

Skill and Entrepreneurship Development

in Post-harvest Technology and Value Addition through Agribusiness Incubation

Ranjeet Singh, Alka Sharma and R K Singh

ICAR-Central Institute of Post Harvest Engineering and Technology, Ludhiana, Punjab 141 004

Indian agriculture is a way of life and it supports about 60% of population for their livelihood. Engineering inputs are vital for modernization of agriculture, agro-processing and rural living. It is needed for development and optimal utilization of natural resources, appropriate mechanism of unit operations of agriculture for increasing production, productivity with reduced unit cost of production for greater profitability, economic competitiveness and sustainability. Mechanism also imparts capacity to the farmers to carry out farm operation with dignity, with ease and freedom from drudgery, making the farming agreeable vocation for educated youth as well. It helps the farmers to achieve timeliness and precisely meter and apply costly input for better efficacy and efficiency, achieving higher productivity with reduced application of inputs. Agricultural produce and by-products are perishable in nature in varying degree and their perishability gets exploited on the market floor compelling distress sales orchestrated by factors of demand and supply, intervention of the forces of marketing in the absence of matching post-harvest technology and agro-processing infrastructure. Agricultural Engineering inputs are also needed to assure remunerative prices to the growers and a share in the value addition to the growers through on-farm post-harvest technology and value addition to their produce and by-products in order to strengthen their livelihood-base landholdings which are decreasing for their socio-economic sustenance and assure minimum standards of living. This article depicts the experience of Institute Technology Management Unit and Agribusiness Incubation Centre operational at ICAR-Central Institute of Post-Harvest Engineering and Technology as an innovative developmental instrument for supporting the growth of competitive enterprises in post-harvest technology and value addition by advancing innovation in product development, process optimization technology dissemination.

Key words: Agribusiness, Agri-processing

IN ORDER to boost the trade and agro industry of the Country, the Indian Council of Agricultural Research (ICAR) established the concept of entrepreneurship and skill development through NAIP and NAIF schemes. During the current scenario number of innovative agricultural ventures are created and supported through proper intrusions and hoards. The Agri-Business incubation centres of ICAR provide support to the farmers and entrepreneurs and young

unemployed youth by spawning new technologies and machineries and creating path to access latest agricultural technologies, by providing suitable need based services. Presently ICAR's incubation centres are known for their technology interventions and prompt commercialization of research outputs.

India's food ecosystem offers huge opportunities for investments with stimulating growth in the food retail sector, favourable economic policies

and attractive fiscal incentives. The Government of India through ICAR is also taking all necessary steps to boost investments in the agro processing industry. Food processing has an important role to play in linking Indian farmers to consumers in the domestic and international markets. India is an agro based economy, around 65% of its population depends on agriculture to make a livelihood. In such a scenario, Agriculture has to be seen as Agribusiness and not merely a way of

life. Unless technology is blended with agri entrepreneurship, the productivity would continue to remain low as in the traditional methods of farming and agribusiness. Accordingly it is necessary to increase productivity with increasing population. A large number of technologies capable of changing the face of Indian agriculture are being churned out. Many of these new and highly useful techniques, agronomic processes, equipment and products tend to remain unused or underutilised at the farmers end for want of commercial interventions to convert them into conveniently usable forms and make them available to farmers through marketing channels.

To address the issue pertaining to income and employment generation through agro processing ICAR have set up an innovation based Agribusiness Incubation Centre at ICAR-Central Institute of Post-Harvest Engineering & Technology (ICAR-CIPHET), Ludhiana, Punjab. ITMU/ABI Centre offers their services to farmers/entrepreneurs/unemployed youth/women entrepreneurs along with small and medium scale industries to get benefit from CIPHET developed agro based technologies for income and employment generation. Through this Centre, the Institute has transferred 47 technologies to 125 licensees and provided hand on training to more than 200 participants and has helped to create good number of jobs.

Role of icar-ciphet for development of overall business environment through ABI

Post-harvest processing sector has huge potential to employment and income opportunities in the rural catchment. However this opportunity is lying untapped for want of technological breakthroughs to suit requirements of rural entrepreneurs and adoption of food/agro- processing as industry. The development of the country largely depends on its agricultural productivity and uplifting the farmers' livelihood. Lack of awareness on the values of food

processing, lack of technical know-how and hands-on skill development training experiences are some of the reasons for poor interests and fewer ventures in food/agro processing. Farmers can be easily made as food processing business entrepreneurs by properly skill development training and encouraging them. Providing incubation facilities to the market test their produce will also help new ventures coming in the sector. ICAR-CIPHET has developed many technologies and processes for the benefit of small and medium entrepreneurs of India in general and Punjab in particular. At present the developed technologies are demonstrated through farmers and trade fairs, exhibitions, trainings and demonstrations. However few days exposure to the technologies developed is inadequate to create entrepreneurial abilities among the trainees, who are often farmers or small entrepreneurs. Food/Agro processing have tremendous scope and potential to emerge into biggest industry, provided processing sector reached to the production catchment. ABI-CIPHET centres at CIPHET, Ludhiana/Abohar is constantly imparting hands on skill development training on selected commodities and provide incubation facilities, technical, financial and marketing know-how to interested entrepreneurs which is supporting the entrepreneurs to tackle challenges even after successful operation of the venture. CIPHET, Ludhiana is projecting adoption of food/agro processing as rural industry to

reduce post-harvest losses, transportation cost and drudgery, along with increased shelf life of agricultural produce. ABI centre at ICAR-CIPHET, Ludhiana is showcasing the working with modern food processing industries and technologies developed by CIPHET on Pilot scale to facilitate Entrepreneurship Development Programme, enthuse new entrepreneurs towards profitability of food processing units, and extend support even after adoption of technologies.

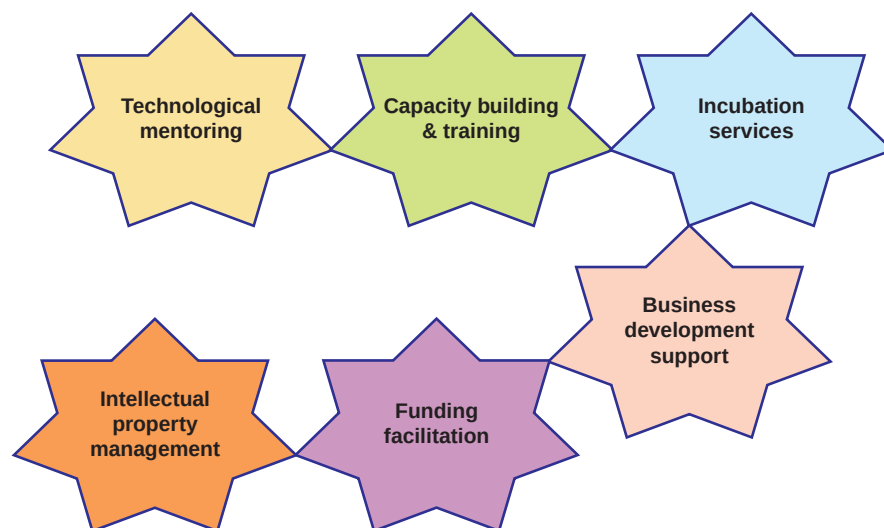
Working model of ABI

CIPHET-ABI Centre helps the clientele in decision making through a questionnaire consisting of technology development stages, project viability, maturity cycle and resource requirements.

For successful implementation of the project, the centre provides support for project reports consisting of all necessary aspects such as technical, financial, commercial and operational strategies.

Clients and their team members are provided training to obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources needed to adopt the particular technology and do their jobs competently.

Logistics support in terms of providing well furnished, air-conditioned office spaces for the Clients to set up their office, ICAR-CIPHET also provides access to its commercial pilot plant facilities such as tomato processing plant, chilli





processing plant, kinnow processing plant etc. Thus, incubatees can take up commercial production using the machineries and instruments set up in the Pilot plant, without setting up a facility of their own, until successful test marketing phase. In addition with this, the Centre provides assistance and guidance to incubates in obtaining statutory approvals, registration, licenses, certifications etc at the time of start of business enterprise. The centre also provides assistance in the development and formulation of a product brand and provides support regarding intellectual property rights through Patent Attorney. The Centre promotes the incubatee products through the Institute's social media, websites, publications and showcase them in national and state level exhibitions, industry meets etc.

SUCCESS STORY

Following start-ups have been started after taking incubation facility under the guidance of ABI, ICAR-CIPHET Ludhiana

Mr Japinder Wadhawan, young and budding mechanical engineer approached CIPHET Ludhiana for training and incubation on design and manufacturing of agro processing machines. He was admitted for incubation during 2019-20. After getting incubation from ABI CIPHET the incubate started his own start up in the brand name of M/S Raftaar Start up with the

financial assistance of MSME for manufacturing of agro processing machineries. He is manufacturing post-harvest equipments/implements for various institutions, universities firms etc.



Mr. Ashwani Garg, entrepreneur from HP approached CIPHET Ludhiana for training and incubation on Makhana Popping Machine. He was admitted for incubation during 2019-20. After getting incubation from CIPHET the incubatee started his own start up in the name of M/S

Unitech Technocrats Start up for manufacturing of makhana popping machine and supplying to makhana processors.

Mr. Harjit Singh, entrepreneur from Khanna, Punjab approached CIPHET Ludhiana for training and incubation on groundnut/soy processing. He was admitted for incubation during 2019-20. After getting incubation from CIPHET the incubatee started his own start up in the brand name of M/S Suraj Uday Agro-foods Start up for manufacturing of groundnut/soy products under the brand name of Uday Shakti and making products such as soy milk, tofu, gournsnut milk, paneer etc and supplies to local market, Jalandhar, Chandigarh.

Mrs. Karamjit Kaur, entrepreneur from Abohar, Punjab approached CIPHET Ludhiana for training and incubation on aonla processing. She was admitted for incubation during 2016-17. After



getting incubation from CIPHET the incubatee started her own start up in the brand name of M/S KK Foods Start up for manufacturing of aonla products such as preserve, candy, pickle laddoo etc. and supplies in local market, Ludhiana, Faridkot, Ferozpour etc.

SUMMARY

India is endowed with varied agro-climate, which facilitates production of temperate, sub-tropical and tropical agricultural commodities which lead to main generator of

employment and income to millions of people. Entrepreneurship in post-harvest technology and value addition is not only an opportunity but also a necessity for improving the production and profitability. These incubators can take the form of comprehensive occupational schools, offering rural producers and workers sufficient knowledge, experience, infrastructure, and means to become agribusiness entrepreneurs. This endogenous movement can have far-reaching effects, promoting the overall modernization of primary

production, industrialization, and marketing and development of rural areas. The ABI CIPHET Ludhiana take care of technologies, advise/guide the farmers and entrepreneurs and young unemployed youth for exploring new business opportunities and therefore help to enhance and improve economic development through post-harvest processing and value addition of agriculture produce.

Corresponding author's e-mail:
Ranjit.Singh@icar.gov.in.



HANDBOOK OF HORTICULTURE

VOLUME 1 & 2



The Indian Council of Agricultural Research has brought out the Second enlarged and revised edition of the Handbook of Horticulture. Horticultural crops are gaining more and more importance as they have been instrumental in improving the economic condition of the farmer and contributing significantly to the national GDP. This new revised edition has been divided into 2 volumes – Volume 1 contains General Horticulture and Production Technologies (Fruit, Vegetable and Tuber crops) and Volume 2 has Production Technologies (Flower, Plantation, Spices crops and Medicinal and aromatic plants), Plant Protection and Post-harvest Management. The earlier chapters have been thoroughly revised and new chapters have been added. It is hoped that the readers will find this Second edition more useful and informative.

Technical Specifications

Pages : i-xxxiv + 1-682 (Vol. 1)
i-xxiii + 683-1218 (Vol. 2)

Price : Rs 2000/- (Vol.1 & 2) • Postage Rs 200/- • ISBN : 978-81-7164-187-1

Copies available from:

Business Manager

Directorate of Knowledge Management in Agriculture (DKMA)

Indian Council of Agricultural Research

Krishi Anusandhan Bhavan, Pusa, New Delhi 110012

Tele: 011-25843657; e-mail: bmicar@icar.org.in, businessuniticar@gmail.com

