

POST-HARVEST ENTREPRENEURIAL OPPORTUNITIES FOR RURAL YOUTH IN INDIA

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ABSTRACT

“Farming is a profession of hope” and India holds the record for the second-largest agricultural land in the world, with around 60% rural Indian households making their living from agriculture. This not only speaks about millions of hopes associated with agriculture but also points out to the huge scope for agripreneurship startups in the country to make those hopes of Indian farmers come true. India is the second largest producer of food next to China with estimated food processing industry size at US\$ 70 billion. In 2012, the production was 257 million tonnes of food grains, 75 million tonnes of fruits and 149 million tonnes of vegetables. Out of these amounts, only 2.2 % of these are processed. In contrast, countries like the USA and China are far ahead of India in reducing the wastage and enhancing the value addition and shelf life of the farm products. In India the estimated losses in fruits and vegetables are higher and reach up 30 to 40 %. A country-wide study measuring crop losses revealed that 6% cereals, 4.3% pulses, 10.1% oilseeds, 18.1% fruits, and 13% of vegetables were lost during harvesting, post-harvest handling and storage. These percentages are not acceptable and adversely affect the Indian economy. Entrepreneurs play a crucial role in the rural development of the region. Rural development promoters see entrepreneurship as a development strategy.

KEYWORDS: Agripreneurship Startups in the Country, Post-harvest Handling and Storage, Fraction of the Population

INTRODUCTION

Rural entrepreneurship means the same as rural industrialization. It can be regarded as an attempt to mobilize human, material and financial resources in order to fulfill the project in rural areas (Saxena, 2012). An entrepreneur is a person of very high aptitude who pioneers change, possessing characteristics found in only a minuscule fraction of the population. Entrepreneurship is fast catching up among the rural youth, though job still remains the top priority for them. About 62.4 % of Rural India is inhabited by youth. High and rising levels of unemployment among the youth are a matter of urgent concern. Inadequate employment opportunities force them to choose unorganized sectors. Despite having ample scope in agricultural enterprises, unmatched skill sets of youth force them to undertake labor operations. The youth are tomorrow’s entrepreneurs, innovators, contributors and indeed leaders. There is now a growing awareness through the world about the role of youth in economic development. Several micro-enterprises are the keys to generate employment and income earning avenues to both landless and land holding people including women and youth. Agriculture and allied activities enhance their livelihood

system with locally available technological innovations. The young farmers of rural India are more associated with natural and conventional farming and hence entrepreneurship in agriculture can be a suitable option (Dash, 2017).

Scenario

Post-harvest food loss is defined as measurable qualitative and quantitative food loss along the supply chain, starting at the time of harvest until its consumption or other end uses (Hodges et al., 2011). Every year, an estimated 1.3 billion ton - roughly one-third - of the food produced for human consumption worldwide is lost or wasted. In industrialized countries, significant waste occurs at the consumption stage, while in low-income countries, food losses take place primarily during the early and middle stages of the supply chain (FAO, 2011). Empirical evidence on the extent of post-harvest food losses is scarce and estimates vary substantially, between countries and regions as well as between different types of products. Some estimates for average losses in East and Southern Africa, for instance, put Post-harvest losses for grains at 10-20 per cent (in term of weight loss), with some regions reaching as high as 25-35 per cent. In South and Southeast Asia, rice physical losses are 10–25% and quality losses can discount prices by up to 30 per cent (FAO, 2011). In India, the production is about 450 million tons of raw food materials of plant and animal origin which are refined, stored and transformed into various usable

products using conventional and modern post-harvest and food processing technology, out of this amount there is 10 per cent post-harvest losses in durables (Cereals, pulses and oilseeds), 20 per cent losses in semi-perishables (Potato, onion, sweet potato, tapioca) and around 25 per cent in products like milk, meat, fish and eggs. Furthermore, In India, annual storage losses estimated to be 14 million ton of food grains worth \$ 16,000 million every year. About from 30 per cent to 40 per cent of the fruits and vegetables grown in India (40 million tons amounting to US\$ 13 billion) get wasted annually due to gaps in the cold chain such as poor infrastructure, insufficient cold storage capacity, unavailability of cold storages in close proximity to farms, poor transportation infrastructure, etc. This result in instability in prices and farmers cannot get remunerative prices beside rural impoverishment and farmers' frustrations (Rajasri, 2010). On the basis of production and wholesale market price in India, The Associated Chambers of Commerce and Industry of India (ASSOCHAM) found that fruits and vegetables post-harvest losses reached an amount of \$33,745 million in 2011-12 and may cross \$33,745 million in 2013-14

Need to Promote Rural Entrepreneurship

Entrepreneurship development is the driving force of socioeconomic growth of any nation. Sah (2009) stated that developing entrepreneurs in agriculture will solve the entire problem like dependency on agriculture, rural unemployment and migration from rural to urban areas, Personal qualities of an agri-entrepreneur, significantly affect the agribusiness. Agriculture and allied sectors are considered to be mainstay of the Indian economy because these are important sources of raw materials for industries and they demand many industrial products particularly fertilizers, pesticides, agriculture implements and a variety of consumer goods. The development of entrepreneurship in villages will create utilities and generation of employment in rural area. Migrants coming from villages in search of employment to obtain decent livelihood are forced to do a lower job in urban areas to sustain themselves and their condition becomes poor to poorer. So it becomes the need of

the hour to promote agripreneurship and establishment of enterprises related to agriculture raw material at rural areas. The trend of the establishment of rural industries will reverse the migration to urban areas. Rural entrepreneurship will not only bring prosperity in villages but will also save energy, consume in the transportation of bulky amount of raw materials and human resources to the nearby urban areas for employment.

Food Processing as a Solution

Agriculture is the principal means of livelihood for the Indian population. Farmers face huge loss every year due to post-harvest losses viz. food weight loss, loss of food quality, loss of food values, and loss of economic values that make food less acceptable by consumers, that results in poor earning or less profit to the farmers, a solid factor of rural poverty. Food processing industry employs 13 million people directly and 35 million people indirectly (GOI, 2011). Even after a strong agricultural production base, the food processing industry of India is still underdeveloped. The highest share of the processed food is in the dairy sectors whereas 35% of total produce is processed, and only 15% is processed by the organized sector. The processing level is around 2.2% in fruits and vegetables, 21% in meat and poultry products. Of the 2.2% processing in fruits and vegetable only 48% is in the organized sector remaining in the unorganized sector (Rais, 2013). Increasing urbanization, consciousness on health and nutrition and changing lifestyle are changing the consumption habits of India. Nuclear families are creating demand for processed, ready-to-eat foods. Food processing sector can create a boom in employment sector by generating new and diversified job opportunities for rural people. In India Post-harvest losses are higher in fruits and vegetables. Very less amount of fruit and vegetable is being used in food processing. Food processing enhances the shelf life of food. In this way entrepreneurship in food processing and value addition is emerging as a solution to rural migration, rural unemployment, rural poverty and food insecurity among the rural population. In present time processed and value-added food products are very popular among people. Food processing is labor intensive and can provide numerous diversified job opportunities to the farmers, youth and women. In this sector micro and cottage industries can be started at their own place by local people. Availability of raw material and human resources for the establishment of an enterprise reduces the total cost of production. Skill development in the food processing sector is central to improve employment and livelihood opportunities, reduce poverty, enhancing productivity and food safety.

Entrepreneurship Opportunities for Rural Youth

The food processing industry in India is highly fragmented, with the unorganized sector accounting for 70% of the total market. Most farmers have very limited knowledge about processing, branding and marketing of processed foods. Even large farmers find it unviable to invest in most types of processing activities due to the required scale and cost of operations. Given the fragmented nature of the market, farmers can only undertake to process if they collaborate and collectivize.

Packaging Industry- Lack of access to suitable on-farm storage facilities and packaging materials. Poor packing, make-do farm storage and lack of pre-cooling and cold facilities result in losses, especially for produce that requires transportation to distant end-markets. Without preconditioning, a portion of the produce is damaged even before it reaches the cold

storage, and without reefer transport and ripening chambers, there are gaps in integrating the cold-chain from farm to market.

Minimal Processing Industry- Small-scale processing and temporary storage activities are carried out near the farm gate, while large scale storage and processing facilities are centrally located at hubs. Primary processing includes activities such as threshing, drying, sorting, and grading which are conducted by farmers immediately after harvest for improving the shelf life of produce and reducing post-harvest losses. Primary processing activities do not lead to change in form of the produce.

Secondary Processing-: Secondary processing of produce is characterized by a change in form of the produce with substantial value addition. Secondary processing is predominantly conducted by companies in the organized sector. However, farmers and farmer collectives may also conduct small-scale secondary processing near the farm.

Cold Storage Unit- Unavailability of cold storages in India is just one of major reasons for these losses, since operating costs for Indian cold storage units are a whopping over \$60 per cubic meter per year compared to less than \$30 in the west. Energy expenses make up about 28 per cent of the total expenses for Indian cold storages compared to 10% in the West. These factors make setting up of cold storages difficult, unviable and uneconomical (Maheshwar and Chanakwa, 2006).

Pickle Making Industry- Pickling of plant and animal foods is a relatively old method of food preservation. It is estimated that the first pickles were produced over 4,000 years ago using cucumbers native. Pickles are preserved in a solution of vinegar, salt, and other flavorings. They are

Typically Fermented with Naturally-occurring bacteria prior to preservation. While pickling technology has been known since ancient times, pickles are still popular food, with over 2.27 million kg consumed daily. The best example is Hudli Project in Karnataka which has achieved the status of the cottage industry.

Jam and Jelly Preparation- The fruit jam, jelly, and preserves market is driven by the convenience of food supplement items, preference for ready-to-eat products, multiple distribution channels, changing lifestyles and food preferences due to urbanization, and the popularity of versatile flavored food materials. The global fruit jam, jelly, and preserves market are expected to reach USD 30 million by 2023, at an estimated CAGR of 3.5% during the forecast period (2018-2023).

Puree and Sauce Preparation- Puree is a processed food product, usually consisting of only tomatoes, but can also be found in the seasoned form. It differs from tomato sauce or tomato paste in consistency and content; tomato purée generally lacks the additives common to a complete tomato sauce and does not have the thickness of paste.

Ripening Chambers- Many fruits such as mangoes, apples, bananas and tomatoes are picked since before ripening when the fruits are green. It helps smooth transportation. In the lack of natural ripening chambers, the practice of artificial ripening through Calcium Carbide in many fruits, especially mangoes, papayas, sapota and bananas are rampant in India. The suppliers use Calcium Carbide with fruits. When it comes in the contact of moisture, it produces acetylene gas, similar to ethylene, a natural ripening agent. Acetylene accelerates the ripening process and makes the fruits servable in the market. The lack of ripening chambers is the biggest reason behind such malpractices. However, the sector is facing a 91 percent deficit in this infrastructure with having only 812 ripening chambers for natural ripening of fruits.

Pulp Manufacture, Juice or Squash Making- Fruit Pulps retains most of the nutrients of fruit and thus preferred in various food and beverage products. Fruit Pulp market is mainly driven by the changing consumer preferences towards healthy and non-genetically modified food. Fruit pulp has a longer shelf life than the fruit itself due to which the Fruit Pulp market is expected to grow during the forecast period. Fruit juices are made from pure filtered fruit juice with nothing added. Squashes are sweetened juice of fruits containing some pulp this sector is growing at the rate of 15% peryear.

Challenges Faced by Rural Entrepreneurs

A promoter of rural enterprise faces a plethora of problems, usually called teething troubles when he sets up his enterprise. First of all, financial problem arranging working capital becomes a major task as he could run out of money to buy raw materials though he may not yet have earned any reputation in the market to get raw materials on credit. Similarly, he makes several production trials, improves quality, etc. Another major problem happens to be the lack of economies of scale especially for rural enterprises. There are also policy challenges faced by the enterprise. To top it all, there are marketing problems, management problems, and human resource problems. Barriers such as lack of awareness, limited access to finance and few near-farm markets are adding more difficulty to the already enlisted bulk of challenges. The changing global environment raises questions about the ability of traditional, small-scale businesses in rural areas to share the potential benefits offered by the changing environment. The rapid (though declining) population growth, coupled with even faster urbanization, creates increasing demands. In India, urban populations, in general, grow about twice as fast as the overall total, and by 2020, they may exceed the size of the rural population. Such a significant demographic trend challenges the capacities of some traditional small-scale businesses to cope with the increasing demands. And this is why Rural Entrepreneurship is becoming increasingly important in India, and already, there is a changing trend in how things happen.

CONCLUSIONS

As per latest estimates by the Associated Chambers of Commerce and Industry of India, India loses approximately US\$ 14.33 bn on account of Post Harvest Loss. Crop worth approximately US\$ 19.4 mn is wasted in India on a daily basis only due to rejection at the farm gate and delays in the distribution process. Post-harvest losses in India stem from a range of factors including lack of post-harvest infrastructure, limited technical know-how on good agricultural practices, imperfect market knowledge, and inadequate market access. Reducing food loss and waste requires action by a wide range of researchers, households, the private sector, policymakers, farmers, extension services, and more. It also requires changes in technology, practices, behavior, and policy. These factors suggest that no single individual or group can sufficiently tackle this problem alone; collaboration is needed. Rural entrepreneurship is the solution to reduce rural migration. Skill development of rural youth is recognized as an urgent need of the day to reduce rural migration and achieve decent livelihood. The government has launched many strategic measures to get decent livelihood through entrepreneurship development at the rural sector but in spite of programs, schemes and vocational courses India is considered as an industrially underdeveloped country. People are not aware of these government initiatives. So it is necessary to raise awareness among rural youth regarding government schemes and programs being run for the promotion of rural entrepreneurship.

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