

Food security breach... and bridging it

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How does one correctly evaluate the infrastructure capacity needs of a cold-chain?

Only with access to relevant information and only with clear understanding of what comprises the total cold-chain. Unfortunately, such assessments in the past have related to one sole component, the cold store. The most commonly quoted capacity gap was assessed in 2010, where that report stated that the country (India) needed creating another 37 million metric tons in storage capacity.

That 2010 analysis assumed that all infrastructure created, continued to be operational, irrespective of technology or ageing. The assessment did not resort to first hand data on the existing usable and available capacity in the country. As a mere desk review of statistics, with the existing capacity not assured, the gap mentioned served purpose at a very basic level only.

Yet (and sadly), many “knowledge houses” frequently & unceasingly recourse to quoting this primal assessment, not understanding and so not bothering to research further. Many conjectured (even mandated), that this stated capacity gap, was the urgent and primary option for India. Adding another 37 million tons (approximately 120 million cubic metres of temperature controlled storage) which would result in a doubling of the cold storage capacity created so far.

This was an easy assumption, and extrapolated across all product types and dare I state, ‘it seems flawed and impractical’. The first simple inference, eventually & surprisingly got propositioned far beyond its original ambit and what comprises the cold-chain was not fully factored.

It was a period of copycat culture amongst researchers, the investment opportunity and the mood this generated was far too attractive to question...maybe! After all, the task of assessing reality across Indian landscape is ever daunting, and it is far easier to pass off approximations instead of grilling the logic.

The reality is that our existing storage capacity or even the stated shortfall, was not reviewed in terms of temperature zones or its position in product specific supply chains. In fact, demand from the food processing industry, or other commodities like spices and pulses may have been missed - and each would translate into differing ‘capacity needs’, even in relation to volumetric requirements per product type, varying on the basis of each product life cycle and the ensuing throughput cycle, across the cold-chain.

More drastically, any analysis cannot be limited to cold storages alone should refer to other correlated and necessary infrastructure. A cold-chain capacity gap report needs to detail the **phenomenal deficit in transport** – there is no cold-chain without this link! Most analysis, even from the multitude of privately held research houses, seem to blithely assume that all surplus produce can and should undergo subsequent storage for viable sales in off-season periods. This presumption was irrespective of feasibility or any other intervention needs. Basically, the need for production units or pack-houses is not being factored in... can there be a cold-chain without points of origin!

In case of some fresh produce, like the bulk of potatoes and spices produced, less than a half of apples produced, etc, the formula “production – local sales = storable surplus” can be used. But in the case of most other perishables, including many food products that come off a factory line, and dairy products, the cold-chain gap needs to be assessed in terms of throughput rates across each infrastructure component.

In all cases, a deficit in production capacity will impact feasibility of storage. The deficit in reefer transport, will forsake the supply lines. A shortfall in cross-docking distribution cold stores will reflect

on delivery to markets. Any misalignment among these infrastructure components will break the cold-chain. This miscued approach towards our food supply chain has resulted in missed opportunities in securing our food, in hobbling our chance for greater food security.

The much touted 30% to 40% loss of food awaits definition and debate, but nevertheless, a loss exists and the sole bridge today's technology has to offer is the cold-supply-chain. Have we missed bridging the gap?

Currently, in the fresh segment, the **cold-chain misses pre-conditioning centres** or pack-houses and yearns for appropriate transport links. Rough estimates indicate that to feed domestic farm produce to only 10% of our existing cold storage capacity, 30,000 pack-house units dotting across rural India, each feeding twice as many reefer transport units will be required. This is going to need influx of thousands of crores of rupees of capital, into rural India. If implemented, it will bring industrial infrastructure to rural areas, one that sustains their core livelihood, farming. It will mean market linked farming, opportunity to maximise value of farm produce, employment diversification and wealth creation at the back end.

This will also require another kind of capacity in cold chain – human capacity – in operational skills and management.

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