Human Resource and Skill Requirements in the
Food Processing
Sector
(2013–17, 2017–22)

The food processing sector is expected to witness 15 percent CAGR over 2012–17

Key Growth Drivers

- **Growth in organised retail -** Food retail is expected to grow well due to low penetration of organised retail and the potential market thereof.

- **Changing consumer preferences -** India has one of the largest consumer bases in the world with a young population (more open to trying out new food products), increasing income (marking a shift towards premium food products) and more time-starved consumers (leading to an increasing shift towards RTE and packaged foods).

- **Favourable government policies -** Direct support in the form of financial assistance for technology upgrade and setting up/modernisation/expansion of food processing industries is being encouraged. 100 percent FDI under the automatic route (except for alcohol, beer, and sectors reserved for small scale industries) is now permitted and this has spurred investment in India.

- **Supply of raw materials -** India ranks number one in the production of milk, bananas, guavas, mangoes, buffalo meat and cashew nuts. It ranks second in the world in the production of rice, wheat, groundnuts, onions, peas, and sugarcane. We have a climate that is suitable for year-round supply of agricultural products.

- **Availability of cheap labour -** India's comparatively cheaper workforce can be effectively utilized to set up large low-cost production bases for domestic and export markets.

Industry Size

- India is the second-largest producer of fruits and vegetables in the world, accounting for about 10 percent of the global production.
- India ranks first in the world in production of milk. Milk and milk products account for a significant 17 percent of India's total expenditure on food.
- The 'meat and marine products' market share is expected to increase from INR25200 crores in 2012 to INR56500 crores by 2017, witnessing a CAGR of 17 percent.
- The Indian packaged food market, including confectionary, dairy, baked goods, sauces and household staples, such as packaged rice, was worth INR1 lakh crores at the end of 2011.

Concerns and challenges in the sector

- **Lack of robust infrastructure -** Inadequate support infrastructure, which is the biggest bottleneck in expanding the food processing sector, in terms of both investment and exports includes — long and fragmented supply chain, inadequate cold storage and warehousing facilities, road, rail and port infrastructure. Storage infrastructure specific to grain and oilseed is a critical challenge to in reducing wastage levels.

- **Sub-optimal use of technology and research -** Commercial R&D activities in the food industry have remained confined to only a few areas. R&D activities have scarcely emerged from the laboratory to be extensively adopted on the field

- **Low productivity of land resources -** Despite India being an agrarian economy and one of the largest producers of vegetables, fruits, spices, milk, eggs, potatoes, wheat, meat etc., the productivity of crops is quite low when compared to international standards. The problem of low productivity is compounded by poor quality of food produce, lack of grading and sorting, limited marketing infrastructure and research and development facilities.
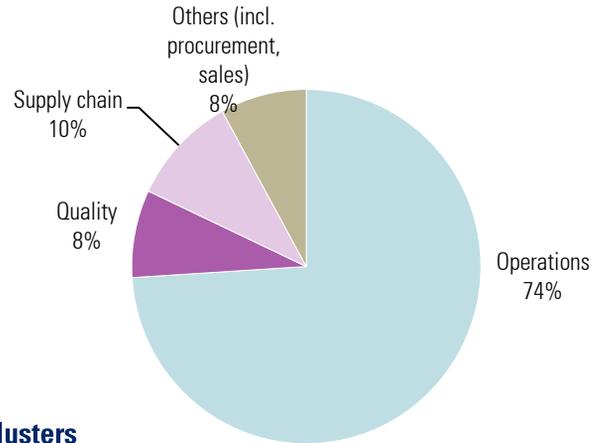
Sources: KPMG in India analysis

Industry is traditionally dominated by unorganized workforce

This industry prefers hiring experienced professionals for the supervisory and managerial roles. A fresher is employed as a trainee or operator and undergoes on-the-job training up to one year. ITI or diploma certified joins the sector in maintenance or processing functions. They join at an operator or trainee grade. typically, promotions and career progression are performance-oriented and, to some extent, tenure/seniority also plays a significant role in promotions. Many of the workers complete their graduation along side and this practice is encouraged by the employers. Most of the employees in procurement and processing function are Science-graduates from agricultural universities.

Functional distribution of human resources in the food processing industry (2013)

The food processing industry demands different skill sets on the basis of their relevance to various segments. The basic functional distribution of human resource in the industry is involved in operations stage with 10 percent of the workforce dedicated towards supply chain.

Others (incl. procurement, sales) 8%

Supply chain 10%

Quality 8%

Operations 74%

Employment clusters

West Bengal Region

Pune - Mumbai Region

Andhra Region

Andhra Pradesh has the maximum registered food units in the country and is expectedly one of the top regional clusters in the sector.

Further, new emerging clusters in MP and Jharkhand will expected to attract a bulk of manpower.

The Pune-Mumbai region is growing on the account of high urbanisation resulting in high demand.

West Bengal region is dominated by players in marine processing and labour is supplied from the neighbouring state, Odisha.

● Major employment centre

Sources: Industry Interactions; KPMG in India analysis

By 2022, the food processing industry is expected to generate about 4.40 million additional employment opportunities

Industry growth along with demand for quality standards and technology adoption in manufacturing are driving the need for fresh skilling and up-skilling in the sector. Grain and Oilseed and Packaged Foods account for lion's share of employment growth in the sector during 2013-22. Technological growth in processing industry segments like Meat & Marine, Beverages are expected to result in lower labour elasticity of 0.3-0.4 during 2013-22 reflecting in subdued employment growth

Supervisory and technician roles covered under Level 4, 5 and 6 as per NSQF classification are expected to witness high demand for manpower during 2013-22. Due to increasing adoption of technology and automation, some roles in the technical functions, such as maintenance, will play an important role. Quality is another domain, which will be in demand due to enforcing of quality parameters and focus on exports.

Sub-Sector	Employment Growth 2013-17 (In million)	Employment Growth 2017-22 (In million)	Employment Growth 2013-22 (In million)
Fruits & Vegetables	0.01	0.01	0.02
Milk and milk products	0.06	0.07	0.13
Meat and Marine products	0.24	0.34	0.58
Grain and Oilseed	0.69	1.08	1.77
Packaged Food	0.63	1.00	1.63
Beverages	0.13	0.16	0.29
Overall Sector	1.75	2.65	4.40

Human Resource Growth Trends in the Sector (in million)

- Several skill gaps exist in various stages of the food processing value chain that need to be addressed. This includes the food processing sector as well as ancillary industries, such as bottling and packaging.

- The growing quality consciousness by the consumers requires the workforce to be skilled in basic hygiene and sanitary practices. Processing units are also adopting mechanisation and technology. There is a growing need to impart technical skills to more specialist personnel who are capable of working on imported machines in specific sub-segments.

- Focus also needs to be on the front-end staff for developing customer relationship management skills, which are integral to maintaining healthy relationship with institutional players, such as hotels, restaurants and retailers.

- Farm procurement is an important area for processing units and need to streamline their raw materials' supply for the rising demand. At a farm level, the growers are poorly equipped and lack awareness of implementing the best practices for growing. This is where the need for procurement staff to be proactively engaged in crop/production advisory is missing.

Sources: KPMG in India analysis

There is a huge potential to improve the availability of quality manpower through the development of training centres by organisations, such as the NIFTEM and IICPT

Agricultural universities and governmental research institutes dominate the supply landscape for this sector. There is virtually no presence of any private player as a training provider. To inculcate practical hands-on training, high capital expenditure prohibits private TPs from entering this space. PPP is the most viable alternative in the given situation.

Private players can set up a training academy close to the employment clusters and develop an apprentice-trainer model. For processing grain, a milling operator is a critical job role; however there is no course, which trains a personnel in milling operations. Similarly, documented training modules for catching/culling of animals and vocational courses for deboning could be potential areas for training players to focus on meeting sector's manpower requirement.

Challenges pertaining to training infrastructure

Need to develop sector specific training programs

Procurement functions require considerable backend linkages, which require specific skill sets at the processor and farmer levels.

Food processing companies also face the challenge of the lack of availability of workforce at the pre-processing stage. For example, in the F&V sub-segment, workers are hired on a contractual basis for such roles. The meat and poultry sub-segments face severe unavailability of staff for deboning.

Challenges in establishing training infrastructure

The industry cannot afford to spend their productive man-hours on training employees since it will adversely affect the production.

This industry requires more practical training than theory. Simulation-based hands-on practical training cannot be done due to lack of prototypes. The food processing industry requires more practical training than theoretical lessons. It is difficult to impart simulation-based hands-on practical training due to the lack of prototypes in India. The estimated cost to establish a prototype is about 10-15 crores and such high investment can be made only through government support or on PPP model.

Employers engaging in training

Primarily, training for entry-level resources are undertaken in-house by employers for on the job training model where senior employees are responsible for imparting requisite skills and training them. The varying quality of training does not ensure either standard job role or pay for the trained students.

Several food processing players have to invest significantly in training workforce on basic hygiene and sanitation practices, since most of the workers are inadequately educated. There is a need to introduce courses on basic hygiene and sanitation practices; perhaps through some nationally recognised institute. A standardised accreditation system should be in place to certify employees for these basic prequalification before entering this sector.

Several employers have established in-house training institutes in the absence of specific courses or training institutes. There is no course for food machinery, such as canning, dehydration and handling frozen foods. This has led to a clear disparity among major players who have the resources to invest in such initiatives and small and medium enterprises with limited resources.

Recommendation	Implications
Establish training centres closer to employment clusters/food parks	▪ Establish training centers closer to employment clusters/food parks which would enable industry to access larger talent pool mitigating the risks associated with migration and attrition
Introduction of new tailor-made courses targeted towards the food processing sector	▪ ITIs should develop courses on operating and/or maintaining food machinery. ▪ Dairy plant machinery is another domain where skilled personnel at operational level are not available since no institute provides training in operating dairy machines.
Government owned training institutions should involve private players and operate on a PPP model	▪ Government owned training institutions like NDRI, Centre of Food Science & Technology to open avenues for private players in leveraging the existing training infrastructure to optimal capacities through PPP mode
Establish short term certification which will be recognised by the industry	▪ Establish a nodal body similar to MCI (Medical) or AICTE (Engineering), which will provide industry defined courses for skilling manpower in the country
Creation of database /repository of all the informal workers at entry level with their work history, skill sets and employers' feedback could be initiated	▪ For an employer, it will give an opportunity to find a worker with specific set of skill set for their operations.
Encourage employment of women in the industry	▪ The success of self-employment-based cooperative organisation — Shri Mahila Griha Udyog can be replicated in other parts of the country. ▪ The government can develop employment guarantee schemes specifically to women for this sector.
Enforcing of safety and hygiene standards will bring in more certified professionals to this sector	▪ Treat the sector as a major export-oriented industry and create favourable policies/incentives for exports.

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