July 2016 – Article - Fresh Fruits & Vegetables: Supply Chain Challenges

Fresh fruits & vegetables hit the headlines when the tomato prices cross 80Rs/- or onion brings tear to the housewives. Researchers love to write articles on losses in fresh fruits and vegetables to the tune of 30-40%. Most causes of farmers suicides are also linked to no or low returns from the farm produce. The news of tomato selling at Rs2/- or potato thrown in the highways are also not uncommon. When the retail sector opened up, people thought that the scenario would change when investments pours in to the fresh retail segment. But nothing has changed significantly.

The fruits & vegetable (F&V) supply chain is characteristically complex and complicated. More than the transportation and logistics, there are other factors which impact the supply chain. Most of these products are highly perishable, strongly price volatile and uncertain on demand. Supply side is marred by seasonality, cyclicality and climatic conditions of different geographies. There is very little value addition in the fresh business except for sorting, grading and packing. The industry comprises of largely unorganised trade to an extent of 99%. The obvious question is why organised players do not step in.

To manage a retail supply chain for cauliflower in Delhi one has to source it from 5 different geographies during a year. These geographies are spread from 6 to 600 kms, 700 to 7000ft (above sea level) or from the deserts of Rajsthan to hills of Himachal. The variability’s are such that one has to create a supply chain every alternate month only to be broken in the next month. The prices also vary from 10 Rs/ to 100Rs/-. So can the frozen cauliflower be a substitute when prices are high. No, as long as fresh is available, frozen has little preference. People might reduce quantity to adjust the budget but still not replace it with frozen.

It is said that less than 4% of India’s fresh produce is transported by cold chain, compared to more than 90% in the UK. Refer transportation as solution to the post-harvest loss is easier said than done for the simple reason that we do not have end to end cold chain. The last mile connectivity or the hawkers/ vendor do not have the infrastructure of cold chain. The fruits & vegetable (F&V) which is moved in refer & brought on to ambient environment deteriorates faster. Additional cost load of cold chain is also not competitive either. The solution therefore is not cold chain but the ventilated, air circulated & humidified transport. There is a wide range of traditional packaging adopted for transportation of different items like bamboo basket in combination with banana leaves at Barpeta in Assam, wet gunny bags with ice cubes for beetle leaves in Orissa, wooden boxes with straw for alphanso mango at Ratnagiri. These are traditional, low cost, and highly efficient in preserving F&V during the transit. But not much research has taken place to standardise these for logistic requirement or accounting requirements.

Small farmers keep growing different vegetable in different season throughout the year. But unless the area develops as a cluster for particular crop which produces significant quantity for a period of time, the markets do not develop nor it becomes logistically viable. Over a period of time commodity mandi’s have developed in some clusters for specific commodities like onion at Nashik, tomato at Kolar or potato at Agra. But these are only a few. Many of the F&V mandi’s/ hats in north and east are a mix of all vegetables with very small lot size in kgs. A lot of aggregation is required for export of these to distant places. The uniformity of quality in such cases is very low leading to very poor returns. Most of the mandi’s/hats of Bihar, Bengal and Assam are of this nature.

Another easy solution suggested most of the time is “eliminate the middleman or de-layer the supply chain”. It is easy to delayer the chain but not easy to delayer the costs. Formal organisations often add costs; there are delays in decision making and are bound by legality or organisational rules. F&V deteriorates and deteriorates at a faster rate as time passes. Losses piles up with passage of time. So most organised players tend to lose for the reasons of organisation. While the small player/ vendors are efficient in operation but it is very difficult to scale up or replicate their operations.

Farm acreage sown is largely based upon the previous years’ return and not on the future opportunities of sale. Farmer is always tempted to sow more if he has a good previous year’s earning and also the vice-versa. As a result of this there are cyclical supplies of high & low availability. This leads to sharp rise or fall of prices. When there is disproportionate rise of prices many speculators, traders or hoarders get in to the trade making it more complicated and unreasonable. The trade gains on uptrend situations while farmers loose on down trend. There does not exist any formal or informal planning mechanism as to how much to be sown and when to be sown or where to be sown.

Farmers do not realise the right value of the produce as they do a very little on post-harvest management of sorting, grading & packing. There are also issues of standardisation of packing across the country even for the major fruits and vegetables. Most of the government initiatives are directed towards creating production technology and very little on post-harvest and marketing initiatives. However there are some developments that have picked up momentum like use of standard boxes in apple trade in Himachal or use of crates in tomato trade of Nashik or the grading done by the farmers for Alphanso mango. Government needs to direct investments more on the marketing of produce more alike Washington apples. It also has to regulate on cropping area for better availability of fresh produce for the consumers and better price realisation for farmers.