



## Overcoming Challenges and Enhancing Resources for Entrepreneurship in the Fruits and Vegetables Industry

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Overcoming challenges can be a game changer in augmenting opportunities to setup entrepreneurship in fruits and vegetable business. Some of the challenges and opportunities are been discussed here. This study aims to overcome obstacles in expanding opportunities for entrepreneurship in the fruit and vegetable industry by utilizing resources to enhance horti-entrepreneurial opportunities.

**1. Post-harvest loss and their preventive measure:** The fruit and vegetable sector has experienced rapid growth due to improved technology, lower transportation costs, targeted marketing, and shifting global markets. However, this growth has not been accompanied by improvements in processing, value addition, preservation, and supply chain management. Small and Medium Enterprises (SMEs) are struggling to capitalize on these opportunities. The Indian government has allowed 100% FDI in the food industry, expanding processing facilities and allowing e-commerce retail trade. 42 mega food parks have been built as critical processing hubs, and the Agro-Processing Cluster (APC) facilitates contemporary infrastructure and common facilities. This cluster method encourages entrepreneurs to establish food processing units by connecting processors with farmers and marketplaces through a well-equipped supply chain.



**2. Challenges and avenues in cold chain:** India's annual fruit and vegetable production is expected to reach 130 million tonnes, accounting for 18% of the country's agricultural output. However, the lack of cold storage and cold chain infrastructure is a significant hindrance to reaching this potential. Cold storage facilities are only accessible for a single commodity, such as potatoes, oranges, apples, grapes, pomegranates, and flowers. The National Centre for Cold Chain Development predicts a 40 million metric tons cold storage infrastructure shortage. Investment in India's cold chain is expected to increase dramatically over the next five to ten years. Alternatives include testing and certification labs, research and framework development centers, training facilities, information technology networks, and handling and packaging equipment. Many cold storage facilities are exempt from service taxes.

**3. Fruits and vegetable exports:** India's large production base of fruits and vegetables offers significant export opportunities, with a 2017-18 export worth Rs 9,400 crore. Despite a less than 1% global market share, the country's fruits and vegetables are increasingly popular, particularly in pomegranates, mangoes, grapes, bananas, walnuts, onions, mushrooms, bitter gourd, okra, chillies, and



potatoes. This growth is attributed to improvements in post-harvest management, such as quality assurance, packaging, and cold chain infrastructure. Massive investments from public and private sectors, with APEDA's aid, have integrated post-harvest handling facilities and perishable cargo centers. This has led to a strong growth trajectory in the food processing industry, from 11% in 2009 to 17% in 2017.

#### 4. Technology delivery systems

##### a. Farm level intervention:

Spreading out production allows farmers to grow superior types with higher juice and brin content, reducing gluts and stabilizing prices. Clustering the same agricultural item in multiple sites enhances logistics and marketing, while consulting on farm expansion and sustainability is a rapidly growing business for corporations.

##### b. Industry level intervention:

The government is exploring tax exemptions and financial incentives for processor-level activities in citrus and apple fruits to enhance capacity and facility financial viability.

##### c. Corporate level interventions:

Fragmented lands in Indian agriculture are often a major issue, but cooperative models have proven effective in the dairy sector. These programs handle fruit juice concentrate processing, leading to the Fruit Circular Economy. These projects can create new firms, farm extension services, and connect farmers to digital markets.

#### Resources for Augmenting Horti-Entrepreneurial Opportunities

- ✓ Financial aid is available for agro processing clusters established by Project Execution Agency (PEA)/organizations, including governments, PSUs, joint ventures, NGOs, cooperatives, SHGs, FPOs, private sector, and individuals.
- ✓ SAMPADA, a central government scheme, offers financial assistance for establishing integrated cold chain, preservation, and value-added infrastructure to reduce post-harvest losses of horticulture produce from farm to consumer.
- ✓ PMKSY Scheme for Infrastructure for Agro Processing Clusters encourages the development of modern infrastructure to allow entrepreneurs to establish food processing units using a cluster model.
- ✓ Technical Agencies (TA) of the Ministry of Food Processing Industry (MoFPI) will provide capacity-building seminars and training for Board of Directors (BoDs), business planning, and other important members of FGs on food processing entrepreneurship and management.
- ✓ APEDA supports infrastructure development for agricultural exports. The approach is applicable to both fresh and processed food products. Its primary job is to provide post-harvest handling facilities to businesses.
- ✓ Indian Institute of Horticultural Research (IIHR) offers an on-site incubator for fruit and vegetable processing businesses.
- ✓ Food Processing Instruction Centers (FPTC) under MoFPI-recognized institutes teach producers and entrepreneurs about cluster construction, fruit and vegetable processing, export limits, analysis methods, and startup opportunities.

