8 mhl)
- France (41.9 mhl)
- Spain (37.8 mhl)
- United States (22.5 mhl)
- Australia (12.5 mhl)
- Chile (10.1 mhl)
- Argentina (8.8 mhl)
- Romania (4.8 mhl)
- New Zealand (3.1 mhl)
Total foodgrains production in the country is estimated at 252.22 million tonnes (2015-16)
As per WTO’s Trade Statistics, the share of India’s agricultural exports and imports in the world agriculture trade in 2015 were 2.26% and 1.74%, respectively

India Overview

FOOD PROCESSING

Fruits and Vegetables
- World’s 2nd largest producer
- Processing to grow by 25% of the total produce by 2025
- In 2015-16, total production is estimated at 282.5 mn tonnes

Milk
- World’s largest producer
- Production of 146.3 mn tonnes in 2015

Meat and Poultry
- World’s largest producer of buffalo meat (1.4 MT in 2015), second largest producer of goat meat (0.91 MT in 2015)
- Second largest egg producer (78.4 bn) and third largest producer of broiler meat (4.2 mn tonne in 2016)

Marine Products
- 13.0 MT of fish production in 2015-16
- AP is the largest producer with production of 741.3 thousand tonnes during 2015-16

Grain Processing
- Produces more than 200 mn tonnes of different food grains (270.1 mn tonnes in 2015-16)

Consumer Food
- Fastest growing sector including packaged food, aerated soft drinks, packaged drinking water and alcoholic beverages

Source: Grant Thornton (2017), Food Processing Sector-Challengers and Growth Enablers

Area, Production and Yield of Major Crops

<table>
<thead>
<tr>
<th>Crop</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jute</td>
<td>10.47</td>
</tr>
<tr>
<td></td>
<td>7.85</td>
</tr>
<tr>
<td>Cotton</td>
<td>30.15</td>
</tr>
<tr>
<td></td>
<td>118.72</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>352.16</td>
</tr>
<tr>
<td></td>
<td>49.53</td>
</tr>
<tr>
<td>Oilseeds</td>
<td>25.3</td>
</tr>
<tr>
<td></td>
<td>261.34</td>
</tr>
<tr>
<td>Foodgrains</td>
<td>252.22</td>
</tr>
<tr>
<td></td>
<td>2,056</td>
</tr>
<tr>
<td>Pulses</td>
<td>16.47</td>
</tr>
<tr>
<td></td>
<td>252.59</td>
</tr>
<tr>
<td>Coarse Cereals</td>
<td>37.93</td>
</tr>
<tr>
<td></td>
<td>237.75</td>
</tr>
<tr>
<td>Wheat</td>
<td>93.5</td>
</tr>
<tr>
<td></td>
<td>302.27</td>
</tr>
<tr>
<td>Rice</td>
<td>104.32</td>
</tr>
<tr>
<td></td>
<td>433.88</td>
</tr>
</tbody>
</table>

Source: Annual Report 2016-17, Department of Agriculture, Cooperation and Farmers’ Welfare
Exports in 2016

- Accounting for 28.4% of the overall export value of key processed products, animal and related products have the largest value share in FY16.
- In FY16, share of exports of cereals stood at 38.21 per cent.

Major Destinations of Processed Food and Agriculture Related Product Exports in FY16

- Vietnam
- Saudi Arabia
- UAE
- USA
- Iran
- Malaysia
- Nepal
- Egypt
- Bangladesh
- Kuwait

Source: IBEF, Food Processing, January 2017
Unorganised Sector in India
► Accounts for 42% of India’s food processing industry
► Sizeable presence of small-scale industries points to the sector’s role in employment generation
► Though the market falls under the unorganised sector in the country, the organised sector has a larger share in the secondary processing segment than the primary one
► Rice mills account for the largest share of processing units in the organised sector
► In FY15, the organised sector is estimated to account for 30% of India’s food processing industry

Contribution of Food Processing to Employment Generation
► By 2024, food processing sector is expected to employ 9 million people in India

Value Chain in Food Processing Sector and Key Players

Inputs | Production | Procurement and Storage | Processing | Retailing
---|---|---|---|---
Seeds, Fertilizers and Farm Equipment | Farmers, cooperative s and private companies | Warehouses, cold storages and silos | Grading, sorting, milling and packing | Retail shops, malls, cash and carry

Key Activities
- National Seeds Corporation Limited, Cargill, Advanta India
- Food Corporation of India, Arshiya Internationa
- ITC ltd, Cargill, Adani Enterprises, Olam International
- Future Retail, Bharti Walmart, Aditya Birla Retail Limited

Source: IBEF, Food Processing, January 2017
Pradhan Mantri Kisan SAMPADA Yojana
- Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters
- Allocation of INR 6,000 crores for 2016-20, expected to leverage investment of INR 31,400 crores

Sub- schemes
- Mega Food Parks
- Integrated Cold Chain and Value Addition Infrastructure
- Creation / Expansion of Food Processing & Preservation Capacities
- Infrastructure for Agro-processing Clusters
- Creation of Backward and Forward Linkages
- Food Safety and Quality Assurance Infrastructure
- Modernization of Abattoirs

Karnataka Agribusiness and Food Processing Policy 2015
- Focused towards sustainable development for the entire value chain of the sector
- Declares the state as a single zone, providing incentives uniformly.

Related Schemes of Agencies other than MoFPI
- Integrated Scheme for Agricultural Marketing (ISAM)-Operational Guidelines
- Agriculture Export Promotion Plan Scheme For XII Plan.
- Credit Linked Capital Subsidy Scheme (CLCSS)
- Extended credit linked back ended capital investment assistance under Horticulture Mission For North Eastern Region and Himalayan States (HMNEH)
- Operational Guidelines for Venture Capital Scheme for Agribusiness Development-XII Plan

Details of Projects Approved by MoFPI

| KARNATAKA | 33 fully funded food parks |
| KARNATAKA | 14 partially funded food parks |
| KARNATAKA | Fully funded: Malur, Hiriyur (INR 400 lakhs each) |
| KARNATAKA | Partially funded: Bagalkot, Jevargi |
| KARNATAKA | 232 integrated cold chain projects |
| KARNATAKA | Hassan, Belagavi, Bengaluru, Bijapur, Kolar, Ramanagara, Uttar Kannada, Kundapura |

Source: MoFPI website
Agri and Food Processing Industry in Karnataka

Significant Production: Karnataka Coffee production accounts for 70%

Strong input base: Agriculture & allied activities contributed 11.68% to GSDP in 2016-17

Diverse competencies:
- Leader in horticultural products and spices
- Leader in floriculture, accounting for 75% of India’s total flower production
- One of the largest producers of Cashew nut in India
- Only producer of Rose Onions in the Country
- Known for Byadgi Chilli. Oleoresin extracted from them is used in preparation of nail polish and lipstick
- 2nd largest milk producing cooperative (KMF)
- 320 km coastline yields annual marine production of 3.93 lakh tonne. State offers varieties like Oil Sardines, Indian Mackerel, Threadfin Breams and Squids

Excellent Supporting Infrastructure & Skilled Workforce
Established Market Linkages
Availability of Land- around 380 acres in Food Parks across the state
Investor friendly, proactive and well defined sector specific policies

There are about 55,518 agro processing units with an investment of Rs.4,87,20 3 Lakhs have employed 3,29,387 manpower as from 2007-08 to 2016-17 as per Directorate of Industries and Commerce, Karnataka

40+ Agri and Food Based Biotech Start-ups Biotechnology Centre at Hulimavu, Bengaluru
Export Performance of Karnataka

Exports Scenario in Karnataka for Agriculture and allied sectors (in INR Crores)

<table>
<thead>
<tr>
<th>Year</th>
<th>Export of Coffee (Rs crore)</th>
<th>Export of Marine Products (Rs crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>3,598</td>
<td>1,067</td>
</tr>
<tr>
<td>2014-15</td>
<td>4,973</td>
<td>1,313</td>
</tr>
<tr>
<td>2015-16</td>
<td>3,096</td>
<td>764</td>
</tr>
<tr>
<td>2016-17*</td>
<td>1,744</td>
<td>411</td>
</tr>
</tbody>
</table>

Percentage Share of Commodity wise Exports in Karnataka for the FY2015-16

- **Coffee products**: 47%
- **Silk products**: 6%
- **Cashew & Cashew Kernels**: 28%
- **Agricultural & Processed Food Products**: 9%
- **Spices**: 3%
- **Bangalore Rose Onion**: 3%
- **Gherkins**: 3%

Destination countries for coffee exports include Italy, Germany, Belgium, Jordon.

- Crop is grown in about 10,000 acres mainly in Kolar, Benagaluru Urban, Benglaluru Rural, and Chikkaballapur districts.
- Rose onion exports from the State stood at USD 45.87 million during 2015-16.
- State is the largest exporter of Gherkins in the country, stood at USD 201 million in 2015-16.
- Export destinations include USA, France, Germany, Australia, Spain, South Korea, Canada, Japan, Belgium, Russia, China, Srilanka, Israel.
- State is a major contributor to country’s production with respect to spices like vanilla, cinnamon, tamarind, chilli and ginger.
- Spice exports from Karnataka stood at USD 49.34 million in 2015-16.
- Spice growing regions include Dakshin Kannada, Coorg and Chikkamagalur.

Source: Karnataka State Agricultural Produce Processing and Export Corporation Limited
Economic survey of Karnataka 2016-17
Visvesvaraya Trade Promotion Centre

*Details up to September 2016
Sub-sector Snapshot

Horticulture

Animal Husbandry

Floriculture

Wineries

Fisheries
Karnataka, with a good agricultural base is a home for various food crops, offers immense scope for the development of food processing industries

As per Economic Survey of Karnataka 2016-17, there are 1,584 food products and beverages units in employing 16,190 person with the investment of Rs 54,180 Lakhs

Units approved
SLSWCC- 106
SHLCC- 21

Processing Opportunities | Districts
--- | ---
Oil, De-oiled cake | Vijayapura, Raichur, Gadag, Koppal, Gulbarga, Bagalkot
Corn Flour, Corn Grit, Protein Feed, Glucose, Rava, Starch, Corn Oil, Corn Flakes etc. | Davangere, Haveri, Belagavi, Bellary, Shivamogga, Chitradurga
Dal, Tur Milling | Gulbarga, Vijayapura, Bidar, Raichur, Yadgir
De-husking of Millet into Rice, Rava, Flour | Bellary, Koppal, Chitradurga, Belagavi, Davangere
Fortified Atta- | Chitradurga, Haveri, Tumkur, Belagavi, Chikkamagalur
Hurihittu, Malt, Vermicelli, Dosa / Idli Flour, Bakery products, Beverages | Tumkur, Hassan, Ramanagar, Kolar, Mandya
Flour, Idli Mix | Koppal, Vijayapura, Raichur, Kalaburagi, Bagalkot
Horticulture

Separate Horticulture Department in the Country

Cover an area of 20.37 lakh hectare

Productivity of Horticultural crops in the state is 8.52 metric tonne per hectare

Annual production is 173.60 lakh metric tonne

Annual value of Horticultural products produced in the state is Rs.40,002 crore

Bal Copra

Tumakuru district is notable for its copra (Dried Coconut Kernel) which is used to extract Virgin Coconut Oil. Copra produced here are naturally dried under shade for nine to twelve months.

Byadgi Chilli

A variety of chilly grown only in Karnataka, known for its unique low pungency and deep red colour. Oleoresin extracted from them is used in preparation of nail polish and lipstick.

Cluster Mapping

All Horticulture Crops (Production in Million tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (Million tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>16.2</td>
</tr>
<tr>
<td>2012-13</td>
<td>15</td>
</tr>
<tr>
<td>2011-12</td>
<td>15.5</td>
</tr>
<tr>
<td>2010-11</td>
<td>15.2</td>
</tr>
<tr>
<td>2009-10</td>
<td>14.8</td>
</tr>
<tr>
<td>2008-09</td>
<td>13.6</td>
</tr>
<tr>
<td>2007-08</td>
<td>13.7</td>
</tr>
<tr>
<td>2006-07</td>
<td>13</td>
</tr>
</tbody>
</table>

Processing Opportunities

<table>
<thead>
<tr>
<th>Juice, Jelly, Jam, Syrup, Aril, Juice Concentrate</th>
<th>Chitradurga, Bellary, Vijayapura, Tumkur, Koppal, Bagalkot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mango Pulp, Squash, Pickles, Dehydrated Fruits, Powder</td>
<td>Kolar, Ramanagar, Tumkur, Chikkaballapura, Mandya, Belagavi, Dharwad</td>
</tr>
<tr>
<td>Tomato Squash, Ketchup, Sauce, Pickles, Sun Dried</td>
<td>Kolar, Mandya, Belagavi, Haveri, Davangere, Bengaluru Rural, Chikkaballapura</td>
</tr>
<tr>
<td>Onion dehydrated flakes, Powder, Paste</td>
<td>Gadag, Dharwad, Vijayapura, Chitradurga, Bagalkot, Haveri</td>
</tr>
</tbody>
</table>

Source: Department of Horticulture
Floriculture

2nd highest producer of Flowers in the Country

Floriculture exports from Karnataka stood at USD 7.65 million in 2015-16

The state is the largest exporter Flowers in the country

More than 30,000 Ha of area under floriculture cultivation

Setting up of international air cargo services and cold storage at the Bengaluru Airport has resulted in boosting export of the floriculture sector

► International Flower Auction Bengaluru (IFAB) has also helped growth of floriculture sector

► It is India’s first and only flower auction centre located in Karnataka

► Its is the first International Flower Auction Company in Asia

► IFAB is a joint venture company of public and private shareholders.

► At present daily average volume of flowers auctioned in IFAB has gone up from 20,000 to 2,50,000 stems

Cluster Mapping

<table>
<thead>
<tr>
<th>Processing Opportunities</th>
<th>Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Extraction from Aromatic plants, Crude from Medicinal plant, phytochemicals, dehydration of herbs</td>
<td>Bellary, Tumkur, Kolar, Vijayapura, Gadag, Chikkaballapura, Uttara Kannada, Koppal, Shivamogga, Kalaburagi</td>
</tr>
<tr>
<td>Extractions of dye, colours &amp; essential oils, Cut flower</td>
<td>Haveri, Bellary, Tumkur, Mandya, Chikkaballapura, Chitradurga, Kolar</td>
</tr>
</tbody>
</table>

Flower Production in Karnataka (in akh MT)

Source: Department of Horticulture
Karnataka is a Milk Surplus state supported by the largest Milk Federation in South India

- Milk Produced in 2015-16: 6.4 Million tonnes
- Number engaged in dairy farming: 2.3 Million farmers
- Number of dairy cooperatives: 13,082
- Number of Dairy Plants: 22
- Per capita milk availability: 244 gm/day
- Number of milch bovine: 69,61,000

Leader in sale of Tetra-fino UHT Milk

- 11th Largest producer of milk in India

Karnataka Milk Federation
- 2nd Largest milk producing cooperative

Processing Opportunities

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>7,755</td>
<td>169,894</td>
<td>41,223</td>
</tr>
<tr>
<td>2014-15</td>
<td>8,822</td>
<td>181,312</td>
<td>43,948</td>
</tr>
<tr>
<td>2015-16</td>
<td>8,191</td>
<td>196,600</td>
<td>47,661</td>
</tr>
<tr>
<td>2016-17*</td>
<td>5,681</td>
<td>179,922</td>
<td>41,800</td>
</tr>
</tbody>
</table>

Source: Economic Survey of Karnataka 206-17

Cluster Mapping

Processing Opportunities

- Milk Powder, Ghee, Butter, Paneer, Beverages, Curd, Ice cream, Chocolate
- Frozen Boneless Halal Meat, Canned Meat
- Egg Powder, Instant Baby Foods, Pasteurised Egg Albumen

Districts

- Belagavi, Tumkur, Hassan, Mandya, Mysuru, Kolar, Chikballapur, Davangere
- Bengaluru Urban, Haveri, Bengaluru Rural, Mandya, Kolar, Mysuru, Chikmagalur, Dharwad
- Koppal, Davangere, Mysuru, Bellary, Bagalkot, Belagavi, Mandya

* Details up to September 2016
Fisheries

Karnataka is in 6th position in marine fish production and 8th position in inland fish production in the country.

There are about 9.61 lakh fishermen in the state of which 3.28 lakh fishermen in marine and 6.33 lakh fishermen are in inland.

Upgradation / Modernization of infrastructure facility for Marine products in Tadadi port, Kumta Taluk, Karwar for promoting exports of Marine products.

Fish Production in Karnataka (in MTs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Inland</th>
<th>Marine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-17*</td>
<td>362,751</td>
<td>130,000</td>
<td>262,751</td>
</tr>
<tr>
<td>2015-16</td>
<td>580,590</td>
<td>168,828</td>
<td>411,762</td>
</tr>
<tr>
<td>2014-15</td>
<td>613,241</td>
<td>223,419</td>
<td>389,822</td>
</tr>
<tr>
<td>2013-14</td>
<td>555,310</td>
<td>197,952</td>
<td>357,358</td>
</tr>
</tbody>
</table>

* Details up to December 2016

Source: Economic Survey of Karnataka 2016-17

Infrastructure facilitating sector

- Harbours: 8
- Jetties and beach landing centres: 93
- Shrimp Hatchery: 5
- Inland Farms: 408
- Co-operative societies: 346 inland, 109 marine
- 3 federations
- Cold storages: 53
- Ice plants: 253
- Frozen storage: 15
- Training centres: 4

There are 22 Fish Sanctuaries in Karnataka.

Cluster Mapping

<table>
<thead>
<tr>
<th>Processing Opportunities</th>
<th>Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish oil, Frozen Fish,</td>
<td>Marine: Dakshina Kannada,</td>
</tr>
<tr>
<td>Fish Protein Concentrate,</td>
<td>Uttara Kannada, Udupi</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>Inland: Bellary, Davangere,</td>
</tr>
<tr>
<td></td>
<td>Hassan, Mandya, Shivamogga,</td>
</tr>
<tr>
<td></td>
<td>Tumkur, Raichur</td>
</tr>
</tbody>
</table>

Karnataka's coast is popularly known as “Mackerel Coast”
Sericulture

India is 2nd largest producer of silk and Karnataka produced approximately 47% of India’s silk in the year 2015-16

- Production of cocoons account for 52,280 MT in 2016-17
- Area under mulberry cultivation in the State was about 92,687 Ha at the end of December 2016
- Sector generates employment of 1194 lakh people in 2016-17

Coffee

Karnataka is the Coffee Capital of India producing 70% of India’s output

- As per economic survey of Karnataka 2016-17, there are 2547 Coffee estates (operational pulping Units)
- More than 2,30,000 Ha of area under floriculture cultivation
- Coffee roasting, Powders, Chocolates processing opportunities in districts of Kodagu, Chikmagalur, Hassan

Wineries

- Grape Processing & Wine Policy 2007 is one of its kind in the country
- The Board has been able to promote 17 new wineries in the State
- Home to wines like KRSMA and Grover Zampa
- Grape Juice, Concentrate, Raisins, Wine processing opportunities in districts of Vijayapura, Chikkaballapura, Belagavi, Bengaluru Rural, Bagalkot

During the year 2014-17, a budgetary provision of Rs.500.00 lakhs has been made for the developmental activities of the Karnataka Wine Board.
Food parks and food processing special economic zones demonstrate investor interest and industry efforts to increase influence of agriculture and food processing sectors on state’s economy.

**Proposed Food Parks under State Scheme**

- **Sea food park in Mangaluru, Dakshin Kanada**
  - 30 Acres

- **Shivammoga Food Park**
  - 97 Acres

- **Bijapur Food Park**
  - 75 Acres

- **Spice park at Byadagi, Haveri District**
  - 50 Acres

**Six Parks under Central & State Scheme**

- **Innova Agri Bio Tech Park, Malur, Kolar**
  - 89 Acres
  - Earmarked 13 processing units
  - Total project cost INR 2315 lakhs

- **Akshaya Food Park Limited, Hiriyyur, Chitradurga**
  - 100 Acres
  - Total project cost INR 1886 lakhs
  - Cold storage, warehouse, sorting, grading, Dal processing & 2 packaging lines

- **Jewargi Agro Food Park Limited, Jewargi, Kalaburagi**
  - 100 Acres
  - Land allotted to 113 entrepreneur processing units
  - Total project cost INR 2507 lakhs

- **Green Food Park Limited, Bagalkot**
  - 100 Acres
  - Earmarked 18 processing units
  - Total project cost INR 2241 lakhs

- **India Food Park, Tumakuru**
  - 95 Acres
  - Total project cost INR 144.3 crores
  - Products- Staples, Fruits & Vegetables

- **Favorich Mega Food Park, Mandya**
  - Total project cost INR 125.79 crores
  - R&D Centre, grading & packing centres, cold storage facilities etc
Karnataka’s Unique Agro Markets
Proposed Technology Parks by Department of Agriculture Marketing

**Rice Technology Park**
- Project Cost – INR 128 Crore
- Land – 315 Acre
- Location – Karatagi, Koppal
- Project Details –
  - 75 acre: roads, drainage & open space
  - 85 acre: rice milling zone
  - 45 acre: by-product zone
  - 45 acre: warehousing, packing, transportation, auction centre, knowledge resource centre

**Maize Technology Park**
- Project Cost – INR 128 Crore
- Land – 315 Acre
- Location – Karatagi, Koppal
- Boost maize processing and production in the State.
- Project Details –
  - Maize flour, maize flakes, poultry feed, dry maize, maize chips popcorn mills to be developed in the park.

**Tur Technology Park**
- Project Cost – INR 36 Crore
- Land – 250 Acre
- Location – Kalaburagi
- Project Details –
  - Infrastructure for cleaning, grading, sorting, processing, branding, marketing and export of tur and its products

**Coconut Technology Park**
- Land – 100 Acre
- Location – Tiptur, Bidar
- Project Details –
  - Infrastructure for cleaning, grading, sorting, processing, branding, marketing and export of coconut/copra and its products are provided
Clusters Mapping

Approved Clusters

► Jaggery Cluster, Hipparagi, Bagalkote District
► Kudchi Jaggery Cluster, Belgaum District
► Jaggery processing Cluster, Chikkodi, Belgaum District
► Athani Raisins processing cluster, Athani, Belgaum district
► Rice Mill Cluster, Siraguppa, Bellary District
► Raisin Cluster, Bijapur District
► Food Products Cluster, Sakrayapatna, Chickmagalur District
► Silk Reeling & Twisting Cluster, Chikkadasarahalli, Chikkaballapur
► Wool Cluster, Challakere, Chitradurga District
► Wool Cluster, Hosadurga, Chitradurga District
► Puffed Rice Cluster, Holalkere Road, Chitradurga District
► Spices Manufacturing Cluster, Betageri, Gadag District
► Food Processing Cluster, Narasapura, Gadag
► Food Cluster, Gulbarga District
► Rice Mill Cluster, Mandya District
► Agricultural Implements Cluster, K.M.Doddi, Mandya District
► Desiccated Coconut Cluster, Tiptur, Tumkur District
► Silk Textile Cluster, Kudur, Magadi Tq
► Cashew Processing Cluster, Murur, Kumta Tq, Uttarakannada District.
► Food Cluster, Yogamandira, Sirsi, Uttarakannada District

Source: Karnataka State Industrial Profile 2015-2016
Key Players

Manufacturing in Karnataka
Karnataka’s Agriculture Produce Market Committee

Central Government Initiatives

- The central government plans to integrate 585 wholesale markets (mandis) into an electronic National Agriculture Market (e-NAM) by December 2017
- The Centre provides each mandi a one-time grant of Rs 30 lakh to set up the e-NAM infrastructure, software and an information technology expert for a year to each mandi
- Centre is planning to bring a fresh model Agricultural Produce Market Committee Act
- The new Act, expected by 2017, will also have provisions for setting up private marketing yards within a designated area of a market to increase competition and promoting e-national agriculture market

First of its kind Unified Market System

- Reduction of post-harvest loss, elimination of distress sale by farmers, increased shelf life for agro-produce, availability of scientific storage warehouse for farmers at their doorstep.

Initiatives by State and Key Results

- **Scientific storage godowns (400MT to 500MT)**: 182
- **Facilities for e-trading**: 87
- **Covered auction platform on different sizes**: 66
- **Processing units for Cleaning, Grading and Packing**: 61
- **Development Sheep and Goat markets**: 27
- **Capacity cold storages (10,000MT) by KAPPEC**: 2

Number of APMC’s

- State: 202
- Central: 50
- Private: 54
- Rural: 90

Capacity in MT

- **State**: 23,619,484
- **Rural Godown**: 54,025
- **Private**: 263,998
- **Central**: 466,400

Vendor Development and Investor Summit 2017- Agri and Food Processing Sector Profile
Prominent institutions providing wide range of courses in agricultural and veterinary sciences, farm machinery, food engineering and various other lines

<table>
<thead>
<tr>
<th>Institution</th>
<th>Location</th>
<th>Course Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Food Technological Research Institute</td>
<td>Mysuru</td>
<td>Food science &amp; technology</td>
</tr>
<tr>
<td>National Dairy Research Institute</td>
<td>Bengaluru</td>
<td>Dairy microbiology, animal genetics, breeding, livestock, etc.</td>
</tr>
<tr>
<td>Defence food Research Laboratory</td>
<td>Mysuru</td>
<td>Food R &amp; D</td>
</tr>
<tr>
<td>Indian Veterinary Research Institute</td>
<td>Bengaluru</td>
<td>FMD Virus vaccine</td>
</tr>
<tr>
<td>Indian Institute of Horticulture Research</td>
<td>Bengaluru</td>
<td>Precision farming, biotech interventions, crop yields, etc.</td>
</tr>
<tr>
<td>University of Agricultural Sciences</td>
<td>Bengaluru, Shivamogga, Raichur, Dharwad</td>
<td>Mushroom Cultivation &amp; Baking</td>
</tr>
<tr>
<td>Indian Institute of Science</td>
<td>Bengaluru</td>
<td>Reproductive Biology, Agriculture &amp; Veterinary Sciences</td>
</tr>
<tr>
<td>College of Agricultural Engineering</td>
<td>Raichur</td>
<td>Soil &amp; water engineering, Machinery, Food engineering</td>
</tr>
<tr>
<td>University of Horticultural Sciences</td>
<td>Bagalkot</td>
<td>New Crop development and protection methods</td>
</tr>
<tr>
<td>Karnataka Veterinary, animal and fisheries Sciences University</td>
<td>Bidar</td>
<td>Veterinary and animal sciences, dairy, fisheries and other allied sectors</td>
</tr>
</tbody>
</table>

Incubation Centre for Agriculture Start-ups at UAS Dharwad
## Warehouse and Logistics

<table>
<thead>
<tr>
<th>Agency</th>
<th>Capacity (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Warehousing Corporation in Karnataka</td>
<td>5,78,436</td>
</tr>
<tr>
<td>Karnataka State Warehousing Corporation (KSWC)</td>
<td>15,19,380</td>
</tr>
<tr>
<td>KAPPEC</td>
<td>8,400</td>
</tr>
<tr>
<td>Food Corporation of India in Karnataka</td>
<td>2,36,000</td>
</tr>
<tr>
<td>Additional Warehousing Capacity &amp; Cold Storage (by end of March 2018)</td>
<td>25,00,000, 40,000</td>
</tr>
</tbody>
</table>

The State Warehouse Corporation is creating 32,000 MT of planned scientific cold storage facilities in Bengaluru Urban, Bengaluru Rural, Mysuru, Kalaburagi, Vijayapura, Bagalkote and Bidar. O&M will be outsourced in PPP Basis.

Source: KSWC Bengaluru

## Establishment of Modern Abattoirs in Urban Local Bodies

<table>
<thead>
<tr>
<th>Location</th>
<th>Project Cost (INR Crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haveri</td>
<td>7</td>
</tr>
<tr>
<td>Davangere</td>
<td>4</td>
</tr>
<tr>
<td>Madikeri</td>
<td>9</td>
</tr>
<tr>
<td>Udupi</td>
<td>3</td>
</tr>
<tr>
<td>Koppal</td>
<td>6</td>
</tr>
<tr>
<td>Gadag</td>
<td>6</td>
</tr>
<tr>
<td>Ranebennur</td>
<td>5</td>
</tr>
<tr>
<td>Hubballi-Dharwad</td>
<td>5</td>
</tr>
<tr>
<td>Ballari</td>
<td>10</td>
</tr>
</tbody>
</table>

Existing Abattoirs for Sheep and Goat

- Project cost-INR 2655.86 Lakh
- Land- 20 acres
- Location- Cheelanahalli, Tumakuru District

## Projects to promote Exports

Two major Cold Chain Facility for Export of Mango and other Horticulture Products, Storage and Packing Facilities are completed in APMC Yard, Hubballi and KIADB, Bagalkote by KAPPEC

COOLPORT at Bengaluru under ASIDE scheme

International Flower Auction Centre has been established with coordination from Horticulture Department in Bengaluru

Cashew Technology Development Centre at Kumta in Uttara Kannada District

Upgradation / Modernization of infrastructure facility for Marine products in Tadadi port, Kumta Taluk, Karwar District

---

Vendor Development and Investor Summit 2017- Agri and Food Processing Sector Profile
Institutional Development and Policy Support

Declaring the entire State as Single Zone

Karnataka Agri-Business & Food Processing Policy 2015

Policy aims to achieve the target of 10% of agro processing by 2020 and 25% by 2025 in the State to develop a vibrant sector for creating employment opportunities and increasing the farm returns to farmers by value addition.

Objectives:
► To reduce wastage and increase industry value-add, thereby generating higher returns for the farmer
► To maximize direct & indirect employment generation opportunities
► To increase the flow of investments across the supply chain from farm to market

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Promotion Subsidy</td>
<td>35% of fixed assets up to a maximum of INR 65 lakhs for MSME</td>
</tr>
<tr>
<td>Exemption from Stamp Duty for MSME and Category A, B, C enterprises</td>
<td>Exempted @ 100%</td>
</tr>
<tr>
<td>Concessional Registration Charges</td>
<td>Concessional rate @ INR 0.50 per INR 1,000</td>
</tr>
<tr>
<td>Reimbursement of land conversion fee</td>
<td>Reimbursement @ 100%</td>
</tr>
<tr>
<td>Exemption from Entry Tax for plant and machinery and capital goods</td>
<td>100% exemption for 3 years for MSMEs</td>
</tr>
<tr>
<td>Exemption from Entry Tax for raw materials, inputs &amp; component parts</td>
<td>100% exemption for 6 years for MSMEs</td>
</tr>
<tr>
<td>Subsidy for setting up Effluent treatment Plant (ETP)</td>
<td>One time capital subsidy to 75% of the cost and a ceiling for INR 50 lakhs for MSME, INR 100 lakhs for A, B, C category and INR 200 lakhs for common ETP</td>
</tr>
<tr>
<td>Interest Subsidy for micro Enterprises</td>
<td>6% per annum for 7 years</td>
</tr>
<tr>
<td>Exemption from tax on Electric tariff</td>
<td>100% exemption for 8 year</td>
</tr>
<tr>
<td>Subsidy for technology adoption from recognized national labs</td>
<td>50% of the cost (max INR 1 Lakh) for MSME</td>
</tr>
</tbody>
</table>
**Introduction of Unified e-trading Platform**

- **Deposits** needed for direct purchase reduced from INR 50 Lakhs to INR 5 Lakhs
- **Free to establish market under private sector** by removing zonal restrictions
- **Exemption of market fee** for new agricultural produce processing industries for a period of 10 years
- **Private markets will also be considered as procurement centres** for MSP operations on case to case basis by issuing an executive order
- **Rebate in the payment of market fee (70%)** by the licensee operating the direct purchase centre for food grains, fibres, pulses, spices, etc
- **Levy of market fee** on perishable abolished
- **Site allotment** in the market yard for setting up of cold storages, a rebate of 50% in sital value is given
- Agri produce export/caused to be exported by any person either on his own or as an agent for another person from the market area to outside the country is **Exempted from the payment of market fee for a period of 10 years**

**Farmers Producers Organisation**

- There are 86 registered FPOs in the State and 6 FPOs are under the process of registration.

**Group Crop Insurance Scheme**

- Scheme to support farmers engaged in the contract farming in association with the industry partners
- Safeguard the interest of farming community and the industry

**Establishment of Facilitation Cell**

- Establish an exclusive facilitation cell to assist and handhold the exporters of agribusiness & food processing sector
- Government’s effort in effectively introducing the concept of Ease of Doing Business
### Integrated Policy Support

- Wineries declared as Horticulture & Food Processing Industries
- Subsidy for grape processing
- Incentives for marketing and distribution of wines
- Setting up of Grape Processing Industries Board
- Establishment of Wine Parks
- Simplification of rules for getting lands for production of grape wine varieties, production of wine and for issuing License and Permit to the Wineries

- Improvement in soil fertility and productivity through safe farming
- Efficient and sustainable crop production and protection technologies
- Sustainable management of natural resources for achieving food nutritional environmental and livelihood security

- Encourage public-private partnership
- Single Window Agency at State Level to approve projects under PPP up to INR 50 Crore

- Attract investments worth INR 5 Lakh crore in the five years
- Enhance Ease of Doing Business in the State
- The contribution of Manufacturing sector to be enhanced

- New Age Incubation Network with grants and financial support
- Technology Business Incubators in agriculture and allied fields
- Idea2PoC (Proof of Concept) funding providing early stage support
- Research and Development Labs
- Marketing Incentives

Supporting the entire value chain and niche sectors
Karnataka Drip-to-Market Agro Corridor (DMAC)

Investment Opportunities
- Drip Irrigation
- Sprinkler Irrigation
- Cold Chain Infrastructure
- Other Infrastructure (e.g., logistics, packing houses, processing plants)
- Market linkages

Activities
- Large-scale production of **high value agricultural and horticulture produce**
- Economies of scale for development of **infrastructural requirements** (e.g., cold storage, logistics, packing houses, processing plants)
- Knowledge base for **best practice value chain development**, including agricultural practices, technologies, product quality standards, food safety assurance, financial solutions, etc. for market development

Ramthai Project

4-way MOUs between:
- Water Resources Department
- Agri Department
- Horti Department
- Private sector offtaker

6 MOUs facilitated between private sector offtakers and government:
- **ADM Agro** (Sunflower, soyabean)
- **Global Green** (gherkins)
- **Jain Farm Fresh Foods** (Mango, Guava, Papaya, Soyabean, Tomato)
- **Krishi Organic** (Turmeric, Marygold, Spices, Vegetables)
- **Neo Foods** (gherkins, baby corn, jalapeno)
- **RSM Hitech Foods** (Maize, Sunflower, Bajra, Green Gram, Red Gram)

Another 7 MOUs in the pipeline

* Community Micro Irrigation schemes (MIS) aim to set a fixed infrastructure for water intake, storage and distribution to a large number of farmers. MIS are generally managed by third parties.
Investment Opportunities

Agriculture and food processing

- Karnataka is a front runner in this sector with a CAGR of 20% outperforming even the national average.
- Raw material, a skilled workforce, a strong supporting ecosystem and an industry-friendly policy environment with world class infrastructure.
- Special Economic Zones and Agri parks are built.
- **Utopia Cashew Cluster** is coming up in Kumta (Uttar Kannada District)
- Establishment of 14 exclusive farmer federations for Organic & Millet Products

Agri Engineering

- Farm Mechanization Programme is being implemented both under State and Central Sector.
- Infrastructure for post harvest collection centre, storage house, grading and sorting, controlled storage, precooling, Ripening chambers and Modified atmospheric packing
- Development of Cold Chains including Storage and Reefer Trucks
- R&D collaboration for new variety of products to meet the changing consumer demand and vast export market Technology collaboration in the areas of Organic Farming

Horticulture

- Farmers - Work in peer groups at specific location for specific crops and Co-operative response to new technologies
- Farmer Producer Organisation (FPO) – Create collection centre, cold storage facility, refrigerated transport facility, processing and value addition centres
- Department of Horticulture- Provide technical support to the growers in collaboration with suitable technical organizations

Animal Husbandry & Dairy Products

- Dairy projects in various districts under KMF and other Cooperative coming up under PPP
- Many projects in the pipeline including fully automatic liquid milk plants, automated milk conversion plants, fully automated UHT Plant
- Modern fishing harbour, Fish landing center
- Subsistent Livestock farming to sustainable & viable sheep & poultry farming
Contact Details

Vendor Development and Investor Summit 2017- Agri and Food Processing Sector Profile

35