

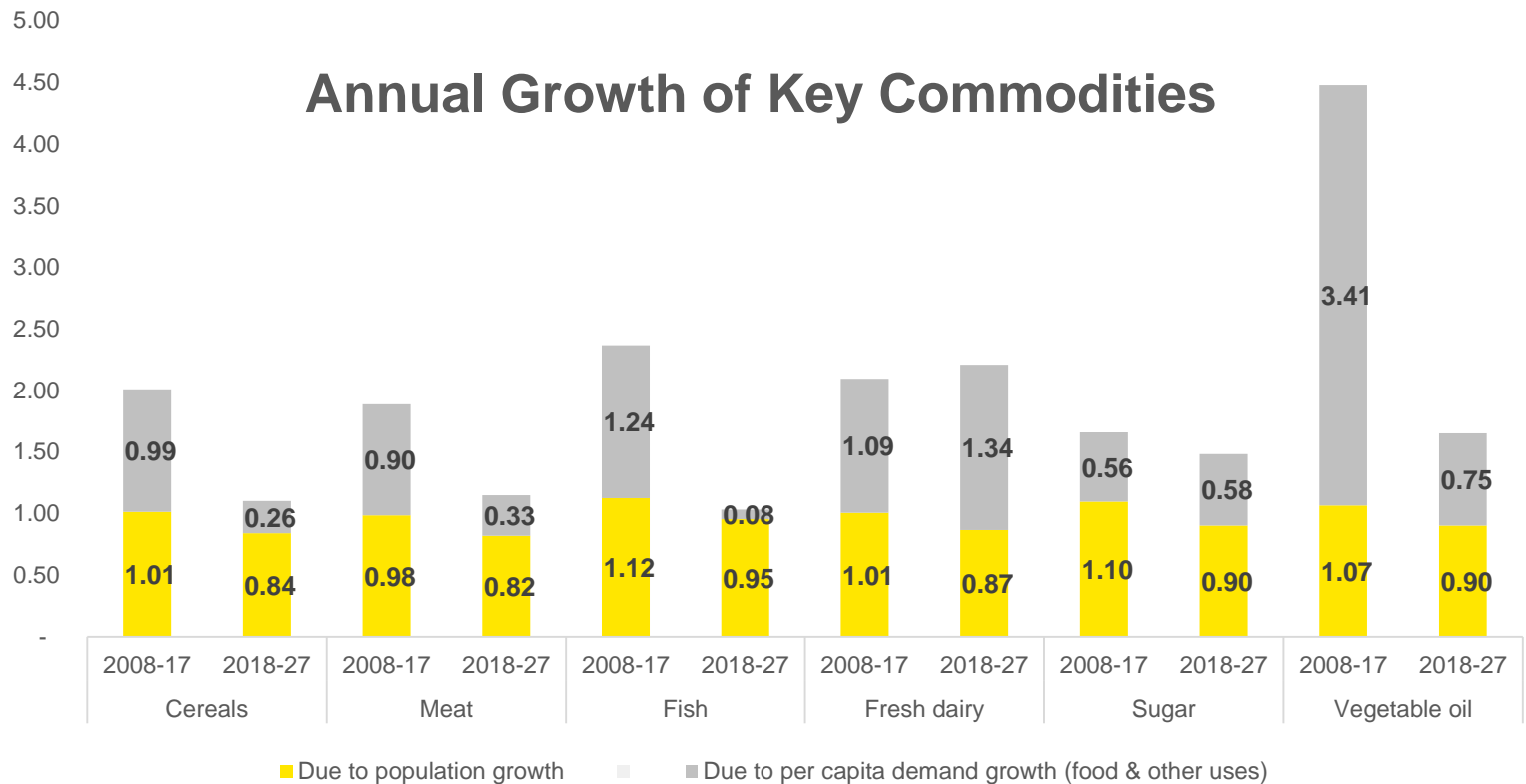


# Agritech, Agro and Food Processing



# Global Overview

- ▶ 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
- ▶ Maize consumption is expected to increase by 16% by 2027, maize used for animal feed increasing its overall share of total use from 56% in the base period to 58% in 2027
- ▶ Wheat consumption is expected to increase 13% by 2027.



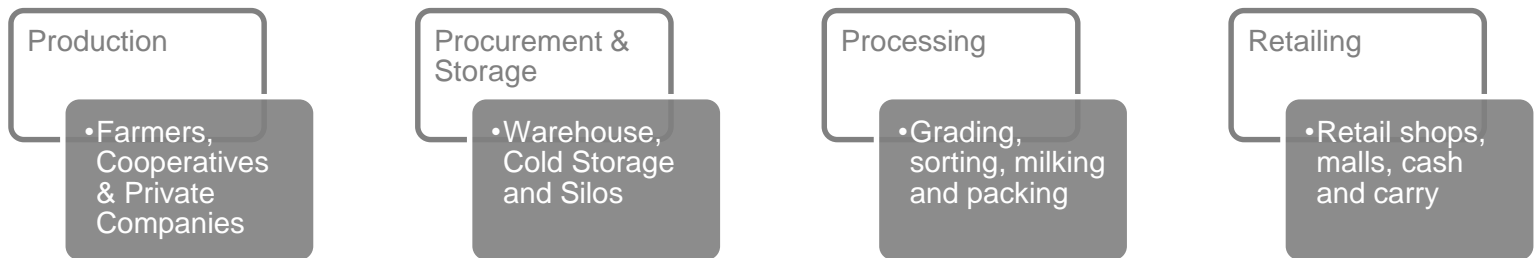
Source: OECD-FAO Agricultural Outlook 2018-2027



# 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



### Agro-processing Activities

#### Primary Processing

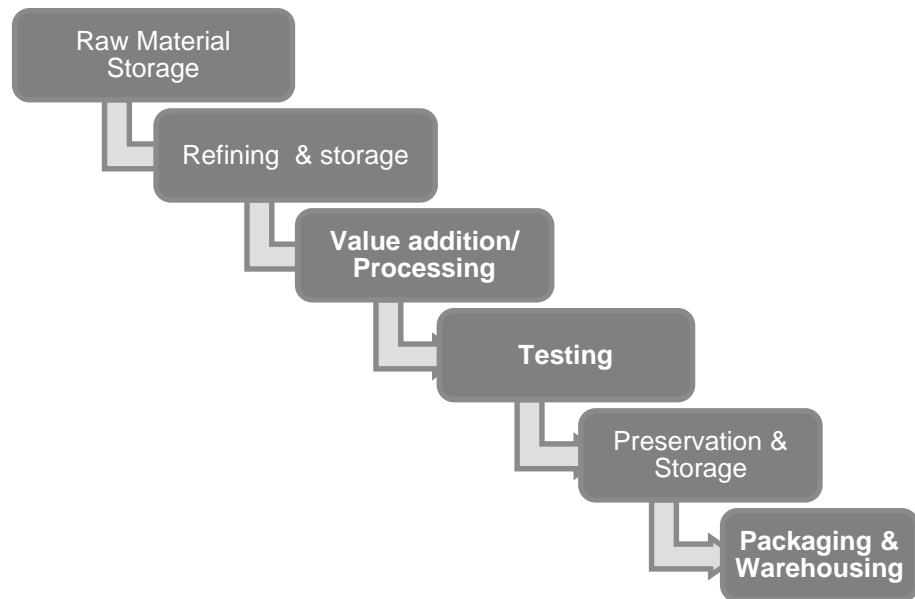
- Crop drying
- Shelling/threshing
- Cleaning
- Grading
- Packaging

#### Secondary Processing

depending on product type to increase market value. For instance:

- Milling grain into flour
- Grinding groundnuts into peanut butter etc.

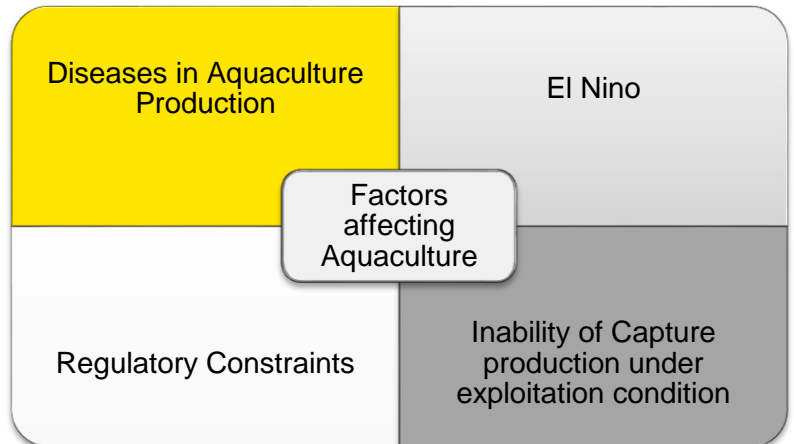
### Key components involved in Secondary Process



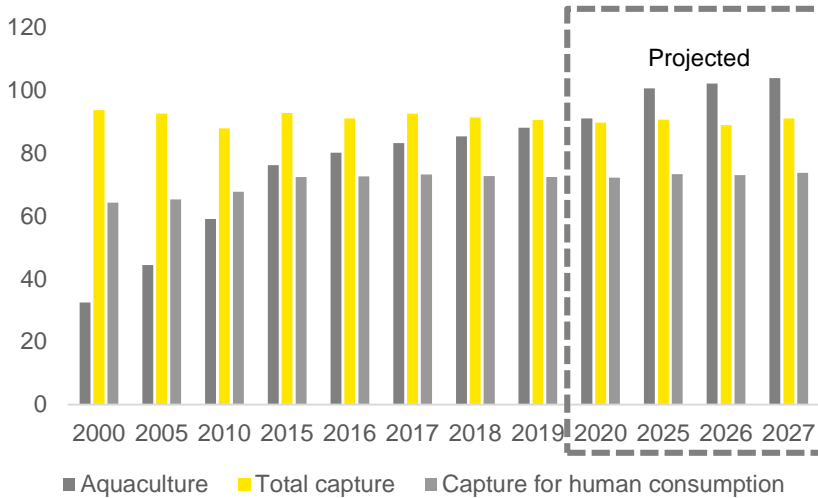
# Agri & Food Processing: Sub Sectors

## 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\*.
- ▶ Asian countries will account for 71% of fish consumption Fish and fishery products will continue to be highly traded in Asian countries



### Aquaculture & Fish Capture



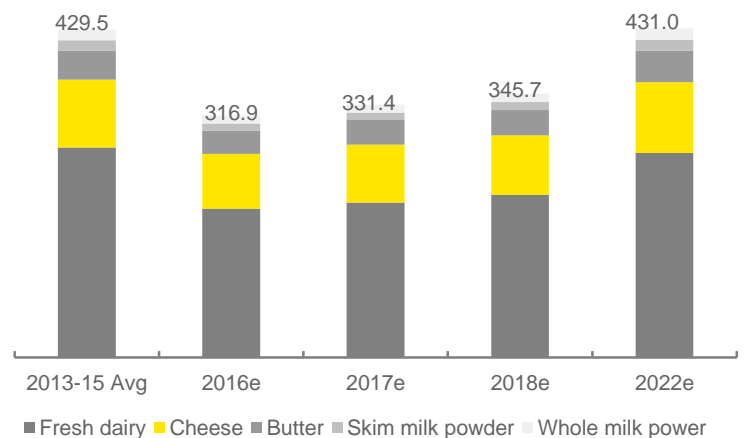
## Animal Husbandry and Dairy

- ▶ 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)

### Production

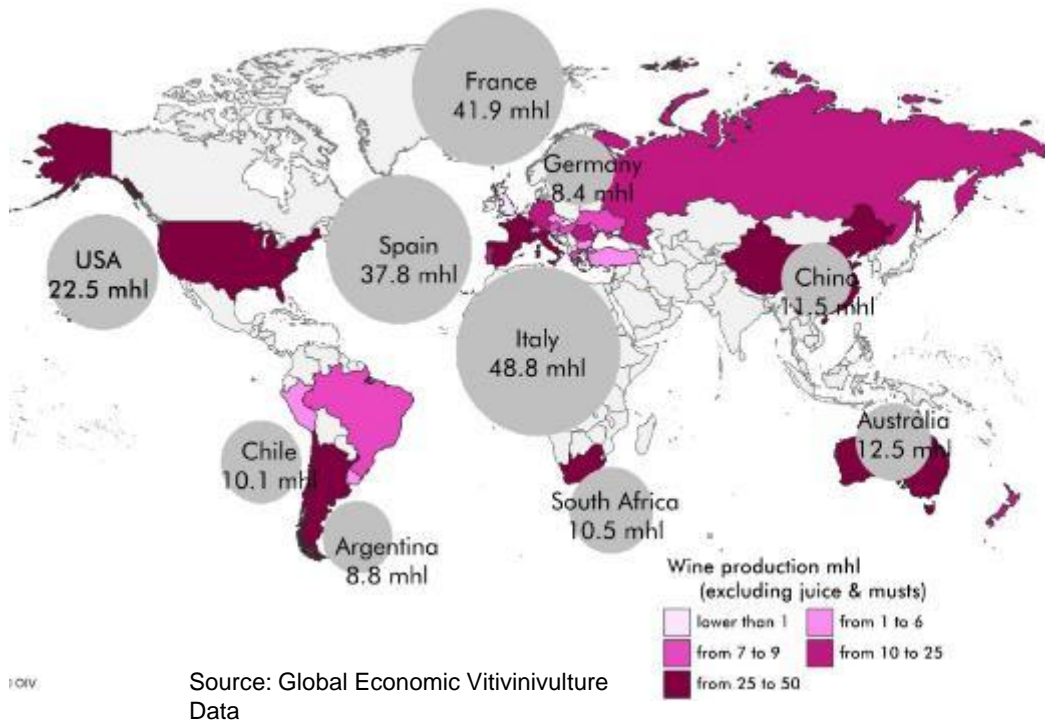
- ▶ While world milk production increased slightly in 2016, production by important exporters (Australia, New Zealand and Argentina) slumped. As a result, prices started to recover in the second half of 2016, especially for butter and whole milk powder (WMP).
- ▶ Due to low prices in the beginning of 2016, the average price for the year was lower than in 2015.

### Market size by product (US\$b)



# Agri & Food Processing: Sub Sectors

## Wineries



## 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)



## 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 Oceania
- ▶ China is the largest fruit growing market.
- ▶ The most grown fruits are bananas, watermelons and apples, followed by grapes and oranges.



\*Source: Global Floriculture Market Professional Survey Report 2017, World Floriculture Map 2015, EY Research

# Agritech, Agro and Food Processing Industry in India



# India Overview

## AGRI- BUSINESS

- ▶ Total foodgrains production in the country is estimated at 284.83 million tonnes (2017-18)
- ▶ India is the ninth largest exporter of agricultural products
- ▶ Total agricultural exports from India grew at a CAGR of 16.45 percent over FY10-18 to reach US\$ 38.21 billion in FY18.

## FOOD PROCESSING

### Fruits and Vegetables

- ▶ World's 2<sup>nd</sup> largest producer
- ▶ Processing to grow by 25% of the total produce by 2025
- ▶ Total production is estimated at 259.3 million tonnes



### Milk

- ▶ World's largest producer
- ▶ Production of 176.35 million tonnes in 2017-18



### Meat and Poultry

- ▶ World's largest producer of buffalo meat (1.41 MT in 2016-17), second largest producer of goat meat (0.89 MT in 2016-17)
- ▶ Second largest egg producer (27.95 bn) and third largest producer of broiler meat (4.2 mn tonnes)



### Marine Products

- ▶ 12.60 MT of fish production in 2017-18
- ▶ 50% of the total production is culture fisheries which constitutes about 6.3% of the global fish production.



### Grain Processing

- ▶ Produces more than 200 mn tonnes of different food grains (284.83 mn tonnes in 2017-18)



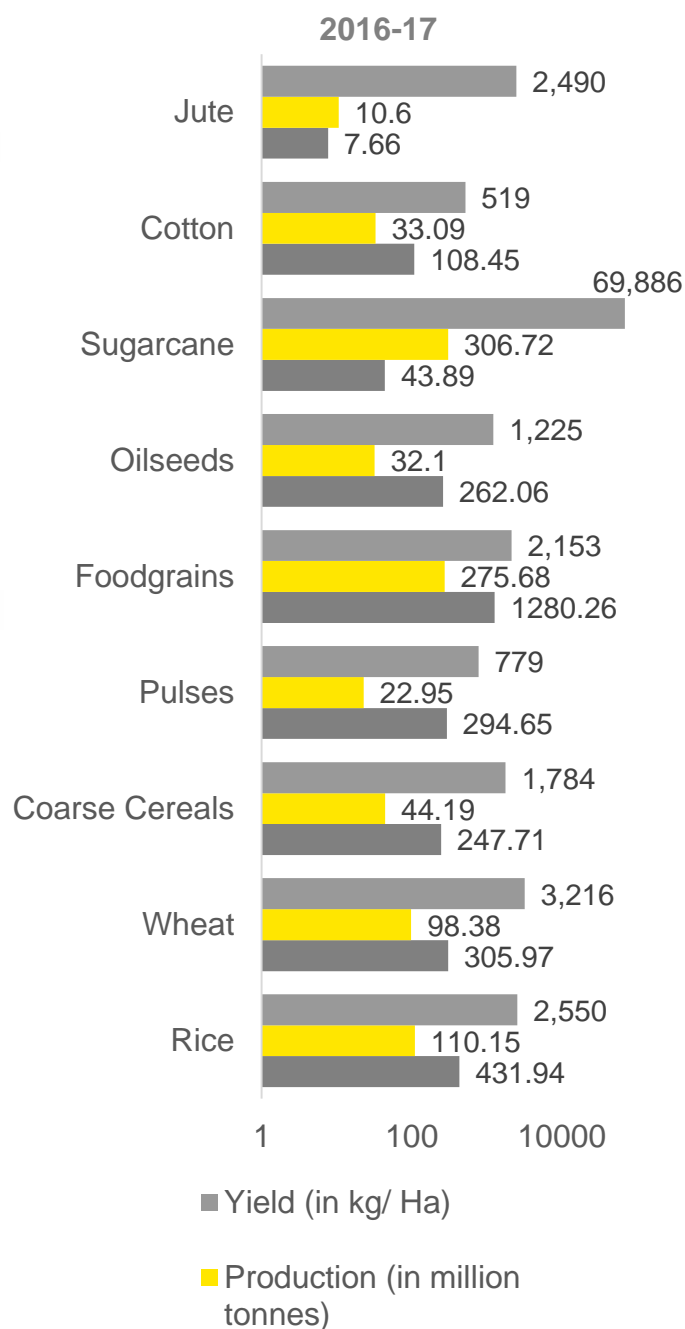
### Consumer Food

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



- ▶ **AGRICULTURE** contributes 17.4% to the country's Gross Value Added (current price 2016-17)
- ▶ **FOOD PROCESSING INDUSTRY** contributes 14% to the India's GDP through manufacturing

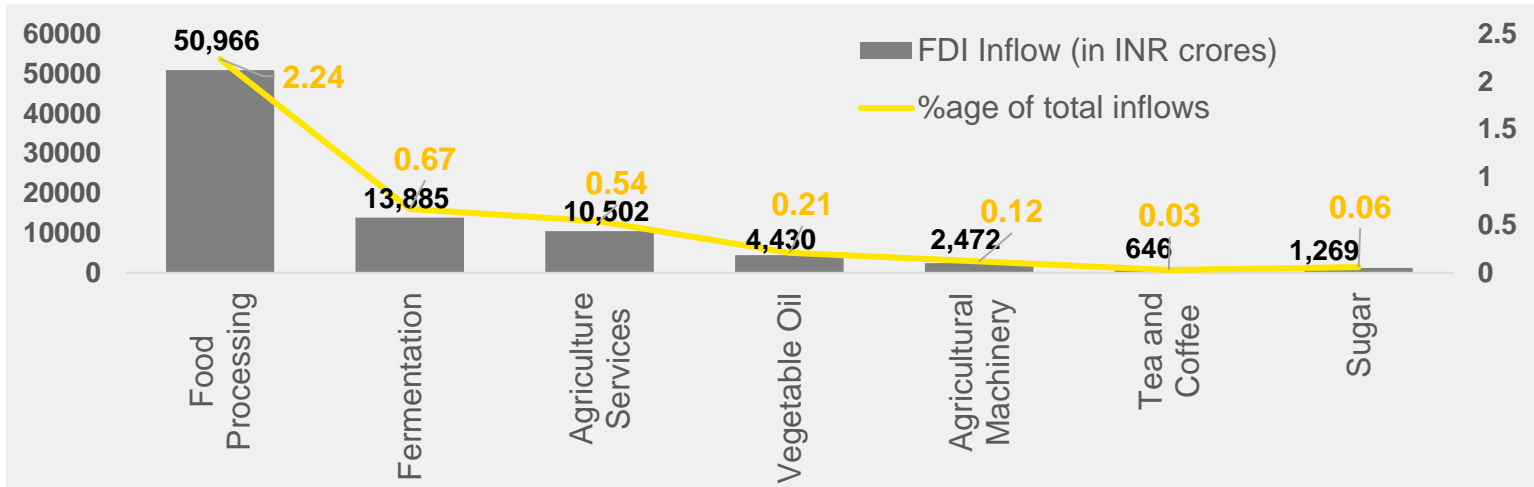
## Area, Production and Yield of Major Crops



Source: Annual Report 2017-18, Department of Agriculture, Cooperation and Farmers' Welfare

# Funding and Investments

Cumulative FDI Inflows (April 2000 to March 2018) in food and agriculture sector (INR crores)



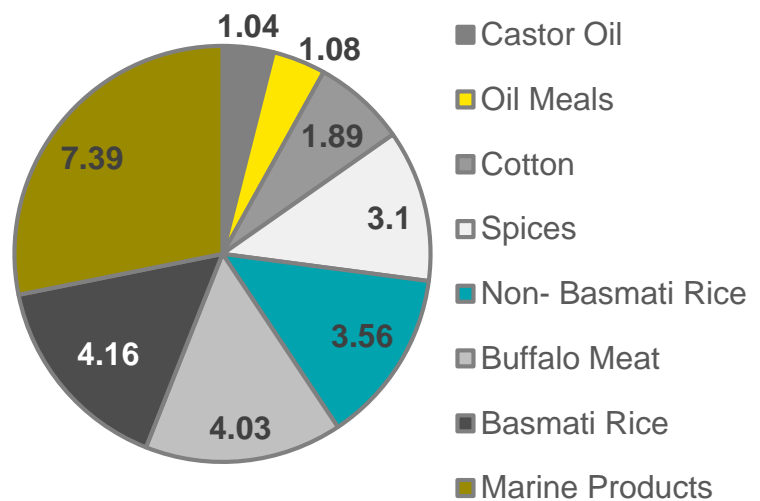
Source: Department of Industrial Policy and Promotion; Factsheet January to March 2018



## Major Destinations of Processed Food and Agriculture Related Product Exports

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

## Exports of Key Processed Products (US \$ billion)





# Agri & Food processing Landscape

## Unorganised Sector in India

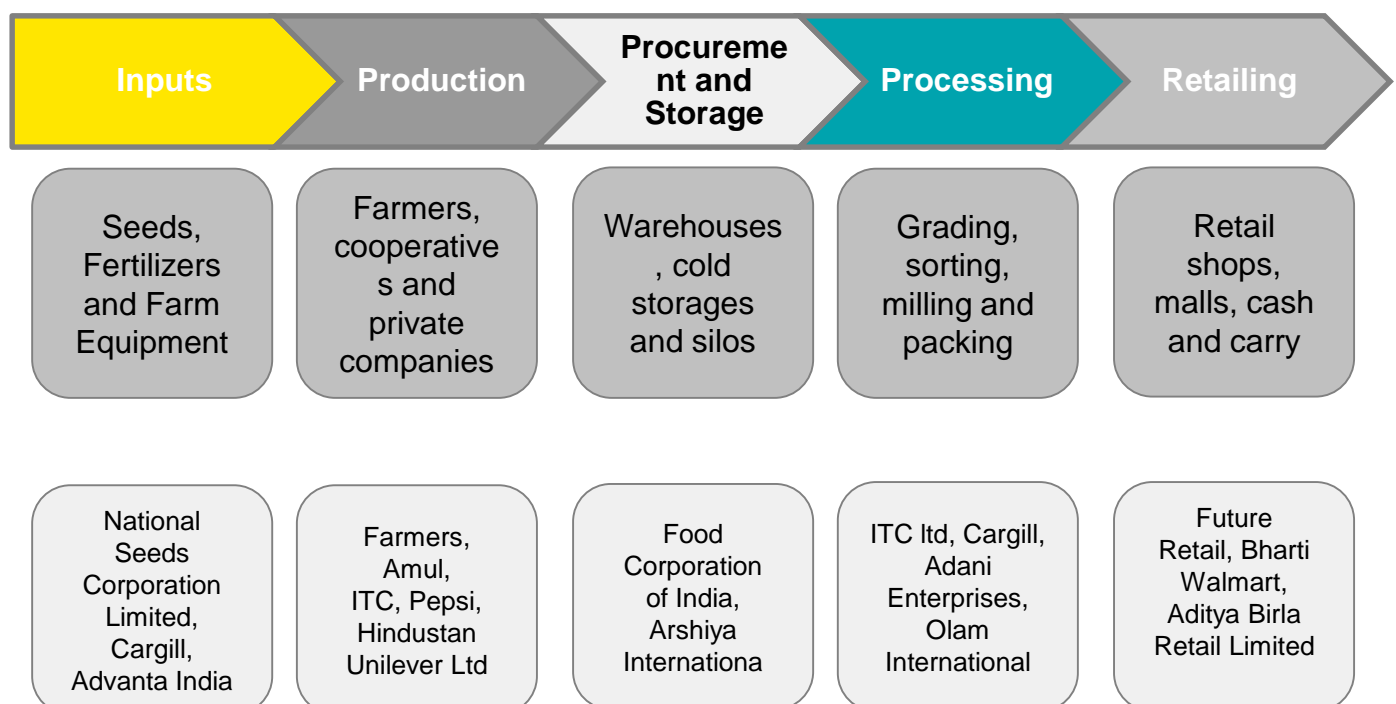
- ▶ Accounts for 42% of India's food processing industry
- ▶ Sizeable presence of small-scale industries points to the sector's role in employment generation
- ▶ Though the market falls under the unorganised sector in the country, the organised sector has a larger share in the secondary processing segment than the primary one
- ▶ Rice mills account for the largest share of processing units in the organised sector

## 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



# Policy, Schemes and Projects

## 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

- ▶ Focussed 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

- ▶ *Mission for Integrated Development of Horticulture (MIDH):* Capital Investment subsidy for construction/ expansion/ modernization of cold storage for Horticulture Products; Operational Guidelines for Mission for Integrated
- ▶ *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

- ▶ Setting up and Modernization of 41 abattoirs in India

### KARNATAKA

- ▶ Hospet (INR 3.8 crores), Mysore (INR 15 crores), Chitradurga (INR 3.29 crores), Chamrajnagar (INR 5.8 crores)

- ▶ 41 mega food parks

### KARNATAKA

- ▶ Tumkur (INR 144.3 crores)
- ▶ Mandya (INR 125.79 crores)

- ▶ 33 fully funded food parks
- ▶ 14 partially funded food parks

### KARNATAKA

- ▶ *Fully funded :* Malur, Hirriyur (INR 400 lakhs each)
- ▶ *Partially funded:* Bagalkot, Jevargi

- ▶ 232 integrated cold chain projects

### KARNATAKA

- ▶ Hassan, Belagavi, Bengaluru, Bijapur, Kolar, Ramanagara, Uttar Kannada, Kundapura

Source: MoFPI website

# Agritech, Agro and Food Processing Industry in Karnataka



# Karnataka's Unique Advantages

## Backbone of Karnataka's Economy

- ▶ **Large resource base:** Karnataka has over 65% of its total geographical area under agriculture cultivation
- ▶ **Leading Producer:** Coffee, Gherkins, Silk, Green Chilli, Tamarind and Sunflower. **Major producer** of Maize, Coarse Cereals, Sugarcane and Pulses in the country
- ▶ **Significant Production:** Karnataka Coffee production accounts for 70%
- ▶ **Strong input base:** Agriculture & allied activities contributed 14.2% 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
  - 2<sup>nd</sup> 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 Breems 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

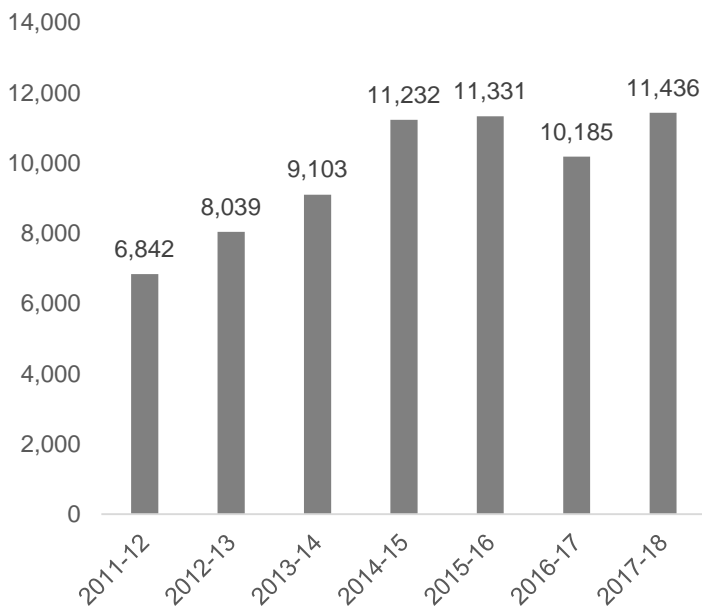


40+ Agri and Food Based Biotech Start-ups  
Biotechnology Centre at Hulimavu, Bengaluru

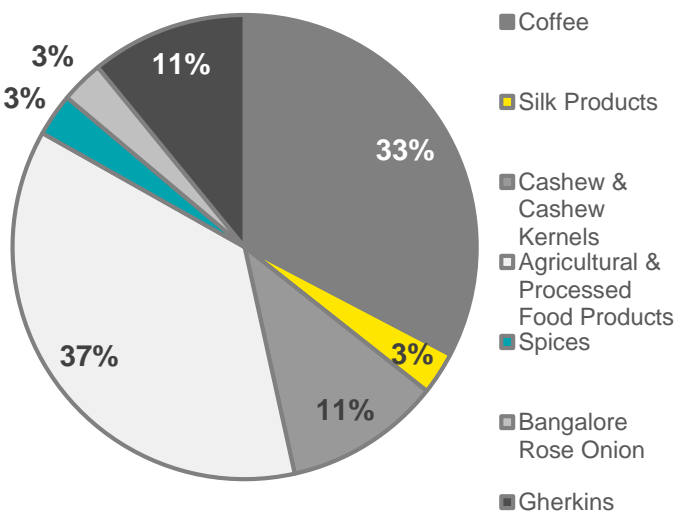
# Export Performance of Karnataka



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

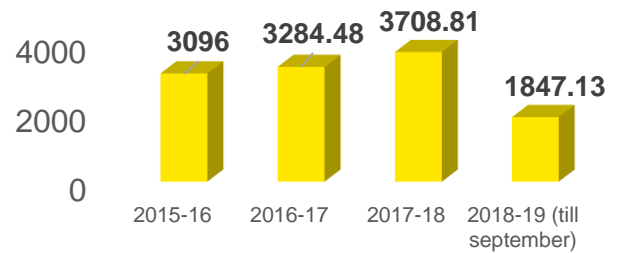


## Percentage Share of Commodity wise Exports in Karnataka for the FY2017-18



Source: Karnataka State Agricultural Produce Processing and Export Corporation Limited  
Economic survey of Karnataka 2017-18  
Visvesvaraya Trade Promotion Centre

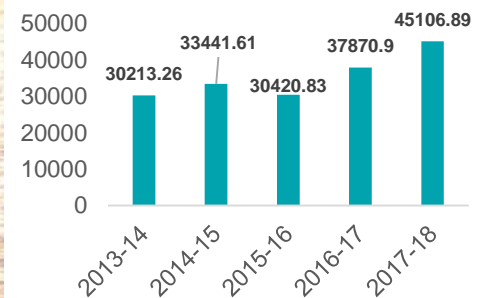
## Export performance of Coffee (Rs crore)



Destination countries for coffee exports include Italy, Germany, Belgium, Jordan



## Export of Marine Products (Rs crore)



► Crop is grown in about 10,000 acres mainly in Kolar, Benagaluru Urban, Bengaluru Rural, and Chikkaballapur districts.

► Rose onion exports from the State stood at USD 42 billion during 2016-17.

## Rose Onion



## Gherkins



► State is the largest exporter of Gherkins in the country, stood at USD 160 million in 2016-17

► 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 37 million in 201.

► Spice growing regions include Dakshin Kannada, Coorg and Chikkamagalur

## Spices



# Sub-sector Snapshot



Agriculture

Horticulture



Animal Husbandry



Wineries



Floriculture

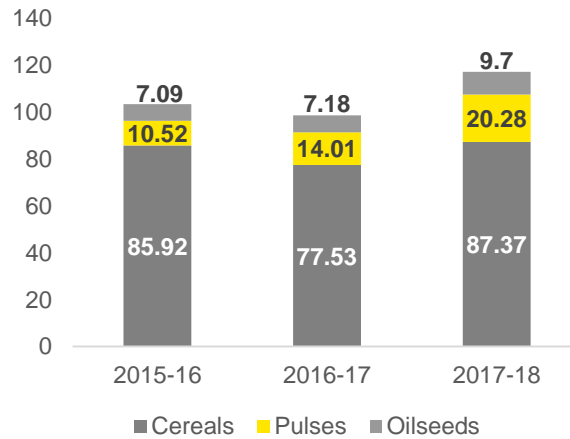
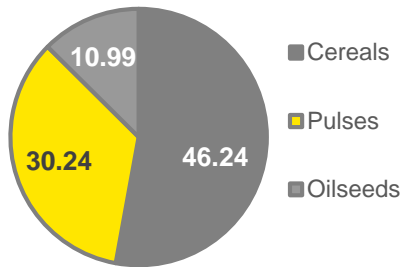


Fisheries



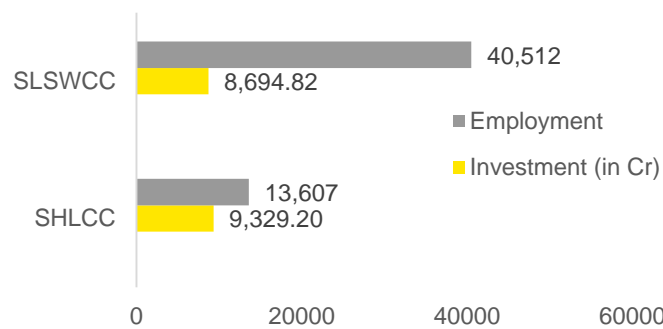
Karnataka, with a good agricultural base is a home for various food crops, offers immense scope for the development of food processing industries

Area coverage in Lakh Ha  
2017-18



- ▶ Karnataka is pioneer in organic farming & millet production
- ▶ 5<sup>th</sup> in organic certified area and 3<sup>rd</sup> in certified produce
- ▶ Programme on Organic Farming "Savayava Bhagya Yojane" under which an area of 63,677 ha has been brought under certified organic cultivation benefiting 53,829 farmers in 566 hoblis
- ▶ Government has set up 14 Federation of Organic farmers association to facilitate the procurement, processing, and marketing of organic produce

Approved Projects in Agro & Food Processing (2013-2017)



As per Economic Survey of Karnataka 2016-17, there are 1,970 food products and beverages units in employing 11,782 person with the investment of Rs 28,392 Lakhs

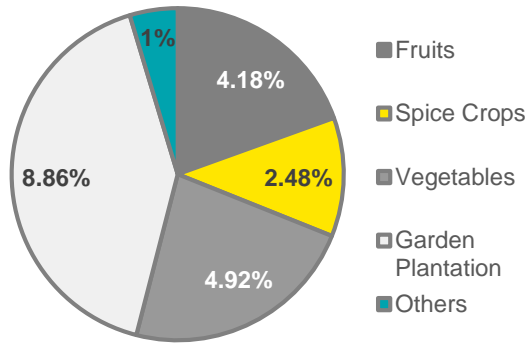
Units approved  
SLSWCC- 148  
SHLCC- 36



### Cluster Mapping

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

Area under Horticultural Crops (lakh Ha.)



Cover an area of 20.76 lakh hectare

Productivity of Horticultural crops in the state is 9.10 metric tonne per hectare

Annual production is 189.02 lakh metric tonne

Annual value of Horticultural products produced in the state is Rs.43,403 crore

% contribution to States GSDP

4%

37%

% share to total income from entire agriculture



### Bal Copra

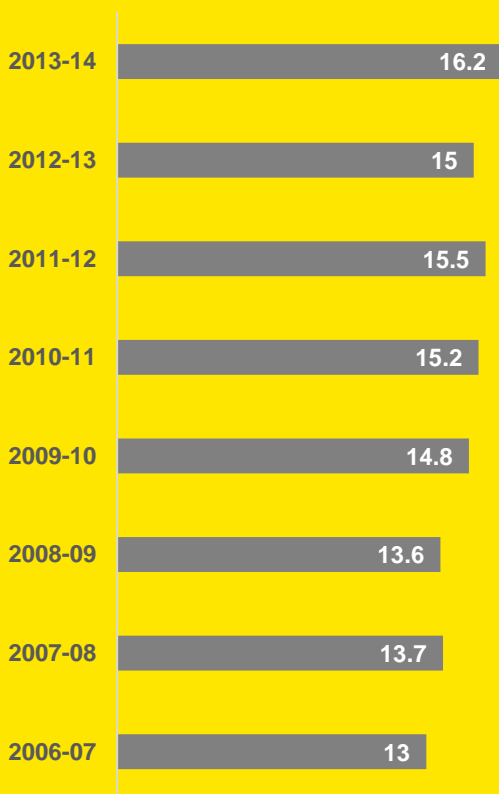
Tumakuru district is notable for its copra (Dried Coconut Kernel) which is used to extract Virgin Coconut Oil. Copra produced here are naturally dried under shade for nine to twelve months



### 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

All Horticulture Crops (Production in Million tonnes)



### Cluster Mapping

Processing Opportunities	Districts
Juice, Jelly, Jam, Syrup, Aril, Juice Concentrate	Chitradurga, Bellary, Vijayapura, Tumkur, Koppal, Bagalkot
Mango Pulp, Squash, Pickles, Dehydrated Fruits, Powder	Kolar, Ramanagar, Tumkur, Chikkaballapura, Mandya, Belagavi, Dharwad
Tomato Squash, Ketchup, Sauce, Pickles, Sun Dried	Kolar, Mandya, Belagavi, Haveri, Davangere, Bengaluru Rural, Chikkaballapura,
Onion dehydrated flakes, Powder, Paste	Gadag, Dharwad, Vijayapura, Chitradurga, Bagalkot, Haveri



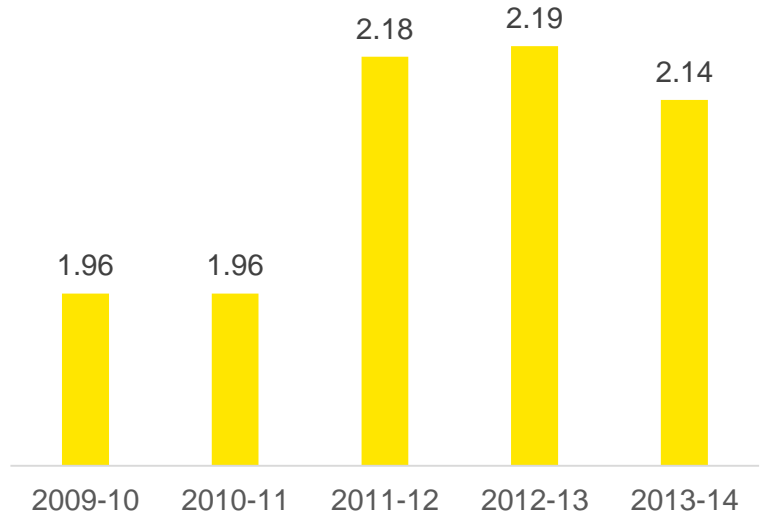
Floriculture exports from Karnataka stood at USD 7.65 million in 2015-16

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

Flower Production in Karnataka (in akh MT)



Source: Department of Horticulture

- ▶ 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

Processing Opportunities	Districts
Oil Extraction from Aromatic plants, Crude from Medicinal plant, phytochemicals, dehydration of herbs	Bellary, Tumkur, Kolar, Vijayapura, Gadag, Chikkaballapura, Uttara Kannada, Koppal, Shivamogga, Kalaburagi
Extractions of dye, colours & essential oils, Cut flower	Haveri, Bellary, Tumkur, Mandya, Chikkaballapura, Chitradurga, Kolar

# Animal Husbandry & Dairy

**Karnataka is a Milk Surplus state supported by the largest Milk Federation in South India**

**Milk Produced in 2017-18**

7.13 Million tonnes

**Number engaged in dairy farming**

2.3 Million farmers

**Number of dairy cooperatives**

42,551

**Number of Dairy Plants**

31

**Per capita milk availability**

313 gm/day

**Number of milch bovine**

69,61,000



**Leader in sale of Tetra-fino UHT Milk**

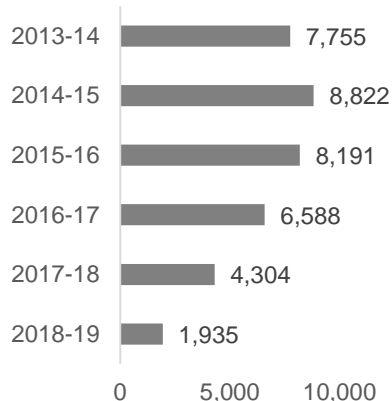
**11<sup>th</sup> Largest producer of milk in India**

**Karnataka Milk Federation  
2<sup>nd</sup> Largest milk producing cooperative**

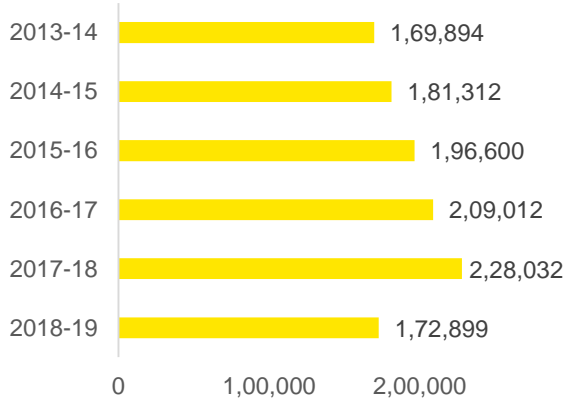


## Other Products

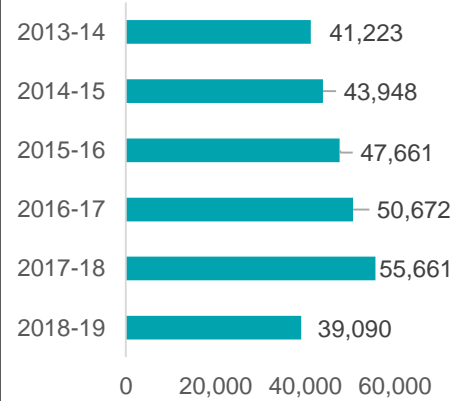
### Wool (in Tonnes)



### Meat (in Tonnes)



### Egg (in Lakh)



Source: Economic Survey of Karnataka 2018-19



## Cluster Mapping

Processing Opportunities	Districts
Milk Powder, Ghee, Butter, Paneer, Beverages, Curd, Ice cream, Chocolate	Belagavi, Tumkur, Hassan, Mandya, Mysuru, Kolar, Chikkaballapur, Davangere
Frozen Boneless Halal Meat, Canned Meat-	Bengaluru Urban, Haveri, Bengaluru Rural, Mandya, Kolar, Mysuru, Chikkamagalur, Dharwad
Egg Powder, Instant Baby Foods, Pasteurised Egg Albumen	Koppal, Davangere, Mysuru, Bellary, Bagalkot, Belagavi, Mandya

Karnataka is in 6<sup>th</sup> position in marine fish production and 8<sup>th</sup> position in inland fish production in the country

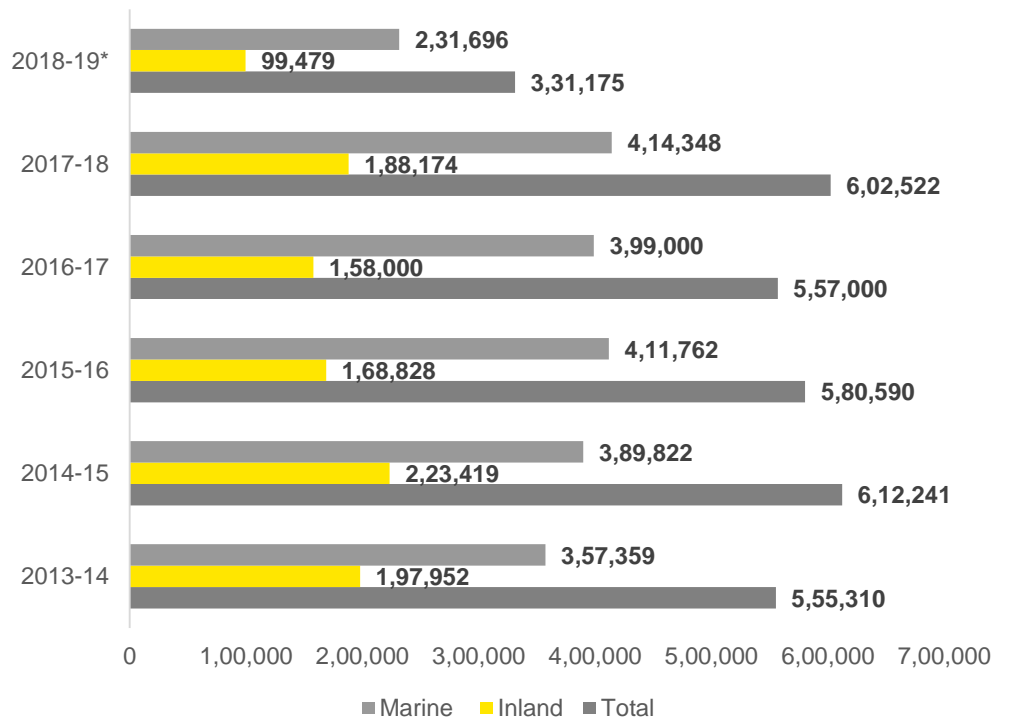
There are about 9.61 lakh fishermen in the state of which 3.28 lakh fishermen in marine and 6.33 lakh fishermen are in inland

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

Source: Economic Survey of Karnataka 2016-17



Fish Production in Karnataka (in MTs)



\* Details up to November 2018

### 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

Processing Opportunities	Districts
Fish oil, Frozen Fish, Fish Protein Concentrate, Pharmaceuticals	<ul style="list-style-type: none"> <li>▪ Marine: Dakshina Kannada, Uttara Kannada, Udupi</li> <li>▪ Inland: Bellary, Davangere, Hassan, Mandya, Shivamogga, Tumkur, Raichur</li> </ul>

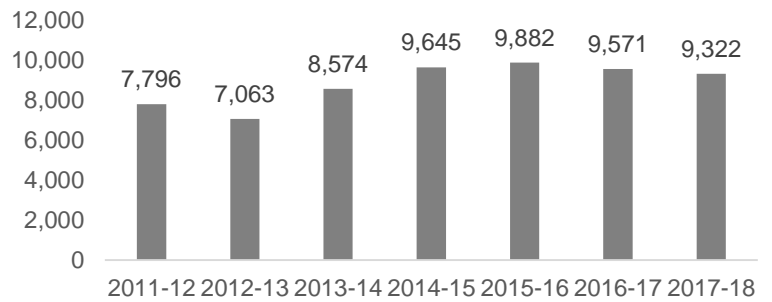


## Sericulture



India is 2<sup>nd</sup> largest producer of silk and Karnataka produced approximately 47% of India's silk in the year 2015-16

### Production of raw silk in Karnataka (MT)



Source: Economic Survey of Karnataka 2018-19

- ▶ Production of cocoons account for 53.78 MT in 2017-18
- ▶ Area under mulberry cultivation in the State was about 98.13 Ha at the end of December 2016
- ▶ Sector generates employment of 13.47 lakh people in 2017-18

## 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.

# Infrastructure Development

## 6 Food Parks



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, Hiriyur, 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

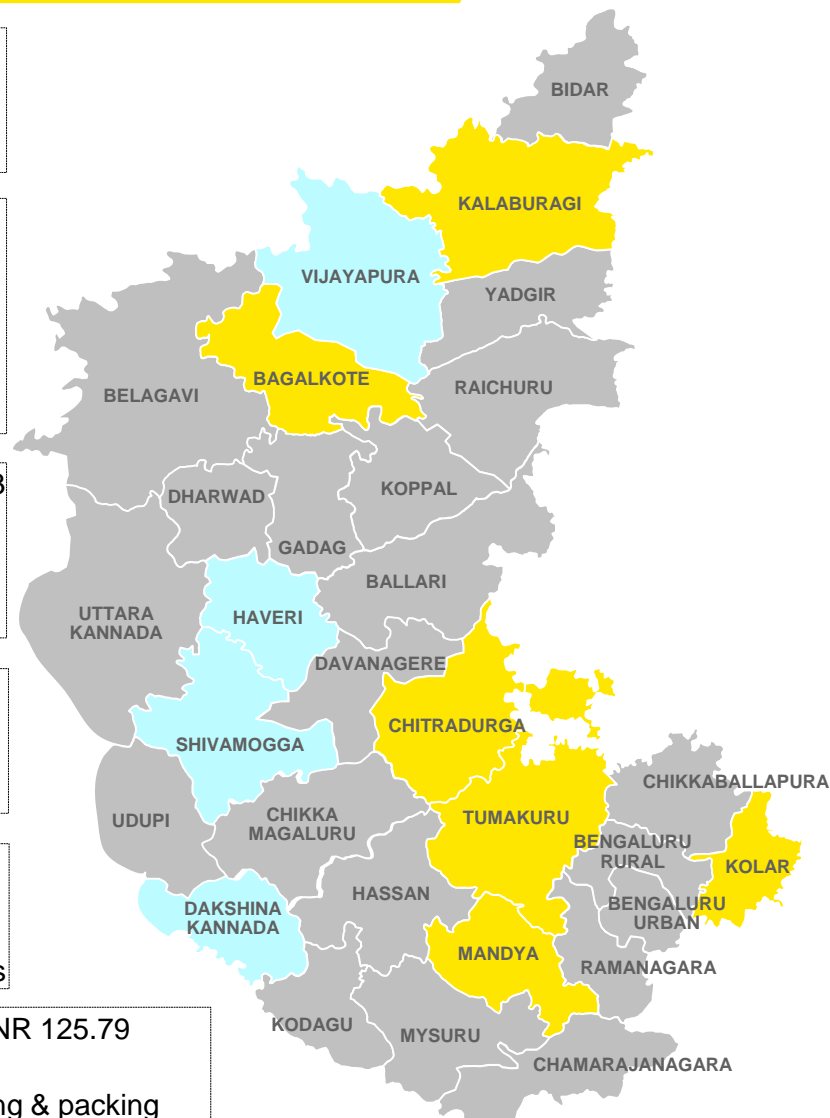
- ▶ Earmarked 18 processing units
- ▶ Total project cost INR 2241 lakhs

India Food Park, Tumakuru  
95 Acres

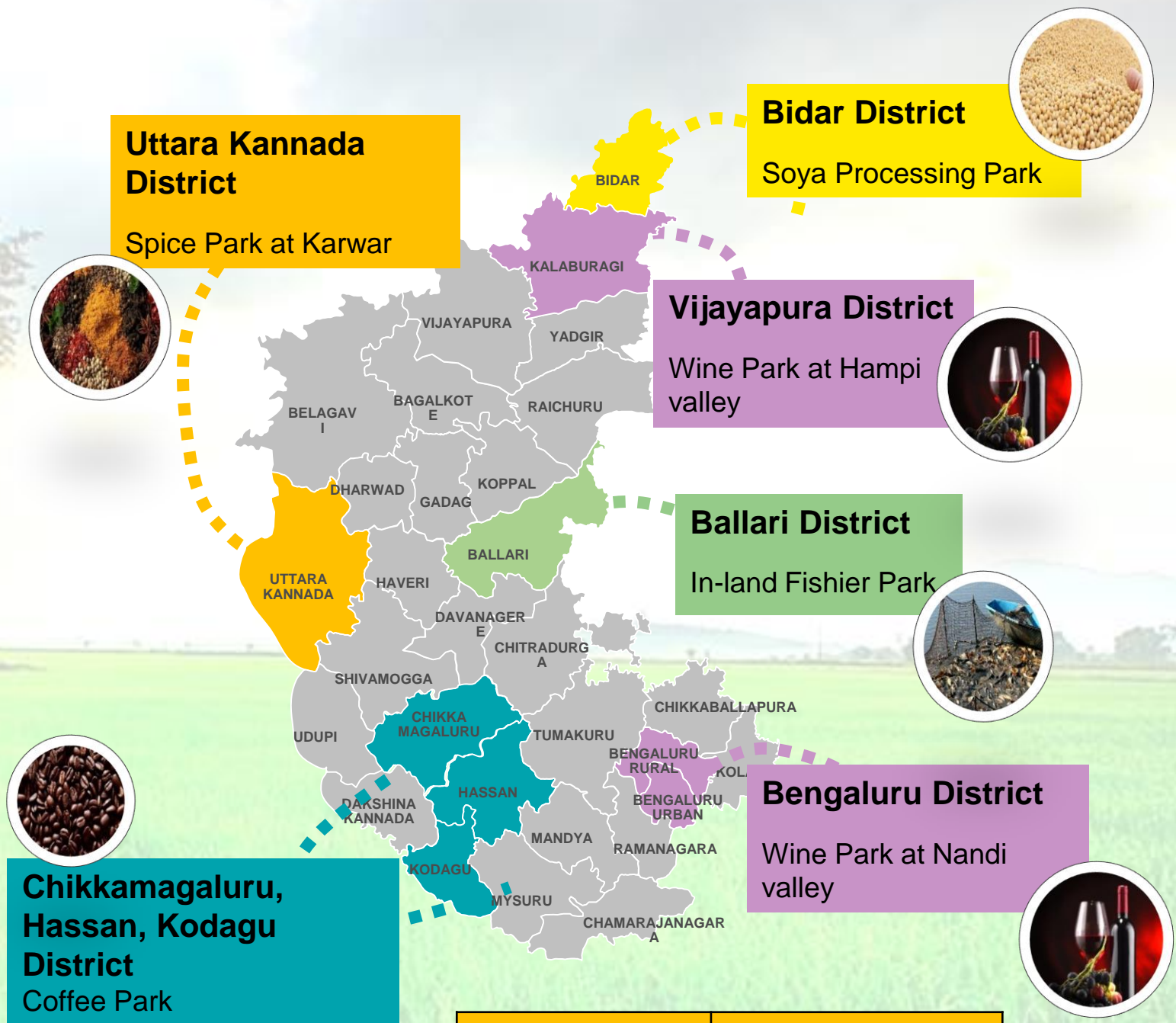
- ▶ Total project cost INR 144.3 crores
- ▶ Products- Staples, Fruits & Vegetables

Favorich Mega Food Park, Mandya

- ▶ Total project cost INR 125.79 crores
- ▶ R&D Centre, grading & packing centres, cold storage facilities etc



# Proposed Food Parks



Place	Proposed Food Park
Bellary	In-land fishier
Karwar	Spice Park
Chikmagaluru, Hassan, Coorg	Coffee
Nandi Valley, Hampi Valley	Wine park
Bidar	Soya Processing

# 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



# Potential Processing Opportunities

Processing opportunities	Districts
Milk Powder, Ghee, Butter, Paneer, Beverages, Curd, Ice Cream, Chocolate	Belagavi, Tumkur, Hassan, Mandya, Mysuru, Kolar, Chikkaballapur, Davangere
Frozen Boneless Halal Meat, Canned Meat	Haveri, Bengaluru Rural, Mandya, Kolar, Mysuru, Chikkamagalur, Dharwad, Tumkur
Egg Powder, Instant Baby Foods, Pasteurised Egg Albumen	Koppal, Davangere, Mysuru, Bellary, Bagalkot, Belagavi, Mandya
Fish Oil, Frozen Fish, Fish Protein Concentrate, Pharmaceuticals	Marine: Dakshina Kannada, Uttara Kannada, Udupi Inland: Bellary, Davangere, Hassan, Mandya, Shivamogga, Tumkur, Raichur

## Copra:

Tumkuru district is notable for its copra (Dried Coconut Kernel) which is used to extract Virgin Coconut Oil.

## Byadgi Chill:

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 & lipstick



# 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



Jaggery



Spices



Agriculture Implements



Raisins



Coconut



Food Products



Rice



Cashew



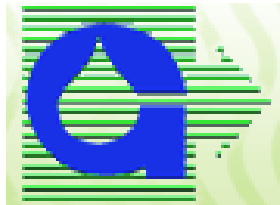
Silk



Wool



# Key Players



**TATA** GLOBAL BEVERAGES



**Manufacturing  
in Karnataka**

# Karnataka's Agriculture Produce Market Committee

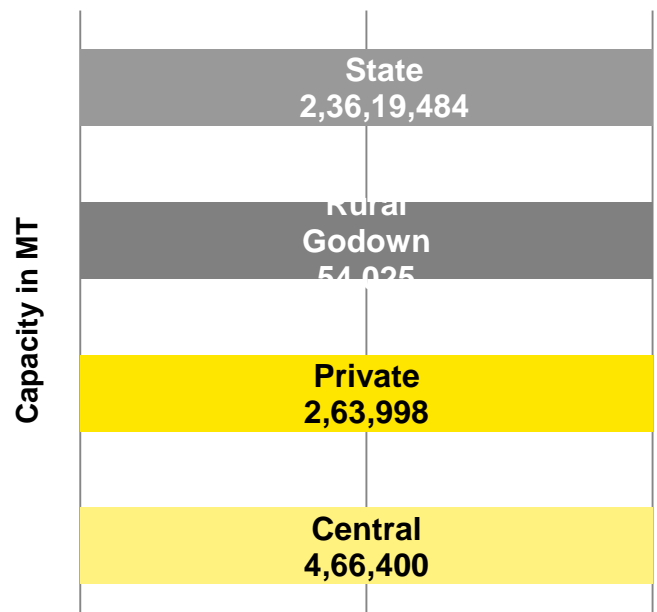
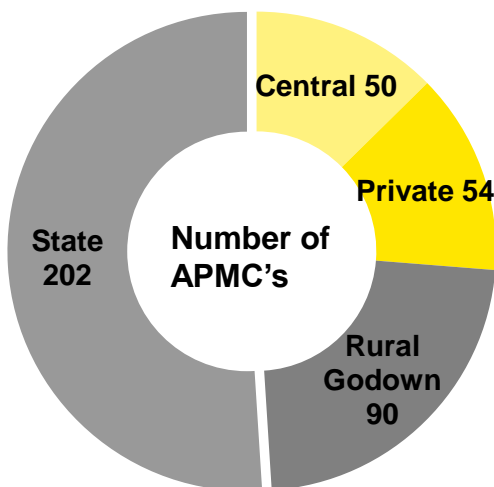
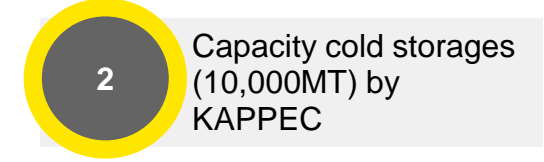
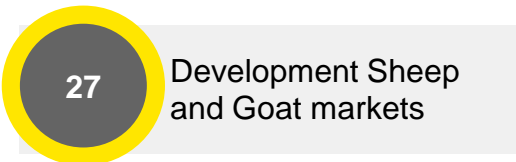
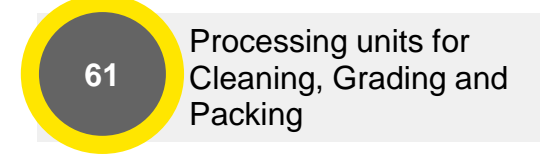
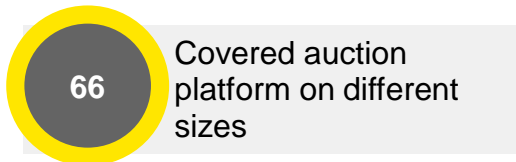
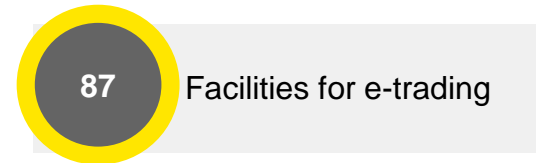
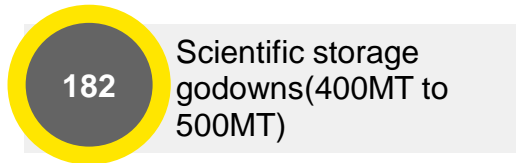
## Central Government Initiatives

- 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 ware house for farmers at their doorstep.

## Initiatives by State and Key Results



# Pioneering Institutional Support

## Backbone of Karnataka's Economy

Prominent institutions providing wide range of courses in agricultural and veterinary sciences, farm machinery, food engineering and various other lines

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

Incubation Centre for Agriculture Start-ups at UAS Dharwad

# Support Infrastructure

## Warehouse and Logistics



Agency	Capacity (MT)
Central Warehousing Corporation in Karnataka	5,78,436
Karnataka State Warehousing Corporation (KSWC)	15,19,380
KAPPEC	8,400
Food Corporation of India in Karnataka	2,36,000
Additional Warehousing Capacity & Cold Storage (by end of March 2018)	25,00,000 40,000

Source: KSWC Bengaluru

- ▶ 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.

## Establishment of Modern Abattoirs in Urban Local Bodies

### Existing Abattoirs for Sheep and Goat

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



Location	Project Cost (INR Crore)
Haveri	7
Davangere	4
Madikeri	9
Udupi	3
Koppal	6
Gadag	6
Ranebennur	5
Hubballi-Dharwad	5
Ballari	10

## 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

# 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 agribusiness & agro processing as 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, there by 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

Particulars	Incentives
Investment Promotion Subsidy	35% of fixed assets up to a maximum of INR 65lakhs for MSME
Exemption from Stamp Duty for MSME and Category A, B, C enterprises	Exempted @ 100%
Concessional Registration Charges	Concessional rate @ INR 0.50 per INR 1,000
Reimbursement of land conversion fee	Reimbursement @ 100%
Exemption from Entry Tax for plant and machinery and capital goods	100% exemption for 3 years for MSMEs
Exemption from Entry Tax for raw materials, inputs & component parts	100% exemption for 6 years for MSMEs
Subsidy for setting up Effluent treatment Plant (ETP)	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
Interest Subsidy for micro Enterprises	6% per annum for 7 years
Exemption from tax on Electric tariff	100% exemption for 8 year
Subsidy for technology adoption from recognized national labs	50% of the cost (max INR 1 Lakh) for MSMEs

# Pioneering Reforms

## 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

**Karnataka Grape Processing and Wine Policy, 2007**

- ▶ 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

**Karnataka Organic Farming Policy, 2017**

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

**Karnataka State Infrastructure Policy, 2007**

- ▶ 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

**Karnataka Industrial Policy, 2014-19**

- ▶ 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

**Karnataka Start-up Policy 2015-20**

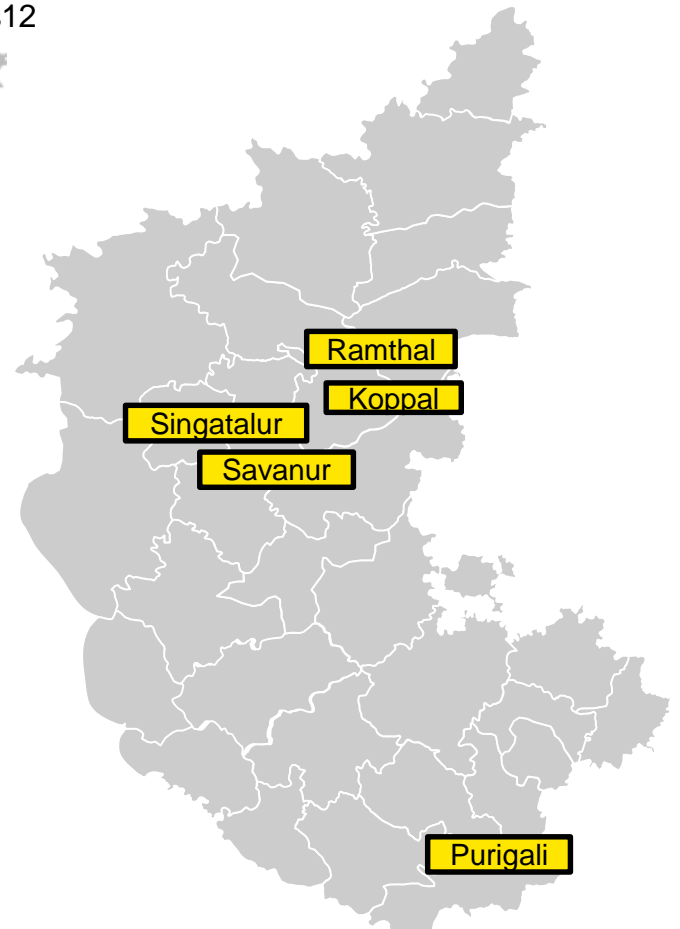
**Supporting the entire value chain and niche sectors**



# Karnataka Drip-to-Market Agro Corridor (DMAC)

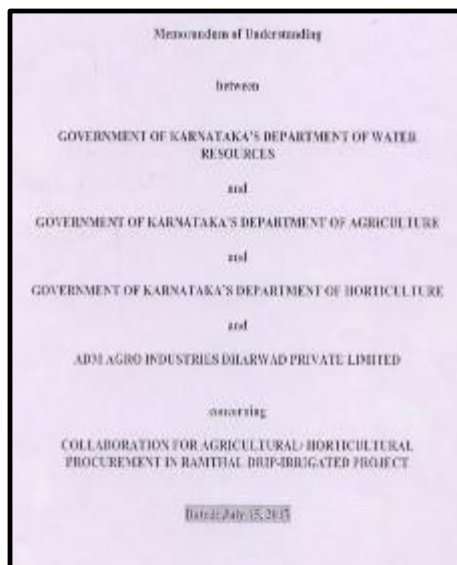
## Investment Opportunities

- Drip Irrigation
- Sprinkler Irrigation
- Cold Chain Infrastructure
- Other Infrastructure (e.g. logistics, packing houses, processing plants)
- Market linkages<sup>12</sup>



- ▶ **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

\* 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.



## Ramthal Project

### 4-way MOUs between:

- ▶ Water Resources Department
- ▶ Agri Department
- ▶ Horti Department
- ▶ Private sector offtaker

### Another 7 MOUs in the pipeline

- 6 MOUs facilitated** between private sector offtakers and government:
- **ADM Agro** (Sunflower, soyabeans)
  - **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)

# 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

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