

Chapter – 4

Relevance of FPI in India

4.1 Introduction

Growing crops are futile without providing processing and value addition, especially when our farmers are struggling to find the ways to increase their income from farm¹, special in some areas where agriculture land has got saturated point. FPI provides remunerative prices to farmers, consumers and generate the employment opportunities. The future of the Indian farmer depends on the success of the food industry as India's prosperity is predominantly linked to the growth of incomes in the agrarian sector of the economy. Increasing liberalization of the economy has tried to lift the protection that the food and agriculture sector once enjoyed in the country. This has exposed the sector both to the opportunities and challenges of the global food economy. This chapter has discussed the relevance of FPI in the different fields such as: Employment Generation, Post-harvest Management of F&V, Food Security and Women Empowerment through FPI.

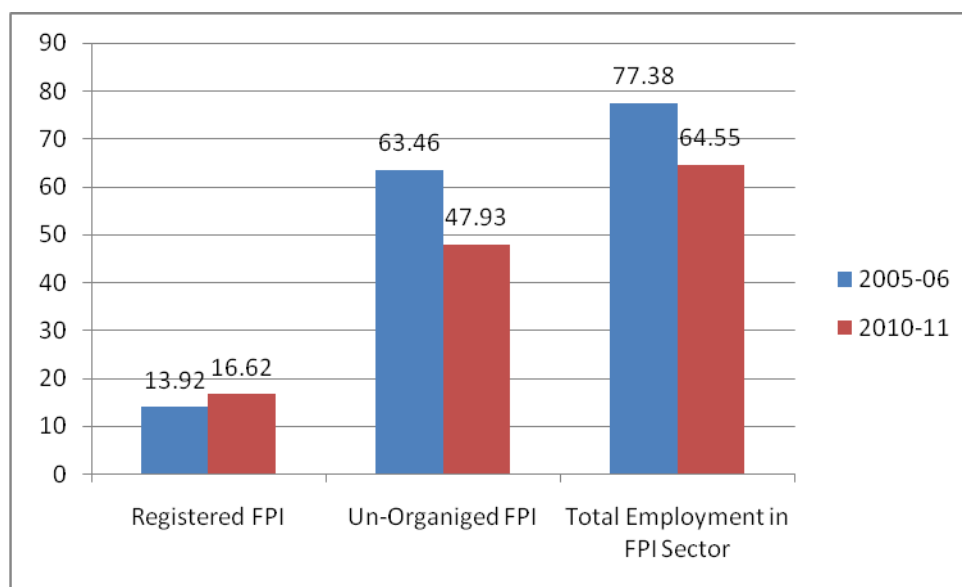
4.2 Employment through FPI

FPI and agro-processing have significant potential for the employment generation in India. We can see employment in FPI from 2001 to 2010 in table 2.2. Although, there is not a major change in the employment yet there are possibilities in this sector. In the developed countries, up to 14 per cent of total work forces are engaged in FPI directly or indirectly. However, in India, only about 3% of the work force finds employment in this sector revealing its underdeveloped state

¹ M.J. Prabhu, The Hindu (Aril 17, 2008)

and vast untapped potential for employment². As ASI, 2010, among all industries, food products generated the highest employment (12.2) followed by Textiles (11.5), Basic Metals (8%). In term of capital requirement, capital to output co-efficient food products is 0.19 implying food products requires less capital for producing one unit of output, in value term, as compared to other industries. Persons employed under the registered FPI have been increasing steadily over the years registering a CAGR of 3.6 % over a period of five years ending 2010-11. However, there has been a fall employment in unregistered sector of FPI. As per NSSO 67th Round Data (July, 2010- June, 2011), in the unorganized FPI 47, 92,561 persons were employed during the year 2010. Figure 4.1 shows that the number employment of organized FPI is less in compare to un-organized sector in total employment of FPI in (2010-11)

Figure: 4.1 Total Employments in FPI (Number in Lakh)



Source: Annual Survey of Industries, MOSPI (2011-12)

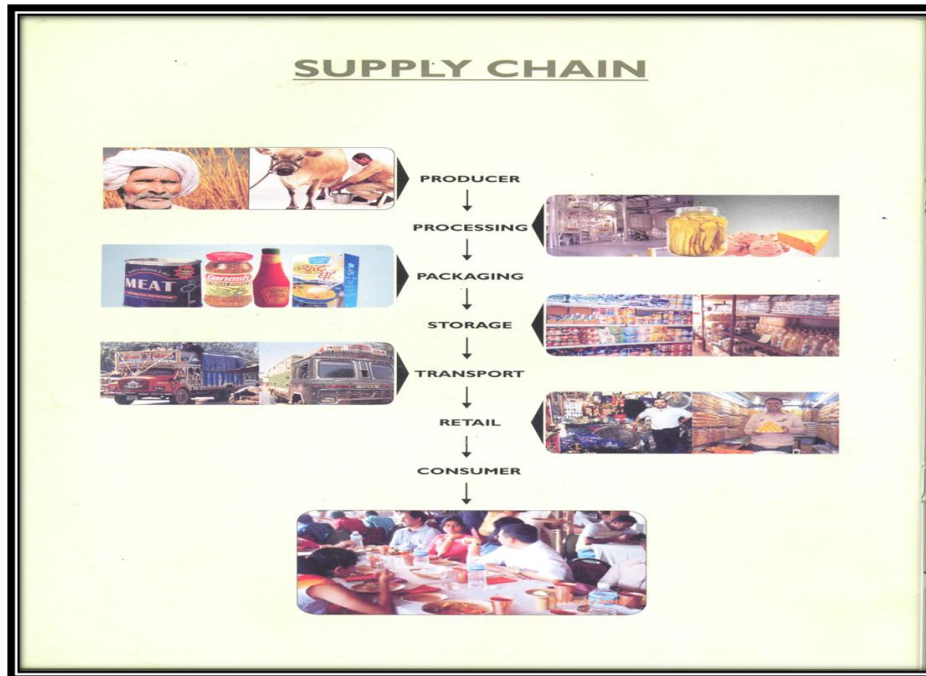
² Annual Report Ministry (2010-11) of Food Processing Industry.

FPI provides 14% and agro-industries 28% employment in the manufacturing industry which indicates their significant importance as employment provider. We do not include employment of food supply chain through BFL which is very high in comparison to this figure. Agro-industries are able to generate employment for 14 persons against an investment of Rs 100000; where as other industries generate employment for only 3 persons with the same investment.³ It has also the potential to generate significant employment as the multiplier effect of investment in FPI which is 2.5 times in other industrial sectors.⁴ Even within FPI, the employment intensity is extensively higher in the un-organized sector as compared to the organized sector for the same level of investment.⁵ FPI also provides more job to unskilled and semi-skilled labourers than some other manufacture industries, for example, to make pickle, grading, powdering, refining of other agricultural produce, milk and, milk product processing and many agriculture allied activity such as fishing and poultry also done especial in rural area. The employment generation through food supply chain from producer to consumer is also very high, in other words we can say by BFL (See in picture1).So all these activities generate employment for rural area and also helpful to reduce disguised unemployment in agriculture sector as well as increase real productivity of agricultural.

³ Vasant Gandhi, Gauri Kumar (2001).

⁴ Background Note on the Agenda Issues for State Food Processing industries Ministers, Conference 2009.

⁵ Report of the Working Group food processing Sector, Minister of Food Processing Industry, Govt. of India (2006-07).



4.3 Post-harvest Management of F&V through FPI

India has achieved self-sufficiency in food grain production and now the major concern is to achieve higher growth rate in agriculture sector as well as rest of the economy. The focus has now shifted to horticulture which besides imparting nutritional security, offers a great potential for efficient input use, higher returns per unit area, crop diversification, foreign exchange earnings and greater employment generation through post-harvest processing in food industry. Continuous focused attention and higher investment in horticulture during the last decade has paid rich dividends in terms of increased production and productivity of horticultural crops with manifold export potential. Post harvest management means, management of agricultural production after harvest to protect from the loss. F&V are perishable commodities, so during peak season there can be an excess supply of fruits and vegetables as a result of which, the prices of these commodities fall in the market forces the farmers to suffer losses. Another result of excessive supply in the peak season related to the wastage of fruits and vegetables 35% of total production due to traditional supply chain (see in Table 4.1) and (seen in picture-2)

Table: 4.1 Wastage of Fruits & Vegetables at Difference Stages in Percent

35	of total F&V
50	At farm level
10	At the APC level
3	Local trader level
3	Whole sale level
7	Broker level
25	Retail level

Source: Annual Report Ministry (2012-13) of FPI

Another example i. e., in Punjab, farmers throw their potato on the road, due to reduce price 20 paise per K.G. in 2011.⁶ For the F&V, there is no Price Policy, no Minimum Support Price (MSP), and no Buffer Stock facilities. So in these circumstances a vibrant FPI can lead to increasing farm gate prices and enhance self life & reduce wastage of agricultural products and increase employment opportunities especially in rural India. Postharvest management and processing of horticultural production has assumed considerable significance in the light of increasing the demand for F&V in India and rest of the world, even India's rank is second in the production of F&V in the world and production of F&V is slowly gradually increasing continuously, however per capita per day availability is declining, and wastage is a major case of declining per capita per person availability. The impact of this post harvest wastage (35%) on per capita per day availability can be seen in Table 4.2. On the base of production, India has

⁶ Economics Time, December 23, 2011.

achieved self-sufficiency in F&V; however, after these huge losses we are not able to achieved self-sufficiency and per capita availability of F&V. If we could have prevented the post harvest losses of 35 %, we could have attained the recommended level of 120 gram fruits and 300 gram of vegetables per capita per day by now. But due to this 35 % wastage of total production of F&V we are able achieved recommended F&V per capita per day. So If we are not able to minimized this wastage we cannot achieved recommended at 120 gram of fruits and 300 gram of vegetables per capita per day.

Table: 4.2. Impact of Post-Harvest Losses (PHL) on Per Capita Availability of Fruits and Vegetables*

(Grams per capita per day)

Items	Based on production	Less 35% PHL	Difference compared to production	Recommended PH Loss**
Fruits	173	112.45	53	-7.55
Vegetables	354	230.1	54	-69.9
Total	527	342.55	107	-77.45

* Based on 76.4 million tonnes of fruits and 156.3 million tonnes of vegetables during 2011-12 and population of 1210 was 1.21 in million.

** Recommended at 120 gram of fruits and 300 gram of vegetables per capita per day by the Indian Council of Medical Research (ICMR),

The wastage of F&V is still 35 per cent of total production for last many years, which is a major problem for agricultural development and food security point of view for India.

The F&V farming for processing is not only employment intensive, but also enhances the gross as well as net returns of the farmers⁷, however level of processing in the India is extremely very low at around 6 percent in compared to 60 to 70% in development countries and over 30% even in most of the other Asian, Latin American and developing countries (see in table: 4.3).The huge postharvest wastage, very low value addition in F&V production and low level of processing is i.e. only around 3 percent of total production in India, with corresponding loss of business opportunities as well as farmers. Every 1% reduction in wastage of F&V would translate to savings of US\$ 0.13 billion.⁸ Literature emphasises that, to avoid these types of losses, gaining value addition, FPIs, transport facilities and cold storage facilities are very necessary for post harvest management of agricultural products specially for F&V because, these are perishable commodities.

Table: 4.3 Level of Processing in Difference Country (Percent of total production)

USA	65
U.K	88
Malaysia	80
France	70
Philippines	78
India	6
China	23

Source: Annual Report Ministry of FPI. (2010-11)

⁷ S. Mahendra Dev N., Chandrasekhara Rao, Working Paper No. 57 June, 2004

⁸ Chilukuri Maheshwar (2000).

The production of F&V is increasing but, per capita availability is declining due to increasing population and in addition to this high wastage is also a major cause of declining per capita per day availability. Now a day's production of F&V is increasing for many years but, there is question mark on future that, will this production be continue or not due to many reasons such as, agricultural land which is declining due to increase in urbanisation, industrialisation and other multiple use of agricultural land, changing cropping pattern and diversified in to food grain, commercial crops like Bt cotton and Bio-fuel products from F&V. We have 45% of buffalo, 65% of cows and 17% goat of the world in India. So they also demand agricultural land for food. One of the major challenges for increasing agricultural production is global warming. According to M.S. Sawaminathan, "If 1 % of increase in global warming decreases 7 billion agricultural production (2009)." ⁹ is expected that the demand for fruits would go up from 56 million tons to 77 million tons (2010-2020), Vegetables 113 to 150 million tons (2010-2020) and 104 to 143 million tons (2010-2020) for milk, as projected by IARI. So in these circumstances if we want to sustain or increase availability of the F&V, we should be focused on post harvest management of F&V, by cold storage facilities, supply chain management and value addition in F&V by the FPIs, because only a vibrant food processing sector can lead to increase farm gate prices and income levels, enhance self life & reduce wastage of agricultural products. Cultivation of these crops is labour intensive and as such they generate lot of employment opportunities for the rural population¹⁰ in comparison to other food grain crops and commercial crops. In next session we will discuss the food security through FPI India.

⁹ N. Sambavsin Rao and Umesh Mishra (2009)

¹⁰ M.S. Swaminathan (2006),

4.4 Food Security through FPI

Food security, rural development and poverty alleviation are closely linked. According to Food and Agriculture Organization (FAO), “*Food Security means access and availability of food by all people at all time for a healthy and active life.*” Food utilization relates to the capacity of an individual to absorb and utilize the nutrients in the food he/she consumes, and is determined by practices, beliefs, eating habits, hygiene, sanitation and health. Forty or fifty years ago, food availability issues were the dominant part in such type of debates, but, largely following the work of Prof. Amartya Sen on famines, the debate is now characterized more by entitlement and access issues. So Now-a-days for the sake of the food security, access and availability both are equally important. Food availability is the sum of domestic production, imports (both commercial and food aid) and changes in national stock. Food access is a measure of people's entitlement to food, which is the amount they can produce (net of feed, seed and losses), purchase or otherwise receive e.g. through Targeting Public Distribution Systems (TPDS). So we can say, food availability and access both are equally important for food security.

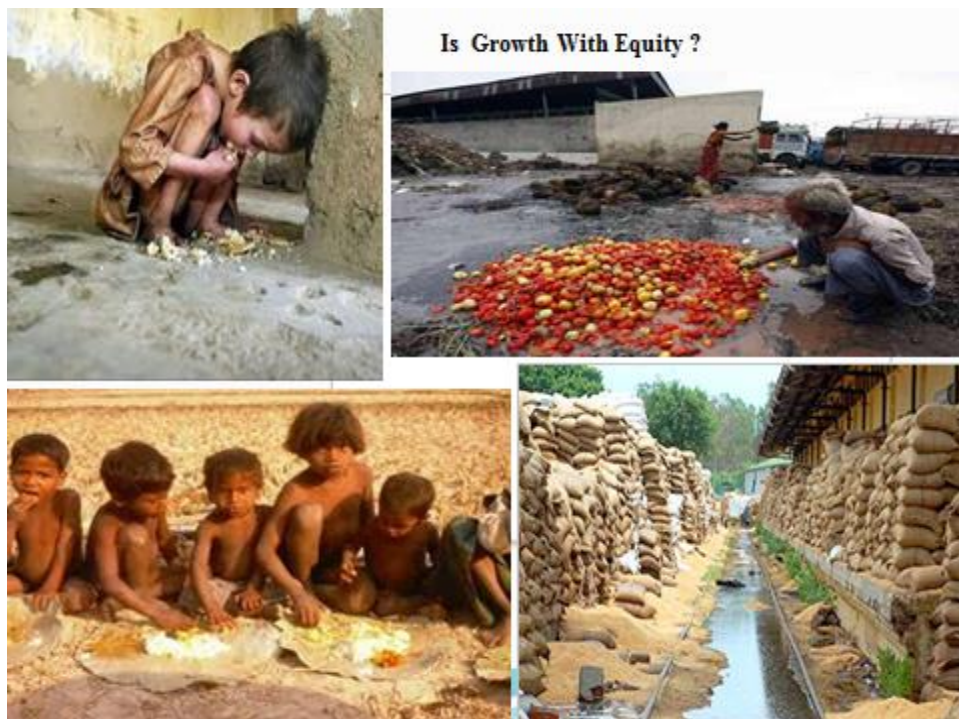
Now question arises, how FPI is helpful to increased food availability and access to the food security of India? As we have discussed, Indian agricultural production base is very strong. India ranks first in the production of milk, pulses and tea and second in the production of fruits & vegetables, rice, wheat and third position in major food crops in the world. India's production base is strong but at the same time wastage of agricultural production is massive due to traditional supply chain. So in these circumstances only a vibrant FPI can lead to increase availability of food production by enhancing self life and reduce wastage of agricultural products and increase availability of food produces and during this process through BFL it generates employment opportunities and access for food security. As we have discussed how FPIs

managed the F&V after post-harvest and how create extra availability and access to food security.

The problem of food insecurity needs to be handle from two angles one from supply side and second from demand side. From supply side by increasing production and productivity of agricultural and agriculture allied sectors and by improving supply chain management from farm to consumer through cold storage facilities, food processing, value addition. By post-harvest management (see in Table 4.3 and Picture 2) of F&V in which we can see the impact of post harvest losses on per capita availability of F&V per day in India. From the demand side which is depend on purchasing power and employment. India is self sufficient in the production of most of the agricultural products. However, the lack of purchasing power is the key issue in the area of food security in India, which limits the economic access to food. As the study has earlier discussed, around 22% population below poverty line, 836 million people live under less than Rs 20 per day, 50 % women are anaemic 42 % children are under malnutrition in India. That's why our government has taken many steps to solve these problems. For example some policies for agriculture development are related to agricultural inputs like irrigation facility, fertilizer, seeds through subsidies and some are related to marketing of agricultural products as Minimum Supports Prices (MSP) and some policies provide subsidized food through social protection programmes such as Public Distribution System (PDS), Integrated Child Development Scheme (ICDS), Mid-Day Meal, National Food Security Mission (2007) and one of major latest steps taken by government of India in form of Food Security Bill 2013. However, these steps are not enough for food security. As we have discussed it earlier, 14 per cent of total work force is engaged in food processing sector directly or indirectly in developed countries. However, India, only around 3% of the work force finds employment in this sector revealing its underdeveloped

state and vast untapped potential for employment. We can say FPI sector is very important from the employment point of view. Processed food can be modified to suit the nutritional requirements of groups such as the elderly, pregnant women, infants, young children and athletes. Such foods are characterized by a balanced composition of energy suppliers in the form of fats, carbohydrates

Picture -2



Picture shows important of Food Product Management

and proteins, and by a combination of vitamins and minerals composed according to the current state of scientific knowledge¹¹. So Food security can be achieved in a better & faster way by food processing because it not only focuses on management but also on availability & access.

¹¹ State of Indian Agriculture 2011-12, Server-3\3832AGRI\Final Report SIA-Press\Index.

4.5 How the Food Processing and Agro-Based Industries help to Women Empowerment

Women empowerment has become the key element in the development of any society and the Nation. Empowerment means as a process of awareness and sensitization of capacity building leading to greater participation, effective decision-making power and central leading to transformative motive action. Government of the India has also taken many initiatives over the time to empower the women educationally, socially, politically, and economically such as reservation in political seats. We know the education is the milestone for women empowerment in any states and country but in India 36.23 % women are illiterate. For such types of females women empowerment is more important and more difficult. So we need something more and special for such types of women empowerment, because these illiterate and uneducated women can't get employment in any government services, private and multinational companies, however, agro based and FPIs are the unique solution of these major problems because these industries also provides jobs to unskilled, semi-skilled, and uneducated women. According, to Ministry of Labour & Employment Labour Bureau Shimla, Chandigarh Government of India," only 5.5% women workers are skilled, 31.3% are semi-skilled and 63.3% are unskilled in selected agro-based and FPIs in India." In the Production of Common Salt industry, women were found employed only in the unskilled jobs. None of them was working in skilled or semi skill jobs. These industries also provides indirect job through backward-forward linkages which is not include in the study.

As we mention in early section FPI and agro-processing have significant potential for the employment opportunities. FPI provides 14 % and agro-industries 28 % employment in the manufacturing industry which indicates their signification as employment provider. Food and

agro-industries are able to generate employment for 14 persons against an investment of Rs 100.000, where as other industries generate employment for the only 3 persons for the same investment.¹² It also has the potential to generate significant employment as the multiplier effect of investment in FPI is 2.5 times than in other industrial sectors.¹³

FPI provided job to female directly by industries or company, some women are getting job through supply chain management, in other world words we can say through production linkages. At all India level it shows that 41% women are employed in these industries. The highest percentage of women employment was found in Processing, Canning & Preservation of Fish (51.2%) followed by Canning & Preservation of Fruits & Vegetables (42.4%), Malted Food (41.6%), Production of Common Salt (40.5%) & Manufacture of Cocoa Products (16.5%). In canning and Preservation of Fruits and Vegetables, the highest percentage of women employment (83.3%) was found in Andhra Pradesh and the lowest (13.9%) in Haryana¹⁴. In Processing, Canning and Preservation of Fish etc., the highest percentage of women. Employment (65.22%) was found in West Bengal and the lowest (37%) in Goa. In Production of Common Salt industry, the highest women employment (43.7%) was in Karnataka and the lowest (29.3%) in Rajasthan. In Manufacture of Cocoa Products Confectionery (Except Sweet Meat), the highest percentage of women employment (72.7%) was found in Gujarat State and the lowest employment (0.6%) in Himachal Pradesh. In Malted Food, Grinding and processing of Spices, Papads, Appalams, Sago and Sago Products, the highest percentage of women employment (72.7%) in Rajasthan and the lowest employment (3.4%) in Goa. The results reveal that in 5 coastal states the percentage of women employment to total employment have exceeded

¹² Vasant Gandhi, Gauri Kumar, 2001. Agro-industry for Rural and small Farmer Development: Issues and Lessons from India in International Food and Agribusiness Management Review.

¹³ Background Note on the Agenda Issues for State Food Processing industries Ministers, Conference, 2009.

¹⁴ Ministry of Labour & Employment Labour Bereau Shimla/Chandigarh, Government of India,(2009)

the All India percentage of 41%. In Kerala (57.5%), Karnataka (48.8%), Gujarat (45.8%), and Andhra Pradesh (45.6%) and in Tamil Nadu (45.2%) women workers are employed in these industries.

4.5.1 Case studies

Some case studies of food FPIs have proved that FPI is help full for women empowerment in India. Researcher has selected some case studies to study the role of FPI in women empowerment in India. For example some female are working Bharti Samuh Achaar SHGs which was established in 2002 in the Guda village, Blok Kanina, district Mahendergrah, in Haryana. I visited this SHG and its head Mamta Yadav told the researcher that we are only ten members in our SHG, we prepare and sale pickle only and five members are uneducated in the group they have not any problem to perform their duties. Sumitra Devi (Mangali Mohbatt village in Hissar) is a perfect example of empowerment through agro based industry although it is not food manufacturing industries. She belongs to a labourer family and started to make manke from wood for women. She made an organisation named Jagriti Mahila Samiti of ten women. Now it has near about 8000 member of this Samiti. She has got international fame through exhibition in Pakistan. Pak-Industry minister has invited her to train women¹⁵.



Women are working in FPI

¹⁵ Danik Bhashar, March 8, 2012.

Another example at national level, Lijjat Papad CompaShri Mahila Griha Udyog Lijjat Papad Company was started in 1959 for manufacturing of various fast moving consumer goods which is popularly known as Lijjat. It was started by seven semi-literate Gujrati housewives from Mumbai and initial capital of the company was Rs 80 borrowed from Chhagan Karamsi Parekh. Initially, women started their business by making four packets of papads. Now a days, Lijjat is making several products Papads, Khakhra, Applam, Masala, Vadi, Wheat Flour, Bakery products, and Chapati etc. Currently, Lijjat has an annual turnover of around Rs. 650 crores including Rs. 29 crores of exports. The business of Lijjat is only expanded by women. The members of Lijjat are only women, they are the owners and equal partner in sharing both profit and loss. Men are only salary taking employees such as accountants, security guards and drivers. Lijjat is providing the employment around 42,000 people. The members of Lijjat are called as sister members. This organisation promotes and empowers the sister-members educationally as well as economically. It also provides Chhaganbapa Smruti Scholarships to daughters of the sister-member. It is also contributing in social services as distributing nutritious food to poor children, contributing for conducting community marriage and organizing health camps etc. Other example in Southern Karnatka total 16 agro-processing centres have been established to promote value addition and processing of agricultural produce. Out of these centres, six are fully managed by women Self Help Groups¹⁶. Patrica Naryanan is also a great example of women empowerment and self-reliance who started a business by selling only one cup tea because of failure of her marriage. But now after the struggle of 30 years she is the owner of food chain in Chennai. Two hundred people are connected with this business. Her life style has got changed.

¹⁶ Prabu M.J, The hindu April 17, 2008

This new culture is provided by the women groups where they are responsible for making decision to identify consumers or market and credit management ¹⁷

Many SHGs of women members are engaged in this industry and getting empowerment. These SHGs are making food products such as pickle, biscuits, milk associated products, spices etc. at small scale.¹⁸ If women are provided the chance of employment opportunities, then definitely they will achieve physical, economical, social and mental strength. As we all know the adage *Money Makes the Mare Go*. It means when they will get employment, they will get financial security for which they have been dependent on man since the ages.

4.6 Factors Driving Demand for Processed Foods

4.6.1 Changing age profile- A relatively larger share of young population in India in comparison to others countries which have the ability to spend on processed foods.

4.6.2 Increase in income- The middle and upper middle income groups growing at a faster rate than in developed countries resulting in higher spending on food and also switching over to animal protein and processed foods from staples.

4.6.3 Social changes- Increasing number of nuclear family system and working women so they have not time to prepare food for self that why they demand “Ready to Eat” food.

4.6.4 Life style factors- Increasing health consciousness and need for convenience food

¹⁷ Rajagopal (May 1999), “Empowering Rural Women Groups for Strengthening Experiments”; *Development in Practice*, vol. 9, no. 3.

¹⁸ Kicker Loveleen (2009), “SHGs and Women”, in Sawalia Bhari Verma and others (eds.), *Micro Finance and Poverty*, Shree Publishers, New Delhi.

4.6.5 Organized Retail outlets- These provide the much needed forward linkages with the rest of economy.

4.7 Opportunities

Large crop and raw material base in the country due to agro-ecological variability offers vast potential for agro and food processing activities, Integration of developments in contemporary technologies such as electronics, material science, computer, bio-technology etc. which offers enormous scope for rapid improvement and progress, vast domestic market, availability of raw material. Social acceptability of food and agro-processing as important area and support from the central government, vast network of manufacturing facilities all over the country and opening of global markets which may lead to export of our developed technologies and facilitate generation of additional income and employment opportunities.

4.8 Challenges

1. High requirement of working capital.
2. Inadequate and improper storage facilities for food-grains, which are often stored outside under tarps that provide little protection from humidity and pests.
3. Insufficient cold storage and cold chain transportation system is a major cause for F&V and other perishable products to rot.
4. Poor roads and inefficient transport systems can cause massive delays. This in turn causes decay of temperature sensitive produce.

5. Poor roads and inefficient transport systems can cause massive delays. This in turn causes decay of temperature sensitive produce and inadequately developed linkages between R&D labs and industry.
6. Competition from global players and Lack of education and training on new techniques, technologies and agricultural products.
7. Loss of trained manpower to other industries and other professions due to better working conditions prevailing there may lead to further shortage of manpower.
8. Limited reach of Mandis (Markets), which are currently the point of aggregation for agricultural produce. This poses problems for small farmers who don't have proper transport facilities at their disposal and have to travel an average of 12 km to the closest Mandi.
9. Multiple layers of middlemen between the farmer and the end consumer, driving up prices and reducing bargaining power and price transparency for the farmers. These intermediaries have led to a cost inflation of ~250% (over the cost of production).

4.9 Constraints

FPI is facing many constraints such as; non availability of adequate critical infrastructural facilities, cold chain, packing and grading centers, lack of adequate quality control and testing infrastructure, inefficient supply chain, shortage houses of raw material from the agricultural sector, seasonality of raw material supply, high inventory carrying cost, high taxation, high packaging cost, Inadequately developed linkages between R&D labs and industry competition from global players. A one of major constraint from demand side is that, affordability and preference for fresh F&V is more than the processed food.