

## FOOD PROCESSING MECHANIZATION IN INDIA

Profile 2010



**CONTENTS**

<b>CHAPTER</b>	<b>PAGE NO.</b>
<b>India: Food &amp; Food Processing</b> -Basic Facts -Trends & Opportunities	4
<b>Fruits &amp; Vegetables Processing</b> -Basic Facts -Trends & Opportunities	10
<b>Meat Processing</b> -Basic Facts -Trends & Opportunities	11
<b>Poultry Processing</b> -Basic Facts -Trends & Opportunities	12
<b>Marine Processing</b> -Basic Facts -Trends & Opportunities	13
<b>Milk Processing</b> -Basic Facts -Trends & Opportunities	14
<b>Food Processing Machinery</b> -Basic Facts	15
<b>Fruit &amp; Vegetable Processing Machinery</b> -Machinery Commonly Used -Trends & Opportunities	17
<b>Dairy Processing Machinery</b> -Machinery Commonly Used -Trends & Opportunities	20



<b>Meat Processing Machinery</b> -Machinery Commonly Used -Trends & Opportunities	22
<b>Marine Processing Machinery</b> -Machinery Commonly Used -Trends & Opportunities	25
<b>Poultry Processing Machinery</b> -Machinery Commonly Used -Trends & Opportunities	26
<b>Cold Chain</b> -Market Overview -Trends & Opportunities	27
<b>Government's Role in Promoting Food Processing</b> - Policy Initiatives & Financial Incentives - Role of the Ministry of Food Processing Industries	28

**INDIA: FOOD & FOOD PROCESSING**

**Basic Facts:**

**(i) The market size of the Food Processing Industry (\$ Bn)**

	<b>2008 – 09</b>	<b>2009 – 10</b>	<b>2014 – 15 (Projected)</b>
<b>Market Size</b>	70	200	330

*Source: Industry Research*

**(ii) Production (Million Tones)**

	<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
<b>Fruits</b>	59.56	65.58	68.47
<b>Vegetables</b>	114.93	128.45	129.08
<b>Milk</b>	101.00	104.80	108.50
<b>Meat (including poultry)</b>	5.50	6.50	7.15
<b>Marine</b>	7.60	8.00	8.50

*Source: National Horticulture Board, Internet search*

(iii) The present rate of growth of the Food Processing sector is 15% annually, an increase from the growth rate of 6% annually and the level of processing currently is 10% of the total food produced up from 6%

(iv) The Industry employs 1.6 million workers comprising 19 % of India's industrial force; the sector creates the maximum number of jobs estimated at 120 direct and indirect jobs for every \$ 25000 of investment into the sector

(v) India is the second largest vegetable and fruit producer accounting for 8 % of the world's production

(vi) **Foreign Direct Investment (FDI) in the Food Processing Sector (\$ Mn):**

<b>2007 – 08</b>	<b>2008 – 09</b>	<b>2009 – 10 (April- December)</b>
140	103	210

*Source: Ministry of Food Processing Industries, India*

(vii) **Export of Processed Foods (\$ Bn)**

<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
20.50	25	30

(viii) There has been a change in the trend and Food retailing has come of age from a period when food items were sold in grocery shops to a stage when food products are retailed through supermarket stores

(ix) **Credit to the Food Processing sector (\$ Bn)**

	<b>2007 – 08</b>	<b>2008 – 09</b>
<b>Gross Bank Credit</b>	462.04	590.47
<b>Food Processing</b>	13.16	13.46
<b>% increase</b>	25.6	5.70

*Source: Reserve Bank of India*

### **Trends & Opportunities**

(i) The Central Government is envisaging an investment of \$ 21.50 Bn in the food processing industry over the next 5 years

(ii) The share of the Food Processing sector in India's GDP is 5.5%

(iii) The Planning Commission has identified food processing as one of 4 sectors which would generate the highest employment for 2007-12

(iv) The Ministry of Food Processing's Vision 2015 for Perishables:

	<b>Present</b>	<b>2015</b>
Level of Processing (%)	10	20
Share in Global Food Trade (%)	1.3	3

*Source: Ministry of Food Processing Industries, India*

(v) India's urban population is estimated to increase from 450 million in the year 2009-10 to 590 million in 2030; rapid urbanization, long working hours, increased literacy and rising per capita income have caused rapid growth and changes in demand patterns and increased consumption thereby increasing the scope of processed foods

(vi) Lifestyle changes have made the Ready To Eat food segment very popular; this is a \$18 billion market;

(vii) Out of the total population of 1.2 billion, 30 million Upper and Middle class Indians consume packaged food; the segment is growing at a rate of 20% and offers the greatest potential

(viii) Processing (%) in India:

<b>Items</b>	<b>Organized Sector</b>
Fruits & Vegetables	2.2
Milk	37
Meat & Poultry	10
Fisheries	12



(ix) The industry requires about \$ 5.8 billion in investment over the next 5 years to create necessary infrastructure, State-of-the-Art-Technology and expand production facilities to match international quality standards and meet the required demand

**(x) Projection of India's Consumer Market**

	<b>2005</b>	<b>2025</b>
Average Disposable Income (\$)	2774	7780
Discretionary Spending (%)	52	70
Middle class (Mn)	50	583
Average Rural Household Consumption (\$)	1200	2400

Source: *The McKinsey Global Institute*

**(xi) Projection of Income**

<b>Income (\$)</b>	<b>Number (Mn)</b>	<b>Projection for 2010 (Mn)</b>
4400-21800	56	80
220- 4400	220	420
Total	276	500

Source: *National Council of Applied Economic Research*

(xii) An average Indian spends about 50% of household expenditure on food items

(xiii) The Food Processing Industry would have a substantial effect on rural employment which would increase income levels and consumption in rural areas

**(xiv) Population Composition Projection (millions)**

<b>Year</b>	<b>Under 15</b>	<b>15-64</b>	<b>65+</b>
2005	361	604	45
2010	368	673	51
2015	372	819	65

**(xv) Present scope & potential of Processing**

<b>Segment</b>	<b>Projected Growth (%)</b>	<b>Penetration (%)</b>	<b>Organized Players (%)</b>
Fruits & Vegetables	20	10	48
Dairy	15	37	55
Meat & Poultry	10	8	5
Marine Products	20	12	8
Packaged Foods	8	3	80

**(xvi) Share of Food & Grocery in Indian Retail (\$ Bn)**

	<b>2008 – 09</b>	<b>2009 – 10</b>	<b>2010 – 11 (Projected)</b>
Retail Market (\$ Bn)	285	390	410
Food & grocery (\$ Bn)	70	90	120
Organized Retail (\$ Bn)	15	20	21

Source: CSO, NSSO and Technopak Advisers Pvt. Ltd.



(xvii) **Expansion of Food Retailing Chains in India**

<b>Names of Food Retail Chains</b>	<b>New Outlets 2008-2010</b>	<b>Investment per outlet</b>
KFC	100	\$ 20 million
McDonalds	60-100	\$ 750 000
Dominos Pizza	30	\$ 375 000
Pizza Hut	30-40	\$ 450 000
Subway	60	\$ 375 000
Nirulas	100+	\$ 500 000

*Source: Company sources*

## **FRUITS & VEGETABLES PROCESSING**

### **Basic Facts**

- India is the second largest producer of Fruits & Vegetables in the world and the Fruit processing sector has grown at about 20% per annum
- The Vegetable and Fruit production contributes more than 30 % to the Agricultural GDP
- The Fruit and Vegetable processing industry is highly decentralized; large number of units are in the small scale sector having small capacities of upto 250 tonnes / annum
- Major vegetables grown are Potato, Onion, Tomato, Cauliflower, Cabbage, Bean, Egg Plant, Cucumber, Gherkin, Peas, Garlic and Okra
- The major fruits grown in India are Mangos, Grapes, Apple, Apricots, Orange, Banana, Fresh Avocados, Guava, Litchi, Papaya, Sapota and Water Melons; Mango accounts for 40 % of the national fruit production and India is one of the leading exporters of fresh table grapes to the global market

### **Trends & Opportunities**

- *Potato based snacks*: This would be in great demand due to the convenience, attractive packaging and low price; there is and would be a very high demand for potato flakes processing machines
- India's Snack market is estimated to be worth \$3.5 billion, growing at a rate of 15-20 % a year with the branded snack market estimated to be around \$ 1.34 Billion contributing almost 50% to the value
- *Fruit based drinks* would replace Carbonated drinks due to health concerns; the juice and juice-based drinks market accounts for \$ 0.25 Billion, growing at a rate of 25 %; the *Indian Mango* as a commodity is spoken of very highly throughout the world so the demand for pulp would go up significantly
- *Frozen and Dehydrated Fruits & Vegetable* would see an increase in retail activity
- About 72 % of the Fruit and Vegetable production of the country goes waste because of the lack of proper retailing and adequate storage capacity

## **MEAT PROCESSING**

### **Basic Facts**

- Meat products have shown a growth rate of 10% per annum
- The Indian Meat processing sector is in the hands of small and medium scale entrepreneurs
- Most of slaughterhouses have poor hygiene and sanitation facilities resulting in poor meat quality
- The slaughter rate in relation to animal population is cattle (6%), buffalo (10%), pigs (99%), sheep (30%) and goat (40%)
- Goat and lamb meat are small segments where local demand outstrips supply; production levels have been almost constant at 950,000 tonnes with annual exports of less than 10,000 tonnes

### **Trends & Opportunities**

- The total processing capacity in India is over 1 million tons per annum of which 40-50 % percent is utilized
- With the emergence of organized retail, market for Nuggets, Sausages, Meat balls is increasing
- Indigenous meat products like Tandoori Kababs and Curry items are in demand at fast food centers; demand is expected to expand further because of increasing per capita income and urban population; the export market is also expected to pick up due to increasing number of Non Resident Indians
- Marketing of value added cuts from meat and packaged meals are also on the rise
- There is a change in the consumer mindset; due to a global exposure vegetarians are getting an exposure to non-vegetarian items
- The Government in India would enforce very strict hygiene standards as far as slaughterhouses and abattoirs are concerned; modernization and privatization of municipal slaughterhouses is in progress



## **POULTRY PROCESSING**

### **Basic Facts**

- India is the 4<sup>th</sup> largest poultry meat producer and the 5<sup>th</sup> largest egg producer
- The present production level is 2.25 Mn tonnes per annum
- Growth rate of the sector is 12-15% per annum
- Per Capita Consumption

<b>Year</b>	<b>Per Head Annual Consumption (Grams)</b>
2003	500
2008	2000
2010	2500

- The annual consumption per head in USA, UK and Europe is 40 Kilograms; the world average is 12 Kilograms; this would rise in India as consumption of Pork, Beef and Mutton is low

### **Trends & Opportunities**

- Government is gradually banning cutting of live birds in public due to unhygienic conditions and this would be disallowed in cities leading to automation.
- Sheep and Goat meat has no religious taboos
- Organized retail growth would also increase Poultry consumption



### **MARINE PROCESSING**

<b>Year</b>	<b>Fish Production (Million tones)</b>
2006 – 07	6.90
2008 – 09	7.60
2009 – 10	8.00

### **Trends & Opportunities**

- The processing capacity in India is only 2.5 million tonnes per annum and only 20% of the capacity is utilized
- Less than 10% of the products are processed
- Growth rate is 5 – 7 % per annum
- The trend has shifted from Raw Packs to Ready – to – Eat packs; the growth in retail opportunities would be driving growth
- More and more IQF (Individual Quick Freezers) facilities would be in demand if this trend continues
- Demand of processing machinery is greater than the supply

## **MILK PROCESSING**

### **Basic Facts**

	<b>Production (Million tonnes)</b>	<b>Market Value (Milk) (\$ Bn)</b>	<b>Market Value of Milk based products (\$ Bn)</b>
2007 – 08	103	16.56	12.52
2008 – 09	108	18.50	13.44
2010 – 11 (Projected)	111	19.12	14.44

- The per capita availability of milk in India is 245 Mili litres per day; the world average is 285 Mili litres per day
- The bulk of Indian milk is utilized for drinking or in the unorganized sector for making sweets or other traditional products

### **Trends & Opportunities**

- Production of Milk is growing at only 3 – 5 % whereas consumption is growing at 6%; the market size of processed dairy products is growing at 7.5%
- The per capita availability of milk will increase by only about 1.5 % per annum in the future
- Following products would be in great demand in the next 2-3 years:
  - Milk Powders
  - Cheese-Mozzarella, Gowda etc
  - Different Type of Milk based drinks (There is a shift from carbonated drinks to milk based drinks and smoothies due to health concerns)
  - Butter
  - Indigenous Milk Products
  - Ice Cream

## **FOOD PROCESSING MACHINERY**

### **Basic Facts**

- The market for Food Processing Machinery in India (2009-10) is approximately \$ 1 Bn out of which almost \$ 93 Mn is imported; it is estimated that the market would reach \$ 1.2 Bn by 2010-11
- Since the growth of the Food Processing Industry is more than 20 %, demand for machinery is also growing at an average annual rate of 10 – 15% for the last few years
- The total duty for import of food-processing equipment is 31-36%. So only those firms that can absorb this cost would be able to compete amongst themselves
- Capacity would depend upon the financial capability of entrepreneurs; the present processing capacity is 8-10 tonnes / hour; future requirement would be 15-20 tonnes / hour
- Machinery mostly required by Medium and Large scale units ranges from \$ 1 Mn and above; entire lines cost \$0.8-1 Mn; juice lines cost \$ 0.6-0.8 Mn; Ready to Eat lines cost \$ 0.4-0.6 Mn; the average requirement would cost \$ 8-10 Mn in future
- Chinese, South Korean and Malaysian equipment companies are present in India and can compete with European manufacturers on price; European machine exporters to India include those from Germany, UK, Holland, Belgium, Italy and Scandinavian countries

### **Import of Food Processing Machinery (\$ Mn)**

	<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
Total Import of Food Processing Machinery	60.78	86.75	92.82
Import from Italy	13.13	20.61	12.84
Percentage Imported from Italy	22	24	14

*Source: Ministry of Commerce & Industry, Government of India*

### Competitors of Italian companies in India

Major Exporters of Food Processing Machinery to India (\$ Mn)

	<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
Germany	10.02 (16)	10.81 (13)	29.10 (31)
Italy	13.13 (22)	20.61 (24)	12.84 (14)
USA	7.46 (12)	10.32 (12)	7.98 (9)
Total Import of Food Processing Machinery to India	60.78	86.75	92.82

*Source: Ministry of Commerce & Industry, Government of India*

*Figures in bracket denote the percentage of Total imports of the commodity from the country*

## **FRUIT & VEGETABLE PROCESSING MACHINERY**

### **Market**

The Market Size of the Machinery for Fruit & Vegetable Processing (2009-10) is approximately \$ 350 Mn out of which machinery worth approximately \$ 10 Mn is imported; it is estimated that the market would reach approximately \$ 400 Mn by 2010-11

### **Machinery Commonly Used**

- Fruit Juice & Concentrate Line
- Osmotic Dehydration Equipments
- Evaporator
- Aseptic Drum Filler
- Concentrator
- Post percolation system
- Decanter
- IQF Freezer
- Dicer
- Ready to Eat lines
- Snack / Potato wafer line
- Sterilizing Retort
- Industrial Juice extractor
- Separator
- System Filler
- Seamer
- Annola Processing
- Aloevera processing

### **Trends & Opportunities for Italian companies**

- New areas in food processing which would create demand for newer types of machinery include:
  - Ready To Eat food / juices
  - Healthy Fruit & Vegetable juices
  - Processing mango pulp
- The level of technology is low in India compared to Italian machines
- Italian machines could help to save time by processing faster



**Italian manufacturers could consider the following equipments for India**

- Canning line
- Aseptic Drum Filler
- Fruit Juice and Tomato processing lines
- Potato processing lines-Flakes & Powder
- IQF & Spiral Freezers
- Pasta Lines
- Cheese making equipment
- Wineries
- Frozen and dehydrated fruits & vegetable
- Secondary packaging machines to pack bottles, cartons
- Mass mixture and drying
- Automatic material transferring machine system & filling machine

**Competitors of Italian companies in India**

Major Exporters of Fruit & Vegetable Processing Machinery to India (\$ Mn)

	<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
Total Import of Fruit & Vegetable Processing Machinery ( \$ Mn)	7.48	6.26	9.75
Import from Italy (\$ Mn)	2.20	1.85	5.16
Percentage Imported from Italy	30	30	53

*Source: Ministry of Commerce & Industry, Government of India*



### Competitors of Italian companies in India

Major Exporters of Fruit & Vegetable Processing Machinery to India (\$ Mn)

	<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
Italy	2.20 (30)	1.85 (30)	5.16 (53)
France	2.12 (29)	1.07 (17)	0.07 (0.7)
Germany	0.62 (8)	0.22 (3.5)	2.59 (27)
Total Import of Fruit & Vegetable Processing Machinery to India	7.48	6.26	9.75

*Source: Ministry of Commerce & Industry, Government of India*

*Figures in bracket denote the percentage of Total imports of the commodity from the country*

## **DAIRY PROCESSING MACHINERY**

### **Market**

The Market Size of the Machinery for Dairy Processing (2009-10) is approximately \$ 240 Mn out of which machinery worth approximately \$ 25 Mn is imported; it is estimated that the market would reach \$ 265 Mn by 2010-11

### **Machinery Commonly Used**

- Milk Reception Equipments
- Milk Processing Equipments / Plate Type Chillers (imported from Germany, Sweden) Pasteurizers
- Milk Heaters
- Cream Separator
- Milk Sterilizers (UHT)
- Milk Packaging Machines
- Pouch Filling Machines
- Aseptic Milk Packing Machines
- Bottle Filling & Sterilizations.
- Milk Product manufacturing Machines for Milk Powder, Cheese, Butter, Cottage Cheese, Curds, Flavoured curd, Malted Food and Ice-Cream

### **Trends & Opportunities for Italian companies**

Present capacity of plants is 150 000-200 000 litres / day which has increased from 100000 litres / day; due to increased demand the future capacity would be 1-2 million lit / day

- Some equipments are not made in India like PHE Plates, Centrifuges etc.
- The fabrication quality of equipments in India could be improved upon by Italian manufacturers
- Italian manufacturers could consider the following equipments for India:
  - PHE Plates & Frames
  - Cream Separators
  - Cheese Making Equipment
  - Homogenizers
  - Butter & Cheese packing equipments
  - UHT processing & packing equipments
  - Retort pasteurisers and sterilizers

- Packaging Machines of small capacity for Butter ,Indigenous milk foods, plastic pouches and paper cartons

### Import of Dairy Processing Machines

	2006 – 07	2007 – 08	2008 – 09
Total Import of Dairy Machinery ( \$ Mn)	15.17	18.92	23.86
Import from Italy (\$ Mn)	1.26	1.10	2.60
Percentage Imported from Italy	8.31	5.81	10.90

Source: Ministry of Commerce & Industry, Government of India

### Competitors of Italian companies in India

Major Exporters of Dairy Processing Machinery to India (\$ Mn)

	2006 – 07	2007 – 08	2008 – 09
Germany	3.02 (20)	2.61 (14)	5.25 (22)
UK	3.13 (21)	2.66 (14)	2.58 (11)
Sweeden	0.93 (6)	1.38 (7)	4.59 (20)
Total Import of Dairy Processing Machinery to India	15.17	18.92	23.86

Source: Ministry of Commerce & Industry, Government of India

Figures in bracket denote the percentage of Total imports of the commodity from the country



## **MEAT PROCESSING MACHINERY**

### **Market**

The Market Size of the Machinery for Meat (including Poultry & Marine) Processing (2009-10) is approximately \$ 35 Mn out of which machinery worth approximately \$ 5 Mn is imported; it is estimated that the market would reach \$ 45 Mn by 2010-11

### **Machinery Commonly Used**

- Slaughter lines
- Meat deboning machine
- Mincer
- Slicer
- Bowl Chopper
- Vacuum Tumbler
- Sausage Filler
- Convection Oven
- Meat Forming machine
- Microwave Ovens
- Vacuum Packaging Machines
- Tandoor Ovens
- Cabinet Ovens
- Smoke Ovens
- Mobile Cold Chain Units
- Brine Injections
- Small scale Meat product preparation line
- Retort pouch packaging units

### **Trends & Opportunities for Italian companies**

- Indian meat processing is in the hands of small and medium scale entrepreneurs; they are unable to invest a higher amount for machines
- Designing of equipments with simple material and mechanism, may bring down the cost, so many more entrepreneurs would be able to afford it
- Emphasis of the Government at present is on clean and hygienic meat production. Modernization and privatization of municipal slaughterhouses is in progress
- Cleaning of equipments like bowl chopper is a difficult task. Some simple inbuilt cleaning mechanism needs to be developed



- Present capacity of plants is 10 animals / day for small scale companies and 200 animals for the large scale companies. In future it could go upto 50-2000 animals / day

**Equipments for the following would be in great demand**

- Emulsion products: Nuggets and Sausages
- Indigenous meat products: Tandoori, kababs, curry products etc
- Equipments, which can be used for very small quantity (1 to 2 Kg) for household purposes and by small scale entrepreneurs
- Value added cuts from meat and packaging is also on the rise
- Simple and cheaper Packaging machines is the most important requirement, as packaged food market is increasing year on year

**Import of Meat Processing Machines**

	<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
Total Import of Meat Processing Machinery (\$ Mn)	3.01	2.58	4.93
Import from Italy (\$ Mn)	0.16	0.09	0.29
Percentage Imported from Italy	5.32	3.49	5.89

Source: Ministry of Commerce & Industry, Government of India

### Competitors of Italian companies in India

Major Exporters of Meat Processing Machinery to India (\$ Mn)

	<b>2006 – 07</b>	<b>2007 – 08</b>	<b>2008 – 09</b>
Netherland	0.04 (1.3)	0.42 (16)	2.10 (43)
Germany	0.43 (14)	0.95 (37)	0.43 (9)
Japan	0.04 (1.3)	0.24 (9)	0.57 (12)
Total Import of Meat Processing Machinery to India	3.01	2.58	4.93

*Source: Ministry of Commerce & Industry, Government of India*

*Figures in bracket denote the percentage of Total imports of the commodity from the country*

## **MARINE PROCESSING MACHINERY**

### **Machinery Commonly Used**

- Tray Dryers with Electrical cooking gas and solar energy support
- Plate freezer, Blast freezer, Individual Quick Freezer, Chiller and Cold Storage
- Canning line, Retort pouch processing line, Autoclave, Over pressure Autoclave, Fish filleting machine
- Fish dressing, Washing, Meat picking, Homogenizing machines
- Surimi freezing machinery
- Fish dressing machine, Meat picking machine, Deboning machine, Mixing and Kneading machine, Cooking and Extrusion machine
- Demineralizer, Deproteinizer, Deaerator, Dryer and Pulverizer
- Flake Ice and Cube Ice machinery
- Different types of filters, Chlorine Doser, Carbon filter, UV radiation system, Ozonator, Reverse osmosis system etc

### **Trends & Opportunities for Italian companies**

- Currently most of the machinery available are old fashion and lacks modern concepts of hygiene, sanitation and specifications based on Hazard Analysis Critical Control Point (HACCP)
- Modern concepts of hygiene, sanitation and Good Manufacturing Practices at competitive prices will have a ready market in India

### **Equipments for the following would be in great demand**

- Ready – to – Cook and Ready – to – Eat marine products
- Cooking and freezing line and Retort pouch processing line with Over Pressure Autoclave



## **POULTRY PROCESSING MACHINERY**

### **Machinery Commonly Used**

- Poultry Housing equipments: Drip system, Feeding system, Control system, Fan, Egg laying boxes
- Grain storage equipments: Feeds, Raw material, Maize, Soya, Vitamins mix
- Poultry meat processing equipments
- Incubators and hatchers

### **Trends & Opportunities for Italian companies**

- Government is gradually banning cutting of live birds in public due to unhygienic conditions; this would be phased out in cities
- Labour cost is increasing; labour prefers going to white collar industrial jobs and this would lead to greater automation
- As margins in the poultry sector are coming down, there is price competition as far as machinery is concerned
- Retail growth would also increase poultry consumption

## **COLD CHAIN**

### **Market Overview**

- This is a Sunrise sector in India
- All Agriculture Marketing Boards throughout India are buying Cold chains as the Government is providing loans / subsidy to farmers
- Price range: \$ 0.4-1.2 Mn depending on the functions and usability
- Market Size: \$ 3 Bn annually estimated to reach \$ 8 Bn by 2015
- Rate of Growth: 15-20% annually
- The average capacity is 2 ton / hour so for high tonnage, the input has to be large which is not possible always

### **Trends & Opportunities for Italian manufacturers**

- The Government has launched a comprehensive Cold Chain Infrastructure Scheme for creating Integrated Cold Chain infrastructure at different levels
- 25 – 30 % of the fruits and vegetables suffer from spoilage and wastage due to improper handling practices and inadequate storage infrastructure
- India produces 190 million tonnes of fruits and vegetables and would cross 300-million tonne in the next 5 years and Food products worth \$ 10 Bn are wasted every year in India so the scope of the market would increase
- The domestic market for fruits and vegetables is characterized by oversupply during the peak season and shortage in off-season; the lack of appropriate storage and logistic infrastructure and losses increases the cost for the ultimate consumer
- India's cold chain infrastructure will require at least \$ 3.6-4 Bn investment in the next 5 years to meet about 30% of the requirement
- With the growth of organized retail, the sector would grow even faster
- Imports could be Pre coolers, High humidity storage, Controlled atmospheric storage, Ripening solutions, Cooling and Blast freezing

## **GOVERNMENT'S ROLE IN PROMOTING FOOD PROCESSING INDUSTRY**

### **Policy initiatives**

- There is a separate Ministry of Food Processing which sets the policies of the sector and helps in its development
- The Government has launched the National Horticulture Mission Plan to promote the growth of the horticulture sector through various strategies
- 100% Foreign Direct Investment is permitted under the automatic route in the food infrastructure sector (Food Park, Cold Chain / Warehousing).
- No industrial license is required for almost all of the food & agro processing industries except for some like: Beer, Portable alcohol & Wines, Cane sugar, Hydrogenated animal fats & oils etc. and items reserved for exclusive manufacture for the small scale sector
- Use of foreign brand names are now freely permitted
- Capital goods can be freely imported including second hand machinery

### **Fiscal policy & Taxation**

- Income Tax rebate allowed (100 % of profits for 5 years and 25% of profits for the next 5 years) for new industries in Fruits and Vegetables processing

### **Export promotion**

- Free Trade Zones (FTZ) and Export Processing Zones (EPZ) have been set up with required infrastructure
- Zero import duty on capital goods and raw material for 100% Export Oriented Units
- Agri Export Zones (AEZ) for end to end development for the export of specific products from a geographical area; services in the AEZ would include provision of Pre / post Harvest treatment and operations, Plant protection, Processing, Packaging, Storage and related Research & Development
- There are 60 AEZs in India with Investments of around \$ 0.2 Bn and exports of \$ 2.14 Bn

## **ROLE OF THE MINISTRY OF FOOD PROCESSING INDUSTRIES, GOVERNMENT OF INDIA**

The Ministry of Food Processing Industries is the nodal agency of the Government of India for processed foods and is responsible for developing a strong and vibrant food processing sector with emphasis on the following:

- Stimulating demand for appropriate processed foods
- Achieving maximum value addition and by-product utilization
- Creating increased job opportunities particularly in rural areas
- Enabling farmers to reap the benefits of modern technology
- Creating surpluses for exports

## **FINANCIAL INCENTIVES FROM THE MINISTRY OF FOOD PROCESSING INDUSTRIES, GOVERNMENT OF INDIA**

<b>COMPONENT</b>	<b>REMARKS</b>	<b>INCENTIVE</b>
MEGA FOOD PARK	<p>The Ministry plans to establish 30 Mega Food Parks in India</p> <p>All elements of the supply chain infrastructure for the Food Processing sector would be located near the farm and strong backward forward linkages would be present</p>	<p>The Government would provide assistance in the form of grant of:</p> <p><b><i>For General Areas</i></b></p> <p>50% of the Project Cost (excluding land)</p> <p><b><i>For Difficult Areas</i></b></p> <p>75% of the Project Cost (excluding land) subject to a maximum of \$ 11 Mn</p>
COLD CHAIN	<p>The Ministry has already accorded approval to 10 Cold Chain Projects in 2008-09</p>	<p>The Government would provide assistance in the form of grant of:</p> <p><b><i>For General Areas</i></b></p> <p>50% of the total cost of Plant &amp; Machinery and</p>



		<p>Technical Civil Works</p> <p><b>For North East Region</b></p> <p>75% of the total cost of Plant &amp; Machinery and Technical Civil Works subject to a maximum of \$ 11 Mn</p>
<p>ABATTOIRS</p>	<p>The Ministry plans to set up 40 new Abattoirs and upgrade 110 existing ones</p> <p>Objective of the scheme include scientific / hygienic slaughtering, less painful treatment of animals, minimizing transport of animals, better by-product utilization and value addition and providing chilling facility to prevent microbial activity</p>	<p>The Government would provide assistance in the form of grant of:</p> <p><b>For General Areas</b></p> <p>50% of the total cost of Plant &amp; Machinery and Technical Civil Works</p> <p><b>For Difficult areas</b></p> <p>75% of the total cost of Plant &amp; Machinery and Technical Civil Works subject to a maximum of \$ 3 Mn</p> <p>Technical Consultancy fee of 5% of the Grant provided to meet cost of engaging Technical Consultancy firms</p>