

A STRONG COLD SUPPLY CHAIN FOR STRONG FOOD SUPPLY

Food waste is a global issue, and it's not going to go away until we all take a more proactive approach in ensuring foods storage to retain freshness and quality. All businesses, especially those in the food service industry should be taking a closer look at how their produce is managed to help improve their efficiency and profit margins.

India, the world's largest producer of milk and the second-largest producer of fruits and vegetables are also one of the biggest food wasters in the world –

wasting INR 440 billion worth of fruits, vegetables, and grains every year. The challenge of feeding India's billion-plus people is not really about agriculture and food production but getting the food to the people. The biggest contributors to waste are the lack of refrigerated transport and adequate high-quality cold storage facilities for both food manufacturers and food sellers (retailers). India lacks and needs a well-developed, world-class cold chain infrastructure. Without it, India's problems are vast and likely to grow. For example, waste is responsible for 50 percent of the current cost of milk in India.

The most susceptible food category to the lack of cold storage is fruits and vegetables, where annual wastage

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is estimated to be 18% of the total production. Controlling the levels of waste is beyond the capability of individual farmers or consumers. The problem is broader and involves market schemes, availability of power supply, quality of roads, focused government intervention, and a need for a more pronounced investment in the sector.

One of the major reasons for this food waste and food loss is the lack of an efficient cold chain infrastructure from the farm to the fork, including refrigerated transport, pack houses, collection centers, and cold storage. Another reason for wastage is inadequate knowledge of handling perishables and the skill levels required to take care of these at various stages.

Physical loss of food has a multiplier effect in associated waste of inputs like water, electricity, and fertilizers. It also adds to greenhouse gas emissions, contributing to climate change. Farmers' profit margins dwindle with the increasing perishability of their produce. A well-defined cold chain infrastructure could well reduce food loss, create a positive ecological impact, and directly affect farmers' incomes.

Existing Cold Storage Infrastructure

India has around 6,300 cold storage facilities across the country, with an installed capacity of 30.11 million metric tonnes, 75-80% of which is suitable for storing only potatoes, contributing to only 20% of the agricultural revenue. Adopting proven technology solutions for an efficient cold storage infrastructure will help achieve the goals of improving overall agricultural output and revenues. Let's have a look at some emerging solutions.

Only 10–11 percent of the fruits and vegetables produced use cold storage.

There is a deficit of 90 percent. Storage capacity needs to increase by 40 percent to avoid wastage. The wastage of fruits and vegetables occurs more in the southern and western regions of India due to the tropical and humid climate.

India produces 250 million tonnes of food annually; 65 percent of the population is engaged in agriculture. About 18 percent of the country's fruits and vegetables, worth INR 133 Billion, go to waste annually because of the lack of cold storage facilities.

Meat, milk, and poultry products (except eggs) cannot exist without the cold chain. Hence, the country's cold chain infrastructure for milk, meat, and poultry is still good. In the case of fruits and vegetables, there is a market for fresh fruits amongst people of different economic backgrounds. Overall, there are inadequate cold chain facilities for fruits and vegetables.

Poor cold storage infrastructure not only affects the freshness and quality of products but also the price. Waste can contribute to doubling fruit and vegetable prices; while milk can cost 50 percent more. In India, lower-quality fruits and vegetables end up being consumed due to low awareness of food freshness. This is a considerable risk to their health.

Appropriate food storage plays a critical role in preserving the nutritional value of food. It prevents food-borne illnesses caused by harmful bacteria and helps protect vital nutrients. When food is not stored properly the result is under-nutrition affecting large sections of the poor, particularly women and children. Consequently, physical growth and health deteriorate in adults, and work capacity and productivity are reduced in children.

Once caught, marine food products are highly perishable. Marine foods for export typically need to be quickly frozen after initial processing and kept frozen until purchased by the consumer. New initiatives have been adopted for developing the sector to increase yields and ensure a sustained livelihood for fishermen. There has also been an amplified effort to increase exports to other countries through



improvements in infrastructure facilities like cold storage that better address post-harvest management. As a result of this concerted effort, marine product exports have grown by 7.68 percent over the last fiscal year according to the Ministry of Commerce.

The Way Forward

The cold chain industry is an emerging and fast-growing business sector in India. With the present food shortage, food security and safety are issues of growing prominence in India. Considering the current levels of food wasted, cold chain facilities will play an important role in feeding the country.

Understanding the increasing demand for an effective cold chain, the government has established a separate department, National Centre for Cold-chain Development (NCCD), and this development points to the importance of cold-chain facilities.

On an economic level, recent history

in other countries shows that income levels rise, food production and consumption patterns change and often lead to an increase in demand for easier-to-obtain, processed food. Along with the growth of the processed food market there comes the need for a better cold chain industry.

Developments in the food processing sector, organized retail, and government initiatives will drive overall growth for the industry. The industry's progress will also fuel the flow of investment by multi-brand companies and sustain their interest in the retail sector.

To develop a world-class cold chain infrastructure, the government, and industry bodies need to join hands to adopt better and more efficient technologies to prolong the shelf life of food products and bring commensurate economic returns to the farmers. This will not only ensure the year-round availability of perishable food products and reasonable prices to the consumers but also equitable distribution to other parts of the country.