

The cold supply chain in india marketing essay

[Business](#), [Marketing](#)



Abstract:

This report provides the findings from a 4-month research project on cold supply chain market in India. The information contained in this report is primarily based upon the secondary research. Secondary research included an exhaustive search of relevant publications like newspapers, website white papers, industry journals, magazines and proprietary databases. Apart from that some primary data is also collected through questionnaire filled in the online surveys by some professionals working in cold chain industry. The cold chain market, which is primarily dominated by the private sector, has got a boost from the government in the last two budgets. Growing demand in retail and pharmaceutical sectors drives the cold chain market and it has huge potential to grow in the near future, especially since now it has strong government backing. The cold chain market was valued at INR 89 Billion and is expected to grow at a CAGR of 28.7%. Government backing will help boost the capacity creation for cold storages while new players are gradually venturing into the more profitable refrigerated transport services. The cold chain market in India is anticipated to grow at a CAGR of 28.7% in the next 5 years, which will make the market reach INR 660 Billion by 2017. The Indian cold chain market is highly fragmented in which about 3500+ players are present. There are a large numbers of small players present in the Indian cold chain industry; some of the well-known organized companies are Snowman, FHEL, RK Foodland Pvt. Ltd., MJ Logistic Services Ltd. etc. It is anticipated that cold chain market in India will get more organized with the entry of large private players in this arena. The factors for growth of the industry largely depends on the growth in organized retail, shift towards

horticultural crops, growth in processed food sector, demand from pharmaceutical sector and changing consumption pattern. The key challenges of the market include lack of logistical support, uneven distribution of cold chains, cost structure and power supply. The key trends in the market have also been analyzed which includes entry of foreign players, rail based reefers, cold chains facilities at airports and backward integration. The competition section will cover the competitive landscape in the industry and includes a brief profile of the major players in the market.

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INTRODUCTION

Cold chain is now recognized as a sunrise sector in India. It is true that in a country which ranks first in milk production in the world, is number 2 in fruits & vegetables production and has substantial production of marine, meat & poultry products, the country needed a fully developed cold chain sector. However the current scenario reveals that there is a tremendous scope for the development of cold chain facilities. Cold stores form the heart of the cold chain. An overview of the cold storage industry in India indicates that the cold stores have been established initially right from the beginning of twentieth century but the further development was fairly slow. These units were mostly designed for storage of potato and were located in areas like UP, West Bengal, Punjab, Bihar etc. It was only in Sixties that the idea of multi product, multi chamber cold stores was introduced with Maharashtra taking the lead. The cold storage sector is undergoing a major metamorphosis, with the Govt focusing on food reservation. A lot of stress is being laid on energy efficiency as the cold stores are energy intensive. With the advent of newer materials / equipments, every part of a cold chain

renders itself amenable for improvement. As a result type of construction, insulation, refrigeration equipment, type of controls - all of them are witnessing changes. India is an agricultural-based economy. More than 52 percent of India's land is cultivable, compared to the global average of 11 percent. Each year, India produces 63.5 million tons of fruits and 125.89 million tons of vegetables. India is also the largest producer of milk (105 million metric tons per year). India produces 6.5 million tons of meat and poultry, as well as 6.1 million tons of fish a year. The perishable products transaction volume is estimated to be around 230 million metric tons.

Although India has the potential to become one of the world's major food suppliers, the country's inefficient cold chain network results in spoilage of almost 40 percent of its total agricultural production. The total value of the cold chain industry is estimated to be as high as USD 3 billion and growing at 20-25 per cent a year. The total value is expected to reach USD 8 billion by 2015 through increased investments, modernization of existing facilities, and establishment of new ventures via private and government partnerships. The Indian agricultural sector is witnessing a major shift from traditional farming to horticulture, meat and poultry and dairy products, all of which are perishables. The demand for fresh and processed fruits and vegetables is increasing as urban populations rise and consumption habits change. Due to this increase in demand, diversification and value addition are the key words in the Indian agriculture today. These changes along with the emergence of an organized retail food sector spurred by changes to Foreign Direct Investment laws, are creating opportunities in the domestic food industry, which includes the cold chain sector. As a result of the Government of India's

new focus on food preservation, the cold storage sector is undergoing a major metamorphosis. The Government has introduced various incentives and policy changes in order to curtail production wastage and control inflation; increase public private participation and improve the country's rural infrastructure. India's greatest need is for an effective and economically viable cold chain solution that will totally integrate the supply chains for all commodities from the production centers to the consumption centers, thereby reducing physical waste and loss of value of perishable commodities. For this reason, the Government of India has prioritized the development of the cold chain industry. The government has laid out elaborate plans and incentives to support large scale investments essential for developing an effective and integrated cold chain infrastructure. One of the most critical constraints in the growth of the food processing industry in India is the lack of integrated cold chain facilities. According to the government's estimates India has 5, 400 cold storage facilities of which 4, 875 are in the private sector, 400 in the cooperative sector and 125 in the public sector. Although the combined capacity of the cold storage facilities is 23. 66 million metric tons, India can store less than 11% of what is produced. Most of the infrastructure used in the cold chain sector is outdated technology and is single commodity based. The India's controlled atmosphere storage facilities and other cold storage facilities with the technology for storing and handling different types of fruits and vegetables at variant temperatures would have a very good potential market in India.

II. METHODOLOGY

The information contained in this report is primarily based upon the secondary research. Secondary research included an exhaustive search of relevant publications like newspapers, website white papers, industry journals, magazines and proprietary databases. Apart from that some primary data is also collected through questionnaire filled in the online surveys by some professionals working in cold chain industry. The data collected from the primary and secondary research were pooled together and the conclusion were drawn.

Industry Overview:

Industries which need cold chains are fruits and vegetables, ice cream, processed meat and poultry, seafood, preventive medicines (mainly vaccines) and chemicals. The cold chain has a critical role to play in India as two-thirds of the country's population is dependent on agriculture for its livelihood. The Indian food market is estimated at over \$182 billions. India is the second largest producer of fruits and vegetables in the world, with an annual vegetable produce of around 85 million tonne and an annual fruit produce of around 45 million tonne. Of the close to 130 million tonnes of fruits and vegetables that the country produces, nearly 40 percent gets wasted. India is the largest producer of milk in the world, producing close to 100 million tonne, and accounting for nearly 17 percent of global production. About 35 percent of this milk is processed. More than 10 percent of annual milk production in the country is lost due to inadequate storage facilities. India has roughly 5, 300 cold storages with a capacity of 23 million metric tonne, over 90 percent of which are suitable just for storing potatoes only.

Inconsistent standards in different sections of the cold chain could lead to damage of food, either by shock or by undue temperature variations. This degrades food quality due to chemical reactions which are triggered off, which can otherwise be mitigated by low temperatures. To maintain integrity of food and pharmaceutical products, these providers rely on efficient and fully integrated end-to-end cold supply chain technology. Thus cold chain companies should design a supply chain solution which maintains the required temperature according to the physical attributes of the product.

The cold chain consists of two logistic systems:

Surface storage: Refrigerated warehouses for storage of temperature sensitive products. Refrigerated Transportation: Reefer trucks, containers, ships and trains for transport of temperature sensitive products. A cold chain logistics player could either be a cold storage owner or the owner of a fleet of reefer trucks. Also, there are 3PL firms which own the entire network, right from procurement to the final destination of the temperature sensitive products. Thus, the success of cold chain companies relies on how efficiently they can transport temperature sensitive products from the place of origin to their destination with full integrity. Different products require different temperatures. The common standard temperatures are Chiller (-20C), Frozen (-18oC) and Deep Frozen (-25oC).

Market Overview (size, value & capacity)

The total value of India's cold chain industry is currently estimated at USD 3 billion and reportedly growing at an annual rate of 20-25 per cent. The total value for the industry is expected to reach at USD 8 billion by 2015 through

increased investments, modernization of existing facilities, and establishment of new ventures via private and government partnerships. India's cold chain industry is still evolving, not well organized and operating below capacity. Most equipment in use is outdated and single commodity based. According to government estimates, India has 5, 400 cold storage facilities, with a combined capacity of 23. 66 million metric tons that can store less than 11% of what is produced. The majority of cold storage facilities are utilized for a single commodity, such as potatoes. Most of these facilities are located in the states of Uttar Pradesh, Uttaranchal, Punjab, Maharashtra, and West Bengal. In addition, India has about 250 reefer transport operators (this includes independent firms) that transport perishable products. Of the estimated 25, 000 vehicles in use, 80% transport dairy products (wet milk); only 5, 000 refrigerated transport vehicles are available for all other commodities. India's greatest need is for an effective and economically viable cold chain solution that will totally integrate the supply chains for all commodities from the production centers to the consumption centers, thereby reducing physical waste and loss of value of perishable commodities. For this reason, the Government of India has prioritized the development of the cold chain industry. The government has laid out elaborate plans and incentives to support large scale investments essential for developing an effective and integrated cold chain infrastructure. India's food industry, which is currently estimated to be at approximately USD 100 billion will grow to USD 300 billion by 2015. According to a survey conducted by Corporate Catalyst India, another leading consulting firm, " Value addition of food products is expected to increase from 8 percent to 35

percent and that of fruits and vegetable processing from the current 2 percent to 25 percent by the end of 2025". The survey further reports that the dairy sector, which currently comprises the highest share of the processed food market, will experience marked growth. One of the most critical constraints in the growth of the food processing industry in India is the lack of integrated cold chain facilities. According to the government's estimates India has 5, 400 cold storage facilities of which 4, 875 are in the private sector, 400 in the cooperative sector and 125 in the public sector. Although the combined capacity of the cold storage facilities is 23. 66 million metric tons, India can store less than 11% of what is produced. Most of the infrastructure used in the cold chain sector is outdated technology and is single commodity based. Many are designed for storing potatoes. Industry experts believe that controlled atmosphere storage facilities and other cold storage facilities with the technology for storing and handling different types of fruits and vegetables at variant temperatures would have a very good potential market in India. Another major constraint is the lack of refrigerated vehicles for movement of perishables produce (with the exception of milk). According to industry estimates, approximately 104 million metric tons of perishable produce is transported between cities each year. Of this figure, about 100 million metric tons moves via non-reefer mode and only four million metric tons is transported by reefer. Although there are currently more than 25, 000 vehicles and 250 operators involved in refrigerated transport, 80% of this capacity is dedicated to transporting milk. When compared with world standards for cargo movement through cold chain, India is still far behind. The percentage of movement of fruits and vegetables

through cold chain in U. S. is around 80 to 85 percent, Thailand is 30 to 40 percent and India is negligible. Currently, most of the refrigerated transport in India is operated by small, non-integrated firms that do not make use of state-of-the-art technology or management practices. Therefore, India offers market potential for cold chain logistic solution providers, including refrigerated transport services. The Government of India now recognizes that development of cold chain is an essential next step in upgrading India's food processing industry. In the 2011-2012 national budget, the Indian government announced a series of measures to reduce the production and supply chain bottlenecks in the agricultural sector in order to facilitate modernization, ease importation of foreign equipment, and attract foreign investment in India. Some of these measures are listed below:

- Accorded infrastructure status to post-harvest storage, including cold chain;
- Raised the corpus of Rural Infrastructure Development Fund XVII to \$ 4 billion in FY 12 from \$3. 5 billion in FY 11 and the additional allocation would be dedicated to the creation of warehousing facilities;
- The Viability Gap Funding Scheme is extended for public private partnership projects to set up modern storage capacity;
- Air-conditioning equipment and refrigeration panels for setting up cold chain facilities would be exempted from excise duty beginning in the next fiscal year. Conveyor belts for equipment used in cold storage, wholesale markets and warehouses would be also exempted from excise duty;
- Creation of an additional 15 million tons capacity of storage capacity through public private partnerships put on a fast track;
- The National Horticulture Mission has sanctioned 24 cold storage projects with a capacity of 140, 000 metric tons;
- An additional 107 cold storage

projects with a combined capacity of over 500, 000 metric tons have been approved by the National Horticulture Board;• Promised full exemption from service tax for the initial set up and expansion of cold storage, cold room (including farm pre-coolers for preservation or storage of agriculture and related sectors produce) and processing units. In addition, full exemption from customs duty for the manufacture of refrigerated vans or trucks have also been promised;• A package of measures to improve the availability of storage and warehouse facilities for agricultural produce and to incentivize food processing;• Announcement to set up 15 more mega food parks in the country;• States asked to reform the Agriculture Produce Marketing Act urgently to improve the supply chain;• A National Food Security Bill will be introduced in the Parliament later this year;• Credit flow in agriculture raised from USD 84 billion to USD 107 billion ensuring that resources do not constrain growth in the sector

Drivers & Challenges:

Drivers:

These include growth in organised retail, processed food sector, FDI in retail segment, Government initiatives, and shift towards horticultural crops and demand from pharmaceutical sector. Large retail players are providing infrastructure that ensures preservation of produce over a long period of time. Relaxation in FDI in retail sectors enhances more players to come. Government of India has been cognizant of the need to nurture the cold chain industry and introduced several incentives to achieve the aim. Some are infrastructure status to the cold chain, concessional import duty to setup cold chain, tax benefits for companies investing in cold chain etc. Some of

major drivers in cold chain industry are: 1. India Food Processing Market2. Horticulture Sector3. Organized Retail4. Pharmaceutical Industry5. Government Initiatives

Challenges in the Sector:

Cold chains face several roadblocks in their growth and some of the most challenging hurdles are listed below:

- Rising Real Estate Cost:** A fully integrated cold storage facility of international standards, with one million cubic ft. of storage space, will require an area of approximately an acre, which is a huge investment.
- Location for Cold Storage:** Cooling units are not mobile units, so the location of such units becomes a key constraint as there are very few parcels of large land spaces available in India.
- Lack of Proper Infrastructure:** The cold chain industry in India is very fragmented, with players not having the strength to invest in the technology needed to build high quality cold storage or to invest in reefer trucks.
- High Energy Cost:** Energy expenses alone account for about 30 percent of the total expenses of the cold chain sector in India. This is the main constraint about setting up cold chains in India. India's peak power deficit is around 17-18 percent. Thus the investment in back-up systems increases capital investment costs.
- Uneven Distribution of Capacity:** The majority of cold storages in India have been established in states like Uttar Pradesh, Uttarakhand, Maharashtra, Gujarat, Punjab and West Bengal. But the establishment of such cold storages needs to be more geographically diverse.
- The cold storages present in India can cater to single commodities only.** Different commodities require different temperature conditions, resulting in poor capacity utilization and low financial viability.

Role of Cold Chain Service Providers

With the demand for better quality food at affordable prices by consumers, companies rely on cold chain service providers to fulfill it. The service providers should be able to develop systems and processes to mitigate risk associated with temperature abuse in cold chains and thus help in business growth. The service provider should understand the importance of capacity utilization, productivity, inventory, cost, waste, error and theft (WET) management, along with the ability to track and trace these parameters. This will help to reduce total system costs which in turn will improve the bottom line. The success of implementing cold chain solutions to serve the consumers involves proper network optimization of warehouses, facility planning, the monitoring of product quality throughout the cold chain and having a corrective action plan to counter any gaps. Further, the higher cost associated with operating cold chains needs excellent operational efficiencies and continuous improvements to maximize profits for service providers. Other major challenges which make cold chains more complex are inadequate logistics infrastructure, poor road connectivity, inadequate IT systems and inefficient transport providers.

Product Handling

To move temperature sensitive goods with full product integrity, supply chain solution providers should have well-established processes from pre-shipment preparation to final verification and delivery to destination. Product handling is an inherent and important aspect which needs great attention. The maintenance of a cold chain is the best way to maintain the quality of a product and minimize all forms of deterioration after harvesting, including

weight loss which results in wilting and limpness, softening, bruising, unwanted ripening, colour changes, texture degradation and the growth of fungus as well as the decay of products. The export of fresh produce often involves long transit time and frequent handling. This makes effective cold chain management more difficult and even more essential, to ensure that the product finally consumed retains maximum freshness.

Importance of Efficient Cold Chains

- Increasing government regulation. The demand from customers for continuously available high quality food products are primary drivers of cold chain integration.
- Today's busy and health conscious consumer is demanding fresh, wholesome and healthy products in increasing volumes and a variety of offerings.
- Cold chain systems can be of strategic importance to companies since brand integrity, customer confidence, market share and profit are all at risk.

Improving the Cold Chain

- The Budget 2011-2012 provided infrastructure status to the cold chain sector.
- The Budget exempted air-conditioning equipment and refrigeration panels used in cold chain infrastructure as well as conveyer belts from excise duty.
- The Budget 2010-2011 proposed a concessional import duty of five percent with full exemption from service tax to set up and expand cold chains to preserve farm products as well as milk, meat and poultry products.
- The Budget 2010-2011 included duty-free import of refrigeration units, which is required to make refrigerated vans or trucks. It also exempted trailers and semi-trailers used in agriculture from excise duty.
- The

government of India introduced tax benefits for companies investing in cold chain facilities as part of the budget 2009-2010. •The government of India has also revised its scheme of food parks in the tenth Five Year Plan and changed to the Mega Food Park Scheme (MFPS) under the 11th Five Year Plan •Investment from private equity funds in various cold chain projects. •The involvement of railways and airports for transportation of cold chain products. •The government of India has taken a decision to set up the National Centre for Cold Chain Development (NCCD) to address the issue relating to gaps in cold chain infrastructure in India. Maintaining and enhancing efficiencies in the cold supply chain is the most important thing. The best way to do this is by reducing touch points in the supply chain. By following these practices rigorously and with passion, we can reduce the cost of the cold chain as well as improve cold chain processes. With average capacity utilization in the cold chain sector between 30 to 75 percent, the profits of a cold storage facility depend largely on investment in technology, infrastructure and service standards. The most important factors that will decide the growth of the cold chain sector is the flow of funds in this sector. The investment can be from large business houses. Also, the government can help in acquisition of land to set up cold chain storage facilities. The government must also speed up the introduction of GST, which will help in the development of centrally located warehouses.

Key Trends:

Cold chain is one of the fastest growing industry in India and very rapidly moving into organized manner. Some of the key trends in cold chain industry in India are described below.

- **Rail Based Reefers, organized distribution.**

A key business area with high potential for growth is the provision of Cold Chains. This involves providing transportation to perishable products from source to end-user, while maintaining a certain temperature along the route. Today 85% of the cold storages are in the private sector and not a single complete cold chain solution provider is available in the market. Absence of Reefer container linkages and high and increasing power costs are proving to be major impediments.

- **Cold Chain Facilities at airports for exports.**

The facilities for cold chain industry at the major airports are improving very fast in India. Drugs are complex entities and many of those are temperature sensitive in nature. This entails them requiring precise and continuous temperature conditions in transit in order to retain their potency and resultant efficacy. Lifesaving drugs and products like vaccines are very sensitive to proper cold chain. Any slippage in cold chain can lead to immediate denaturing or deterioration in quality of the product. It is imperative that a careful consideration is given by the authorities while providing storage space at the airport warehouses before drugs find their way into the distribution channels run and controlled by the Drug companies. With a view to take the initiative to improve the Cold Chain Management at Mumbai and New Delhi airports, OPPI has taken up this cause with major stakeholders, particularly, Mumbai International Airport Pvt. Ltd. (MIAL) and Delhi International Airports Ltd. (DIAL), where 80-90% of the export & import trade of pharmaceuticals take place. OPPI delegation met with the Senior

Officials of GVK in Mumbai and GMR in Delhi, who are the custodians of the respective airports.

• **Cold Chains based on Public Private Partnership (PPP) model and entry of foreign players.**

The government has taken a decision to set up the NCCD (National Centre for Cold Chain Development) on PPP (public-private partnership) mode for which the NHB has been declared as the nodal organization. This center will soon be in operation. This is an important advancement as it is realized that a joint role by the industry and the state is crucial for development of the industry. Bringing in the private sector - both as a competitor and as a complementary to the public sector would add greater strength and value for money - thus, the two working together would benefit both, the farmers and the consumers. In recent years India had gone through a Green Revolution and a White revolution (both synonymous for its success in agriculture and Dairy sector). India is ranked globally in the top 2 for horticultural products and accounts for 17% of global milk production, the largest in the world. Yet the country is still not able to export enough of its surplus and as much as 40% of fresh produce is wasted, mainly due to lack of satisfactory handling in the supply chain. The consumer food retail sector is the fastest growing in the country, worth around 15 billion USD. Food outlets such as McDonalds and Dominoes have announced plans to double the number of outlets in the coming years. They too may find constraints due to lack of efficient supply chains to service their expansion. At the moment 900 million tons of cargo is handled in Indian ports and the country has plans afoot to double this capacity in the next ten years, yet there is not a single dedicated perishables

gateway or fast track corridor for perishable cargoes in the country. The country's containerization is said to be only 20% and the country is adding to its existing 174 inland container handling depots to build up greater container handling capacity. It is also the largest exporter of beef in the world, shipping 1.5 million tons mostly through reefer containers.

• **Backward Integration, forward economy.**

Snowman and Kausar, two major names in the cold chain Industry have been bought over. Gatica, a logistics company in Hyderabad acquired Kausar India, Gateway Distiparks, the Transportation & logistics major acquired a controlling stake in Snowman Frozen Foods. The Future Group has carried backward integration, from food retailing to storage and transportation; with the launch of Future Logistics. Ahmadabad based Adani Group revamped its cold chain logistics facilities recently. Major players like Bharti, ITC, Reliance, Aditya Birla Group, Bharti the Godrejs, the Tatas and the Future Group has announced billion dollar investments which offer a ready market for third-party cold chain logistics players. Apart from the Global giants and the Indian corporate the airport infrastructure companies and the railways are also planning to build refrigerated warehouses and perishable products cargo centers across the country in capture the share in the booming retail sector.

Competition

There are only few private players are present at national level in the India which dominate the industry though there are many state owned companies are present. The Surface Storage comprising of both organized and unorganized players like RK Foodland, Fresh and Healthy enterprise limited

etc. The Refrigerated transport comprises of players like Snowman, Gati Kausar etc. There are atleast 50 companies are offering refrigerated transport services in India. Apart from that there are many captive establishments and new entrants are present. Some major Players in cold chain industry in India are Snowman MJ Logistics Services Limited Radhakrishna Foodland Private Limited Fresh and Healthy Enterprise Limited (FHEL) Gati Kausar

Players

Key customers

Location

Business Operations

Snowman HLL, Amalgam, GCMF, Mother Dairy, Baskin Robins, Mars, etc Bangalore Leader in Cold chain industry in India, Offers storage and integrated logistics services. MJ Logistics Colgate Palmolive, ITC, RFCL Limited. Delhi Provides Refrigerated transports services and cold management services Radha Krishna Foodland McDonald's, Dominos, Pizza hut, hotels & restaurants Thane, Mumbai Customized distribution & logistics services encompassing entire supply chain, such as storage, handling and distributions Fresh and Healthy Enterprise Limited (FHEL) Many small companies for transportation of Fruits and Vegetables. Delhi A Wholly Owned Subsidiary of Container Corporation of India. Provide complete cold chain logistics solutions Gati Kausar Cadbury's, Dominos, Nestle, Dabur Delhi Specializes in refrigerated transport solutions to its customers

Conclusion

In summary, Cold chain logistics is one of the fastest growing sector in India. Growth in organized retail and the food processing sector drives huge opportunity for the cold chain market in India. Further shift towards horticultural crops by farmers to evade risk boosts the demand for cold chain. Rising demand for cold storage in pharmaceutical sector is also driving the growth in cold chain market. Changing consumption pattern is expected to create huge demand for cold storage in India. Globally the focus now has shifted from increasing the production to better storage and transportation of food produce. Cold Chain now has become an integral part of the supply chain management for the storage and transportation of temperature sensitive goods. Utilization of cold chain logistics includes both the cold storages as well as refrigerated transportation and is used to increase the shelf life of food produce. The Indian cold chain market in the last few years has witnessed various positive changes. An overview of the cold chain system in India over the past 50 to 60 years shows that the cold storage construction technology, the practices of thermal insulation, refrigeration plant technology, automation and material handling have undergone significant transformation. From the point of view of utilization also, the cold stores today offer much wider scope than in the past. Energy saving and the Green Cold chain concept are also being seriously looked at by the progressive entrepreneurs and designers. However it must be realized that for a country which is No. 1 in terms of milk production and No. 2 in terms of Food & Beverages production, the overall storage capacity of around 25 million MT of cold storage available in the country cannot be

considered adequate and there seems to be a good potential for the development of modern & energy efficient storage units. National Horticultural Board has taken a big step in creating technical standards for cold chain projects. The following three standards have been developed with help of experts in the industry and are available to the promoters & designers of cold chain projects for reference. (i) Cold storages for storage of fresh horticulture products which do not require pre-cooling. (ii) Multi-commodity Cold storages for short term and long term storage of fresh horticulture products which require pre-cooling and varying storage requirements. (iii) Controlled Atmosphere (CA) Storages. Apart from these, the standards on ripening chambers & refrigerated transport have also been recently released for public review. It is worth mentioning that this is the first attempt of any Govt. agency to formulate such standards for cold chain projects in India, Efforts are on, for making standards for Ripening chambers & Refrigerated Transportation. Govt. agencies like National Horticultural Board, National Horticultural Mission & Ministry of Food Processing have also offered higher financial incentives for the new projects as well as for expansion of existing units. However, these projects have to be, essentially, based on modern & efficient technology in tune with the technical standards. A scientifically developed Cold Chain, designed to handle and preserve the substantial quantity and excellent quality of food products grown in the country, would turn into a ' Gold Chain' for the country.