



Make in India

Opportunities in Food Processing Sector

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हरसिमरत कौर बादल
Harsimrat Kaur Badal



खाद्य प्रसंस्करण उद्योग मंत्री
भारत सरकार
MINISTER OF FOOD PROCESSING INDUSTRIES
GOVERNMENT OF INDIA

MESSAGE

The Food Processing Industry in India rests on two strong pillars of the Indian economy - Agriculture and Manufacturing, which are the key sectors of a developing nation. The "Sunrise Sector" as it is being rightly deemed, is currently going through a positive transition, where in policies are being amended, conducive investment eco-system is being created and all efforts to set up the required infrastructure are being made. Given the inherent strengths of India in availability of quality raw material and availability of skilled and unskilled workforce at competitive prices, I am sure that the country shall soon become a food processing hub for the world and shall bolster food exports, mapping India as a key player in the global trade.

The Ministry of Food Processing Industries is fully committed to achieve this vision and looks forward to work along with the stakeholders to strategize and actualize it.

It is a matter of great pleasure for us, that food processing is an integral part of the "Make in India Week". The initiative shall definitely pave the way forward towards greater success of the sector.

(Harsimrat Kaur Badal)

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FOREWORD



The Indian Food Processing industry, currently estimated at USD 260 bn and growing at around 8%, accounts for over 9% of the manufacturing GDP. With over USD 6.21 bn of foreign investments into the sector during 2000-2015, Food Processing has emerged as a critical component of India's economy.

Strategic advantages, including diverse agro-climatic zones, varied soil types and a vast irrigated area, have contributed towards making India the world's second largest Agri-producer, with close to 900 million MT of farm output. Further, exponential increase in domestic demand for healthier, safer and convenient processed food has resulted in 20 to 30% growth across categories such as value-added dairy products, Ready-to-Eat/Ready-to-Cook (RTE/RTC) segment, breakfast cereals, and confectionery items and fruit beverages amongst others.

However, the Indian food processing industry faces several key challenges including a very low 10% level of processing for perishables (only 2% for fruits & vegetables).

Reinforced Value chain interventions from the private sector, greater foreign investments innovations in processing and packaging technology, supported by right policy and regulatory enablers, are essential to maximize the sector's contribution to India's economic resurgence. Interventions across farm management, post harvest management, modernization and capacity expansion, financial services, research and development as well as skill development will help actualize the vast opportunities in the sector.

Several key initiatives by the Government, such as according priority status to all agro-processing businesses, setting up of mega food parks, allowing 100% FDI in food processing and cold chain infrastructure, streamlining supply chains as well as facilitating exports, are highly commendable and vital for realizing the sector's truly immense potential.

Proactive initiatives under the 'Make in India' strategic initiative, coupled with adequate policy reforms, investment in infrastructure and revamping of the investment ecosystem, will help position India as the preferred food processing hub globally.

I am pleased to present this YES BANK-MoFPI- CII report '**Make in India: Opportunities in Food Processing Sector**' which provides an extensive review of food processing opportunities in India.

I am confident that this joint publication will be a useful reference for Industry, the Government and policy makers for long-term planning and development of India's Food Processing industry.

Thank You.

Sincerely,



Rana Kapoor

Managing Director & CEO 

Chairman 



MESSAGE

Make in India is an innovative multi-pronged campaign launched by the Government to re-energize the manufacturing sector, and has identified Food processing as one of the 10 key sectors, as it presents an attractive capital and technology investment opportunity for both domestic and foreign investors, leveraging India's strong food production base. This sector provides a vital linkage between the agriculture and industry. By means of value addition it helps in commercializing farming thus impacting farmer's income and opening market both domestic and international for the processed food.

The food processing industry is one of the largest industries in India. It is ranked fifth in terms of production, consumption, export and expected growth. Food Processing Industry is considered having huge potential for elevating the agricultural economy, raising farmer incomes, generating employment and creating export earnings.

The food processing sector contributes as much as 11 per cent and 9 per cent of GDP in Agriculture and Manufacturing sector respectively. During the 5 years ending 2012-13, Food processing industries has been growing at an Annual Average Growth Rate (AAGR) of around 8.4 per cent as compared to 3.3 per cent in Agriculture and 6.6 per cent in manufacturing.

The purpose of this industry is to manufacture and preserve food substances in an effective manner with a view to enhance their shelf life, improve quality as well as make them functionally more useful. It covers gamut of products from sub-sectors comprising agriculture, horticulture, animal husbandry and fisheries.

India's geographical situation gives it the unique advantage of connectivity to Europe, the Middle East, Japan, Singapore, Thailand, Malaysia and Korea. Indian food over the decades has travelled far and wide, and is available at most international destinations. In view of this, the serious challenge is the Promotion and establishment of India as a preferred Outsourcing Hub for Processed Foods and as a Global Food Factory.

Catalyzing investments, encouraging adequate farm gate infrastructure and making food processing an integral part of inclusive growth by creating a balance among rising incomes and high quality food at affordable prices will enable to Position India as the 'Food Factory' to the world. Recent government initiatives position the Indian Food processing sector as one of the most attractive sectors for investment.

Bringing together all the industry members and potential investors under one roof during the Make in India week would definitely lead to the unveiling of opportunities for growth of the Food Processing industry in India.

Piruz Khambatta

Chairman, CII National Committee on Food Processing Industries &
Chairman and Managing Director, Rasna Private Ltd

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1. Opportunities in
Food Processing
Sector in India



Opportunities in **Food Processing** Sector in India



Advantage India

- ✓ Fastest growing economy in the world
- ✓ Largest producer of several agri commodities
- ✓ 1.2 billion consumers with increasing demand for branded food.
- ✓ 4th largest economy in terms of purchasing power parity
- ✓ Proactive government policies with attractive fiscal incentives
- ✓ Significant investments in world class ports, logistics & supply chain infrastructure
- ✓ Rich demographic dividend with high focus on skill development, availability of skilled personnel
- ✓ Opportunity for investors across the food processing supply chain

India for Food Processing

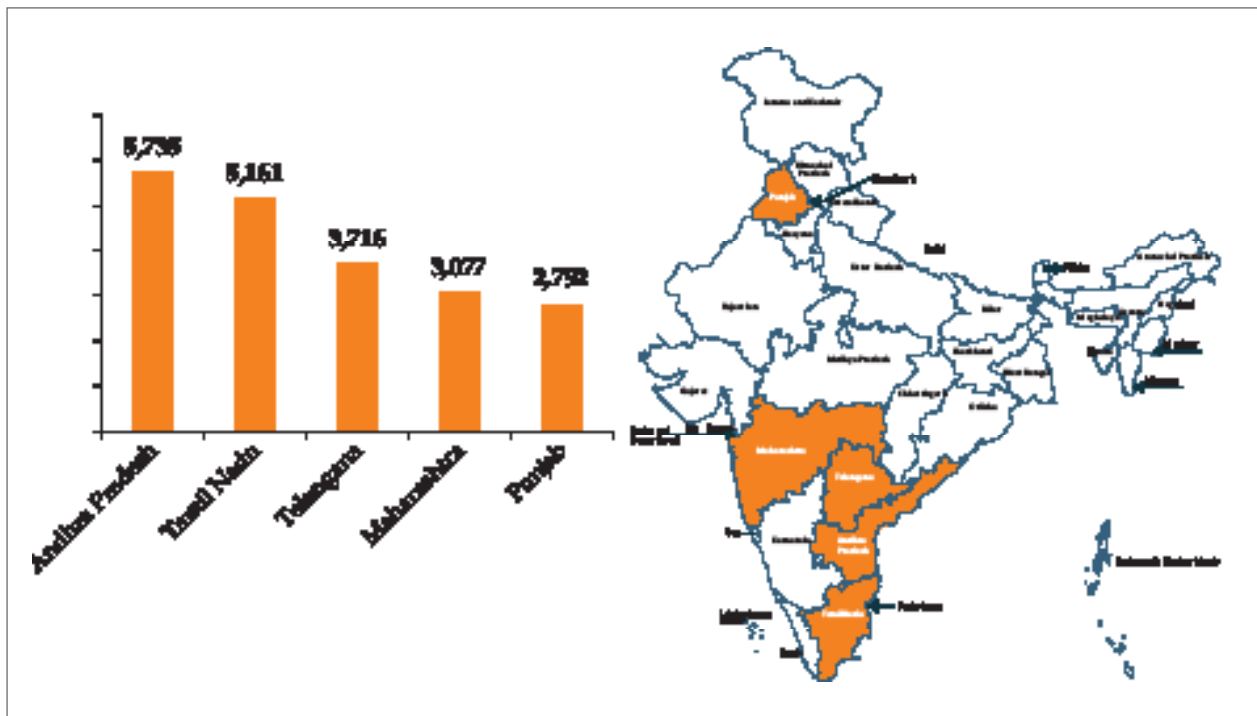
- ✓ India ranks 2nd in terms of total food production globally, next to China.
- ✓ India ranks 1st in the world in terms of production of milk, bananas, mangoes, guavas, papayas, ginger, okra and buffalo meat.
- ✓ India ranks 2nd in the world in production of green peas, potatoes, tea, tomato, sesame and many other key commodities.
- ✓ The food processing sector ranks 1st in terms of employment & number of factories in operation and 3rd in terms of output.
- ✓ The industry has witnessed a growth of 7.1% during 2013-14, much higher than the growth in agriculture sector and at par with the manufacturing sector.
- ✓ Strategic geographic location and proximity to food-importing nations makes India favourable for the export of processed foods.
- ✓ India witnesses nearly 4.6-15.9% wastage in fruits and vegetables annually, due to lack of modern harvesting technologies and cold chain infrastructure. Moreover, the processing levels in fruits and vegetables currently stand at close to 2%.

- ✓ The wastage levels in other perishables are also significantly high - 5.2% in inland fish, 10.5% in marine fish, 2.7% in meat and 6.7% in poultry.
- ✓ To reduce this wastage level and fulfill the increasing demand for processed food, India needs adequate infrastructure, processing facilities, research & development and skill development.
- ✓ This sector has a total of 37,175 registered units with fixed capital of nearly USD 24 Bn and aggregate output of around USD 114 Bn. Major industries constituting food processing sector are grains, sugar, edible oils, beverages and dairy products.

Top States with Registered Food Processing Units

According to Annual Survey of Industries (ASI), the total number of registered food processing factories in the country is 37,175. Andhra accounts for 25% of the total registered food processing units followed by Tamil Nadu (14%), Telangana (10%), Maharashtra (8%) and Punjab (7.5%).

Figure 1: Registered FPI units-Top 5 states



Source: Annual survey of industries

Food Processing Scenario in India

Processing Opportunity

Processing of various sub segments of food in the country is very low as compared to other developed nations.

Overall processing level of perishable products – India (approx 10%), USA (80%), Malaysia (80%), France (70%), Thailand (30%), Australia (25%).



The processing levels for perishables in India are:

- ✓ Fruits & vegetables ~2%
- ✓ Marine produce ~ 23%
- ✓ Poultry ~ 6%
- ✓ Meat ~ 21%
- ✓ Dairy ~35%

Table 1: There is huge unexplored opportunity underlying in the food processing in the country

Segments	Primary Processing	Secondary Processing	Tertiary Processing
Fruits and Vegetables	Cleaning, Cutting, Sorting	Pulp, Flakes, Paste, Frozen, Diced, Canned	Jams, Jellies, Chips Ready to Serve drinks, Indian ethnic drinks
Grains and Cereals	Sorting and Grading	Rice Puff, Flour, baby food(final product/ ingredients)	Cakes, Biscuits, Breakfast cereals, breads, other bakery products, RTC/RTE products
Oilseeds	Sorting and Grading	Oil Cakes, Refined Oils	Soya Oil, Olive Oil, Mustard Oil, Fortified Oil
Milk	Grading and Refrigeration	Packaged milk, Flavored milk, Cream, Milk powder	Yoghurt, Cheese, Ice cream, Curd, Baby food, other value added products
Meat and Poultry	Sorting and Refrigeration	Chilled/Frozen products	Ready to Eat products
Marine Products	Chilled/Frozen products		Ready to Eat products

Indicative Opportunities in Food Processing Sector

Infrastructure & Technology	Processing
<ul style="list-style-type: none"> ✓ New technology in F&V processing, cold storage, reefers, IQF, packhouses and ripening chambers ✓ New Packaging technology for enhanced shelf life, retaining taste and texture, attractive, easy to handle and space efficient ✓ Modern storage facilities & logistics ✓ Energy efficient technologies ✓ Food testing labs ✓ R&D infrastructure 	<ul style="list-style-type: none"> ✓ New products- Fortified products, health food, tradition Indian food, convenience food ✓ Processed organic food specially baby food, confectionery and bakery items have an increasing domestic and overseas demand. ✓ New product development in beverages viz. flavored teas, juice variants, health drinks, energy drinks, sports drinks ✓ Packaged local drinks like nimbu pani, jaljeera, coconut water etc

Table 2: Indicative Fruits & Vegetables Availability in Key Production States of India

State	Major fruits	Major Vegetables
Maharashtra	Banana, Grapes, Pomegranate, Citrus, Mango, Sapota	Onion, Tomato, Beans, Brinjal, Cauliflower
Andhra Pradesh	Banana, Citrus, Mango, Papaya	Brinjal, Tomato, Okra, Onion, Tapioca
Gujarat	Aonla, Banana, Custard Apple, Mango, Sapota	Potato, Brinjal, Okra, Tomato, Onion
Tamil Nadu	Aonla, Mango, Banana	Tapioca, Onion, Tomato, Cabbage, Brinjal
Uttar Pradesh	Aonla, Guava, Mango	Potato, Brinjal, Cabbage, Cauliflower, Tomato
West Bengal	Banana, Pineapple	Brinjal, Tomato, Okra, Onion
Bihar	Banana, Litchi, Pineapple	Potato, Brinjal, Onion, Cauliflower, Tomato
Madhya Pradesh	Aonla, Guava, Citrus, Mango	Onion, Potato, Tomato, Brinjal, Cauliflower

Besides these, there also lies immense opportunity in other fruits, vegetables, plantation crops, spices, dry fruits, medicinal & aromatic plants and organic products in India.

Sector wise Opportunities in Food Processing

Dairy

- ✓ India is the world leader in milk production, producing around 146 million MT of milk.
- ✓ India's milk production is expected to reach 180 million MT by 2020, from current 146 million MT, while the demand is projected (by NDDB) to reach 200 million MT.
- ✓ Changing lifestyle patterns, increasing disposable incomes and increasing health consciousness are the key growth drivers for milk and high value milk products in India.
- ✓ To tap this surging demand most dairy players have entered the processed dairy products market with introduction of value added products like ghee, flavored yogurt, butter (with variants), flavored milk, cheese etc.
- ✓ New value added dairy products, innovative packaging, cold chain and new technology for value added dairy product processing offer tremendous potential for technology suppliers, processors as well as service providers.



Fruits & Vegetables

- ✓ India is the second largest producer of the Fruits and Vegetables in the world with a production of 256 million MT.
- ✓ India is the world's largest producer of bananas, papaya, mangoes & guavas and the second largest producer of potatoes, green peas, cabbage and cauliflower.





- ✓ India witnesses nearly 4.6-15.9% wastage in fruits and vegetables annually, due to lack of modern harvesting practices and inadequate cold chain infrastructure. Processing levels in F&V currently stand at close to 2%.
- ✓ This gives immense opportunity to invest in initiatives that help reduce wastage levels including adequate infrastructure (cold chain, processing infrastructure), R&D for processed food & packaging and innovative on farm preservation systems.

Meat & Poultry

- ✓ India produces around 5.3 million MT of meat annually.
- ✓ Wastages in poultry are comparatively higher at 6.7%, while in meat it is 2.7%.
- ✓ The current processing levels in poultry are 6%, while for meat it stands at 21%.
- ✓ Poultry is a highly vertically integrated industry in India and matches the efficiency levels of many western countries.
- ✓ Modern abattoirs, logistics, processing and cold chain infrastructure is a huge opportunity in India, given the changing preference of Indian consumers for clean and safe meat and meat products.



Marine products

- ✓ India, with a production of 9.6 million MT is the second largest fish producer in the world.
- ✓ India is endowed with abundant geographical resources suited for both marine and inland fisheries.
- ✓ The wastage levels in inland fisheries are to the tune of 5.2%, while for marine fisheries they are close to 10.5%.
- ✓ Processing levels of marine food in India are at 23%.
- ✓ Huge opportunity exists in India for cold chain development for marine products, value added product development for domestic as well as export market as well as innovations in packaging for increased shelf life and product differentiation.



Cold Chain

- ✓ India produces more than 400 million MT of perishables every year (horticultural produce+ dairy+ meat+ poultry + fish).
- ✓ The wastage levels in perishables in India are significantly high- 4.6-15.9% in fruits, 5.2% in inland fish, 10.5% in marine fish, 2.7% in meat and 6.7% in poultry.
- ✓ Estimated annual value of losses of agri produce currently stands at ₹ 92,651 crores (USD 14 Bn). Annual value of losses in fruits and vegetables, meat, fish and milk is estimated at ₹ 50,473 crores (USD 7.6Bn).
- ✓ Adequate and efficient cold chain infrastructure from farm gate to consumers is required to arrest the high losses in supply chain of perishables.



- ✓ Baseline survey conducted by National Horticulture Board (in Dec 2014) has estimated the total cold storage capacity in India at 31.8 million MT.
- ✓ Large unfulfilled gap exists in the sector for investments in cold storage, CA storage, reefers, ripening chambers, IQF, milk chilling and processing in India.

Export Scenario

- ✓ India's export of processed food was USD 36.2 billion in the year 2014-15 which includes share of products like mango pulp, dried & preserved vegetables, other processed F&V, Pulses, Groundnuts, Guar gum, Jaggery & Confectionery, Cocoa products, Cereal preparations, Animal Products, Alcoholic & non alcoholic beverages and miscellaneous preparations.
- ✓ Major destinations for exports of processed food from India are USA, Vietnam, Iran, Saudi Arabia and UAE.

Key Fiscal Incentives

- ✓ 100% FDI permitted through automatic route in food processing sector.
- ✓ Concessional rate of Customs Duty applicable on imported equipment under the project import benefits.
- ✓ Income Tax deductions on capital expenditure allowed at the rate of 150% for setting up and operating cold chain or warehouse for storage of agriculture produce.
- ✓ 100% income tax exemption available to new food processing, preservation and packaging units for the first 5 years of operation, and at the rate of 25%-30% thereafter.
- ✓ A fund of ₹ 20 billion created with National Bank for Agriculture and Rural Development (NABARD) for extending affordable credit to designated Food Parks and units therein.
- ✓ Loans to food & agro-based processing units and Cold Chain covered under Priority Sector Lending (PSL) by banks.

Schemes of Ministry of Food Processing Industries

- ✓ Scheme for Mega Food Parks by Ministry of Food Processing Industries.
Government of India through MoFPI is putting up 42 mega food parks (35 approved). The parks have around 1,200 developed plots (of approximately 1 acre each) with basic infrastructure enabled, that entrepreneurs can lease for the setting up of food processing and ancillary units.
- ✓ Scheme for Cold Chain, Value addition and Preservation Infrastructure by Ministry of Food Processing Industries.
- ✓ Scheme for setting up/modernization of abattoirs (for Government abattoirs) by Ministry of Food Processing Industries.



2. Opportunities in **Dairy Sector** in India



Opportunities in **Dairy** Sector in India



Advantage India

- ✓ Fastest growing economy in the world
- ✓ Largest producer of several agri commodities
- ✓ Second largest consumer market
- ✓ Significant investments in world class ports, logistics & supply chain infrastructure
- ✓ Proactive Government policies
- ✓ Investor friendly incentives
- ✓ Highly skilled manpower pool

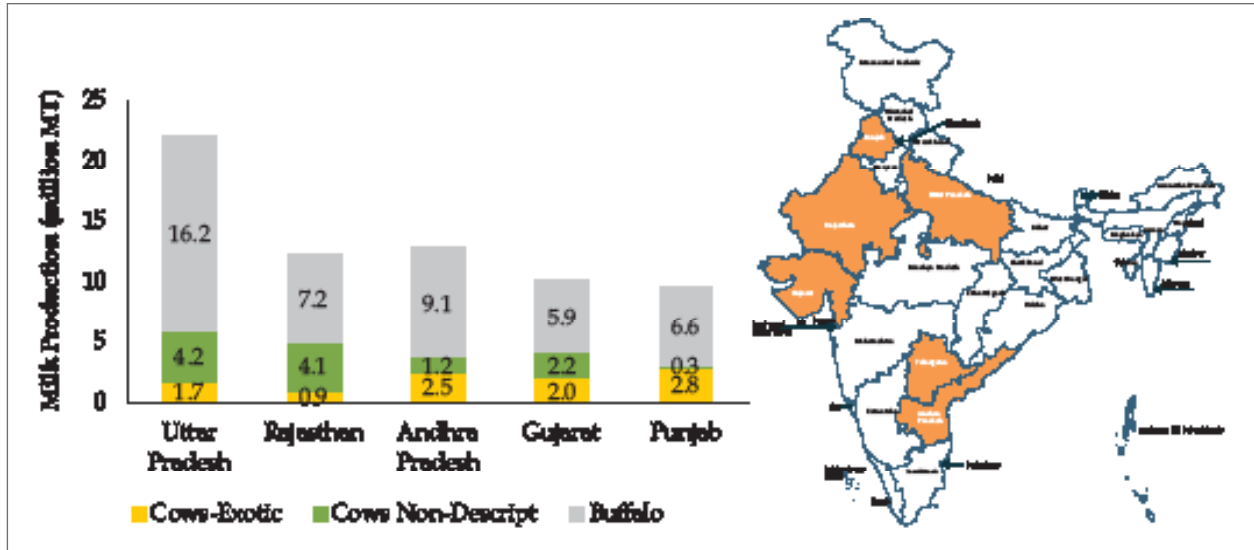
Why India for Dairy Processing?

- ✓ With production of around 146 million MT, India is the largest producer of milk globally.
- ✓ India's milk production is expected to reach 180 million MT by 2020, from current 146 million MT, while the demand is projected (by NDDB) to reach 200 million MT.
- ✓ The Indian dairy market is amongst the largest and fastest growing markets in the world.
- ✓ India has managed to attain top position in milk production globally owing to huge bovine population. However, the full potential of Indian milch herd still remains unattained.
- ✓ Per capita availability of milk in India has reached 322 grams per day, higher than the world average of 293.7 grams per day.
- ✓ Changing lifestyle patterns, increasing disposable incomes and increasing health consciousness are the key growth drivers for milk and high value milk products in India.
- ✓ To tap the surging demand, most dairy players have entered the processed dairy segment with introduction of value added products like ghee, flavored yogurt, butter (with variants), flavored milk, cheese etc.

Major States

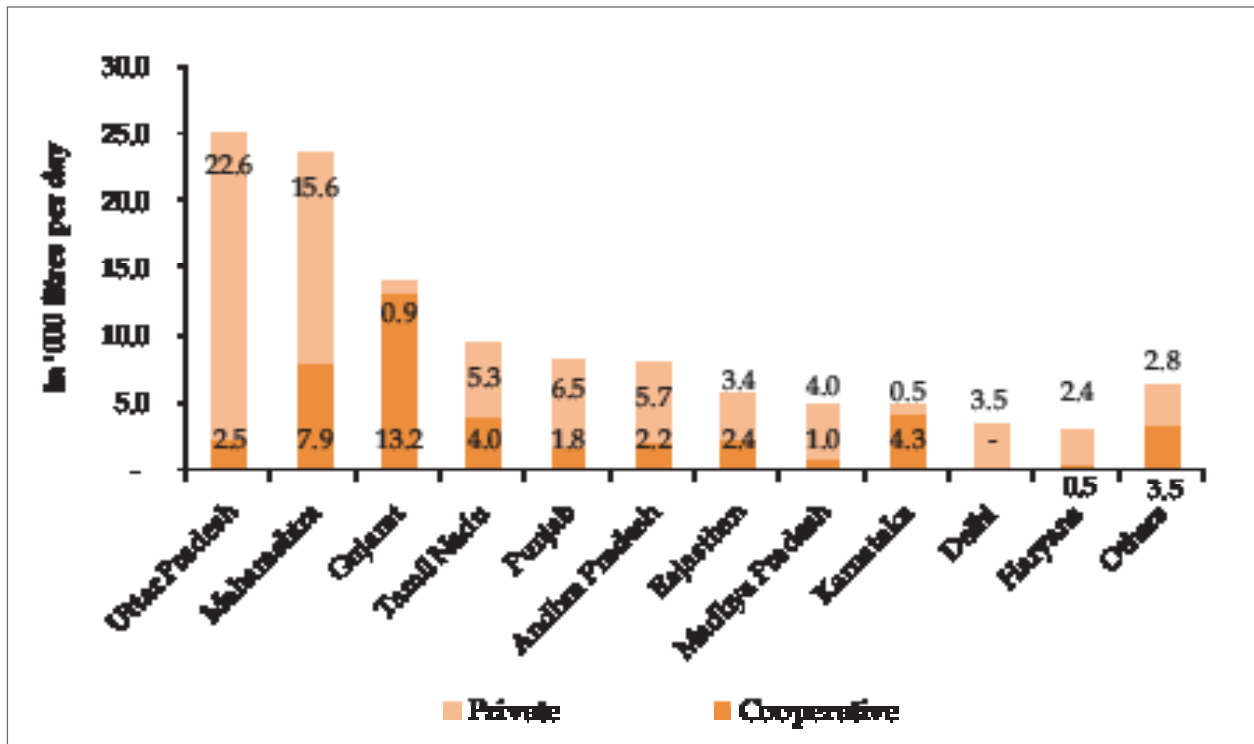
Uttar Pradesh is the highest milk producing state in India contributing around 18% to the total milk production, followed by Rajasthan, Andhra Pradesh, Gujarat and Punjab contributing 11%, 10%, 8% and 7% respectively.

Figure 2: Top 5 Milk Producing States in India



Source: Department of Animal Husbandry, Dairying and Fisheries

Figure 3: State-wise processing capacity



Source: Basic Animal Husbandry, Dairying and Fisheries Statistics, 2013



Indicative Opportunity in Dairy Sector

Technology & Equipment Suppliers	Dairy Processing Players
<ul style="list-style-type: none"> ✓ New technology in value added dairy products' processing ✓ Cold chain ✓ Innovation in packaging solution ✓ New product development for cattle feed ✓ New veterinary care technology & cattle diagnostics services 	<ul style="list-style-type: none"> ✓ New product development in value added dairy products viz. cheese, smoothies, flavored milk, custard, yogurt and other ethnic Indian products

Export

- ✓ India exported dairy products of around USD 0.2 Bn in the year 2014-15. These include products like skimmed milk powder, caesin milk, cream, etc.
- ✓ The major destinations include Bangladesh, UAE and other South East Asian countries.

Key Fiscal Incentives

- ✓ 100% FDI permitted through automatic route in food processing sector.
- ✓ Concessional rate of Customs Duty applicable on imported equipment under the project import benefits.
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- ✓ Loans to food & agro-based processing units and Cold Chain covered under Priority Sector Lending (PSL) by banks.

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- ✓ Scheme for Cold Chain, Value addition and Preservation Infrastructure by Ministry of Food Processing Industries.



3. Opportunities in **Fruits & Vegetables** Sector in India



Opportunities in **Fruits & Vegetables** Sector in India



Advantage India

- ✓ Fastest growing economy in the world
- ✓ Largest producer of several agri commodities
- ✓ Second largest Consumer market
- ✓ Significant investments in world class ports, logistics & supply chain infrastructure
- ✓ Proactive Government policies
- ✓ Investor friendly incentives
- ✓ Highly skilled manpower pool

Why India for F&V Processing?

- ✓ India is the second largest producer of the Fruits and Vegetables in the world with a production of 256 million MT.
- ✓ India is the world's largest producer of bananas, papaya, mangoes and guavas, second largest producer of potatoes, green peas, tomatoes, cabbage and cauliflower. The production volumes for major fruits & vegetables are:

Commodity	Production Volume (Mn MT)
Banana	29.2
Mango	18.5
Citrus	11.6
Papaya	4.9
Guava	3.9

Commodity	Production Volume (Mn MT)
Potato	48
Onion	18.9
Tomato	16.3
Brinjal	12.6
Cabbage	8.6

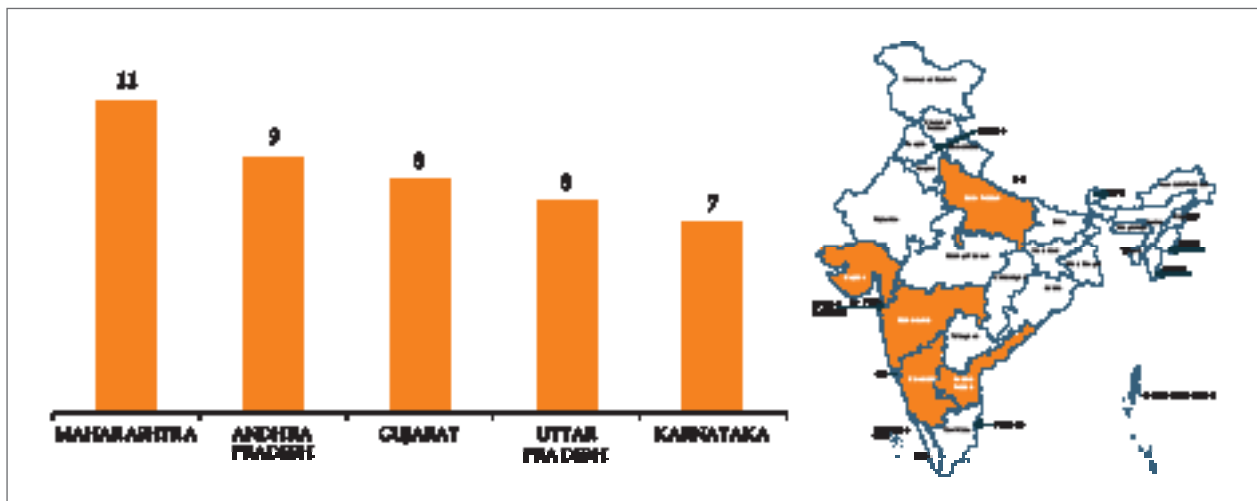
Source: National Horticulture Board

- ✓ India witnesses nearly 4.6-15.9% wastage in fruits and vegetables annually, due to lack of modern harvesting practices and inadequate cold chain infrastructure.
- ✓ Processing levels in F&V currently stand at close to 2%.
- ✓ Opportunity to invest in initiatives that help reduce wastage levels including adequate infrastructure (cold chain, processing infrastructure), R&D for processed food & packaging, innovative on farm preservation systems and skill development.
- ✓ India's location gives it the unique advantage of connectivity to Europe, the Middle East, Japan, Singapore, Thailand, Malaysia and Korea.

Major States

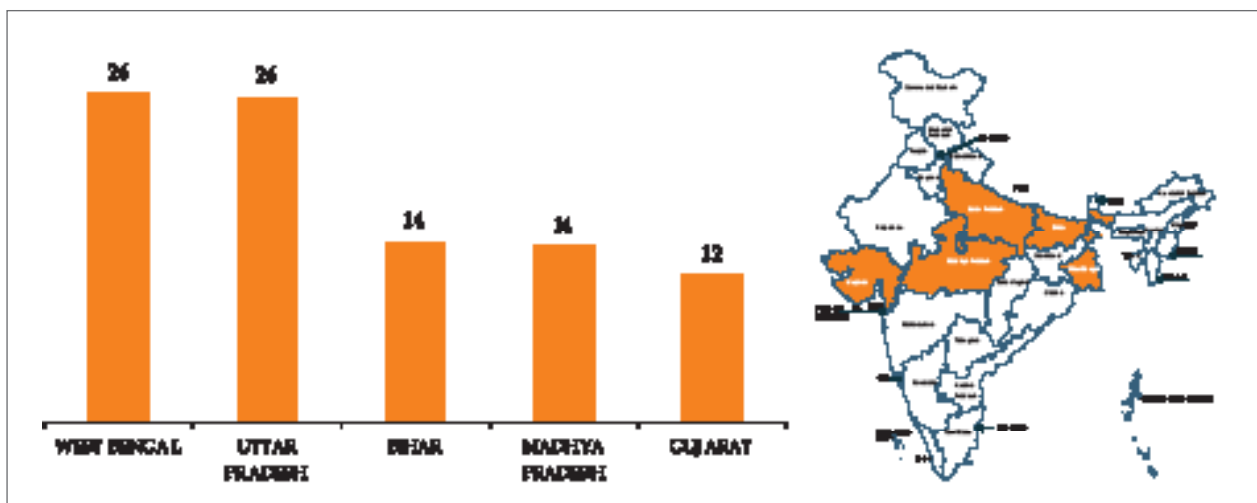
Maharashtra, Andhra Pradesh, Gujarat, Karnataka and Uttar Pradesh are the leading producers of fruits in India, having a combined share of around 50% in the total fruits production. For Vegetables, major producers include West Bengal, Uttar Pradesh, Bihar, Madhya Pradesh and Gujarat, together accounting for over 50% of the national production.

Figure 4: Top 5 Fruits Producing States (Production figures in Mn MT)



Source: National Horticulture Board

Figure 5: Top 5 Vegetables Producing States (Production figures in Mn MT)



Source: National Horticulture Board



Table 3: Top 5 States Contributing to Processed F&V

State	Number of Registered Units	Output (USD billion)
Maharashtra	182	0.3
West Bengal	30	0.2
Uttarakhand	32	0.2
Andhra Pradesh	143	0.2
Gujarat	85	0.1

Source: Annual Survey of Industries

Table 4: Indicative Processing Opportunities

Commodity	Major producing states	Processing Opportunity
Green Peas	UP/Uttarakhand, M.P, Jharkhand, H.P, Punjab	Frozen (IQF), canning, pulp, puree, paste, sauces, snacks, dressings, flakes, dices, dehydration, pickles, juices, slices, chips, jams, jelly, RTS drinks
Tomato	M.P. A.P, Karnataka, Odisha, Gujarat	
Potato	U.P, West Bengal, M.P Bihar, Gujarat	
Onion (white onion)	Maharashtra, Karnataka, M.P, Gujarat	
Mango	A.P, U.P, Karnataka, Bihar, Gujarat, Telangana	
Pineapples	Kerela, West Bengal, Assam, Karnataka, Tripura, Bihar	
Grapes	Maharashtra, Karnataka, Tamil Nadu, A.P, Telangana, Mizoram	
Banana	A.P, Karnataka, Gujarat, Tamil Nadu, Maharashtra	
Citrus fruits	A.P, Telangana, Maharashtra, M.P, Punjab	
Pomegranate	Maharashtra, Karnataka, Gujarat, A.P, Telangana	

Indicative Opportunities in Fruits & Vegetables Processing

Equipment & Technology Suppliers	F&V Processors
<ul style="list-style-type: none"> ✓ New technology in F&V processing ✓ Cold chain & packhouses- Farm level, logistics, end product storage and at point of retail ✓ Packaging technology ✓ Food testing labs with latest equipment and technology 	<ul style="list-style-type: none"> ✓ New product development - Health food, traditional food, nutraceuticals ✓ Convenience foods ✓ Beverages-Indian traditional beverages like nimbu paani, coconut water etc. ✓ Processed ingredients for ice creams, yogurt, beverages etc.

Export

- ✓ During 2014-15, India exported fresh fruits and vegetables worth USD 1.2 Bn. Mangoes, Walnuts, Grapes, Bananas, Pomegranates account for bulk of the fruits exported from the country while Onions, Okra, Bitter Gourd, Green Chillies, Mushrooms and Potatoes contribute largely to the vegetable export basket.
- ✓ The major destinations for Indian fresh fruits and vegetables are UAE, Bangladesh, Malaysia, UK, Netherland, Pakistan, Saudi Arabia, Sri Lanka and Nepal.
- ✓ India's exports of Processed Fruits and Vegetables was around USD 0.5 Bn in 2014-15, which majorly included Dried and Preserved Vegetables and Mango Pulp.

Key Fiscal Incentives

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Government of India through MoFPI is putting up 42 mega food parks (35 approved). The parks have around 1,200 developed plots (of approximately 1 acre each) with basic infrastructure enabled, that entrepreneurs can lease for the setting up of food processing and ancillary units.
- ✓ Scheme for Cold Chain, Value addition and Preservation Infrastructure by Ministry of Food Processing Industries.





4. Opportunities in
Fisheries
Sector in India



Opportunities in Fisheries Sector in India



Advantage India

- ✓ Fastest growing economy in the world
- ✓ Largest producer of several agri commodities
- ✓ Second largest Consumer market
- ✓ Significant investments in world class ports, logistics & supply chain infrastructure
- ✓ Proactive Government policies
- ✓ Investor friendly incentives
- ✓ Highly skilled manpower pool

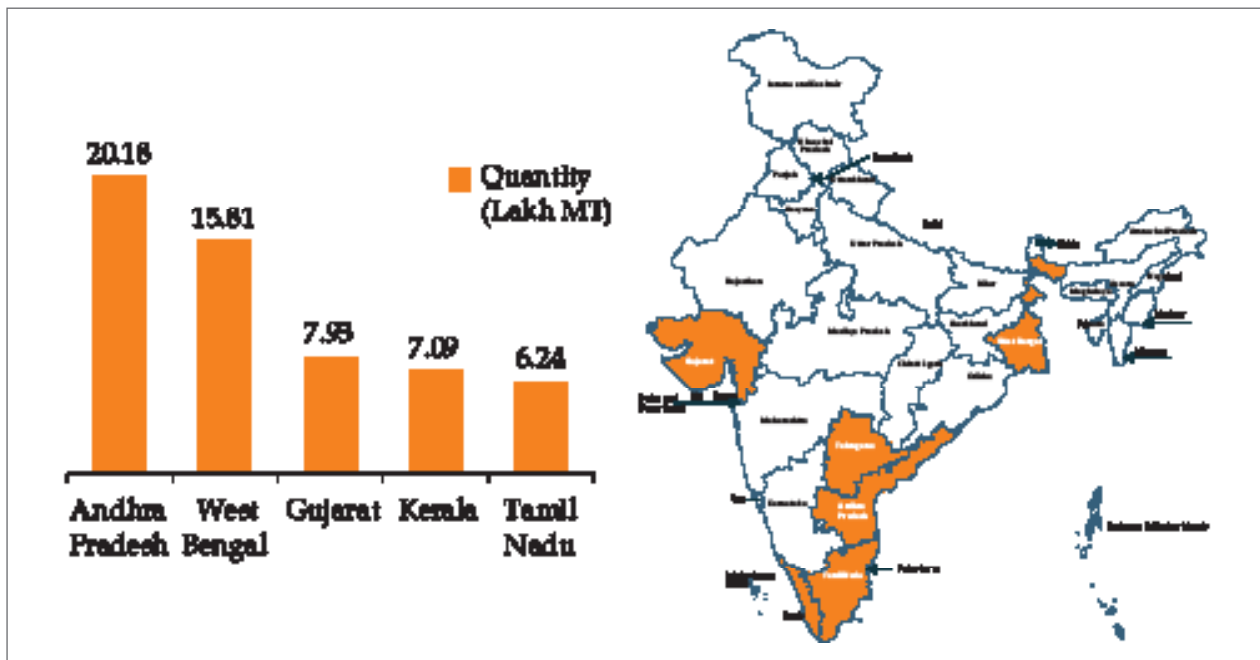
Why India for Fisheries Processing?

- ✓ India, with a production of 9.6 million MT is the second largest fish producer in the world.
- ✓ Processing levels of marine food in India are currently at 23%.
- ✓ India is endowed with abundant geographical resources suited for both marine and inland fisheries, such as long coastline (8118 km), abundant rivers and canals, reservoirs, ponds and tanks, and brackish water.
- ✓ The export market is currently valued at USD 5.5 Bn/ 1 Mn MT.
- ✓ Most exports currently are in the frozen form and there is immense potential for exporting value added products.
- ✓ Traditional independent fish retailers still dominate the distribution channel of fish and seafood in India. However, retail volume sales via modern grocery retail channels like supermarkets and hypermarkets from a smaller base have grown rapidly in recent years, particularly in major cities.
- ✓ Processing of fish into canned and frozen forms is carried out mostly for exports. Besides, there is an increased demand for processed and ready-to-eat marine products in the domestic and overseas market.

Major States

- ✓ The top five states for fisheries production in India are Andhra Pradesh, West Bengal, Gujarat, Kerala and Tamil Nadu with a combined share of around 60% of the total fish production.
- ✓ Inland Fish Production (6 Million MT): The top five states are Andhra Pradesh, West Bengal, Uttar Pradesh, Bihar and Odisha contributing close to 68% to freshwater aquaculture.
- ✓ Marine Fish Production (3.5 Million MT): The top five states are Gujarat, Kerala, Maharashtra, Andhra Pradesh and Tamil Nadu, contributing close to 74% to the total production.

Figure 6: Top 5 States in Fish Production



Source: Department of Animal Husbandry, Dairying and Fisheries

Exports

- ✓ India exported marine products worth USD 5.5 bn in 2014-15.
- ✓ USA (26%), South East Asia (26%), EU (20%) and Japan (9%) are the major export destinations from India.
- ✓ Frozen shrimp contributes 34% in quantity and 67% in value terms to exports. Other major exports include frozen fish (29%), frozen cuttle fish (8%) & frozen squid (7%).
- ✓ Value Added Products
 - ✓ Export of Value added products during 2014-15 increased by 18 % in value terms since 2013-14.
 - ✓ The share of value added products the total export is only 9 % and there is immense potential to increase exports of Value added products.
- ✓ Marine products were exported through 30 different sea/air/land ports across the country. Pipavav is the major port with respect to quantity and Vizag is the major port in respect to value.



Indicative Opportunities in the Fisheries Sector

Technology & Equipment suppliers	Fisheries Processing Players
<ul style="list-style-type: none"> ✓ Upgradation and capacity expansion for cold chain. ✓ Innovations in packaging for increased shelf life and product differentiation. ✓ Infrastructure development for fishing harbours/landing centers/wholesale markets as per international standards. 	<ul style="list-style-type: none"> ✓ Value addition and product development especially RTE/RTC products for the domestic as well as export market. ✓ Potential to process value added products with Indian taste like fish/shrimp pickle, fish/shrimp curry, skewers, marinated fish with Indian spices etc.

Key Fiscal Incentives

- ✓ 100% FDI permitted through automatic route in food processing sector.
- ✓ Concessional rate of Customs Duty applicable on imported equipment under the project import benefits.
- ✓ Income Tax deductions on capital expenditure allowed at the rate of 150% for setting up and operating cold chain or warehouse for storage of agriculture produce.
- ✓ 100% income tax exemption available to new food processing, preservation and packaging units for the first 5 years of operation, and at the rate of 25%-30% thereafter.
- ✓ A fund of ₹ 20 billion created with National Bank for Agriculture and Rural Development (NABARD) for extending affordable credit to designated Food Parks and units therein.
- ✓ Loans to food & agro-based processing units and Cold Chain covered under Priority Sector Lending (PSL) by banks.

Schemes of Ministry of Food Processing Industries

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5. Opportunities in
Meat & Poultry
Sector in India



Opportunities in **Meat & Poultry** Sector in India



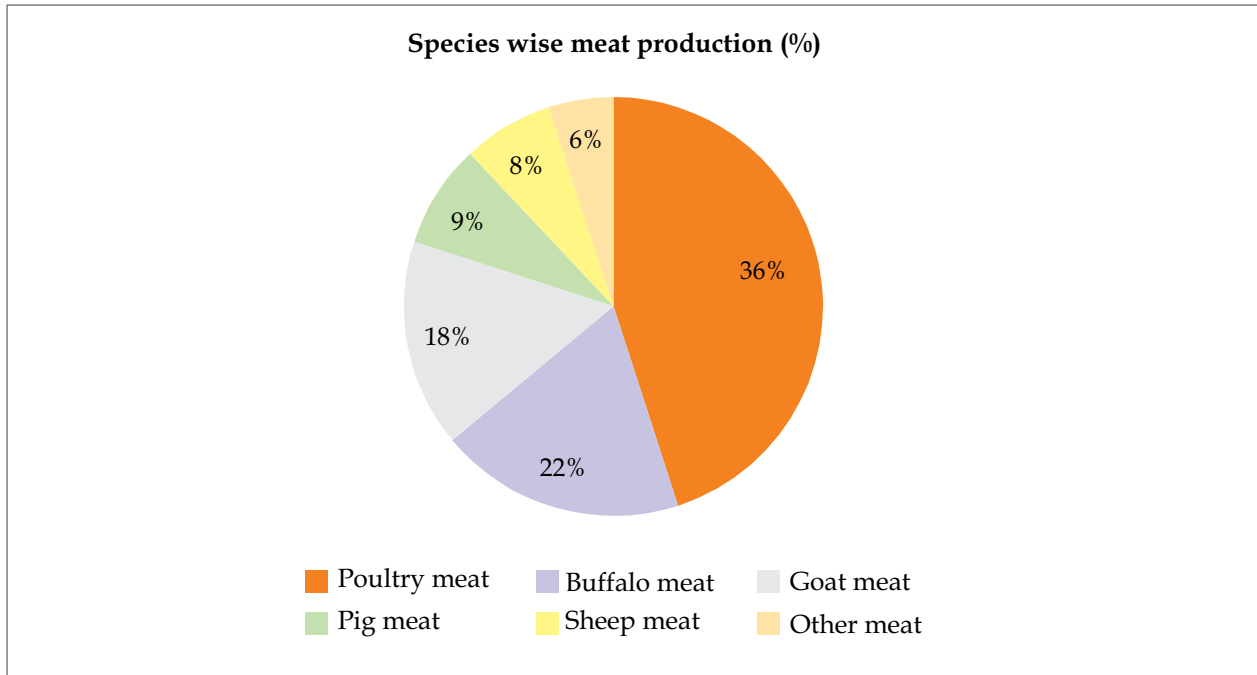
Advantage India

- ✓ Fastest growing economy in the world
- ✓ Largest producer of several agri commodities
- ✓ Second largest Consumer market
- ✓ Significant investments in world class ports, logistics & supply chain infrastructure
- ✓ Proactive Government policies
- ✓ Investor friendly incentives
- ✓ Highly skilled manpower pool

Why India for Meat and Poultry Processing?

- ✓ India has the world's largest population of livestock.
- ✓ India produces around 5.3 million MT of Meat and 75 bn eggs annually.
- ✓ India is the largest producer of buffalo meat and 2nd largest producer of goat meat.
- ✓ The current processing levels in poultry are 6%, while for meat it stands at 21%.
- ✓ Poultry is a highly vertically integrated industry in India and matches the efficiency levels of many western countries.
- ✓ Government of India has taken steps for modernization of municipal abattoirs to provide safe and hygienic meat to consumers.
- ✓ Export oriented units have invested significantly in establishment of large abattoirs-cum-meat processing plants with the latest technology.
- ✓ Farm automation, abattoirs, logistics, processing and point of sale cold storage infrastructure are an opportunity in India, given the changing preference of Indian consumers for clean, safe and hygienic meat and meat products.

Figure 7: Species Wise Meat Production



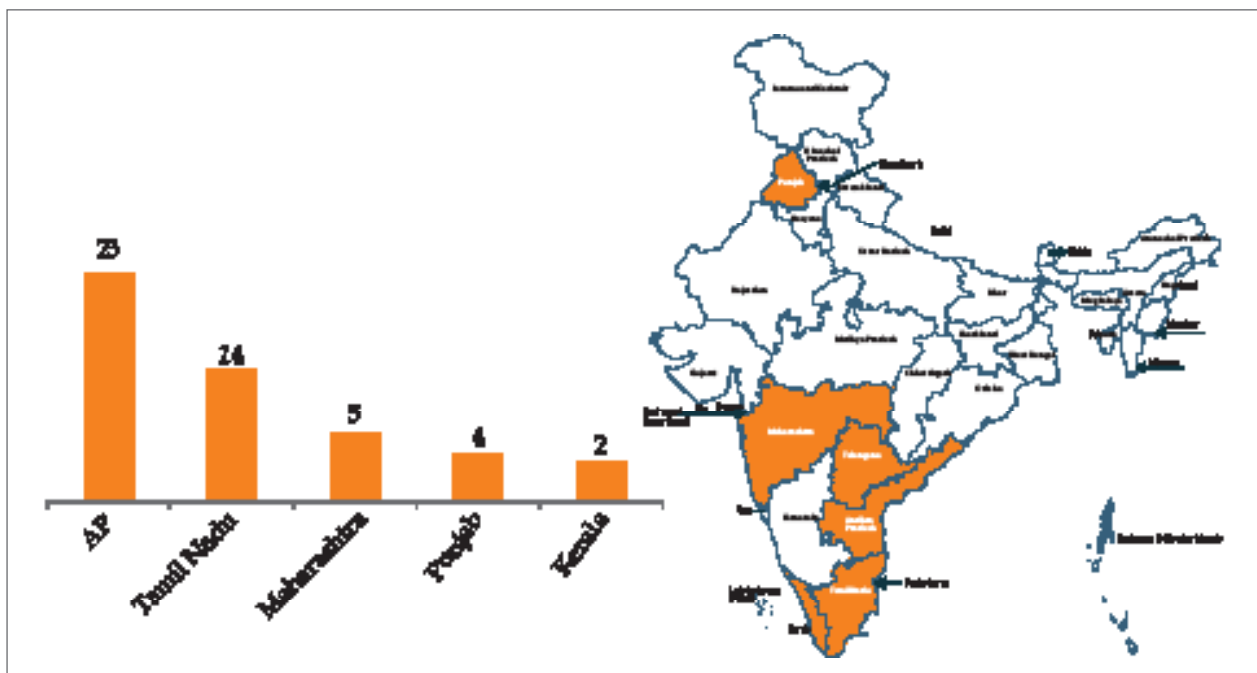
Source: Department of Animal Husbandry, Dairying and Fisheries (DAHD)

Major States

A) Eggs

Andhra Pradesh, Tamil Nadu and Maharashtra are the top egg producers in the country.

Figure 8: Top 5 Egg Producer (in billion numbers)



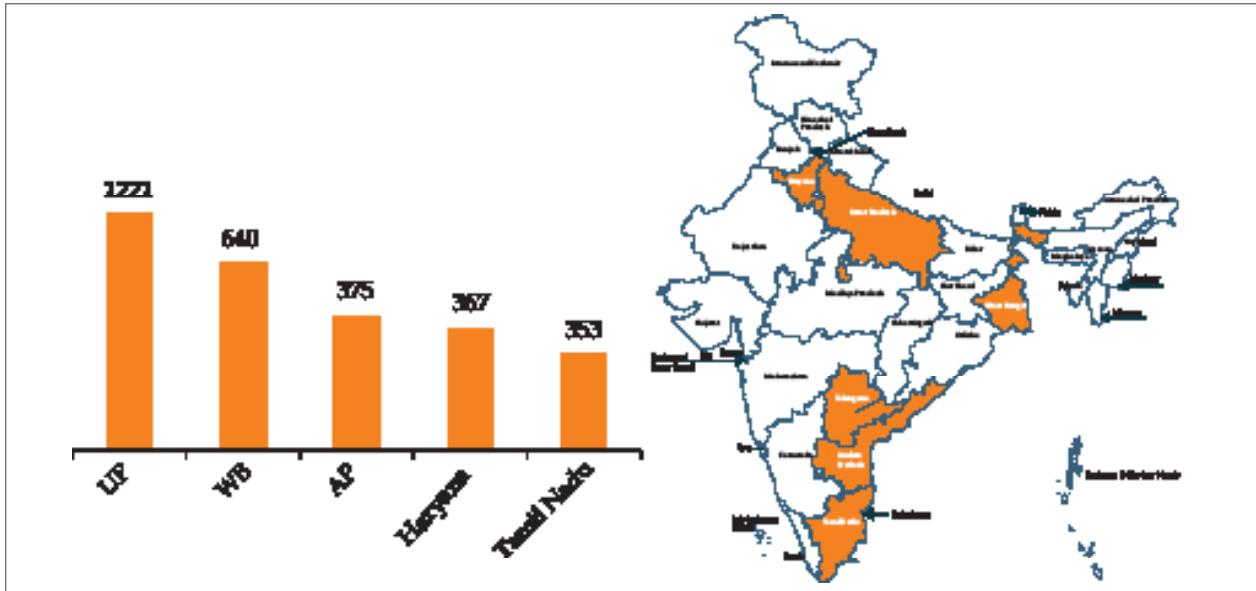
Source: Department of Animal Husbandry, Dairying and Fisheries (DAHD)



B) Meat

The largest producer of meat in the country is Uttar Pradesh producing 23% of the total meat followed by West Bengal contributing 12% to the meat production. Andhra Pradesh is the third largest meat producer in the country which produces 7% of the total production.

Figure 9: Top 5 Meat producing states in India (production in 000'MT)

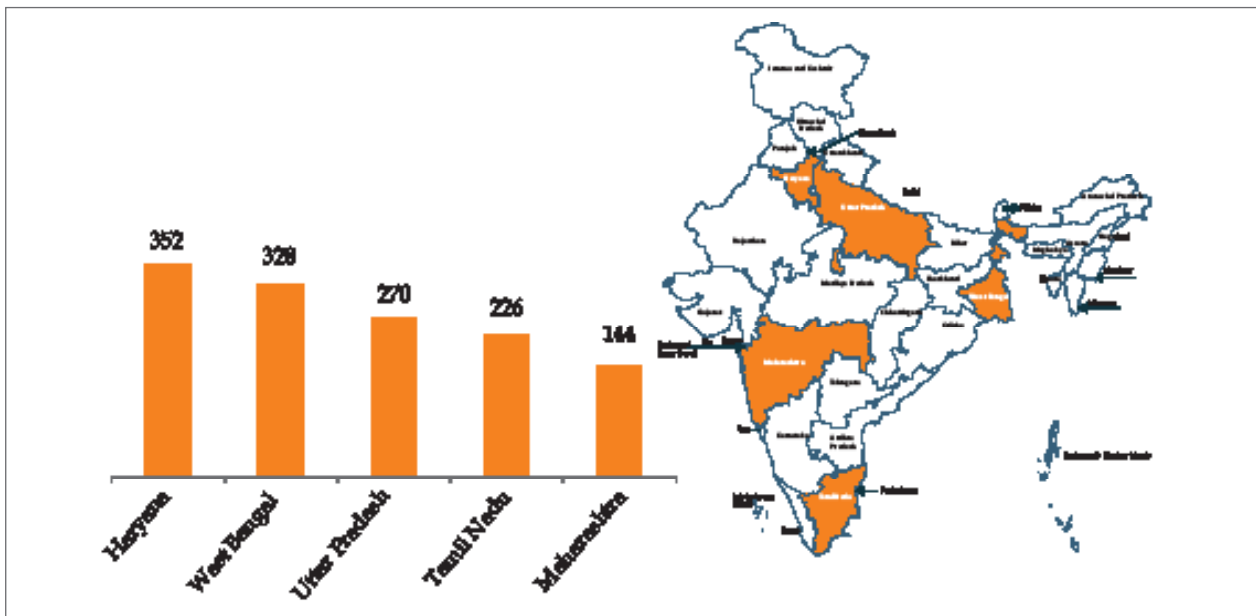


Source: Department of Animal Husbandry, Dairying and Fisheries (DAHD)

C) Poultry Meat

Haryana, West Bengal & Uttar Pradesh are the leaders in poultry meat production in the country.

Figure 9: Top 5 Poultry Meat producing states in India (production in 000'MT)



Source: Department of Animal Husbandry, Dairying and Fisheries (DAHD)

Indicative Opportunitites in Poultry & Meat Sector

Technology & Equipment Suppliers	Poultry Industry Players
<ul style="list-style-type: none"> ✓ New technology in meat & poultry processing ✓ Modern abattoirs ✓ Cold chain ✓ New veterinary technology/services ✓ Food testing labs 	<ul style="list-style-type: none"> ✓ New products-value added products like frozen/chilled products, RTC/RTE, Indian ethnic products/snacks ✓ Egg powder plants ✓ New feed formulations and manufacturing ✓ Hatcheries

Export Scenario

- ✓ India exported meat and poultry products worth around USD 5 bn in 2014-15 of which buffalo meat alone accounted for USD 4.8 Bn. Other export items include egg powder, sheep/goat meat etc.
- ✓ Major export destinations include Vietnam, Malaysia, Egypt, Thailand and Saudi Arabia.

Key Fiscal Incentives

- ✓ 100% FDI permitted through automatic route in food processing sector.
- ✓ Concessional rate of Customs Duty applicable on imported equipment under the project import benefits.
- ✓ Income Tax deductions on capital expenditure allowed at the rate of 150% for setting up and operating cold chain or warehouse for storage of agriculture produce.
- ✓ 100% income tax exemption available to new food processing, preservation and packaging units for the first 5 years of operation, and at the rate of 25%-30% thereafter.
- ✓ A fund of ₹ 20 billion created with National Bank for Agriculture and Rural Development (NABARD) for extending affordable credit to designated Food Parks and units therein.

Schemes of Ministry of Food Processing Industries

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- ✓ Scheme for Cold Chain, Value addition and Preservation Infrastructure by Ministry of Food Processing Industries.
- ✓ Scheme for setting up/modernization of abattoirs (for Government abattoirs) by Ministry of Food Processing Industries.



6. Opportunities in **Cold Chain** Sector in India



Opportunities in Cold Chain Sector in India



Advantage India

- ✓ Fastest growing economy in the world
- ✓ Largest producer of several agri commodities
- ✓ Second largest Consumer market
- ✓ Significant investments in world class ports, logistics & supply chain infrastructure
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- ✓ Investor friendly incentives
- ✓ Highly skilled manpower pool

Why India for Cold Chain?

- ✓ India produces more than 400 million MT of perishables every year (horticultural produce+ dairy+ meat+ poultry + fish).
- ✓ The wastage levels in perishables in India are significantly high- 4.6-15.9% in fruits, 5.2% in inland fish, 10.5% in marine fish, 2.7% in meat and 6.7% in poultry.
- ✓ Estimated annual value of losses of agri produce currently stands at ₹ 92,651 crores. Annual value of losses in fruits and vegetables, meat, fish and milk is estimated at ₹ 50,473 crores.
- ✓ Adequate and efficient cold chain infrastructure from farm gate to consumers is required to arrest the high losses in supply chain of perishables.
- ✓ Baseline survey conducted by National Horticulture Board (in Dec 2014) estimates the total cold storage capacity in India at 31.8 million MT.

400 Mn MT

Production of
Perishables

0.9-15.9%

Wastage levels in
perishables

**₹ 92,651
crores**

Annual value of losses
in agri produce

31.8 Mn MT
Total Capacity

- ✓ Overall average capacity utilization in cold storage is 75%- showing sustainability of the cold chain business in India.
- ✓ 92% of cold storages in India are owned and operated by private sector.
- ✓ Large unfulfilled gap exists in the sector for investments in cold storage, CA storage, reefers, ripening chambers, IQF, milk chilling and processing etc.
- ✓ Requirement for cold chain across all states.

75%
Average Capacity Utilization

Regional and Commodity Distribution

- ✓ Currently, about 60% of the total cold storage capacity is concentrated in the states of Uttar Pradesh and West Bengal, wherein majority of the cold storages are for a single commodity - Potato.
- ✓ Top 5 states in terms of total installed capacity are:
 - ✓ Uttar Pradesh (13.6 million MT)
 - ✓ West Bengal (5.9 million MT)
 - ✓ Gujarat (2.3 million MT)
 - ✓ Punjab (2.0 million MT)
 - ✓ Andhra Pradesh (1.6 million MT)

92%
Private Sector Participation



Potato
Single Largest Commodity Stored

U.P, Punjab, West Bengal, Gujarat
Industry Concentration

- ✓ However, further capacity is required to be built in these states as well as other parts of the country.
- ✓ 75% of the total cold storages in India are single commodity (mainly potatoes). 25% are multi-commodity cold storages.



Emerging Trends

- ✓ Focus shifting to end to end cold chain and not just storage
- ✓ Modernization of existing stores
- ✓ Better and more sophisticated machinery and equipments
- ✓ Setting up of multipurpose cold storages rather than conventional single commodity storage
- ✓ Modern packhouses
- ✓ Ripening Facilities
- ✓ Farm-gate or source point Cold storage
- ✓ Energy Efficient technology and new storage technology
- ✓ Integrated cargo complexes are being planned at major airports in India which will be equipped to handle all kinds of goods, including perishables

Indicative Opportunities in the Cold Chain Sector

- ✓ New and high tech technology in Cold storage, CA storage, Reefers, IQF, Ripening Chambers etc.
- ✓ Logistics to supplement cold chain
- ✓ Energy efficient technologies
- ✓ Farm level storage solutions
- ✓ New packaging technology

Table 5: Some Areas for Cold Chain Interventions

Infrastructure	Key Potential states for cold storages	Key Interventions
Apples	Himachal Pradesh, Delhi NCR, J&K, Uttarakhand, Mizoram, Arunachal Pradesh, Sikkim	CA store, reefers, pre cooling solutions at farm level
Mangoes	Andhra Pradesh, Gujarat, Maharashtra	Ripening chambers, cold storage/controlled atmosphere storage for mango, cold chain for mango pulp
Kiwi	Arunachal Pradesh	Cold Chain, modern pack house
Onion	Gujarat, Maharashtra	Technology for long term storage of onion
Banana	Gujara, A.P, Tamil Nadu Maharashtra	Modern pack houses and ripening chambers
Potato	U.P, West Bengal, Punjab	New technologies for storage of processing grade potato, Upgradation of existing cold chain
Fish	Andhra Pradesh, Kerala, Gujarat, Tamil Nadu, West Bengal, Odisha, Manipur, Mizoram	Cold storage and transportation (reefer vans), pre cooling infrastructure, freezing units- IQF, plate freezers, blast freezer and freezer cold storages
Meat	Maharashtra, Andhra Pradesh, Kerala, Uttar Pradesh, Nagaland, Assam and other North Eastern states	Modern abattoirs and cold chain for meat and meat products
Dairy	Pan India	Processing plants for high value dairy products, low cost technology for chilling milk at farm level and insulated vehicles

Key Fiscal Incentives

- ✓ Under Income Tax Act 1961, deduction @ 150% permitted for expenditure on capital investment.
- ✓ Cold chain projects eligible for External Commercial Borrowings.
- ✓ Concessional rate of custom duty @ 5% on imported equipment under the project import benefits.
- ✓ Refrigeration machineries and parts used for installation of cold storage, cold room or refrigerated vehicle, exempt from Excise Duty.
- ✓ Cold Chain services of pre-conditioning, pre-cooling, ripening, waxing, retail packing, labelling of fruits and vegetables exempted from service tax.
- ✓ Loans to food & agro-based processing units and Cold Chain have been classified under Agriculture activities for Priority Sector Lending (PSL).

Schemes of Ministry of Food Processing Industries

- ✓ Mega Food Park Scheme by Ministry of Food Processing Industries.
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7. Packaging Industry in India - A snapshot



Packaging Industry in India - A snapshot

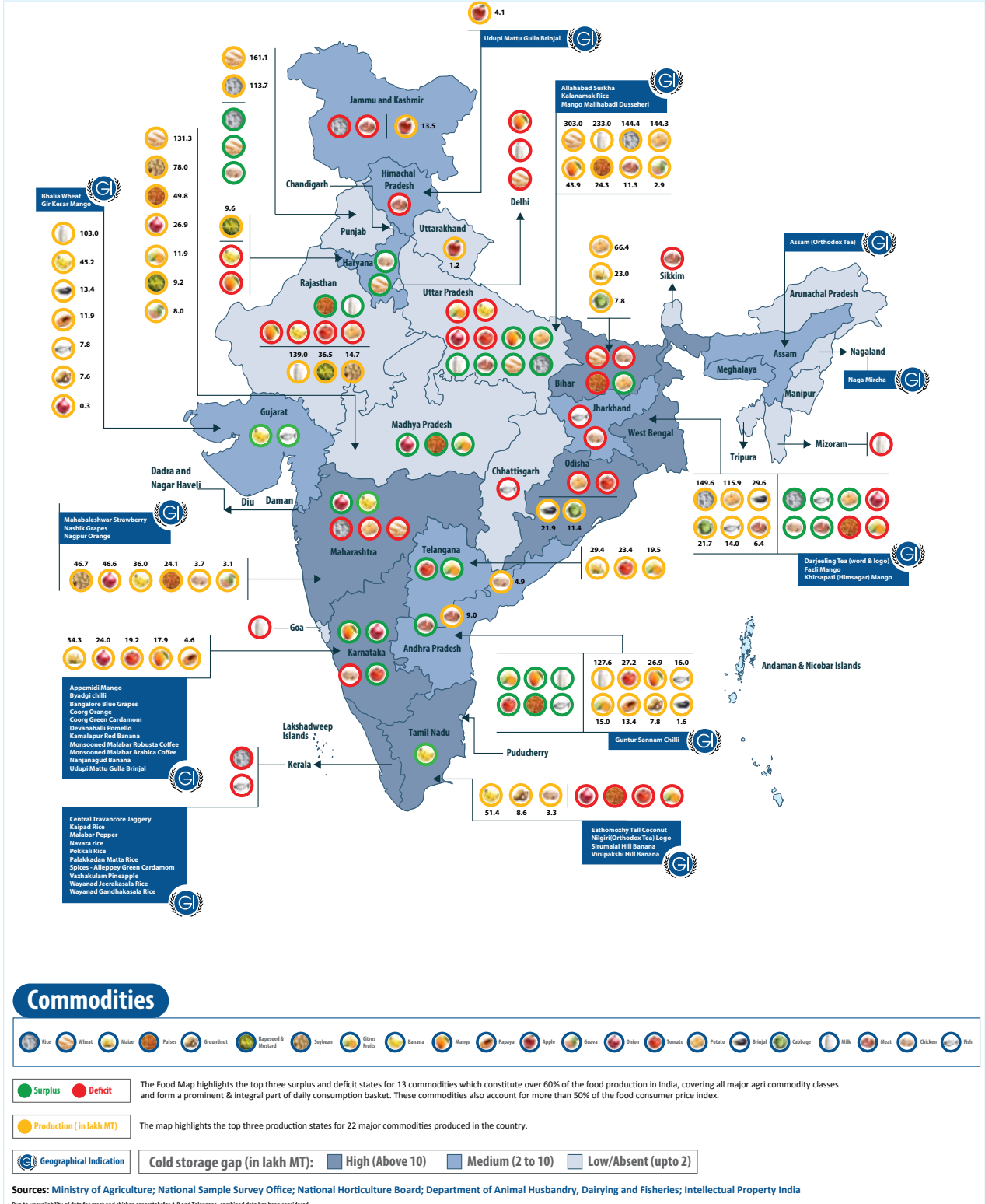


Packaging Industry in India - A snapshot

- ✓ With a turnover of USD 24.6 billion and a growth rate of 13%-15% annually, the Indian packaging industry is expected to reach USD 32 billion by 2020.
- ✓ At present, the Indian Packaging Industry is ranked 11th in the world.
- ✓ Within the packaging industry, packaged processed food holds the maximum share of 48%, followed by personal care packaging (27%) and pharma packaging (6%).
- ✓ Food packaging plays a vital role in preserving food throughout the distribution chain.
- ✓ The increase in consumption of convenience foods is driving the food packaging market. Visual appeal and convenience are the two main growth drivers of the food packaging market.
- ✓ Further, the development of food processing has created the demand for the innovation of food packaging technology.



Food Availability Map of India



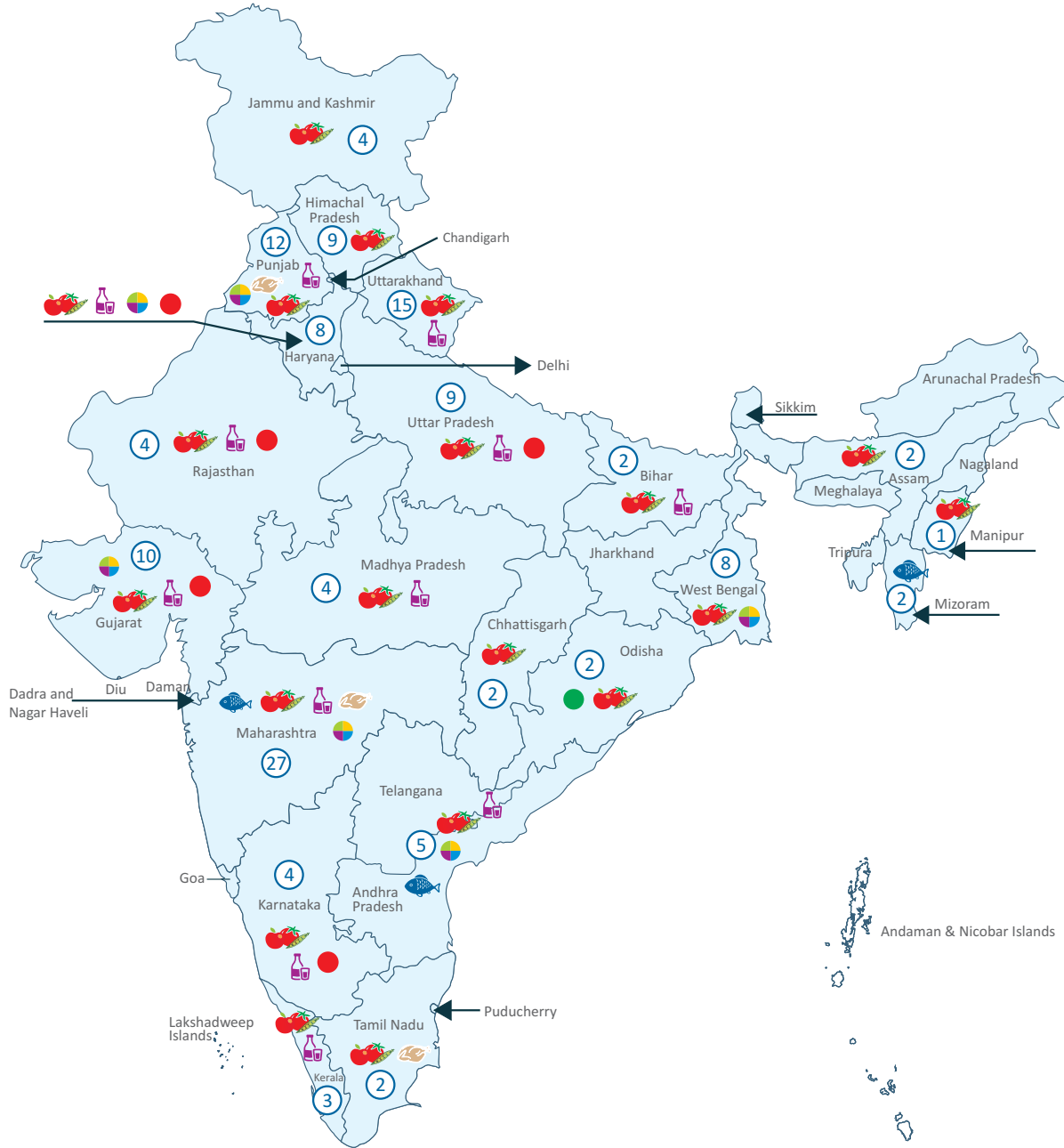
Mega Food Parks in India



The above MAP depicts only pictorial representation of India and the States of India and does not purport to be the political map of India or its states and are not drawn to scale and are only impression of Mega Food Parks in India.



Cold Chain Projects Assisted by MoFPI



Commodities

Irradiation	Ready to Eat products	Meat	F&V	Dairy	Marine	Multi-Commodity	Number of cold storages assisted by MoFPI in the state

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The Ministry of Food Processing Industries is concerned with formulation and implementation of the policies & plans for the food processing industries within the overall national priorities and objectives. A strong and dynamic food processing sector plays a vital role in reduction in the wastage of perishable agricultural produce, enhancing shelf life of food products, ensuring value addition to agricultural produce, diversification & commercialization of agriculture, generation of employment, enhancing income of farmers and creating surplus for the export of agro & processed foods. In the era of economic liberalization, all segments including; private, public and co-operative sectors have defined roles to play and the Ministry promotes their active participation. **The Ministry of Food Processing Industries, the Nodal Ministry of the Government of India for the sector has a clear goal of attaining these objectives by facilitating and acting as a catalyst to attract quality investments from within India and abroad into this sector with the aim of making food processing a national initiative.**



About YES BANK & Food & Agribusiness Strategic Advisory & Research Group (FASAR)

YES BANK, India's fifth largest private sector Bank with a pan India presence across all 29 states and 7 Union Territories of India, headquartered in the Lower Parel Innovation District (LPID) of Mumbai, is the outcome of the professional & entrepreneurial commitment of its Founder Rana Kapoor and its Top Management team, to establish a high quality, customer centric, service driven, private Indian Bank catering to the future businesses of India. YES BANK has adopted international best practices, the highest standards of service quality and operational excellence, and offers comprehensive banking and financial solutions to all its valued customers. YES BANK has a knowledge driven approach to banking, and offers a superior customer experience for its retail, corporate and emerging corporate banking clients. YES BANK is steadily evolving as the Professionals' Bank of India with the long term mission of "Building the Finest Quality Bank of the World in India by 2020".

As a part of its knowledge driven approach to banking, **YES Institute, a new practicing think-tank** is established as **a division of YES BANK, focuses on India's inclusive and green socio-economic development and growth.** A specialized Food & Agribusiness Strategic Advisory & Research group (FASAR) is domiciled within the Institute. **FASAR** works with corporates, small & medium enterprises, multinationals, Central Government & State Governments, multilateral agencies across sectors such as dairy, agri inputs, food processing & food services, food parks, agri-infrastructure, logistics, agri supply chain and rural retail among others. The team **executes project advisory, strategic advisory & policy advisory across the food and agri sector.** FASAR also conducts in-depth research on various sub-sectors of Food & Agri domain and publishes knowledge reports and research papers on key trends and developments in the sector.



Ministry of Food Processing Industries

Ministry of Food Processing Industries

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