

A Theoretical Review of Food Processing Industries in India

Abstract

Indian food processing industry is one of the high priority sectors which provide vital link between agriculture and industry. Theoretical review on the food processing industries in India has been discussed along with relevance of this sector. With a huge potential in agriculture sector, abundant live stock, cost competitiveness, growing demand, India is emerged as a sourcing hub for processed food. The share of FPI in GVA of manufacturing sector is 8.6 percent in 2014-15. Traditional sectors such as oil and fats, grain, sugar, dairy and others have major share in food processing industry in terms of output, employment and number of units whereas the emerging sectors such as fruits and vegetables, meat, beverages, and others etc are doing well in terms of net value addition, profit rate and capital intensity.

Keywords: Food Processing, Production, Employment, Exports, Growth, Emerging Sector.

Introduction

With the passage of time, huge transformation has been seen in agriculture with the commercialisation and creation of forward and backward linkages by agro- based industries. Agro processing is a crucial linkage between the informal agriculture sector and formal industrial sector which try to provide a way to integrate farming with processing activities to increase income of farmer and create employment for rural people (Kumar, 2010). Among various agro industries, food processing industries (FPI) is significant in terms of income, production and employment. A strong and dynamic food processing sector plays an important role in diversification of agricultural activities, improving value addition opportunities and creating surplus for export of agro-food products. Food processing and the accompanying value addition are central to the growth desired in the agricultural sector (Goswami, 2010). This sector includes food grains milling, edible oilseeds processing, sugarcane processing and milk processing that produce mass consumption goods and due to their high raw material intensity, such sectors intimately dependent on the performance of the agricultural sector which provide their raw material (Desai and N. V. Namboodiri, 1992). Apart from this, food processing industries are also significant in related to manufacturing and industrial growth. It has contributed 14 percent of manufacturing GDP with a value of 28000 crore providing employment to 13 million people directly and 35 million people indirectly. It contributes 6 percent of industrial investment and 13 percent of Indian exports (Saraswati, 2014).

In simple terms, a process of value addition to the agricultural or horticultural produce by different methods like grading, sorting and packaging is defined as 'food processing'. It is a technique of manufacturing and preserving food substances in an effective manner with a view to enhance their shelf life; improve quality as well as make them functionally more useful (MOFPI, 2017). "Food processing encompasses all the steps that food goes through from the time it is harvested to the time it arrives on the consumer's plate" (Saraswati, 2014). The scope of the agro-processing industry encompasses all operations from the stage of harvest till the material reaches the end users in the desired form, packaging, quantity, quality and price (Kachru, 2009). Processing of manufactured food products involves primary and secondary processing in which the former deals with conversion of raw agricultural produce, milk, meat and fish for human consumption through simple steps like cleaning, grading, sorting, packing etc. whereas secondary and tertiary processing industries usually deal with higher levels of processing where new or modified food products are manufactured through value addition (MOFPI, 2017).

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According to ministry of food processing industries, food processing industries sector registered 7.00 percent annual growth rate of during 2015-16 as compared to that of 4.90 per cent and 8.06 per cent in Agriculture and Manufacturing respectively. As an emerging sector of Indian economy, it comprises 8.80 per cent of GVA in Manufacturing and 8.39 per cent of GVA in Agriculture sector. As one of the major employment intensive segments, food processing industries has generated 11.69 per cent of employment in all registered factory sector in 2013-14 followed by Textile and Wearing Apparel sector. According to the latest Annual Survey of Industries (ASI) for 2013-14, the total number of persons engaged in registered food processing sector was 17.41 lakhs. During the last 5 years ending 2013-14, employment in registered food processing sector has been increasing at an Average Annual Growth Rate of 2.25 per cent. Unregistered food processing sector supports employment to 47.9 lakh workers as per the NSSO 67th Round, 2010-11 (Annual report, MOFPI, 2016-17). The unorganised sector dominates the organised one in terms of number of enterprises and employment where as in the production the latter has significant share (Rao and Dasgupta, 2009).

The industry's growth in the post-reform period is attributed to various fiscal relief and policy initiatives like the delicensing of food processing, liberal FDI limits, removing restrictions under the Monopolies and Restricted Trade Practices (MRTP) Act (Sidhu, 2005). Food processing is a sunrise sector and is highly labour-intensive. The higher income elasticity of processed food products, increasing nuclear families, raising participation of women in the labour force leading to higher opportunity cost of time and changing dietary patterns due to globalisation are mainly responsible for accelerating the growth of this sector and creating employment opportunities (Dev and Rao 2005). Since the share of women in this sector is traditionally large, the growth of this sector is expected to contribute towards women's employment (Rao and Gupta, 2009).

Objective of the Study

The main objective of the paper is to explore the views of other scholars on food processing industries in India.

Methodology

The paper is based on secondary work. This information is taken from different journals and annual reports of ministry of food processing industries.

Review of Literature

Many research studies related to the overview of food processing industries in India have been reviewed. The contribution of this very sector in terms of employment, production, income along with its growth aspects and relevance has been analysed.

Asha, (2013) discussed food processing industry as one of the emerging sectors of Indian economy along with other emerging sectors such as health care, organised retailing, tourism, insurance, entertainment etc as it qualifies the conditions which must be fulfilled by an emerging sector; firstly it has established its presence which is not large currently and secondly it is growing fast and holds the promise

to become an important sector in the near future with its growing potentials. Indian food processing industry is one of the high priority sectors which provide vital link between agriculture and industry. Indian food industry is currently stands at US\$ 39.71 billion and is expected to touch US \$ 65.41 billion by 2018. Indian food industry is export oriented and there are massive opportunities for medium scale enterprises. India's agricultural processed food exports are US \$ 18.65 billion during 2012-13. The government is currently setting up 30 Mega Food Park in five states which will provide more incentive for the sector to grow. Despite being one of the largest producers of food, only 1.3 percent of food gets processed in India while nearly 80 percent is processed in developed world.

Desai and Namboodiri, (1992) analysed the development and prioritisation of four selected food processing industries (FPI) including food grains, milling, edible oilseeds processing, sugarcane processing and dairy products. These industries produce mass consumption goods and accounts for more than 71 percent of output and capital employed among all FPIs. Based on different criteria and considerations related to efficiency and intensities of raw material, labour and working capital; each industry has been given ranks. The data has been collected from mainly three sources i.e., Annual Survey of Industries(ASI), Small Scale Sample Survey data of Reserve bank of India (RBI),and data from Micro Level Case studies. According to ASI data, edible oils mills have given the highest priority followed by grain mills, dairy products and sugar units. RBI data revealed that the highest priority should be given to grain mills, followed by edible oils, sugar and dairy products. Case studies on the other hand showed that dairy products should be given first priority for development followed by rice mills, edible oil and sugar industries. As the priority selection from the three data sources based on different opinions, the study revealed that the highest priority should be given to grain milling followed by edible oil processing, sugar industries and dairy products which is given by taking into account the rank considerations collectively of the three data sources. These industries are directly related to rural led employment oriented economic development as well as development of agriculture. Further the strategy for accelerated development is suggested which involves the location of food processing industries near the sources of raw material i.e., in rural areas, modernisation of technology of processing, increase in public and private investment, increase in subsidies ,setting up of different forms of industrial organisations etc, which will help to strengthen backward and forward linkages.

Kumar, (2010) analysed growth aspects, structure and performance of 15 major sub sectors of Indian food industry which further categorised as traditional and emerging sectors covering the period from 1989 to 2008. The study deals with certain objectives such as to compare the growth of food processing industries with all industries, to access the performance of different sub sectors within the industry and to examine the impact of growth of food

processing industry (FPI) on creation of employment and value addition. It is found that FPI registered growth rate of 7.4 percent along with growth of net value added (NVA) at 6.29 percent. Capital intensity has been increased in the sector. Traditional sectors such as oil and fats, grain, sugar, dairy and tea, coffee and others have major share in food processing industry in terms of output, employment and number of units whereas the emerging sectors such as fruits and vegetables, confectionary, meat, beverages, and others etc have less share in food processing industries. The emerging sectors are doing well in terms of net value addition, wage payment, profit rate and capital intensity. The overall food processing industry registered high profit rate on owned capital in some sectors such as wine, confectionary, soft drinks and bakery. Having immense potential for development in future, this sector requires proper implementation of policy initiatives taken by the government. The industry should be more labour intensive to meet the objective of employment and income generation that can be coupled with liberal labour laws.

Kumar et.al, (2011) found that the food manufacturing sector has grown consistently at an annual rate of over 7 percent from the study period of 1980-81 to 2002-03. Fruit and vegetable, meat, oils & fats and starch industries witnessed a significant acceleration in their output growth where as growth in dairy, fish, bakery and sugar industries decelerated considerably in the post-reform period. The grain milling, animal feed and confectionery industries experienced almost a similar growth in both periods. The share of workers in high-value food processing industries has been increased whereas it has been reduced in the Oils and fats, sugar and grain milling with overall increase in employment in the organised food manufacturing sector. The capital labour ratio grew at an annual rate of 7.5 percent and meat, fish, fruits and vegetables, starch and animal feed attracted higher investment. The mean value of output per unit of food manufacturing sector has increased which showed considerable scaling up in its operation over the last two decades. Dairy, meat, sugar, oils and fats, animal feed and fish industries has increased at larger scale where as operational scale of fruit and vegetable, starch, grain milling and bakery industries is comparatively much smaller, but has been improving consistently. The food manufacturing sector has strong backward and forward linkages with agriculture sector so it is likely to accelerate agricultural growth through diversification and commercialization of agriculture and also create new direct and indirect avenues of income and employment for rural people.

According to Murthy and Yogesh, (2014) India is emerged as a sourcing hub for processed food as total value of FPI is estimated to increase from US \$ 121 billion in 2012 to US\$ 194 billion by 2015. FPI is considered as one of the largest industries in India, ranked fifth in terms of production, growth, consumption and export. Inadequate infrastructure, lack of quality control, inefficient supply chain, seasonality of raw material, absence of

adequate policies and trained man power are the major constraints that the very industry has to overcome. Apart from this, microbial attack on food, maintenance of nutritional value and flavour, hygienic standards, attractive packaging, development of linkages and marketing channels, research and innovation etc. are other challenges for the growth of food processing sector. The favourable agro-climatic conditions, strong production and raw material base, growing demand and market scope, liberalized policy regime etc. provide opportunities for FPI to tap all potential in its different segments in India.

Singla, (2016) discussed the present status, problems and prospects and government initiatives in the Food Processing Industries (FPI) in India. The share of FPI in gross value addition (GVA) of manufacturing sector is 8.6 percent in 2014-15 which has grown by 5.78 percent. Exports of this sector have grown at a compound annual growth rate (CAGR) at 11.74 percent during 2011-2016. Major food companies working in India are Nestle India Ltd, Kellogg's India, Cadbury's India LTD, MTR Foods Ltd., Hindustan Lever Ltd., Godrej Food, ITC Agro, Coca-Cola, Britannia etc. The major sectors in FPI forms grain milling, sugar, edible oils, alcoholic beverages, fishery, poultry and meat, chocolates, fruits and vegetables processing and dairy products. FPI in India has received around US \$ 6.82 billion worth of FDI during 2000-16 and it has the potential to attract about US\$ 33 billion as investment over the next 10 years and also generate employments of 9 million person days. Foreign investors made plans to invest in Indian food processing namely Swiggy, Mondelez International, KKR & COLP, Henry Ford Health System, Pure Circle, Di Bella etc. Moreover priority sector lending, special budget allocations, 100 percent FDI, setting up of Food Safety and Standard Authority of India, and setting up Mega Food Parks & other attractive fiscal initiatives are taken by the government. The share of India in world food trade is increasing and FPI is growing faster than agriculture and manufacturing sector both. Low cost of skilled men power, strategic geographic location, abundance of livestock and potential in agriculture sector make India favourable for export of processed food.

Theoretical Review on Employment

Rao and Dasgupta, (2009) made an attempt to explore employment potential, nature of employment and quality of work. Higher income elasticity of processed food, urbanisation, changing consumption patterns, raising participation of women in labour force etc. accelerate the growth of this sector which further results in creation of employment opportunities and new jobs. The sector employs 18 percent of the total manufacturing employment and with lower capital investment more work is provided to the unemployed in many sub sectors like macaroni, noodles, grain mills etc. The output is dominated by processing of oil and fats, grain mills products, sugar and dairy products where as employment share is higher in subsectors like macaroni, noodles, sugar and other products. In the unorganized sector, large share of employment is in grain mill products. Other issues related to quality of work, gender aspects,

wages and working conditions of the workers has also been revealed which shows that unorganised sector is in worse condition than organised one. Numbers of long working hours, excessive burden, lack of sanitation and safe drinking water, no crèches, injuries during work, low bargaining power, poverty among workers etc. are the problems faced by labour employed in food processing industry. There is a positive contribution of this sector in employment generation which overcomes the worse working condition and other contradictions. Women are happily engaged in processing activities and provision of work throughout the years for rural masses is also quite beneficial. He feels some policy measures such as minimum standard conditions to work, insurance policies and other social security schemes for workers, provision of credit and technological help to small farmers in both sectors etc should be taken.

Manisha and Kaur, (2016) examined the employment opportunities in Indian food processing industry which hold major share in manufacturing sector employment in their study. It has been found that food processing industry (FPI) has the potential of attracting huge investment and generates employment. It provides direct employment to 13 million people with growth rate of 8.5 percent over past five years. A large part of Indian food market is dominated by unorganised players. Indian FPI witnessed rapid growth after Green Revolution which mainly depended on favourable climatic conditions, animal and marine resources followed by a growing demand for processed food. The FPI is moving in terms of employment of unorganised to organised sector due to demanding quality standard and technology adoption as employment in registered food processing units is increased from 2008-09 to 2012-13. In rural areas, unorganized sector is more dominated and women workers are largely engaged. FPI is more labour absorptive and less capital intensive providing more employment to workers among all other industries including textile, apparel and leather industry. Further there are state variations in terms of production and employment in FPI. For the achievement of sustainable level of employment, states should have to initiate policies for the provision of marketing facility, technological upgradation, and training and skills to workers.

Rai et.al. (2013) made an attempt to throw light on skills and employment generation of food processing industries in India. It is found that FPI is one of the emerging sectors of the economy with a CAGR of 8.40 percent from 2005-06 to 2009-10. FPI is considered the most appropriate industry for reducing the burden on agriculture sector by creating more employment opportunities for rural poor. Though the employment generation capacity of the sector is huge, yet the industry is not working at its potentials with highly unskilled labour force, 80 percent of which are having an educational level upto matric. As FPI is unorganised and labour is unskilled, most of the employers ignore new technologies and prefer manual labour, compromising on good manufacturing. Moreover value chain in FPI and value addition at different stages of processing requires skill sets,

advance techniques and infrastructural facilities. There is a wide gap between skill needed and skill gaps. Lack of skilled labour and trained manpower, inadequate cold storage facilities, technological backwardness are major challenges that are needed to be addressed properly.

Conclusion

The above discussed literature clears that food processing industries are quite significant in terms of production, employment, and investment and India has witnessed momentous growth in FPI after economic reforms which resulted in emergence of this very sector as vibrant and modern industry with growing potentials nowadays. Comparative advantage in agriculture sector, abundant live stock, suitable agro climatic conditions, cost competitiveness, growing consumer demand, liberalized policy regime etc have contributed to the growth of food processing industries in India. Although capital intensity has been increased in food processing sector after economic reforms, many studies found FPI more labour absorptive and less capital intensive providing more employment to workers among all other industries including textile, apparel and leather industry. Unorganised food processing sector dominates the organised one. Having strong backward and forward linkages with agriculture sector, food manufacturing sector is likely to accelerate agricultural growth through diversification and create new direct and indirect avenues of income and employment for rural people along with progressive improvement within the manufacturing sector itself. Inadequate infrastructure, lack of quality control, inefficient supply chain, seasonality of raw material, absence of adequate policies and trained man power are the major constraints has been found in literature related to food processing that the very industry has to overcome. Despite of this, food processing industry has immense potential for development in future which require proper implementation of policy initiatives taken by the government.

References

- Asha (2013), "Emerging Sectors of Indian Economy", *Global Journal of Management and Business Studies*, Vol. 3, No. 5, pp. 491-196. https://www.ripublication.com/gjmb_spl/gjmbsv3n5_07.pdf
- Desai, B.M. and Nambodiri, N. V. (1992), "Development of Food-Processing Industries", *Economic and Political Weekly*, Vol. 27, No. 13, pp. A37-A42.
- Dev, S. M. and Rao, N. C. (2005), "Food Processing and Contract Farming in Andhra Pradesh: A Small Farmer Perspective", *Economic and Political weekly*, Vol. 40, No. 26, pp 2705-2713.
- Goswami, R. (2010), "The food industry in India and its logic", *Economic and Political Weekly*, Vol. 45, No. 41, pp. 15-18.
- Government of India (2016-17), *Ministry of Food Processing Industries, Annual Report*, New Delhi, India. www.mofpi.in
- Government of India (2015), *Ministry of Food Processing Industries*, "Data Bank on

- Economic Parameters of the Food Processing Sector*, New Delhi. www.mofpi.in
- Kachru, R. P. (2010), *Agro-Processing Industries in India—Growth, Status and Prospects*, *Journal Indonesian Agro industries*, 13. <http://www.panoramaonline.org/media/docrepo/document/files/agro-processing-industries-in-india-growth-status-and-prospects.pdf>
- Kumar, P. (2010), "Structure and Performance of Food Processing Industry in India", *Journal of Indian School of Political Economy*, VOL. 22, No.1-4, pp 127-163. <http://www.ispepune.org.in/issue-2010/Structure.pdf>
- Kumar, S. and Kumar, R. (2010), *Food Processing - A Growth Oriented Evergreen Industry in the Non-farm sector as a Powerful Engine of Rural Development in India*, *The Indian Economic Journal*, Indian Economic Association, Special Issue, ISSN 0019-4662, pp 349-354.
- Manisha, and Kaur, Manjinder (2016), "Employment Generation and Food Processing Industry", Government of India, *The Sixth National Seminar on Industrial Statistics*, Kolkata.
- Murthy, S. and Yogesh, M. S. (2014), "An Overview of Food Processing Industry in India—Challenges and Opportunities", *International Interdisciplinary Research Journal*, Vol. 4, No. 5, pp 187-193. <http://www.oijrj.org/oijrj/sept-oct2014/24.pdf>
- Rais, M. Acharya, S. and Sharma, N. (2013) "Food Processing Industry in India: S&T Capability, Skills and Employment Opportunities", *Journal of Rural Development*, Vol. 32, No. 4, pp 451-478. <https://www.omicsonline.org/food-processing-industry-in-india-s-and-t-capability-skills-and-employment-opportunities-2157-7110.1000260.pdf>
- Rao, N. C. and Dasgupta, S. (2009) "Nature of Employment in the Food Processing Sector", *Economic and political weekly*, Vol. 44, No. 17, pp109-115.
- Sarswati (2014), "Export Potential of Food Processing in India", *International Journal of Computing and Corporate Research ISSN (Online)*, Vol.4, No. 2. <http://www.ijccr.com/March2014/6.pdf>
- Shelly, M. (2015), "Impacts of Food Processing Industry on Economic Growth, FDI and Exports of India", *Pacific Business Review International*, Vol. 7, Issue 12, pp 63-72. <http://www.pbr.co.in/June2015/8.pdf>
- Sidhu, M. S. (2005), "Fruit and Vegetable Processing Industry in India: An appraisal of the Post-Reform Period", *Economic and Political Weekly*, Vol. 40, No. 28, pp 3056-3061.
- Singla, M.L. (2016), "Food Processing Industry in India: An Evaluation", *International Journal of Advanced Research in Management and Social Sciences*, ISSN: 2278-6236, Vol. 5, No. 11, pp 129-137. <http://www.garph.co.uk/IJARMSS/Nov2016/11.pdf>