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Food360°

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The Next Wave of Opportunities

KNOWLEDGE PAPER

Promoting Entrepreneurship in Food Processing Sector for Inclusive Market Oriented Development (IMOD)

Strategies & Support Mechanisms

ICRISAT & FICCI

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Message from Ministry of Food Processing Industries



India is a richly endowed agricultural nation. It has a tenth of world's arable land and a fifth of world's irrigated land. We are major producer of fruits and vegetables and top producer of milk. We have a domestic market of over a billion consumers with 300 million middle class. Preferences and practices in consumption are changing very fast in favour of processed food. Abundant supply of raw materials, increased in demand and fiscal incentives offered by the government has impacted food processing sector positively in the last couple of years. Today the food processing sector growing at a faster rate than agriculture sector. This implies that more and more agriculture produce is now getting processed. However, we need to accelerate the trend as the level of wastage at harvest and post-harvest stage is unacceptably high.

Food processing industry in India is increasingly seen as a potential source for driving the rural economy as it brings about synergy between the agriculture, industry and consumer. A well-developed food processing industry is expected to increase farm gate prices, reduce wastages, ensure value addition, promote crop diversification, generate employment opportunities as well as export earnings. Even though India is one of the largest food producers in the world, it only accounts for 2.0 per cent of total worldwide food trade. We have not been able to tap the potential of overseas food market despite our potential.

I am happy to note that the theme of the 3rd edition of FOOD 360 is "The next wave of opportunities". FICCI is also bringing out two Reports; FICCI-KPMG report on "Enhancing Competitiveness of Indian Food Chain" and FICCI-ICRISAT Report on "Promoting Entrepreneurship in Food Processing Sector for Inclusive Market Oriented Development (IMOD) - Strategies & Support Mechanisms". These two reports identify challenges and also convey the opportunities for the concerned stakeholders. I hope the deliberations of the conference and reports will provide further impetus for the growth of the sector.



SIRAJ HUSSAIN

Secretary, Ministry of Food Processing Industries

Government of India

Message from the conference General Chair



The Indian Agriculture and Food Processing Industries are seen as future business opportunity by many countries around the world. India is no exception in this thinking and more so Andhra Pradesh. As agriculture oriented country, it is a great opportunity for India to use its strengths to the fullest in developing the sector to stay at the forefront on a global stage by firmly establishing these two industries in the economy.

Given the important role played by the sector, the government has accorded its highest priority to ensure higher growth trajectory and better returns to the farmers. However, the sector is yet to realise its full potential in terms of yield, processing and exports. Given the country's Agri-climatic conditions, the sector fulfills only 50-60 percent of the potential yield for most crops. Private equity participation, PPPs, better marketing and branding that drove this sector in several developed and middle-income countries are yet to articulate its presence in India. Despite good volumes of produce, India's share in global exports is below par compared to the top agriculture and food processing countries.

To examine the sector and its opportunities, ICRISAT, KPMG and FICCI have jointly developed the third edition of FICCI-FOOD 360 Conference Knowledge Report. This effort builds on the previous first and second editions of it and provides detailed analysis and suggestions in a 360 degree holistic approach to an integrated road map for the sector.

I hope this report will be an opportunity to explore fresh avenues for the development by every stakeholder of this sector.



J A Chowdary

Conference General Chair - FOOD 360

Co-Chair, FICCI AP State Council

& Executive Chairman - Talent Sprint

Message from the Programme Chairman



From being a net importer of food a few decades ago, India has successfully emerged as a major exporter, with the help of giant strides taken by its agriculture.

With the increasing per capita incomes and growing awareness, today's consumers are seeking better quality and more variety in their food products. They are willing to spend more on products that offer convenience while buying and using. Food safety is becoming an area of concern for them.

Much like the way agricultural production system responded to the need for more food in the past, this next wave brings an opportunity to build businesses around meeting these new consumer preferences.

Besides the obvious opportunity of adding value through food processing and packaging, there are several other possibilities in the areas of agri services, farm mechanisation, post-harvest management, quality testing services, and supply chain management. These interventions have immense potential to raise farm incomes as well, contributing to an area of national priority.

Between the two complementary knowledge reports prepared by ICRISAT and KPMG on behalf of FICCI, the whole 360 degrees spectrum of opportunities is fully covered for the benefit of new and old entrepreneurs alike. They also recommend a policy framework that can create a conducive environment to harness the entrepreneurial energies in the sector.



S. Sivakumar

Programme Chair, FICCI FOOD 360 &

Group Head - Agri & IT Businesses, ITC Limited

Message from the Director General, ICRISAT



On behalf of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), allow me to extend my warmest greetings to the Federation of Indian Chambers of Commerce and Industries (FICCI) for organizing this year's Food 360o with the theme "Next Wave of Opportunities." Through this event, FICCI is providing an excellent platform for networking among stakeholders from all segments of the agri-food processing industry.

We are pleased to be associated with this initiative as it is consistent with ICRISAT's new strategic plan to 2020 which is based on the Inclusive Market-Oriented Development (IMOD) approach. The first element of IMOD is harnessing markets specifically to benefit the poor, carrying them from impoverished subsistence farming to prosperous market orientation. Conventional value chains do not focus on the poor. Without this focus, larger-scale farmers and wealthy middlemen tend to capture most of the market opportunities.

The "fuel" of the IMOD engine and its second element is designing innovations for the poor. To enable the farmers to become a part of the chain, an inclusive, multi-level stakeholder partnerships need to be nurtured. The approach must address the issues at the grassroots level, with the farmers as the focus of such interventions. The third major element of IMOD is managing the risks that poor people face. Risks are especially high for smallholder farmers, because they have fewer resources to fall back on if something goes wrong. Diversification is therefore essential for risk management. IMOD provides for developing such a safety net through innovative partnership opportunities and interventions. As their incomes increase through IMOD, smallholder farmers become more and more able to stand on their own, becoming more resilient.

Food processing is one of the most important links in the agricultural value chain that enables value addition and reduction of post-harvest losses of agricultural produce. Enabling farmers to become part of this link by engaging them as entrepreneurs and through small- and medium-term enterprises (SMEs) can help in the development of a vibrant agrarian and rural economy.

With this in mind, this knowledge report entitled "Promoting Entrepreneurship in Food Processing Sector for Inclusive Market Oriented Development (IMOD) – Strategies and Support Mechanisms" has been developed to provide the prospective entrepreneurs with an overview of the benefits of food business incubators, through successful case studies of food incubation ventures promoted through ICRISAT's Agribusiness and Innovation Platform (AIP) . The key areas of interventions identified to promote entrepreneurship in this sector are: business incubation, post-harvest technologies and product development, food safety, and funding. ICRISAT believes that the use of appropriate strategic tools and mechanisms at each of these identified areas of intervention shall be the key towards successfully promoting entrepreneurship in the food processing sector for achieving IMOD.

We appreciate this initiative of FICCI and value the association of our Institute as a Knowledge Partner in this important event. With that, I wish you all the success in this activity!

William D. Dar

Director General

ICRISAT

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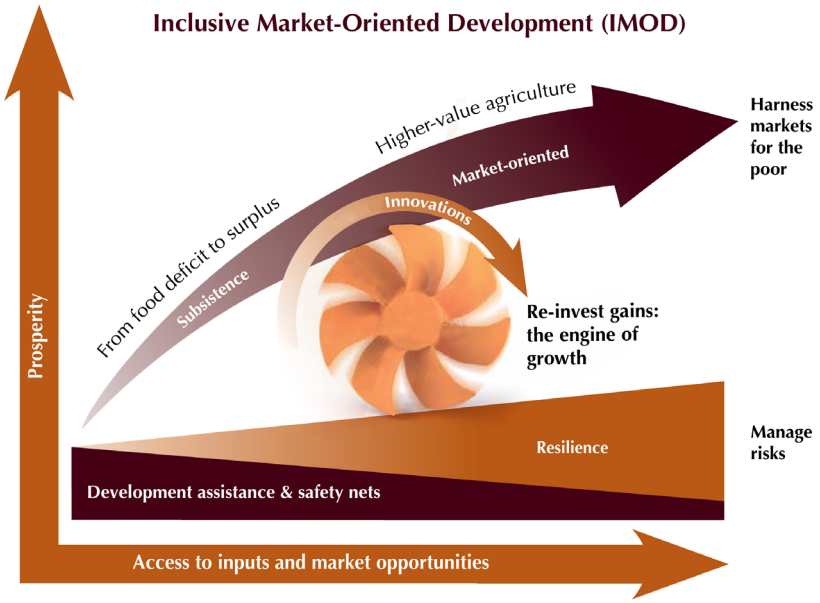
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1. Background

The need for linking farmers to markets has been identified as one of the most important intervention strategies in the agricultural value chain in order to create impacts in progression towards prosperity. This calls for the creation of an ecosystem that shall catalyse appropriate linkages of the farmers to the markets, ensuring maximum benefit to the poor.

The key components required for development of such an ecosystem has been enumerated in International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)'s strategic plan to 2020 and is based on the development pathway called Inclusive Market Oriented Development (IMOD). This is a cycle in which value-adding innovations (technical, policy, institutional and others) enable the poor to capture larger rewards from markets, while managing their risks. There are two major dimensions of IMOD (**Figure 1**). The curve represents the power of market opportunities that offer prosperity to smallholders. The platform is the risk management dimension, which highlights the need for more effective social assistance programs to help the poorest of the poor, especially the smallholder farmers, connects to market, in a way that builds their own resilience rather than creating dependency.

Figure 1. IMOD in action



Source: ICRISAT (2011)

Thus, IMOD serves as a dynamic progression from subsistence towards market-oriented agriculture. This pathway reduces poverty, since the markets create demand for a wider diversity of high-value foodstuffs and agro-industrial products. This stimulates agro-enterprises that raise rural incomes and create opportunities beyond agriculture. By enabling farmers to become entrepreneurs and engage with the forward components of the agricultural value chain, will help in bringing an improvement in the productivity of the sector and improvement in the livelihood of the millions which depend on it. SMEs and start-up ventures in the food processing sector therefore need to be promoted to tap into vast opportunities currently available in the forward link of the chain.

Why the need for promoting entrepreneurship in the Food Processing Sector?

The activity of food processing is one of the most important links in the agricultural value chain that enables value addition and reduction of post-harvest losses to agricultural produce.

Food processing is one of the most heterogeneous sectors of manufacturing covering grain, meat products, fruits and vegetables, marine products, dairy products, sugar, edible oils, and beverages. A vibrant agrarian and rural economy requires establishing forward linkages in the form of the food processing industries. Such linkages improve the income levels of the producers and help reduce wastages, which are crucial for food and livelihood security. The Central Institute for Post-Harvest Engineering Technology (CIPHET) has assessed that the economic value of harvest and post-harvest losses of major agricultural products are estimated to be Rs. 44,000 crores annually[1].

Further, a look at the trends in percentage break-up of calorie intake by food group on an all-India basis gives us an indication of the consumption pattern of different food categories and also shows the opportunities that exist for the food processing industry to explore and develop new innovative nutritionally balanced food products to address the calorie needs of the Indian population. **Table 1** shows the percentage break-up of calorie intake over nine food groups –cereals, roots and tubers, sugar and honey, pulses, nuts and oilseeds, vegetables and fruits, meat, eggs and fish, milk and milk products, oils and fats, and miscellaneous food products and beverages – for rural and urban India for four years spanning the period 1993-94 to 2009-10.

Table 1. Calorie consumption in rural and urban areas

(In percent)	Rural				Urban			
Share of calorie intake from food group	1993-94	1999-2000	2004-05	2009-10	1993-94	1999-2000	2004-05	2009-10
Cereals	71.03	67.55	67.54	64.16	58.53	55.05	56.08	55.01
Roots & Tubers	2.65	3.25	2.95	2.78	2.54	2.9	2.82	2.59
Sugar & Honey	4.8	5.14	4.78	4.61	6.21	6.15	5.69	5.66
Pulses, nuts & Oilseeds	4.92	5.46	4.98	4.54	6.05	6.86	6.68	5.94
Veg & Fruits	2.02	1.97	2.23	1.84	3.26	2.94	3.17	2.62
Meat, Eggs & Fish	0.68	0.77	0.76	0.72	1.02	1.12	1.05	1.00
Milk & Milk Products	6.15	6.17	6.42	6.79	8.00	8.23	8.61	9.37
Oils & Fats	5.34	7.37	7.36	8.53	8.79	11.24	10.58	11.92
Misc. food, etc.	2.41	2.32	2.98	6.04	5.6	5.52	5.32	5.87

Source: NSS 66th Round Report, MOSPI, Government of India

The share of cereals in total calorie intake from the nine food groups has declined over the 16-year period by nearly 7 percentage points in the rural sector and by about "3.5" percentage points in the urban areas. The share of oils and fats has risen by 3 percentage points in both sectors. The share of milk and milk products has grown by about 1.4 percentage points in the urban sector but only 0.6 percentage points in the rural sector. The contributions of vegetables and fruits, as well as sugar and honey, appear to be falling over time, especially in urban India, while the contribution of meat, eggs and fish shows a slight rise followed by a fall. The share of energy intake contributed by cereals was about 60 percent for rural India and about 50 percent for urban India. Non-cereal food contributed about 40 percent of calorie intake in rural India. The percentage break-up of this part of calorie intake (the part coming from non-cereal food) was: oils and fats: 23 percent; miscellaneous food, food products and beverages: 20 percent; milk and milk products: 16 percent; sugar and honey: 11 percent; pulses, nuts and oilseeds: 11 percent; roots and tubers: 9 percent; vegetables and fruits: 7

[1] http://www.ciphet.in/upload/file/Vision_2050%20revised%20on_6-7_13.pdf. Last accessed on October 28, 2013.

percent; meat, eggs & fish: 3 percent. Non-cereal foods contributed about 50 percent of calorie intake in urban India. The percentage break-up of this part of calorie intake was similar to that in rural India, though the share of roots and tubers was noticeably lower at 6 percent.

Given the above background of consumer trends in calorie intake across different food categories, the Indian food industry has a major opportunity and role in addressing the nutritional requirements of the consumers and increase the share of the consumer spending in foods, by tapping into the non-food expenditure with innovative products and processing technologies.

However it is important to ensure that further growth of the new age food industry needs to be inclusive and include all the stakeholders, especially the smallholder farmers. It needs to address the changing consumer aspirations, the emerging needs of the society, empower the farmers, and leverage upon the strengths of the available pool of talented young population, especially women, with entrepreneurial drive to bring in a self-sustaining economy that links agriculture with the food and agribusiness industry. This calls for the right strategies and mechanisms for fostering innovative self-sustaining entrepreneurial business models. To facilitate the foundation of such models, ICRISAT has established the Agribusiness and Innovation Platform (AIP). As can be seen from **Box 1**, the Platform allows for multi-party interaction and partnership development that can aid in the promotion of agribusiness ventures based on the value chain.

Similar such strategies and innovative mechanisms is the need of the hour for promoting entrepreneurship in the Food Processing Industries for IMOD.

Box 1. Platform for technology transfer and nurturing innovations

ICRISAT engages with the innovators, entrepreneurs and private sector through the AIP. The AIP aims to enhance agricultural prosperity through innovation, entrepreneurship and partnerships. It acts as the umbrella body for ICRISAT's three flagship programs:

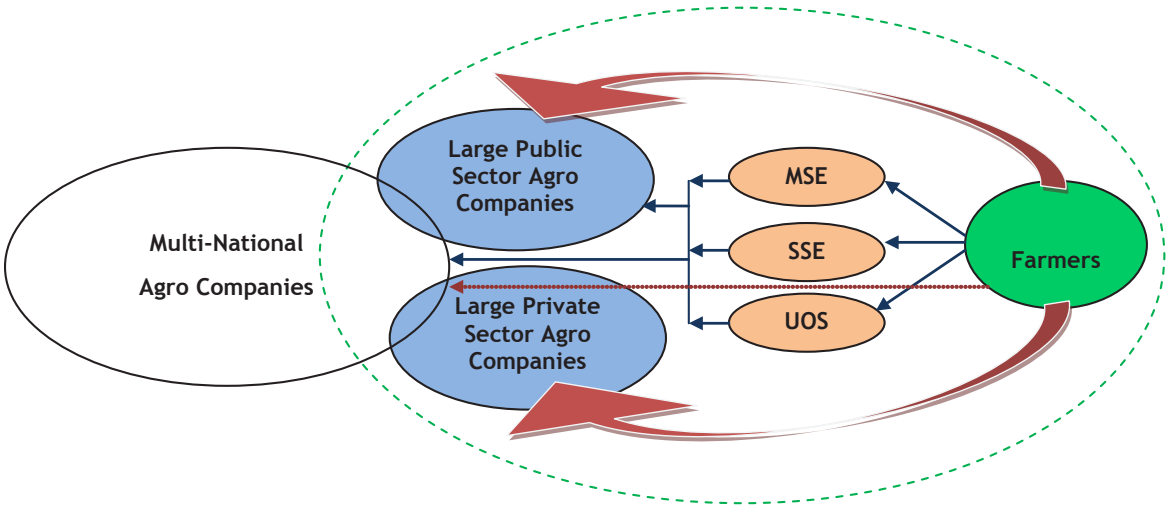
- Innovation & Partnership (INP) program: focuses on developing strong collaborative research partnerships with public, private and allied sectors to benefit small holder farmers across the agricultural value chain.
- NutriPlus Knowledge (NPK) program: aims to achieve growth through value addition and post harvest management in the agri-food sector through innovative processing and product development.
- Agri-Business Incubation (ABI) program: promotes entrepreneurship in agriculture and nurtures innovations.

Source: AIP-ICRISAT (2013)

2. Challenges to entrepreneurship in food-processing sector

The food processing sector represents the front end of the agricultural value chain. With a growing population and new trends emerging in the sector, there remain plenty of business opportunities in this part of the value chain in India. Broadly, the Indian Food Industry consists of many players, both domestic and international. Under the domestic sector, there are large public and private agro and food processing companies along with smaller players who are Medium Sector Enterprises (MSE), Small Scale Enterprises (SSE) and enterprises in the Un-Organised Sectors (UOS), as can be seen in **Figure 2**. The bigger and larger multi-national agro companies in the external (foreign) markets provide business opportunities for the entrepreneurs in the MSE, SSE and UOS. These entrepreneurs in-turn are the vital cog in the wheel in connecting farmers with the value chain. Helping farmers become entrepreneurs themselves will therefore help improve their livelihood and productivity of the agricultural sector.

Figure 2. The model of the Indian Food Industry and channels of linking farmers



Source: Authors

Globally, it is seen that entrepreneurial activity is one of the key pillars of the economic growth and which has helped in the development of many of the economies. An entrepreneurial venture generates employment and income into the local economy; this economic cycle and the generation of demand and supply from the local economy outward leads to more value creation, thus acting as a catalyst for bringing in structural changes and supporting the growth of the economy and national competitiveness[2]. Food processing based start-ups and Small and Medium Enterprises (SMEs) can play a vital role in poverty reduction; connect farmers to the markets and the private sector. Formal SMEs contribute up to 45 percent of employment and up to 33 percent of the GDP in developing economies; these numbers become significantly higher once the contributions from the informal sector SMEs are also added[3].

Modern agriculture and its market demand-driven approach offers plenty of scope for agribusiness ventures to be setup at any point on the long food value chain. Given that such ventures are played out in a live and at times unpredictable environment involving natural and artificial entities, it faces the following challenges.

[2] 2010 Global Report, Global Entrepreneurship Monitor. Retrieved on June 2, 2011

- **Motivation:** Agribusiness is a challenging field with considerable risks and varying returns, which might take many years to be realised. The difficulty in accessing credit for agribusiness ventures in the initial stages, government clearances, regulatory issues etc. can be major deterrents for a newcomer. This is further exacerbated by poor management skills, lack of access to raw materials and inadequate scientific knowledge.
- **Knowledge:** The entrepreneur should be able to access relevant information regarding the nature of the business and its social and financial benefits. Apart from the scientific and technical details, the entrepreneur should also be equipped with knowledge of financial management, people management and should be aware of the government policies, regulatory issues that can have a bearing on the start-up venture. Networking also plays a vital role in ensuring the viability of the firm and in getting entry into the market.
- **Skills:** It may not be possible for entrepreneurs to have all the skills required for their respective enterprise; however, they need to possess certain generic skills required for any entrepreneur, including self-motivation, self-confidence, work ethics, time management, administrative skills, and knowledge of sales, marketing, and finance, and other skills specific to their own venture. Currently, the avenues available for an Indian entrepreneur to acquire skills through adequate training and/or hand holding support in agribusiness ventures are very limited.
- **Market/Business development:** In today's competitive scenario, marketing and selling one's product is not an easy task. The challenges involve finding a suitable market, developing the marketing channels, and reaching the end consumers. Be it for an existing or a developing market, these are formidable challenges faced by any entrepreneur. Product development and acceptability amongst customers remain critical challenges that are faced in the food processing sector.
- **Finance & Risk mitigation:** The development of agribusiness and agro-industries will require a substantial infusion of fixed investment and working capital. Early stage start-ups and SMEs generally find it difficult to get access to finance. Public sector banks look for adequate collateral and credit worthiness of the entrepreneur before funding and are generally risk averse. The risk mitigation mechanism is also not well developed in the sector, thereby leaving agripreneurs and farmers in a difficult position.
- **Regulatory issues & Business environment:** The new Indian regulatory scenario, following the introduction of FSSAI regulations, poses several challenges for entrepreneurs. Restrictions on marketing, futures trading, export and import of various items has the potential to constrain innovative agribusiness ventures. Business facilitation environment within the country is yet another challenge. Access to relevant information and quality infrastructure is lacking and this leads to additional costs for the entrepreneur. **Figure 3** highlights the ease of doing business in India. Based on various parameters, India is ranked 134 amongst 189 economies on ease of doing a business; Singapore is ranked #1 in the latest scores which has been released in *Doing Business 2014* report of the World Bank[4].

[4] World Bank. 2013. Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises. Washington, DC: World Bank Group. Retrieved on October 31, 2013 from http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB14-Full-Report.pdf

Figure 3. India in *Doing Business 2014*

INDIA		South Asia		GNI per capita (US$)	1,530
Ease of doing business (rank)	134	Lower middle income		Population (m)	1,236.7
Starting a business (rank)	179	**Registering property** (rank)	92	**Trading across borders** (rank)	132
Procedures (number)	12	Procedures (number)	5	Documents to export (number)	9
Time (days)	27	Time (days)	44	Time to export (days)	16
Cost (% of income per capita)	47.3	Cost (% of property value)	7.0	Cost to export (US$ per container)	1,170
Minimum capital (% of income per capita)	124.4			Documents to import (number)	11
		Getting credit (rank)	28	Time to import (days)	20
Dealing with construction permits (rank)	182	Strength of legal rights index (0–10)	8	Cost to import (US$ per container)	1,250
Procedures (number)	35	Depth of credit information index (0–6)	5		
Time (days)	168	Public registry coverage (% of adults)	0.0	**Enforcing contracts** (rank)	186
Cost (% of income per capita)	2,640.4	Private bureau coverage (% of adults)	19.8	Procedures (number)	46
				Time (days)	1,420
Getting electricity (rank)	111	**Protecting investors** (rank)	34	Cost (% of claim)	39.6
Procedures (number)	7	Extent of disclosure index (0–10)	7		
Time (days)	67	Extent of director liability index (0–10)	4	**Resolving insolvency** (rank)	121
Cost (% of income per capita)	230.7	Ease of shareholder suits index (0–10)	8	Time (years)	4.3
		Strength of investor protection index (0–10)	6.3	Cost (% of estate)	9
				Recovery rate (cents on the dollar)	25.6
		Paying taxes (rank)	158		
		Payments (number per year)	33		
		Time (hours per year)	243		
		Total tax rate (% of profit)	62.8		

Source: The World Bank (2013)

In terms of starting a business, India is ranked 179 and involves 12 procedures and takes 27 days to start a venture. Compared with New Zealand (ranked #1 in this parameter), it involves 1 procedure and half a day. The average in South Asian region is 7 procedures and 16 days. For the unorganised sector SMEs, these numbers are bound to be worse. These statistics show that *setting up shop* in the country especially for SMEs can be long and arduous task.

Given the need to promote entrepreneurship in agricultural sector and the vast business opportunities that exist for SMEs in food processing sector, it is imperative to put in place a mechanism to address the concerns and challenges faced by SMEs. The next section highlights how business incubators can be that mechanism which can help in developing an ecosystem that fosters the growth of SMEs in the food processing sector. The section will be more of a guide to SMEs which wish to enter this sector.

3. Strategies and mechanisms for promoting entrepreneurship in the food processing sector

Start-up companies are particularly vulnerable in their early stages of growth since the business environment is generally risk averse and there is not much option for testing one's idea due to lack of funds, technical support, networks and infrastructure. Studies show that worldwide, while 66 percent of new start-ups survive after two years of starting, it reduces to 44 percent after four years. OECD study shows that over 70 percent of start-ups wind-up their operations by the seventh year of their operation[5]. Providing an ecosystem which facilitates the development of the business venture, and which can bring in technical support that is vital in the food processing sector, may help in addressing these concerns. The sub-sections below attempt to provide some of the important strategies and mechanisms that shall lead to the growth of the next generation of food business entrepreneurs.

3.1 Leveraging the strength of Agribusiness Incubators for growth of SMEs

Business Incubators like the Agri-Business Incubation (ABI) program at ICRISAT (**Box 2**) provide an attractive framework to entrepreneurs (referred to as incubatee/client) for dealing with the difficulties faced during start-up stage. Business Incubators help in creating the links that connects the SMEs with public and private sector, facilitates in bringing together diverse partners required to develop and deploy new agro-technologies, and help in attaining sustainability and scalability for the start-up ventures. They can be viewed as a mechanism[6]:

- to support regional development through job creation,
- for new high tech venture creation, technological entrepreneurship, commercialization, and transfer of technology,
- to deal with market failures relating to knowledge and other inputs of innovative process.

In general, with incubation support, the closure rate has come down to 15–20 percent among incubator tenants.

Box 2. Incubating Success

The **Agri-Business Incubation (ABI) Program at ICRISAT** was started in 2003, as joint venture between ICRISAT and Department of Science and Technology of the Government of India. ABI program offers agripreneurs with scientific and technical backstopping with state-of-the art infrastructural facilities.

Apart from the regular services, ABI also provides specialized incubation services like funding innovations and softlanding for foreign agribusiness firms who wish to setup base in India. ABI works on five thematic areas including Seed business ventures, Bio-fuels ventures, Farming ventures, Agri-biotechnology ventures and Innovative ventures.

So far, ABI has incubated 208 agribusiness ventures, helped in commercializing 194 agro-technologies, benefited more than 50000 famers and facilitated business development worth $17.3 million.

ABI has won many accolades, chief among are the Best National Technology Business Incubator award by the GoI in 2005, and Best Business Incubator award of the Asian Association of Business Incubators (AABI) in 2007.

Source: Authors

[5] http://oar.icrisat.org/6209/1/FICCI_FOOD_360_Knowledge_Report.pdf. Last accessed on October 28, 2013.
[6] Mixed use incubator handbook, *info*Dev, 2009

In terms of the food processing sector, agribusiness incubators can provide support at different stages of the business venture. The incubator acts as a platform which can offer the required support:product and business development, funding, IPR and legal procedures,food safety standards and management systems etc., and thereby reducing time and transaction costs involved.

Figure 4 highlights some of the services that can be expected from incubators for food processing SMEs and how the incubator acts a platform that can address most of the issues faced by start-ups and SMEs, as mentioned earlier. The case studies in **Box 3 and 4** show how the incubator operates in promoting food-based ventures.

Box 3. Nurturing entrepreneurship-I

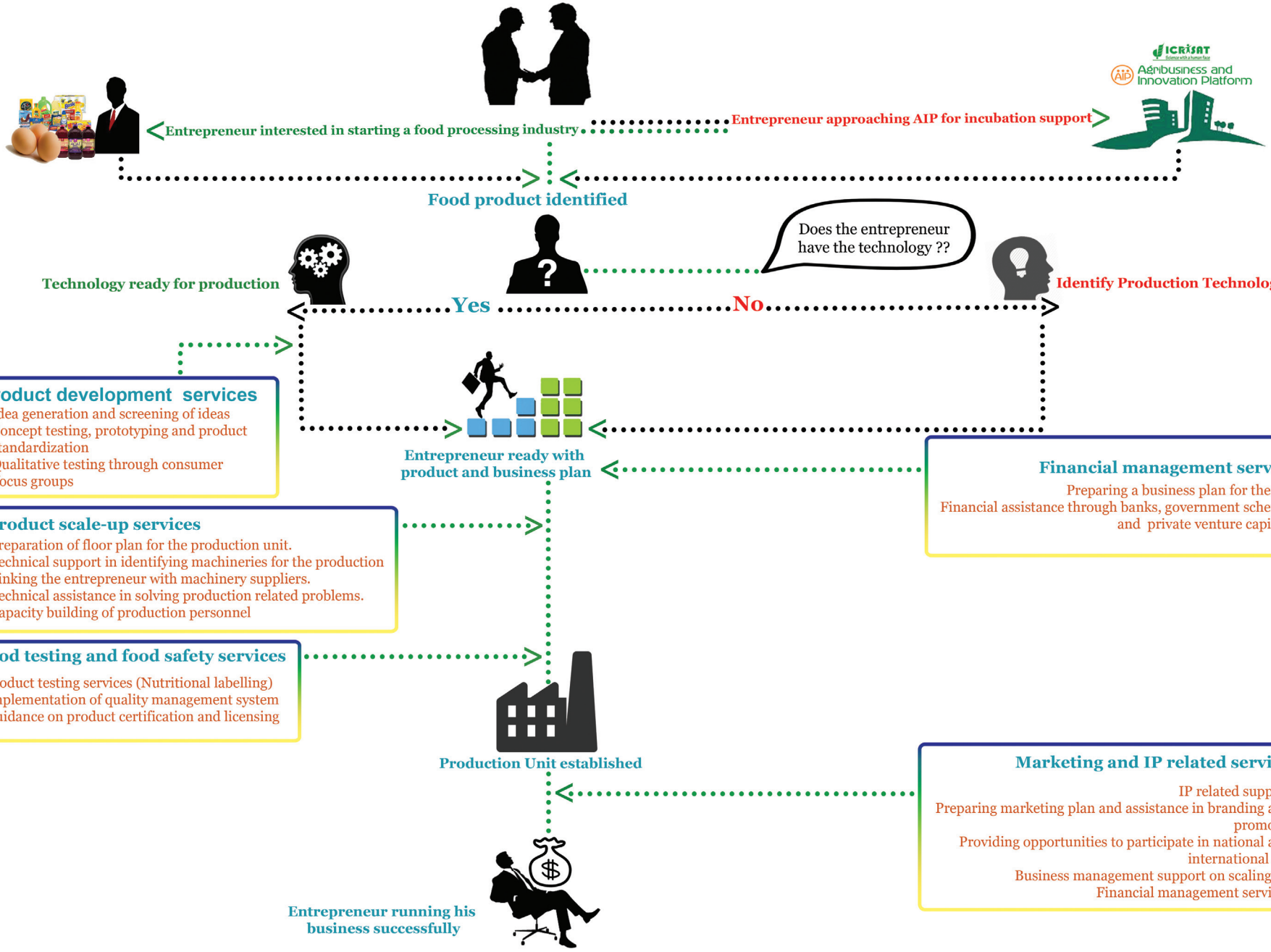
BR Cooking Sprays: Mr Rami Reddy is a first generation entrepreneur who approached the ABI program of ICRISAT with an innovative idea of developing a cooking spray, based on Indian oils like groundnut, sunflower etc. The cooking spray is an ideal way to use very low quantities of oil in cooking, as it can be applied as thin coating uniformly, while at the same time preventing food from sticking and retaining taste and flavor. It also reduces excessive consumption of oil and thus presents health benefits to the consumer.

Mr Reddy developed the concept especially the technology for compressing the oil and making it into a spray form. However, he had difficulty in sourcing funds and getting the necessary clearances from the concerned departments as the product was unique to the Indian market. Existing sprays are imported and based on olive and canola oils.

After taking membership with the incubator and in a span of a year, the ABI program supported the venture with funding assistance of Rs 10 lakhs as seed fund, facilitated license to manufacture the product as Proprietary Food under FSSAI, provided legal and advice on patent and filing for the same, technical and business development support.

With the support received from the incubator, the firm in now selling 8000 cans of cooking sprays annually, and has been able to generate employment for more than 15 people. Currently, the incubator is focusing on marketing and promotion of the product to scale up the sales and reach newer markets.

Source: Authors


Entrepreneur interested in starting a food processing industry
Entrepreneur approaching AIP for incubation support
ICRISAT
Agribusiness and Innovation Platform
Food product identified
Does the entrepreneur have the technology ??
Technology ready for production
Yes
No
Identify Production Technology
Product development services
• Idea generation and screening of ideas
• Concept testing, prototyping and product standardization
• Qualitative testing through consumer focus groups
Entrepreneur ready with product and business plan
Financial management services
Preparing a business plan for the unit •
Financial assistance through banks, government schemes • and private venture capitalists
Product scale-up services
• Preparation of floor plan for the production unit.
• Technical support in identifying machineries for the production
• Linking the entrepreneur with machinery suppliers.
• Technical assistance in solving production related problems.
• Capacity building of production personnel
Food testing and food safety services
• Product testing services (Nutritional labelling)
• Implementation of quality management system
• Guidance on product certification and licensing
Production Unit established
Marketing and IP related services
IP related support •
Preparing marketing plan and assistance in branding and • promotion
Providing opportunities to participate in national and • international fairs
Business management support on scaling up •
Financial management services •
Entrepreneur running his business successfully

Box 4. Nurturing entrepreneurship-II

Joule Foods, Coimbatore: Dr P Sathiyamoorthy, having completed his doctoral degree in Food technology aspired to become an entrepreneur and to establish a Millet based cookie manufacturing unit. He became a member of the Agri-Business Incubator in the Tamil Nadu Agricultural University (ABI-TNAU), Coimbatore that was established under the Co-business Incubation partnership between ICRISAT and TNAU.

The innovative idea of manufacturing millet cookies was well appreciated by ICRISAT and TNAU. It was easier for Mr Sathiyamoorthy to develop and standardize his millet cookies. But the mammoth challenge that stood before him was the funds to establish his production unit. AIP-ICRISAT was successful in sourcing about Rs. 17 lakhs under the Technology Development Board (TDB) Fund routed through the Science and Technology Entrepreneurial Park of the PSG Institute of Technology in Coimbatore. In addition to this, Rs. 15 lakhs was facilitated through a Venture Capitalist for the project. With this breakthrough, M/s Joule Foods was setup on 18 February 2012 at Coimbatore.

To help the consumers to derive the forgotten benefits of millets, the firm manufactures cookies from minor millets including Finger millet (Ragi), Pearl millet (Bajra), Kodo millet, Little millet and Banyard millet. The company also manufactures cookies from nine grains named *Nava Dhanya Cookies* and from Oats. The flagship product of Joule Foods is the *Low GI cookies* having Glycemic Index (GI) of 50.7, which can be consumed by consumers who are diabetic.

Currently millet cookies of Joule Foods are being sold across the state of Tamil Nadu and Karnataka. The annual turnover of the company has reached about Rs 85 lakhs within a year.

AIP-ICRISAT and its incubation partners have involved themselves in promoting the products of Joule Foods. It has facilitated participation in various national exhibitions including *Agri-Intex* organized by CODISSIA every year in Coimbatore, which helped them in generating many marketing leads in different states.

The State Planning Commission of Tamil Nadu is evolving strategies for ensuring nutritional security in the state of Tamil Nadu through promotion of millets. In this context AIP and ABI-TNAU has networked Joule Foods to the Planning Commission members, which has further helped them in reaching various Government Departments.

Source: Authors

3.2 Strategies for ensuring food safety through understanding and implementation of appropriate Food Safety Management Systems

> *'Food safety is one area you bet on your business each and every day. If you miss targets for labour, food cost, yields, productivity etc., you suffer a financial penalty but it is invisible to the customer. But if you should become a source of a food-borne illness,* ***you may lose everything you have created****.'*[7]

The above quote highlights the importance of food safety and Food Safety Management Systems (FSMS). According to the US based, Food Sentry's annual review posted on May 23, 2013, India is in the list oftop five nations that is violating global safety standards[8]. This is based on the data analysed from nearly 1000 reported food safety violations from 73 countries over a period of 15 months, which was collected from various food testing laboratories around the world. Majority of the violations are for presence of pesticides. Vegetables, nuts and seeds, and herbs and spices were most likely to be contaminated with excessive pesticide residues. **Table 2** gives a breakdown of various categories of contaminants (during a period of 15 months, as per review posted in May 2013) that had resulted in food safety violations.

Table 2. Breakout of Indian global food safety violations (category-wise)

Violation category	Percentage of total violations
Pesticides	47
Pathogens	8
Chemicals	26
Mycotoxins	13
Toxic metals	2
Antibiotics / drugs	4

Source: Foodsentry.org

It is therefore imperative upon food sector SMEs to focus on ensuring the safety of the processed food products being produced by them, for the survival and sustainability of their business. This needs understanding, developing and successfully implementing a Food Safety Management System (FSMS) along the agricultural value chain, including food processing.

The FSMS is a network of interrelated elements that combine to ensure that food does not cause harm to the consumer when it is prepared and/or eaten according to its intended use. These elements include programs, plans, policies, procedures, practices, processes, goals, objectives, methods, controls, roles, responsibilities, relationships, documents, records, resources etc.

Every stakeholder involved in the food chain has a role to play in ensuring safety of the food that is being consumed. Their activities have a direct bearing on the quality of food that is delivered to the end user. Hence, FSMS can be applicable throughout the food chain- from farm to fork. All the stakeholders such as producers, processors, transporters, packers, warehouse owners, wholesalers, retailers etc. involved in the food chain can get immensely benefited by implementing such a system. Some of the benefits of FSMS are:

[7] David Theno, Meat & Poultry Magazine, March 2009
[8] http://www.foodsentry.org/india-and-global-food-safety-violations-definite-concerns/ *Last accessed on October 28, 2013.*

- ✓ Process based system development and integration
- ✓ Enhancing customer and consumer confidence in your product
- ✓ Improved risk management to help improve sustainability of the venture
- ✓ Provides legal protection due to proper record maintenance
- ✓ Increased trading and negotiation benefits amongst stakeholders
- ✓ Alignment with other management systems

Implementing FSMS	How does FSMS work
➢ Choose and purchase the standard ➢ Review supporting literature ➢ Assemble a team – both senior management and technical ➢ Formulate objectives, strategy and timeframes ➢ Relevant training ➢ Utilize services of a consultant or consulting agency, if required ➢ Develop and implement FSMS ➢ Choose a certification body ➢ Pre-assessment ➢ Gain registration / certification ➢ Continual assessment	➢ Having an overall food safety policy for the organization, developed by top management ➢ Setting up objectives that will drive organization's efforts to comply with the policies ➢ Planning and designing a management and documenting the system ➢ Maintaining records of the system ➢ Establishing group of qualified individuals to form a food safety team ➢ Defining communication procedures to ensure effective communication with important contacts outside the organization (regulators, customers, suppliers etc.) and for effective internal communication ➢ Having an emergency plan ➢ Conducting management review meetings to evaluate the performance of FSMS ➢ Providing adequate resources for the effective operation of the FSMS including appropriately trained and qualified personnel, sufficient infrastructure and appropriate work environment to ensure food safety ➢ Following HACCP principles or similar food safety standards ➢ Establishing a traceability system for product identification ➢ Establishing corrective and preventive actions for controlling non-conforming product ➢ Maintaining documented procedure for withdrawal of non-conforming product ➢ Controlling, monitoring and measuring devices ➢ Establishing and maintaining internal audit program ➢ Continually updating and improving the FSMS

A key part of the FSMS is the food safety standards. A few of the food safety standards are:

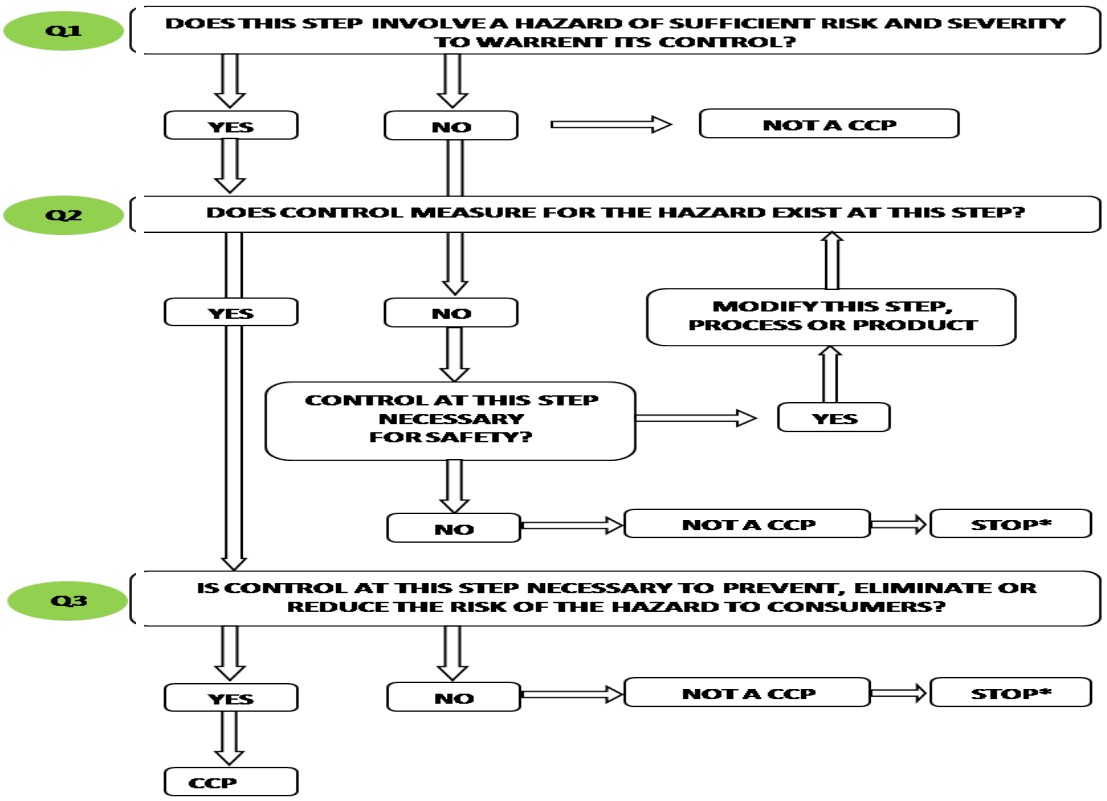
- ➢ Hazard Analysis and Critical Control Points (HACCP)
- ➢ Food Safety Management System (ISO 22000)
- ➢ British Retail Consortium (BRC)
- ➢ Safe Quality Food (SQF)
- ➢ International Food Standard (IFS)

A brief on each of the standards is provided for the benefit and understanding of the prospective food business entrepreneurs.

- **HACCP** is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product. HACCP is a systematic approach to the identification, evaluation, and control of food safety hazards based on the following seven principles.

- *Principle 1 – Conduct a hazard analysis*: HACCP team conducts a hazard analysis and identifies appropriate control measures. The purpose of the hazard analysis is to develop a list of hazards which are of such significance that they are reasonably likely to cause injury or illness if not effectively controlled.
- *Principle 2 – Determine the critical control points (CCPs)*: A critical control point is defined as a step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level. The potential hazards that are reasonably likely to cause illness or injury in the absence of their control must be addressed in determining CCPs. (**Figure 5**).

Figure 5. An example of a decision tree to identify CCP



Source: FDA[9]

- *Principle 3 – Establish critical limits*: A critical limit is a maximum and/or minimum value to which a biological, chemical or physical parameter must be controlled at a CCP to prevent, eliminate or reduce to an acceptable level the occurrence of a food safety hazard. A critical limit is used to distinguish between safe and unsafe operating conditions at a CCP. Critical limits should not be confused with operational limits which are established for reasons other than food safety.
- *Principle 4 – Establish monitoring procedures*: Monitoring is a planned sequence of observations or measurements to assess whether a CCP is under control and to produce an accurate record for future use in verification. Monitoring serves three main purposes. First, monitoring is essential to food safety management in that it facilitates tracking of the operation. If monitoring indicates that there is a trend towards loss of control, then action can be taken to bring the process back into control before a deviation from a critical limit occurs. Second, monitoring is used to

[9] http://www.fda.gov/downloads/Food/GuidanceRegulation/UCM252446.pdf Last accessed on October 28, 2013.

determine when there is loss of control and a deviation occurs at a CCP, i.e., exceeding or not meeting a critical limit. When a deviation occurs, an appropriate corrective action must be taken. Third, it provides written documentation for use in verification.

- *Principle 5 – Establish corrective actions*: The HACCP system for food safety management is designed to identify health hazards and to establish strategies to prevent, eliminate, or reduce their occurrence. However, ideal circumstances do not always prevail and deviations from established processes may occur. An important purpose of corrective actions is to prevent foods which may be hazardous from reaching consumers. Where there is a deviation from established critical limits, corrective actions are necessary.
- *Principle 6 – Establish verification procedures*: Verification is defined as those activities, other than monitoring, that determine the validity of the HACCP plan and that the system is operating according to the plan. These processes should take place during the development and implementation of the HACCP plans and maintenance of the HACCP system.
- *Principle 7 – Establish record-keeping and documentation procedures*: It is very important to maintain records of all the activities not only from the legal and audit perspective but also for internal evaluation of processes and procedures. They are an invaluable asset when systems go out of control and possibly the only resource to evaluate what went wrong and to rectify the systems.

These seven principles of HACCP have been universally accepted by government agencies, trade associations and the food industry around the world. Prerequisite programs such as current Good Manufacturing Practices (cGMPs) are an essential foundation for the development and implementation of successful HACCP plans. Food safety systems based on HACCP principles have been successfully applied in food processing plants, retail food stores, and food service operations.

- **ISO 22000** is a combination of management systems as given in ISO 9001:2008 and also encompasses the principles of HACCP as discussed above.
- **BRC Global standards** is a leading global safety and quality certification programme, used throughout the world by over 17,000 certificated suppliers in 90 countries through a network of over 80 accredited and BRC recognised certification bodies. They facilitate standardization of quality, safety, operational criteria and manufacturers' fulfilment of legal obligations. They also help provide protection to the consumer. The global standards now consist of a suite of four standards covering different product types – food, consumer products, packaging manufacture and storage & distribution. Certification to a BRC standard demonstrates that products are manufactured and handled to a specified standard to help ensure their safety and quality. The requirement for supplies to be certificated to the BRC scheme is not mandatory or a legal requirement but will be a customer requirement.
- **SQF** helps make certification more attainable for smaller companies by dividing the process into three steps: from Level 1, which incorporates fundamental food safety controls appropriate for low-risk products; all the way to Level 3, indicating a comprehensive implementation of food safety and quality management systems development. The implementation of an SQF management system addresses a buyer's food safety and quality requirements and provides the solution for businesses supplying local and global food markets. The Safe Feed/Safe Food Certification Program is a voluntary, independently certified program designed for the total feed industry.

- **IFS** is primarily drawn up for retailer (and wholesaler) branded food products, which is intended to enable the assessment of suppliers' food safety and quality systems, in accordance with a uniform approach. It applies to all the post-farm gate stages of food processing. It concerns food processing companies or companies that pack loose food products. IFS Food is a GFSI recognised standard for auditing food safety and quality of processes and products of food manufacturers. IFS Food applies when products are "processed" or when there is a hazard for product contamination during primary packing. The IFS Food Standard is important for all food manufacturers, especially those producing private labels, because it contains many requirements related to specifications' compliance.

Thus, in order to be part of the global food market the food processing business entrepreneurs need to understand and implement the appropriate FSMS. For most start-up entrepreneurs in the food processing sector, some of the standards might not be easy to implement due to cost involved. However, through the process of business incubation the accessibility and implementation of these standards can be facilitated by linking the entrepreneurs to various schemes that support FSMS implementation. In addition, to help the entrepreneurs in the development of new food products and to ensure Conformance to food safety standards and regulations, ISO/IEC 17025:2005 accredited food testing laboratories are essential. Current statutory and regulatory requirements make it mandatory to test food and agricultural products including manufactured and processed products for various parameters such as nutritional content, shelf life determination, microbial and chemical contaminants etc. It is also mandatory to test products as per the guidelines of Food Safety Standards Authority of India (FSSAI) and in addition other governmental regulations such as Bureau of Indian Standards (BIS), AGMARK etc., needs to be adhered to depending upon the product and its intended use.

Box 5. NutriPlus Knowledge (NPK) program of AIP, ICRISAT

Vision: "Growth through Value addition" for the small holder farmers of the semi-arid tropics.

Mission: Value addition and post-harvest management in Agri food sector through innovative processing and product development for a prosperous food secure and resilient drylands.

Source: AIP-ICRISAT (2013)

The NutriPlus Knowledge (NPK) program of AIP, ICRISAT (**Box 5**) is equipped with modern food product development and food testing laboratory for catering to the product development and a food testing requirements of the entrepreneurs. In addition specific information and guidance on food regulations and standards are also facilitated for the entrepreneurs. Thus the NPK program of AIP, ICRISAT provides end-to-end solutions to the food processing SMEs.

3.3 Knowledge of IPR and Legal requirement in food industry

IPR

Innovation is the key engine to deliver new and improved goods, services and processes that increases consumer standard of living and economic growth, hence, like other business enterprise sectors, agriculture and food processing sectors also demand continuous innovation activities in research and business.

Intellectual Property (IP)[10] regime operates as a driver for innovations benefiting the right holder and also society as a whole. The agricultural technology based business like food processing involves series of events ranging from theoretical conception (new ideas, collections of thoughts), technical invention (process of converting thoughts into a tangible product, service or process involving science and technology) to commercial exploitation (turning inventions into products that will improve company performance, management and business).

The IPR management in agro-based enterprise requires a broad portfolio management that includes the fundamental need to link IPR protection with licensing, technology transfer, up scaling, commercialisation and safeguards. Strengthening the IPR management skill is the need and is an integral part of prudent business strategy to capture a larger part of the benefit stream generated by innovation activities.

Though the relationship between IP system and stimulation of innovation has been an issue of debate, the current business practice demands limited monopoly power achieved by IPRs to encourage investment in innovative activities in R&D and advertising. The fast emerging trend is value addition and product differentiation in farm produce through technological innovations, design and branding in the agro-foods value chain, functional foods and food packaging. IPRs can promote leveraging of private resources for resolving day-to-day problems. Patents are leveraging technical advancement in the Food Processing Industry. Trademarks, Geographical Indications, Industrial Designs are commonly used by companies to market products and services, and to improve their competitive position in the market. IPRs are no more than a piece of legal document, but to a businessman who invests time, intellectual

Box 6. 'YO!® Sushi'- Trademark Protection

Sushi – Japanese-style raw fish with rice and vinegar – was quite a small market in the UK in 1997. Simon Woodroffe, founder of YO!® Sushi, took the risk to be different and opened a conveyor belt restaurant specializing in sushi. YO!® Sushi represents a concept that is popular and profitable. Simon understood the importance of establishing and protecting a brand image and registered his **trade mark** 'YO!® Sushi', a simple combination of the words 'YO!®', a Japanese greeting, and sushi – a Japanese food.

Registration of the trade mark YO!® gave the company exclusive rights over how the YO!® image is projected and the products and services that carry its name. It guards the colours, style and font of the logo, and the way it is displayed. The registration also gave it the right to take legal action against any company that it feels may be using it in an unauthorized way. Exclusive ownership of the trade mark gave YO!® confidence that it alone will gain benefit from investment in new projects and brand extension. The protection acquired from registering the YO!® Sushi brand enabled the business to build on its innovative and enterprising ideas, expand its number of outlets and enter new markets, without fear of anyone damaging its reputation by improperly using the brand name or logo.

[10] Intellectual Property (IP) is an essential legal instrument that is used by modern technology-based businesses, including agribusinesses, to fuel a stream of innovative products from research and development. There are seven forms of intellectual property rights recognized which include, Copyright and related rights, Trademarks, Geographical Indications, Industrial Designs, Patents, Layout-Designs (topographies) of integrated circuits, and protection of Plant Varieties.

sweat and capital to turn ideas into profit making venture, IPRs simply help to protect his investments (**Box 6**).

Legal requirements for food processing industry ventures

The food processing industry comprises a variety of food items including fruit, vegetables (dried, preserved, processed and canned), pulps, pickles, chutneys, milk, dairy products, ready-to-drink milk products, ice cream, frozen desserts, meat, poultry, marine products, grain processing, beer and alcoholic beverages, consumer, convenience and packaged food, soft drinks and cocoa products. The industrial activities are governed by certain legal provisions that come in force from time to time. A few of them are given here for understanding. These could be divided into '*General'* and '*Food Processing Industry specific*'. Food Processing Industry specific activities demands compliance of multiple laws/rules/regulations prescribe varied standards regarding food additives, contaminants, food colours, preservatives and labeling.

General laws:

- Companies Act/ Partnership Act / Limited Liability Partnership Act
- Factories Act, 1948 and related Laws including labour laws
- Industries (Development & Regulation) Act, 1951
- The Tax Laws (Income tax, Service tax, VAT etc)
- The Customs Act, 1962
- Foreign Trade (Development and Regulation) Act, 1992
- Pollution Control Act and related regulations
- Consumer protection Act.
- Intellectual property laws (laws related to Patents, Trademarks, Geographical Indication etc.)
- Competition Laws

Food processing specific laws:

- **Food Safety and Standards Act, 2006 with Food Safety and Standards Rules, 2011:** This law consolidates the laws relating to food and to establish the Food Safety and Standards Authority of India for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import, to ensure availability of safe and wholesome food for human consumption and for matters connected therewith or incidental thereto. This is an integrated food law aims to achieve a high degree of consumer confidence in the quality and safety of produced, processed, sold or exported food. It seeks to overcome problems like multiplicity of food laws and standard setting and enforcement agencies which creates confusion in the minds of consumers, traders, investors and manufacturers. FSSA overrides all other food related laws. It specifically repealed eight laws which were in operation prior to the enforcement of FSSA:
  - The Prevention of Food Adulteration Act, 1954
  - The Fruit Products Order, 1955
  - The Meat Food Products Order, 1973
  - The Vegetable Oil Products (Control) Order, 1947
  - The Edible Oils Packaging (Regulation) Order, 1998

- The Solvent Extracted Oil, De oiled Meal, and Edible Flour (Control) Order, 1967
  The Milk and Milk Products Order, 1992
- Essential Commodities Act, 1955 (in relation to food)

The Food Safety and Standards Regulations, 2011 has been notified under FSSA and involves following:

- Food safety and Standards (Licensing and Registration of Food businesses) regulation, 2011 (**Box 7**).
- Food Safety and standards (Packaging and Labeling) regulation, 2011
- Food safety and standards (Food product standards and Food Additives) regulation, 2011 (part I & II)
- Food safety and standards (Prohibition and Restriction on sales) regulation, 2011
- Food safety and standards (contaminants, toxins and residues) regulation, 2011
- Food Safety and Standards (Laboratory and sampling analysis) regulation, 2011

➢ **Other food laws applicable to food and related products in India are:**

- Environment Protection Act, 1986.
- The Destructive Insects and Pests Act, 1914
- Plants, Fruits, and Seeds (Regulation of Import in India) Order, 1989.
- The Insecticide Act, 1968.
- Agriculture Produce (Grading & Marking) Act
- Export (Quality Control and Inspection) Act, 1963

Box 7. Licensing and Registration of Food businesses

In exercise of the powers conferred under the Food Safety and Standards Act, 2006, the FSSAI has made it mandatory for all Food Business Operators in the country to be registered or licensed in accordance with the procedures laid down in the Food safety and Standards (Licensing and Registration of Food businesses) regulation, 2011.

Important Web Links:

- **Food Safety and Standards Authority of India**: http://www.fssai.gov.in/Default.aspx
- **Indian Food Code**: http://www.fssai.gov.in/Portals/0/Pdf/INDIAN_FOOD_CODE%2825-06-2012%29.pdf
- **Food safety and Standards (Licensing and Registration of Food businesses) regulation, 2011:** http://foodlicensing.fssai.gov.in/pdf/Regulation2011.pdf
- **Details of Food Business Operators (FBOs) Registration/Licensing through online Registration/Licensing System**: http://foodlicensing.fssai.gov.in/UserLogin/Login.aspx?ReqID=15832309; and http://foodlicensing.fssai.gov.in/pdf/FlowChart.pdf
- **Fee structure for FBOs Registration/Licensing**: http://foodlicensing.fssai.gov.in/pdf/Fee.pdf
- **List of document required for FBOs Registration/Licensing**: http://foodlicensing.fssai.gov.in/pdf/annexure2.pdf
- **Food Import Clearance System**: http://www.fssai.gov.in/Portals/0/Pdf/Import_Manual%20%2817.10.13%29.pdf

3.4 Knowledge and access to funding for SMEs in the food processing industry

To encourage SMEs in the food processing sector, the Government of India has floated new funding schemes through its Ministry of Food Processing Industries. Apart from these, schemes from agencies like NABARD,SIDBI etc. are also now available that can be utilised by SMEs to scale up their food industry based ventures. **Table 3** provides the details of these schemes. Regular source of funds like banks and venture capitalists can also be tapped into for securing financial assistance for the ventures.

Table 3. Funding schemes for SMEs in food industry

Sl #	Name of the agency	Name of the support scheme	Sectors supported	Who are eligible?	Details of Assistance	Contact details
1	Ministry of Food Processing, Government of India	National Mission on Food Processing – scheme for establishing Cold chains (non-horticultural)	Dairy– All milk and milk products, etc. (b) Meat– All meat and meat products etc. (c) Aquaculture and marine products like Prawns, Seafood, Fish, and their processed products etc. (d) Any other non-horticultural food products requiring integrated cold chain.	Individuals or groups of entrepreneurs, organizations such as Govt./ PSUs/ Joint Ventures/NGOs/ Cooperatives/ SHGs/ Private Sector Companies and Corporations etc. setting up Integrated cold chain and preservation infrastructure	(1) Grant-in-aid is permitted @ 35 per cent of the bank appraised project cost including Interest during Construction (IDC), subject to a maximum of Rs. 5 crore per project. The cost of land and pre-operative expenses will not be eligible for the purpose of calculation of grant-in-aid. (2) Interest subsidy is extended for a period of 5 years from the date of completion of the project. Every year the interest subsidy @ 6 per cent will be paid to the Bank directly against the term loan sanctioned by it, subject to a maximum of Rs. 2 crore per project or actual interest accrued on term loan, whichever is less.	Mission Director, Ministry of Food Processing Industries, Panchsheel Bhawan, August Kranti Marg, New Delhi-110049 Email:venkateswarlu86@nic.in http://www.mofpi.nic.in/SchemeViewPage.aspx?FQ5Z+VLCit4HlkTkqKzz3rM++lemZep7Nzf2azshIcrzZjqxvgAMscyfqECW3pnkBSURMLHrlRY

Sl #	Name of the agency	Name of the support scheme	Sectors supported	Who are eligible?	Details of Assistance	Contact details
2	Ministry of Food Processing, Government of India	National Mission on Food Processing-Scheme for purchase of Reefer Vehicles	Not Applicable	Individual entrepreneurs, Partnership firms, Registered Societies, Co-operatives, NGOs, SHGs, Companies and Corporations etc. are eligible Applicant should have sound financial background and the Projects necessarily be supported by Bank/ FIs by way of term loan.	The scheme is credit linked back ended grants-in-aid @ 50% of the cost of New Reefer Vehicle(s)/ Mobile pre-cooling van(s) upto a maximum of Rs. 50.00 lakh which is extended under the scheme after submission of all prescribed documents including a Bank Certificate certifying that the Bank has released term loan.	Mission Director, Ministry of Food Processing Industries, Panchsheel Bhawan, August Kranti Marg, New Delhi-110049 Email:venkateswarlu86@nic.in http://www.mofpi.nic.in/SchemeViewPage.aspx?FQ5Z+VLCit5DOailAxu8QCjTg9VdFezBZMVJ2wdLIUxQCgVUkrDhRA
3	Ministry of Food Processing, Government of India	National Mission on Food Processing-Scheme for establishing Primary Processing Centers	The Scheme is applicable to both horticulture and non-horticulture produce such as: fruits, vegetables, grains& pulses, dairy products, meat, poultry and fish etc.	individual entrepreneurs/ farmers, group of entrepreneur/ farmers, associations, co-operative societies, self-help groups, non-government organizations are eligible for assistance under the scheme	Maximum of amount of grant-in-aid admissible: Rs.2.50 crore (1) Grant-in-aid for will be provided @ 50% of the eligible project cost for the general areas and 75% in North-East, ITDP & Difficult Areas (NE States including Sikkim, notified ITDP areas and hilly states like H.P., J&K, Uttarakhand), respectively. (2) Cost of land, pre-operative expenses, margin money for working capital and contingency, non-technical civil works and plants & machinery not directly related to the PPC/CC are not be eligible for calculating eligible project cost.	Mission Director, Ministry of Food Processing Industries, Panchsheel Bhawan, August Kranti Marg, New Delhi-110049 Email:venkateswarlu86@nic.in http://www.mofpi.nic.in/SchemeViewPage.aspx?FQ5Z+VLCit6NE/PDrqQ1qroojuwMBo8gK5sFZVGbtGEnsgKxQafluyxdl6PUuuxq

Sl #	Name of the agency	Name of the support scheme	Sectors supported	Who are eligible?	Details of Assistance	Contact details
4	Ministry of Food Processing, Government of India	National Mission on Food Processing -Technology Up-gradation	Food processing industries like fruits & vegetables, milk/ meat/ poultry/ fish products, cereal/ other consumer food products, rice/ flour/ pulse/ oil milling and such other agri-horti sectors including food flavours, colours, oleoresins, spices, coconut, mushrooms , wines and hops are covered for assistance under the Scheme. The activities of aerated water, packaged drinking water and soft drinks will not be considered for financial assistance under the Scheme.	All Organizations such as Government / PSUs/ Joint Ventures/ NGOs/ Cooperatives/ SHGs/ Private Sector/ individuals engaged in establishment/ Upgradation/ modernization of food processing units are eligible for financial assistance under the scheme.	The scheme envisages financial assistance as grant-in-aid as per the following pattern: 25 per cent of the cost of Plant & machinery and technical civil works, subject to a maximum of Rs. 50 lakh in general areas 33.33 per cent of the cost of Plant & machinery and technical civil works, subject to a maximum of Rs. 75 lakh in difficult areas (i.e. Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Andaman & Nicobar Islands and Lakshadweep) and Integrated Tribal Development Project (ITDP) areas. 50 per cent of the cost of Plant & machinery and technical civil works, subject to a maximum of Rs.100 lakh for North Eastern States including Sikkim.	Mission Director, Ministry of Food Processing Industries, Panchsheel Bhawan, August Kranti Marg, New Delhi-110049 Email:venkateswarlu86@nic.in http://www.mofpi.nic.in/SchemeViewPage.aspx?FQ5Z+VLCit40G8Qdg6ixTxpS8rJJqwufjkXYh5hpFgJ2fMN2kTMm6v66GwY0a5Yr
5	Ministry of Food Processing, Government of India	National Mission on Food Processing-Modernisation of Meat Shops		All implementing agencies/ organizations such as Government/ PSUs/ Joint Ventures/ NGOs/Cooperatives/ SHGs/ Private Sector/ Individuals engaged in the operations of meat shops would be eligible for financial assistance under the scheme.	General Areas: 50 per cent of the cost of Machinery/ Equipment and Technical Civil Works (TCW) and other eligible items subject to a maximum of Rs. 5.00 Lakh NE States , J&K, Himachal Pradesh, Uttarakhand and ITDP notified areas : 75 percent of the cost of Machinery/ Equipment and TCW and other eligible items subject to a maximum of Rs.5Lakh	Mission Director, Ministry of Food Processing Industries, Panchsheel Bhawan, August Kranti Marg, New Delhi-110049 Email:venkateswarlu86@nic.in http://www.upfood.in/MordofMeat.pdf

Sl #	Name of the agency	Name of the support scheme		Sectors supported	Who are eligible?	Details of Assistance
6	Ministry of Food Processing, Govt of India	National Mission on Food Processing: R&D In Processed Food Sector National Mission on Food Processing: Setting Up Of Food Quality Control Laboratory		Governmental organizations Non-Governmental Organisations Cooperatives Private Sector Industries Public Sector Undertakings HRD and R&D Institutions	Entire cost of capital equipment is paid by MFPI for establishment of such labs to Central / State Government organizations 33% of the capital cost in general areas and 50% in difficult areas is paid for such labs set up in private sector	Sh. Jagdish Prasad Meena Joint Secretary Panchsheel Bhawan, August Kranti Marg Khelgaon, New Delhi-110049 Email : jsjpm-fpi@nic.in
7	NABARD	Gram Bhandaran Yojana	Construction of rural go-downs	Individuals, farmers, Group of farmers/growers, Partnership/ Proprietary firms, NGOs, SHGs, Corporations, Co-operatives, Local Bodies other than Municipal Corporations, Federations, Agricultural Produce Marketing Committees, Marketing Boards and Agro Processing Corporations	(1)Subsidy under the scheme is linked to institutional credit and will be available to only such projects which are financed by Commercial Banks, RRBs, SCBs, SCARDBs, ADFCs, NEDFI, Urban Cooperative Banks etc (2) Farmers can avail loan against the warehouse receipts	National Bank for Agriculture and Rural Development Plot No C-24, "G" Block, Bandra-Kurla Complex P.B.No 8121 Bandra(E) Mumbai – 400051 http://www.indianyojana.com/anaaj-yojana/rural-godown-scheme.htm
8	Exim bank	SME-ADB scheme	For development of common specific infrastructure facilities including testing centres, cold storage	Individual Medium and small scale enterprise (MSME) (Export Oriented Units) and Special Purpose Vehicles of a cluster of MSMEs	To avail long term foreign currency loan, setting up of new facilities, expansion/modernization of existing facilities, acquisition of equipment and plant & machinery, setting up of testing/R&D facilities, setting up of captive power plants/co-generation plant, setting up of infrastructure facilities like effluent treatment plants, storages/warehouses, etc. Tenure of the loan will be up to 7 years.	sme@eximbankindia.in ccg@eximbankindia.in

Sl #	Name of the agency	Name of the support scheme	Sectors supported	Who are eligible?	Details of Assistance	Contact details
9	Ministry of Micro Small and Medium Enterprises (MSME)	Credit Linked Capital Subsidy Scheme	Facilitate Technology Upgradation of SSI units in the specified products / sub-sectors by providing 15 % capital subsidy for induction of well-established and improved technologies.	Sole Proprietorships Partnerships Co-operative Societies Private and Public Limited Companies in SSI sector (Priority shall be given to women entrepreneurs)	Maximum Ceiling of loan eligible for support 15% of the investment in eligible plant & machinery Ceiling on Loan- Rs.100 lakh Ceiling on subsidy-Rs. 15 lakh	Sh. Amarendra Sinha Additional Secretary & Development Commissioner (MSME) "A" Wing 7th Floor, Nirman Bhawan, New Delhi-110108 http://www.dcmsme.gov.in/schemes/Credit_link_Scheme.htm
10	MoMSME, GoI and SIDBI	Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)	The credit facilities which are eligible to be covered under the scheme are both term loans and working capital facility up to Rs.100 lakh per borrowing unit, extended without any collateral security or third party guarantee, to a new or existing micro and small enterprise	The Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGMSE) was launched by the Government of India to make available collateral-free credit to the micro and small enterprise sector. Both the existing and the new enterprises are eligible to be covered under the scheme	The guarantee cover available under the scheme is to the extent of 75 per cent of the sanctioned amount of the credit facility. The extent of guarantee cover is 80 per cent for (i) micro enterprises for loans up to Rs.5 lakh; (ii) MSEs operated and/or owned by women; and (iii) all loans in the North-East Region. In case of default, Trust settles the claim up to 75% (or 80% wherever applicable) of the amount in default of the credit facility extended by the lending institution.	The Chief Executive Officer CGTMSE 7th floor, SME Development Centre, C-11, G- Block, Bandra-Kurla Complex, Bandra (East), Mumbai - 400 051 http://www.cgtsi.org.in/schemes.aspx

Sl #	Name of the agency	Name of the support scheme	Sectors supported	Who are eligible?	Details of Assistance	Contact details
11	Industries & Commerce Department, Government of Andhra Pradesh	Food Processing Policy 2010-2015 of Andhra Pradesh State	Horticulture, Agriculture, Animal Husbandry, Agro food processing industries and allied Industries	All Food Processing industries	To give a special focus on Food Processing industry by extending the benefits for a period of 5 years from 1.4.2010 to 31/03/2015 2. To declare food processing as seasonal industry, wherever necessary and enable the industry to get relief from minimum Electricity charges during the closure (non-seasonal) period. 3 To extend 25% cost of external infrastructure for power, water, approach roads and other infrastructures limited to Rs.2.00 Crores. 4. To provide VAT/State Goods & Services Tax reimbursement for Mega Food Parks during the construction period for a period of 2 years limited to a maximum Rs.2.00 cr. 5. The Food Parks sanctioned under Mega Food Park scheme of Government of India would be considered for Tailor-made benefits on case to case basis.	Principal Secretary to Government(FP) Industries and Commerce Dept., Government of Andhra Pradesh, 2nd Floor, D-Block, Room No. 346 Secretariat, Hyderabad – 500022 Email: prlsecy_inds_fp@ap.gov.in http://www.apindustries.gov.in/Library/go%20ms%20no.%2062%20food.pdf

4. Conclusion

In order to leverage on the huge entrepreneurial opportunity provided by the Indian food industry, a 360° approach needs to be taken to ensure that the next wave of growth in the food processing sector is achieved through nurturing enterprises, linked to innovations. Such entrepreneurial ventures need to be based on strategies and mechanisms ensuring social return on investment and sustainability. Smallholder farmers should benefit from such ventures through appropriate linkages to markets, thus ensuring IMOD. This knowledge report attempts to provide the new age food business entrepreneurs an understanding of the key strategies and support mechanisms that are critical towards enabling the establishment of sustainable business ventures. The report provides prospective entrepreneurs with an overview of the benefits of food business incubators, through successful case studies of food incubation ventures promoted through ICRISAT's Agribusiness and Innovation Platform (AIP) The key areas of interventions identified are business incubation, post-harvest technologies and product development, food safety and funding. In summary, use of appropriate strategic tools and mechanisms at each of these areas of intervention, shall be key towards successfully promoting entrepreneurship in the food processing sector for achieving IMOD.



About ICRISAT

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a non-profit, non-political organization that conducts agricultural research for development in Asia and sub-Saharan Africa with a wide array of partners throughout the world. Covering 6.5 million square kilometers of land in 55 countries, the semi-arid or dry land tropics has over 2 billion people, and 644 million of these are the poorest of the poor. ICRISAT and its partners help empower these poor people to overcome poverty, hunger and a degraded environment through better agriculture.

ICRISAT is headquartered in Hyderabad, Andhra Pradesh, India, with two regional hubs and four country offices in sub-Saharan Africa. It belongs to the Consortium of Centers supported by the Consultative Group on International Agricultural Research (CGIAR). ICRISAT conducts research on five highly nutritious, drought-tolerant crops – chickpea, pigeonpea, pearl millet, sorghum and groundnut.

It also develops sustainable management of semi-arid tropic (SAT) systems through efficient and sustainable management of natural resources, and enables policies and institutions for improving livelihoods and achieving food, nutrition and health security while protecting the environment.

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About FICCI

Established in 1927, FICCI is the largest and oldest apex business organisation in India. Its history is closely interwoven with India's struggle for independence and its subsequent emergence as one of the most rapidly growing economies globally. FICCI plays a leading role in policy debates that are at the forefront of social, economic and political change. Through its 400 professionals, FICCI is active in 39 sectors of the economy. FICCI's stand on policy issues is sought out by think tanks, governments and academia. Its publications are widely read for their in-depth research and policy prescriptions. FICCI has joint business with 79 countries around the world.

A non-government, not-for-profit organization, FICCI is the voice of India's business and industry. FICCI has direct membership from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 83,000 companies from regional chambers of commerce. FICCI works closely with the government on policy issues, enhancing efficiency, competitiveness and expanding business opportunities for industry through a range of specialised services and global linkages. It also provides a platform for sector specific consensus building and networking.

Partnerships with countries across the world carry forward our initiatives in inclusive development, which encompass health, education, livelihood, governance, skill development, etc. FICCI serves as the first port of call for Indian industry and the international business community.

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