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Ritwik S

## Cold Chain

# Will it come out of cold?

They call it a 'case of criminal wastage.' For harshest of critics, no other term best defines the state of Indian agri-business particularly perishables. And rationale is simple: despite being second largest producer of fruits and vegetables in the world, every year 30-40% of produce go down the drain for want of efficient supply chain models comprising a robust cold chain storage infrastructure.



Sinha



Ajay Chopra



B D Narang

But is it a permanent evil we are forced to live with? Or with transformation happening across various other sectors and businesses, cold chain units too would eventually come out of the cold. **ASSOCHAM** and **Logistics Times** recently organised a round table discussion to unravel several sub-plots of this story. The participants were: **Pawanexh Kohli**, Chief Advisor, National Centre for Cold-chain Development (NCCD) & Principal Advisor of CrossTree; **Sanjay Sharma**, MD, Global Agrisystem; **B D Narang**, Former Chairman, Oriental Bank of Commerce (OBC) and **Ajay Chopra**, MD, Competent Agri Solutions. The discussion was moderated by Editor of this publication, **Ritwik Sinha**. Here is the abridged version of the discussion:

**Ritwik Sinha (RS):** Let me extend a very warm welcome to all of you for this edition of our big debate series. In today's session we are going to focus on the state of the cold chain in the country. Let me come straight to the point and it's a question open to all of you. The government recently submitted a statistics in Rajya Sabha which underlines the demand and supply gap vis-à-vis cold chain infrastructure in the country. The demand is something like 61 million tonnes but as against that the cold chain storage capacity is only 29 million tonnes. I don't want you to present a long historical perspective of how cold chain has evolved in the country. But yes, I would like to understand from you what has really happened in last ten years in terms of cold chain infrastructure development. And my rationale for this is simple: in last ten years especially in the first part of last one decade, India has witnessed the best GDP growth phase since independence. The two cyclical slowdown spells since 2008 notwithstanding, many sectors and businesses have attained new scale in the country. Given this kind of equation, one would like to believe that cold chain sector would also have benefitted to some extent, some positive rub off may have happened.

**Pawanexh Kohli (PK):** In last ten years, we have definitely seen the emergence of modern, cold chain distribution hubs at some places. There has been a significant modernisation drive which we have noticed in this business and is well evident in the ramp up of distribution hubs and reefer trucks fleet of many operators. The focus of the government in recognising cold chain as one of the most effective and the most necessary supply chain tools for handling of food chain and towards national food security has clearly happened in last ten years. Earlier the cold chain was only a small infrastructure story and they were built at the back end for the easiest of cold chain products which was potato, and for a select group of marine products and dairy. If you consider the case of potatoes in India, then I would say that they were never really part of a cold supply chain. They were stuffed into a cold storage but they were never pre-cooled, were never subjected to an extended cold chain process and exited the cold chain warehouse and moved to the open market. So they were never formative to that complete cold chain. For dairy products, the process was simple. Milk would be collected, cooled and moved under insulation, quickly processed and then pushed back in the market. But the scene is changing now. There has been a huge amount of growth, awareness and development in last ten years and now it is at the tipping point to move into the new orbit and display the real benefits.

**Sanjay Sharma(SS):** You began the discussion by quoting a particular statistics. Let me add to that. Out of the 29 million tonnes of cold storage capacity we have, 24 million tonnes is purely for potatoes. So what we are talking about

is remaining five million tonnes for everything else. That practically means we have a demand of 32 million tonnes for products other than potato and, therefore, we can take care of only 15 percent of the actual requirement. And I would even question this demand figure of 61 million

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tonnes. Furthermore, we have a very inefficient system for meat production and distribution. Barring dairy products probably, we have got very inefficient and very unhygienic cold chain system for every other category of products. If we consider poultry and meat as case in point, we probably



require something like five million tonnes of cold chain capacity for these two segments alone. Our Food Safety Act is slated to bring some critical changes in the future and one of them would be prohibiting slaughtering in the cities. One can imagine the kind of slaughtering which is happening in

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the cities and kind of pollution it is creating in the sewerage system. If that has to be controlled then the slaughtering has to be shifted outside the cities and this would entail changing our production system for meat products. Simply put, it would create a mammoth demand for the cold chain.



Point is: efficient cold chain system is increasingly becoming the sheer necessity of our food market in the country which would force us to develop it a little more aggressively. If we take the demand and supply of food and vegetables in the country, we have very low tolerance for two kinds of situation – low production or over production. One example I often quote is: during the National Democratic Alliance (NDA) regime, a very serious onion crisis had happened. But do you know this crisis had happened just because of a meagre production difference of 10 percent even as the price had skyrocketed to around Rs 75 per kg? So a small 10 percent shortfall in production can create a serious crisis in our society. Similarly, if there would be 10 percent excess production, it could lead to another kind of crisis. Actually, the crisis is not because of production and demand-supply gap. The crisis is because of inefficient distribution system which we have. We do not have effective storage mechanism for preservation of perishables and make them reach to the consumers when it is needed. So that is the distortion or the gap which need to be filled.

Now coming to the developments in last ten years, forget about the statistics and numbers. There has certainly been some significant qualitative difference which has happened in cold chain development here. Previously the technology which was extensively used was 100 years old punkha system of cooling (it is still used for potatoes). The big, modern handling system, the airflow control, temperature and humidity control, etc. were not too much in practise. I must appreciate and congratulate the National Horticulture Board (NHB) to have taken initiative (I would not say they have created perfect systems) to set up standards. And why it was important is something I am emphasising from my experience of dealing with clients as an agri-business consultant. In India when a client comes to you with the intention to own and operate a cold chain unit, he doesn't know his own requirements in precise terms. He simply can't make specifications himself for plant and machinery. By and large, he is looking at availing benefits out of government subsidy schemes. If you quiz him on possible marketing or sourcing model for his project, he does not have a clue. Similar trend is evident when it comes to choosing technology. He might be knowing some equipment guys and he will tell them to make cold storage. Here what NHB standards have done is: they have educated people on the technology and standards they need to adopt. And this is a significant difference. Today even for potatoes we are deploying advanced technologies. I will give more marks to technological changes which have happened than the quantitative change in terms of bridging the gap between demand and supply.

**RS:** So you are saying very subtly advanced technologies or processes have found their way in cold chain operations in the country. But am I wrong in my assessment that these

might have been adopted by a select few?

**SS:** Select few yes, if we look at the overall numbers. There are 6000 cold storages and only 200 can be called modern. But if you make the same comparison of potatoes vs others which I made, the new cold storages could be 200 and out of that 180 are with modern technologies. Point is: people are now aware. They know that technology is available and the world of difference it can bring to their operations.

**PK:** Technology is adopted by a progressive user. And when he does that, there are scores of others who would like to emulate. And why do they emulate? Not purely for imitation's sake but more because of the reason that they realise the importance of technology today. The old equations for running cold storages hardly exist any more – free electricity, cheap diesel, etc. The cost of running a cold storage has gone up significantly. So technology adoption has become necessary to make your operations viable. You invest in technology because your operating cost would come down and long term sustainability would improve, as well as to safeguard your cargo. All this has happened in last ten years. In fact, in the same period many business dynamics have changed. Technology has become cheaper, its viability improved because operating costs came down, adoption became easier because you had examples around you. And this has inspired a lot of existing units who have gone for upgradation. Technological upgradation could be in terms of insulation, handling systems, machinery, monitoring mechanism- all that has happened in last ten years.

**B D Narang (BDN):** I am pretty impressed with what previous speakers have highlighted. I think time has really come to get started in a big way on cold chains and for this it is imperative to prepare broad project reports for handling temperature controlled products. The focus should be on multi-commodity cold chain system. I fully agree with the onion crisis example cited by Sanjay. The problem was not with the level of production but rather with logistical arrangements. We have a large variety of very expensive, high valued products and it is no secret to anybody that they should be preserved for longer duration. Just to cite an example, *lichi* has shelf life of only 15 days and the product is available for one month only. With little input, the shelf life of this product can be increased to five-six months. With good cold chain system, we are told the shelf life of apples can be increased to a year. As I said earlier, the onion crisis had happened because for 27 days transport wagons were not available at the source hubs. If in Nasik or Jalgaon market, you have the product in abundance but there is no storage and transportation facility, then the crisis is bound to happen. My suggestion is if we can involve experts and prepare draft project reports focusing on areas of abundant production, it would be a great help. My own experience says that when it



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comes to cold chain management, we are by and large living in the past. Many of the stakeholders in this business in different parts of the country might not even be aware of what changes have happened in last ten years. I think, draft reports can help them a lot in terms of getting abreast with the contemporary trends. Most of the cold chains which are being put up today are already outdated. My feeling is most of the entrepreneurs who are willing to put up a cold chain project are not aware of the developments which have taken place in last ten years in technology. Earlier we used to call it cold storage, now we are calling it temperature controlled. What does it mean?



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That some changes have clearly unfolded. Let us pick up ten products and prepare draft reports on them so that the future entrepreneurs should know the options available to them. It would encourage the existing unit holders also to graduate to more modern units.

**PK:** I think, what Mr. Narang is saying has already started happening on the ground. These days cold chains are usually set up with government subsidies and the Government subsidies are promoting multi-commodity cold chains and not single commodity units. Standards and specifications

have already come out which promulgate the modern type of units.

**RS:** Mr. Narang, I would like to have a specific bankers' perspective from you. Has the banking system in general ever considered cold chains a business segment which has potential?

**BDN:** No. That has never been the case. Now the question is why? Traditionally, it has been set up by entrepreneurs mostly in mandi locations. And they have not been looked upon as entrepreneurs who would tend to think on scientific lines. So what has happened- most of them took subsidies and there have been scores of cases where cold chain units were abruptly closed. You may ask why? Well, the answer is: the viability of their business models never emerged. Second point I would like to emphasise when you say that the government is providing adequate subsidy is that the nature of the subsidy should be tweaked - from capital subsidy to running subsidy so that those cold storages can function. The benefit really lies in running it in a very scientific manner.

**SS:** Mr. Narang presented some interesting points and I would like to add to that. Enhancement of shelf life which you stressed upon, I agree with it but I would rephrase it differently. What does enhancement of shelf life means? It means that there is an even distribution for a longer period. For any typical crop, we can consider 45 days harvesting spell - 10 days are lean, 25 days good and then again 10 days turn out to be lean. So even during those 45 days, there would be spells of shortages. Secondly and equally important is the issue of geographic distribution to a longer distance. Today 25 percent of tomato coming from Nasik to Delhi goes waste. But this can be saved if its transportation, cold storage, sorting and packaging processes are undertaken scientifically.

**PK:** Cold chains connect markets to source. They are not typically to prolong or delay reaching the market but intended to continually feed into the market. Yes, in the case of some particular products where production is limited to a certain season, cold storage can come into the play to enhance their longevity. Otherwise, it's a chain which happens to be temperature and environment controlled. It does not merely mean reduction in temperature to preserve something. Handling, air flow, ambient parameters - these are critical parameters. It's clearly a misnomer and some stakeholders unfortunately have this erroneous assumption that if you open a cold storage, it can dramatically extend seasons for all kind of perishables. Please keep in mind it is a cold SUPPLY chain!

**RS:** Pawanexh haven't we already started talking about products, even perishables being season agnostic?

**PK:** Its simply because the supply chain extends the season by another few weeks or the product can be put in the frozen mode by applying different processes. Some of the products can be extended beyond season even, as they are not fresh. You see, there are different types of cold chains. You look at fish and mutton- they are season agnostic. There could be three-four months when there is no harvesting in the sea. Yet because fish is something which goes in deep freeze mode – in something like -18 degree storage environment, the product may be already dead the cold storage has got nothing to do with the product. It mostly enables the preservation by countering external microbial attack. Not the case with the majority of fresh perishables.

**RS:** Let me move onto another critical issue. Anil, you largely come from retail background having served in companies like Mother Dairy, Subhiksa and Reliance. Now it is generally believed that organised retail helps in shaping up modern supply chain including the cold infrastructure part. We are keeping the FDI element out for a while here and focus on specific timeline which I mentioned while kicstarting this discussion. The post-2000 scenario has again been a spell which gave a significant boost to organised retail with some of the giants of India Inc. jumping on the bandwagon. But going by the popular perception, not much has happened in terms of creating a robust backend platform including the cold chain. What could be the reason?

**Anil Chopra (AC):** Its true that many front running entities of India Inc. got on to multi-brand retail bandwagon. But firstly I think, not that kind of demand really emerged for multi-brand retail especially in terms of emerging with its own distinguishable identity when it comes to their perishable offerings. And secondly: Indian entrepreneurs who really strived to make a mark somehow could not give up his habit of looking at his balance sheet constantly. They did not display the appetite which is typically required to play long term game.

**RS:** But does that also hold true for companies like Reliance and Aditya Birla group?

**AC:** Absolutely. They are always looking at the margins. It has typically been the problem of the mindset.



**SS:** I think what we require from organised retailers in the country is a mindset which consistently looks at quality with a religious bent of mind. There is no difference between what a push cart seller offers and what is offered at a modern retail outlet.

**RS:** Are you saying that the boom spell which we witnessed in organised retail in the last decade, players ended up focusing more on quantity?

**SS:** Exactly. And competing with push cart sellers they resorted to the mind set that the product will ultimately find its market irrespective of its quality.

**PK:** I think, the other panelist has said it all when he said Indian mindset was to look at the balance sheet every day. It simply means there was no strategy. If you want to enhance the value, get recurring improved price realisation, you have to have consistent quality as your strategic agenda. But if every day you are testing your balance sheet, then with such tactics not much will happen. At best, you will end up doing pilot projects without making much mark. You need to have a wholesome strategy. If you have a cold storage close to the city, it has to be a distribution hub. Something at the backend or something at the staging area - somewhere close to the port waiting for capacity movement on ship or train or anything becomes a storage node which in turn serves as part of the complete supply chain. There is no such thing as building somewhere in isolation, out in the boondocks and then pretending it to work properly as a cold chain. Where it has been done right, you would find customers are paying for it, the customers now want quality!.

**(Full discussion would appear in India Logistics & SCM Yearbook, 2013)**