



# Food Processing in India

## Why In News?

With farm distress making headlines, the state government of **Tamil Nadu unveiled its own food processing policy** keeping an eye on increasing farmers' income, reducing wastage of food products and value addition of farm products, to ensure a healthy food processing industry.

The objective is to encourage setting up of food processing industries by agro-entrepreneurs, availing financial assistance from Union.

## What is Food Processing

**Food Processing** includes process under which any raw product of agriculture, dairy, animal husbandry, meat, poultry or fishing is transformed through a process (involving employees, power, machines or money) in such a way that its original physical properties undergo a change and the transformed product has commercial value and is suitable for human and animal consumption.

It also includes the **process of value addition** to produce products through methods such as preservation, addition of food additives, drying etc. with a view to preserve food substances in an effective manner, enhance their shelf life and quality.

## Significance

The **Food Processing Industry (FPI)** is of enormous significance as it provides vital linkages and synergies that it promotes between the two pillars of the economy, i.e. agriculture and industry.

- **Employment Generation:** It provides direct and indirect employment opportunities, because it acts as a bridge between Agriculture and Manufacturing.
- **Doubling of farmers' income:** With the rise in demand for agri-products there will be commensurate rise in the price paid to the farmer, thereby increasing the income.
- **Reduce malnutrition:** Processed foods when fortified with vitamins and minerals can reduce the nutritional gap in the population.
- **Reduce food wastage:** UN estimates that 40% of production is wasted. Similarly, NITI Aayog estimated annual post-harvest losses of close to Rs 90,000 crore. With greater thrust on proper sorting and grading close to the farm gate, and diverting extra produce to FPI, this wastage could also be reduced, leading to better price realisation for farmers.
- **Boosts Trade and Earns Foreign exchange:** It is an important source of foreign exchange. For e.g. Indian Basmati rice is in great demand in Middle Eastern countries.
- **Curbing Migration:** Food Processing being a labour intensive industry will provide localized employment opportunities and thus will reduce the push factor in source regions of migration.
- **Curbing Food Inflation:** Processing increases the shelf life of the food thus keeping supplies in tune with the demand thereby controlling food-inflation. **For e.g. Frozen Safal peas are available throughout the year.**
- **Crop-diversification:** Food processing will require different types of inputs thus creating an incentive for the farmer to grow and diversify crops.
- **Preserve the nutritive quality of food and prolongs the shelf life** by preventing them from spoilage due to microbes and other spoilage agents,

- **Enhances the quality and taste of food** thereby bringing more choices in food basket
- **Enhances consumer choices:** Today, food processing allows food from other parts of the world to be transported to our local market and vice versa.

## Status of Food Processing In India

- India is the world's second largest producer of fruits & vegetables after China but hardly 2% of the produce is processed.
- In spite of a large production base, the level of processing is low (less than 10%). Approximately 2% of fruits and vegetables, 8% marine, 35% milk, 6% poultry are processed. Lack of adequate processable varieties continues to pose a significant challenge to this sector.

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### FOOD PRODUCER



**512m**  
Livestock  
Population

India has largest livestock population



**17%**  
Global Share  
of Milk

Largest producer of milk in the world



One of top five producers world wide  
of rice, wheat, groundnuts, tea, coffee,  
tobacco, spices, sugar and oilseeds



World's  
**2nd**  
Largest  
Producers



Fisheries



Fruit and Vegetable



Cereals



**282.5m**  
Tons Fruit and  
Vegetable

Estimated 282.5 million tons  
in 2015-16

### CLIMATE



**20**  
Agro-climatic\*  
Regions

India has 20 agro-climatic\* region



Agro-climatic conditions refer to  
soil types, rainfall, temperature, and  
water availability that influence  
the type of vegetation and  
cultivation practices.



**15**  
Major Climates

of 26 major climates in the world



Ideal sunshine hours  
and day length for  
round the year  
cultivation

- India's livestock population is largest in the world with 50% of the world's buffaloes and 20% of cattle, but only about 1% of total meat production is converted to value added products.
- More than 75% of the industry is in unorganized sector.
- Processing can be delineated into primary and secondary processing. Rice, sugar, edible oil and flour mills are examples of primary processing. Secondary processing includes the processing of fruits and vegetables, dairy, bakery, chocolates and other items.
- Most processing in India can be classified as **primary processing**, which has lower value-addition compared to secondary processing. There is a need to move up the value chain in processed food products to boost farmer incomes. For instance, horticulture products, such as fruits and vegetables, carry the potential for higher value-addition when compared to cereal crops.
- At present, India's agricultural exports predominantly consist of raw materials, which are then processed in other countries, again indicating the space to move up the value chain.

## Food processing industry in India can be segmented as follows

- Cereal/ pulse milling

- Fruit & vegetable processing
- Milk & milk products
- Beverages like coffee, tea & cocoa
- Fish, poultry, eggs & products
- Meat & meat products
- Aerated waters/soft drinks 8. Beer/alcoholic beverages
- Bread, biscuits & other bakery products
- Edible oil/fats.
- Confectioneries
- Breakfast cereals, malt protein, weaning, extruded food products

## **Problems in Food Processing Industries**

At present most of the industries are in unorganized sectors. So, number of problems are arising from different sections of the industries. Some of the basic problems encountered by Indian food industries at different levels are given below.

### **Farm level problems**

- Poor yield of farm produce and therefore low returns.
- Lack of material resources necessary for development.
- Primitive methods of farming.
- No control on the quality of inputs and lack of finance to manage.
- Vagaries of weather.
- Unavailability of reliable handling and transportation system.
- Lack of storage facilities at farm.

### **Objectives of Draft National Food Processing Policy 2017**

- To reduce wastages, increase value addition, ensure better prices for farmers while ensuring availability of affordable and quality produce to consumers
- To address the challenges of malnourishment and malnutrition by ensuring availability of nutritionally balanced foods
- To make food processing more competitive and future ready through creation of adequate infrastructure facilities along the supply chain, use of modern technology and innovation, promoting traceability, food safety, encouraging optimum capacity utilization of assets and resources.
- To position India as the most preferred investment destination for the agribusiness and food processing.
- To generate more opportunities for the development of the agribusiness and Food Processing Industry, and create employment.

### **Distributors' problems**

- Lack of modern transportation facilities and high cost
- Inadequate cold storage facilities
- Irregular quality and quantity of farm produce

### **Processing industries problem**

- Financing
- Higher import duties
- Higher cost of raw material and packaging
- Inadequate transport and cold storage facilities
- Infrequent availability of refrigerated containers
- Staggering advertising costs

- Limited domestic market

### Consumer discontent

- Does not get value for money
- The price variation is a day to day affair
- Continued dependence on seasonal products
- Lack of variety of semi processed or prepared convenience food at affordable prices.

### Reasons for slow growth of processed foods in India

- Majority of the population has low-income levels and cannot afford processed foods.
- The high cost of packaging pushes up the cost of the processed items and thereby makes them out of reach of the common man.
- Indians traditionally prefer fresh foods that are cooked rather than use preserved foods.
- There is also no national character for food habits and these keep changing from region to region.
- However, the scenario is changing with some foods, especially fast food, acquiring the national character. Also some foods such as idli, dosa, some Punjabi foods like chhole, alu mutter etc., some Chinese foods and now the western foods like burgers and pizza are fast gaining national popularity.
- Transport (both road and railways) and communication are poor.
- There are no reliable cold chains, which are necessary for temperature sensitive foods like fruits & vegetables, ice creams etc.
- Modernization is unaffordable for small-scale manufacturer but the large companies do not find investment justifiable due to small size of the market.
- Supermarkets are not yet popular although a few are making an appearance.

### Challenges

- **Extensive use of fertilizers, pesticides** and other chemicals has raised concerns about the quality of food which should be looked into. Further, protection is needed from unfair and hazardous practices such as adulteration.
- Care should be taken as processed foods **may not be nutritionally balanced** and may pose a health risk especially for children unless fortified. This could trigger a negative perception regarding processed foods and could likely impact the economic gains made by this sector.
- **Low value-added in processing:** There is major fragmentation of food processing capacity, with a large unorganized segment and widespread use of primitive processing. This results in lower value-addition at the processing stage, especially from a nutritional point of view.
- **Limited ability to control quality and safety:** The sheer number of players, especially in the large unorganized segment, involved in the food value-chain, makes implementation of quality and safety norms difficult. This has led to practices such as milk adulteration and use of carbide for fruit ripening becoming more widespread.
- **Low consumer awareness:** Consumer awareness is a critical aspect of an improved nutritional situation in the country. Consumers currently lack awareness of several nutritional and food safety and quality aspects.

### Suggestions

- **Storage capacities and infrastructure** should be increased.
- Develop the **agricultural facility** with good agricultural practice which leads to the transition from staple food crops to diversification of crops.
- Backward linkages to farmers need to be made more robust. **Contract farming** can be promoted. According to the **Model Contract Farming Act, 2018**, the contract will specify the quantity, quality and price of produce being supplied. This would shield farmers from price volatility, subject to quality commitments.
- **Skilling is required at two levels.** First at the farm gate in promoting agricultural best practices and in processing activities.
- **Public investment and connectivity** should be increased.

- **Slaughter animal rules** should be framed in a comprehensive policy framework.
- **Farm pattern diversification** which leads to a production of variety of crops other than constant set of crops which creates lot of job opportunities.
- **Second Green Revolution** should be updated with the diversified technologies.
- We have to **encourage the domestic startups and industry** than the international companies.
- There should be a **Centre of Excellence** between centre and state.
- Should have more training institutes for upcoming entrepreneurs and it should be in all states. Scholarship should be given to the upcoming entrepreneurs.
- **New technology should be updated** in the training institutes and skill development should be given the top most priority.

## Government's Initiative

It has been the endeavor of the Government to promote food processing industry in the country to reduce wastage of agricultural produce and minimize post-harvest losses.

According to **“Assessment of Quantitative Harvest and Post-Harvest Losses of Major Crops and Commodities in India”** by ICAR the percentage of post-harvest losses as assessed by the study is as under:

Crops	Cumulative wastage (%)
Cereals	4.65 - 5.99
Pulses	6.36 - 8.41
Oil Seeds	3.08 - 9.96
Fruits & Vegetables	4.58 - 15.88
Milk	0.92
Fisheries (Inland)	5.23
Fisheries (Marine)	10.52
Meat	2.71
Poultry	6.74

- With the above in view, the Ministry of Food Processing Industries (MoFPI) is implementing **PMKSY (Pradhan Mantri Kisan SAMPADA Yojana)**
  - The objective of PMKSY is to supplement agriculture, modernize processing and decrease agri-waste.
  - It is an umbrella scheme incorporating ongoing schemes
  - Under PMKSY the following schemes are to be implemented.
    - Mega Food Parks.
    - Integrated Cold Chain, Value Addition and Preservation Infrastructure.
    - Creation/Expansion of Food Processing/Preservation Capacities.
    - Infrastructure for Agro Processing Clusters.
    - Scheme for Creation of Backward and Forward Linkages.
    - Food Safety & Quality Assurance Infrastructure.
    - Human Resources and Institutions.
- **Foreign Direct Investment (FDI) policy:** FDI up to 100%, under the automatic route is allowed

in food processing industries.

- **Agricultural and Processed Food Products Export Development Authority (APEDA)**- an apex organization under the Ministry of Commerce and Industry - focusses on 'export' of scheduled products.

## Way Forward

- Food processing has numerous advantages which are specific to Indian context. It has capacity to lift millions out of poverty and malnutrition. Government should develop industry in a way keeping in mind the interests of small scale industry along with attracting big ticket domestic and foreign investments.
- The entire food value chain in India is controlled by multiple ministries, departments and laws. A comprehensive policy will ensure that various initiatives across the departments are aligned to the overall goal of ensuring availability, awareness, affordability, access, quality and safety of food.
- The target of ensuring food security for more than a billion people requires a concerted effort by all stakeholders including government and the food processing industry. In addition to private players and government, industry bodies and academia will also have a crucial role in the success of these initiatives.

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