

## National Centre for Cold-chain Development

[An Autonomous Body of Govt. of India]

### Report on proceedings of the Conclave on Strengthening of Farm to Consumer Cold-chain

Date: 31<sup>st</sup> May'2016

Time: 09:30 a.m. to 5:00.p.m.

Venue: PHD House, 4/2 Siri Institutional Area, August Kranti Marg, New Delhi.

#### **Background**

NCCD's annual think tank event was held at PHD House. The topic for this conclave was Discussion sessions on the Strengthening of Farm-to-consumer Cold-chain - the modern agri-logistics system. A communique to all NCCD members was sent in advance of this gathering. PHD also circulated and invited other interested stakeholders to the conclave. The main agenda was to share the findings of the infrastructure gap study and to seek inputs on further strengthening of cold-chain in the country.

#### **Summary**

Government officials, private entrepreneurs, stakeholders, representatives from institutions, private industries, cold storage associations, nodal officers for cold-chain development from States and Mission directors were invited to an interactive conclave. About of 122 individuals (including the speakers) took part in this conclave.

The conclave was held to have consultative meeting with the governments & private bodies to identify the gaps in the cold-chain and work for the development of integrated & dynamic cold-chain system in India. Special focus was also on the NCCD-NABCONS report on 'All India cold-chain Infrastructure Capacity-Assessment of Status & Gap'.

In view of the PM's initiative on the "roadmap" for boosting the agriculture sector with a target of doubling the income of farmers by 2022, a document on 'Doubling Farmer's Income by Strengthening India's Cold-chain' was published by PHD and distributed. NCCD system guidelines and AICIC study was also distributed to participants.

Interactions with other stakeholder Ministries were also conducted. In the course of these interactions fresh requirements from states and suggestions were noted as key take-away.

Comments and suggestions to the draft document on MoFPI guidelines and scheme on Cold-chain, Value Addition and Preservation Infrastructure were invited from all participants. The key takeaways from these interactions are mentioned below.

#### **Proceedings and Key take-aways:**

1. JS-MOA&FW communicated about the importance of formation of National Policy of Cold-chain and urged all stakeholders to contribute on this.
2. NCCD-NABCONS study on 'All India Cold-chain Infrastructure Capacity-Assessment of Status & Gap' was presented by CEO-NCCD.
3. The high capacity in cold storage for potatoes was queried. CEO-NCCD & CEO-NABCONS both informed that this fact was fully considered & factored into the findings.

4. The audience in the conclave appreciated findings in the study and agreed that the country needed many more reefer transportation and pack-houses to fully integrate purpose of cold-chain. However, they expressed that there needed to be synergy between various schemes of the government and more program awareness.
5. JS-MoFPI invited audience to comment upon the proposed guidelines and scheme on Cold-chain, Value Addition and Preservation Infrastructure.
6. CEO-NCCD updated and explained that cost norms are for budgetary purpose and not as affirmation of manufacturing or cost of infrastructure. Example of ripening chamber and integrated pack-house, both of which were in shortfall and offered a comparatively higher cost-norm than cold storages was explained. It was explained how cost norms not only guide budget allocations on basis of action plans of implementation agencies, but also guided strategic development of specific infrastructure components on basis of gap studies. Eventually, some infrastructure components may even be removed from assistance, such as land and office equipment which are currently not admissible.
7. One of the participants enquired on lack of cost norms under schemes of MoFPI. The JS-MoFPI informed that cost norms of MIDH for cold-chain infrastructure would be adopted in the revised scheme. However she explained that cost norms for other equipment for food processing, ie. Value Addition and Preservation were not listed under MIDH. Therefore, the stakeholders could provide inputs for th
8. Ms. Seema Gulathi, a lady farmer from Sonepat, informed that she had problems in selecting the right consultants and requested that NCCD appoint consultants. NCCD shared that it does not get involved in project implementation and purposely never promotes or recommends consultants for reasons of probity. Shri. Mahendra Singh Dhakad, Director-SHM, Govt. of M.P agreed that NCCD not get into individual project/consultants.
9. However, users are recommended to take part in capacity building programs and upgrade own knowledge to counter concerns in knowledge. Ms. Gulathi confirmed that she had already taken part in NCCD organised trainings and was most appreciative of the same.
10. Shri. Mahendra Dhakkad suggested greater emphasis on capacity building at block level and informed that Govt. officials involved on field level do not fully understand concept of cold-chain. CEO-NCCD agreed to this expressed need and informed of various outreach through workshop/seminars/trainings. However, for a cascade effect, senior officers would also be needed to conduct further activities.
11. CEO-NCCD appealed to the audience/participants to assist in participate in knowledge dissemination. He informed that for cold-chain knowledge dissemination, NCCD had been exempt from service tax. Therefore, knowledge sharing done as agents in partnership with NCCD could allow for more share of resources to be deployed. He stated that more than subsidy or capital cost, the capacity to understand and implement cold-chain was a bottleneck today. He urged all stake holders to take active part in nation building exercise.
12. Training programmes initiated by NCCD in partnership with Government of France was appreciated the participants who were also attending this conclave. The other training programs with local agencies on cold-chain were also commended upon. However, many of the participants were not fully aware of the capacity building programs.

13. Key takeaway was that further strengthening of cold-chain required that future development be directed towards specific infrastructure components and greater focus was needed on capacity building. Additionally, greater synergy between schemes of the government with common cost norms was recommended.

### **Session-wise proceedings:**

#### **Inaugural Session**

1. Dr. Mahesh Gupta, President PHD Chamber gave a welcome address. He conveyed special thanks to NCCD for initiating the conclave to bring various stakeholders on a common platform.
2. Shri. Ashish Mohan Wig, Chairman PHD Chamber presented statistics regarding cold storages and reefer transport.
3. Shri. Pawanexh Kohli, CEO, NCCD appreciated presence of all panellist from Ministries, Industries, Stake holders and Users. Shri. Kohli focussed that it is important for all states to also make use of technical expertise available with multiple industry organisations through regular interactions on similar platforms.
4. Guest of Honor, Shri. Cedric Prevost, Counsellor for Agricultural Affairs, French Embassy appreciated efforts for strengthening of farm to consumer cold-chain infrastructure. He communicated ongoing interest and partnership of Govt of France on the training programmes under collaboration with NCCD. He informed that many French companies have a strong presence in this sector and greater cooperation could be promoted.
5. Dr. Shakil Ahammed, JS-MOA&FW emphasized on the following:
  - Our current cold-chain systems are mainly storage focused; we have reached a point of realization that points to more holistic development.
  - The gaps have been identified and translated into relevant policy interventions.
  - India's cold-chain will drive the future for all high-value agriculture, not only horticulture, but also for meats, dairy, etc.
  - He shared various benefits from cold-chain: besides increasing the income of farmers it also counters any negative impact on environment by minimising food loss.
  - In our agrarian society, cold-chain is indicated to be a key contributor to inclusive nation building. By reaching the produce to consumers, cold-chain makes farming more gainful.
  - He thanked the audience for their participation.
6. Shri. Saurabh Sanyal, Secretary General, PHD Chamber gave the vote of thanks to the participants and appreciated their involvement. Shri. Sanyal suggested that tax rebate of three years may be provided to the entrepreneurs.

#### **Session-I (Overview of Government initiatives)**

7. CEO-NCCD presented and explained the NCCD-NABCONS study and gave an overview of how a cold-chain functions as a flow of fresh produce, right from the farm gate level to the end market. He emphasised the importance of modern pack house which feed both ordinary supply and cold-chain. He reminded that cold stores are middle links and developing those alone would not suffice if the aim is to have domestic produce flow in the cold-chain.
8. He explained that cold-chain technology has two distinct functions, the primary one to protect goods under its care and to extend shelf life of fresh produce. He explained cold-chain does not preserve but takes custody of food that is preconditioned or have been

undergone preservative process in food processing factories. He explained that each necessary component has now been focused upon in the new MIDH Guidelines. He also explained that cost norms are to incentivise investment and is not a funding mechanism. He explained the other initiatives by government through NABARD which are for low cost funding of projects. The subsidy programs are to help direct development in the right direction with relevant infrastructure items, keeping in mind doubling of farmers income.

9. Jt. Secretary, MOFPI stressed on the fact to identify and fill the gaps of cold chain infrastructure. It was pertinent to look at the microscopic details of the available infrastructure such as the compatibility of the infrastructure to cater to all forms of perishables. She also highlighted that for development of infrastructure components it is important to assess the geographical availability of the infrastructure and its need.
10. She invited stakeholders to comment on new guidelines under development by MoFPI and informed that cost norms would be adopted from MIDH or developed where missing.
11. Shri. Sunil Kumar , Director APEDA highlighted the needs to promote pack-houses and reefer transport. He highlighted that APEDA had been focusing on these components and it resulted in bringing great value to producers and exporters. The similar could be emulated for domestic supply of perishable produce as the domestic market was already buying imported fruits and vegetables. He said that the recent capacity gap study was the most relevant and was fully appreciated by various users. However, he expressed reservation on the feasibility of implementing such development under current limitations of knowledge and budget.
12. Shri. Krishnan Jindal, CEO of NABCONS informed how the AICIC study was the first of its kind to assess all cold-chain components and that NABCONS was adopting the concept of throughput in all its other studies. He also informed that the requirements assessed may be too high for the current situation but the assessment of the numbers indicated these needs. He shared his opinion that future growth in Indian agriculture would be in high value agriculture which was good for our farmers. This meant that cold-chain development must also keep pace.
13. A 20 minute Q&A was opened with audience on understanding of capacity and gap in infrastructure. Audience asked clarity on various programs of government. CEO-NCCD explained the ongoing programs including renewed efforts to involve PPP projects, especially at food parks or where single user sets up multiple locations for a full chain. He also shared about the need to develop perishable cargo centres at ports and innovations possible.

#### Session-II (capacity building in cold-chain)

14. CEO-NCCD highlighted the importance of capacity building for all stake holders and informed about NCCD capacity building initiatives. Shri. Dhakad stressed on the importance of involvement and capacity building for grass root level foot soldiers who implement government programs. He informed of the lack of information and expertise in the cold-chain domain among the implementing officers and requested their involvement in cold-chain activities so that the benefits reach to all levels.
15. Shri. S.K.Yadav, Director IGNOU emphasized that cold-chain is a necessity for green revolution and quality and safe food delivery. He also suggested the need for greater capacity building and for joining hands with NCCD. Mr Yadav informed that IGNOU already conducts awareness campaigns and has delivered course curriculum for post-harvest to

- ASCI. He also informed keenness for partnering in relevant awareness campaign and development of course curriculum for highlighting cold-chain and post-harvest classes.
16. Shri. CS Rao of Samagra Agri detailed his experiences in horticulture. He explained interventions undertaken on developing entrepreneurs and understanding on ripening chambers. He explained how there needs to be an attitude change towards capacity building initiatives and also by farmers. He felt a need to have more awareness on the concept of supply chain, value chain systems and modern pack-houses.
  17. Shri. Nagahari Krishna of Danfoss India enumerated the benefits of the capacity building of all stakeholders and highlighted the initiatives taken by NCCD in collaboration with Danfoss. He explained the trainings on cold-chain technologies at Danfoss facility in Chennai and that it needed to be extended to more number of participants.
  18. A short Q&A seeking further inputs from audience was held after this session. Audinece was also invited to write in to NCCD with suggestions.

### Session-III (skilling the cold-chain)

19. The session was moderated by Shri. Pankaj Mehta (Country Head and Director, Carrier Transicold). Shri. Mehta highlighted how it was essential to have a skilled workforce instead of an unskilled workforce. He explained how skill workforce can contribute towards increasing the productivity. Safe handling and energy efficiency was key to cold-chain and skills that enhance these aspects were important. He shared that Carrier is already training as per customers' needs and could also assist in programs of NCCD.
20. Shri. Satinder Singh Arya, CEO, Agriculture Skill Council of India highlighted the efforts done by ASCI in promoting skilling in the agriculture sector, he laid special emphasises on increasing efforts to impart skill based training in the agriculture sector which is one of the largest employers in the country. CEO, ASCI explained how skill training empowers the workforce with better work opportunities and more dignified working conditions.
21. Shri. Atul Khanna, Director ICE Centre of Excellence, elaborated how they conduct Ripening chamber trainings for NCCD and how they have used regional languages to communicate to entrepreneurs and farmers. He laid emphasis on the fact that trainings must be in synergy with infrastructure development or job availability to make the efforts more impactful. He informed of previous seven years of skill development by ICE in this sector.
22. Shri. Ramchandran Ezhilarasu highlighted the training methodology and technology used for the Cold-chain training by his organisation. He explained how having relevant technical skills was important for the cold-chain operators and other workforce. He shared how the curriculum implemented at their global learning centre, was developed with NCCD and helped make trainees more aware of energy efficiencies, new technologies and also on the non-technical aspects of handling food items.

### Session IV (Innovation in Cold-chain Sector)

23. The session was moderated by Shri. Srinivasa Ramanujam, (Sr. VP & Business Head, Adani Agri-fresh Ltd.). Shri. Ramanujam emphasised on the importance of constant innovation for the development of the cold-chain sector. He mentioned how, like agriculture, cold-chain goods are also subject to vagaries of uncontrolled environment and proactive minds make good teams in this trade.
24. Shri. Anurag Aggarwal (Director, New Leaf Dynamic Technologies) explained how his company uses biomass for bulk chilling of Milk and how this technology had brought

economic prosperity for the farming community. This innovation helped refine existing technologies into more relevant applications, especially suited to Indian backdrop.

25. Shri. Harshal Surange (CEO & Director, ACR Consultants) highlighted various technological advancements in the cold chain sector over the years. He explained the technical details of the various components of a cold-chain and how technological innovations can impact their efficiency.
26. Shri. Devendra Gupta (CEO, Ecozen Solutions) highlighted about solar powered cold rooms. While discussing the technical details of the solar powered cold rooms, he explained the requirements of India's Cold chain Industry and how smaller cold rooms powered by solar may be able contribute towards development of the overall cold-chain. He explained the limitations of solar power in large cold stores and how hybrid solutions were needed there.
27. Shri. Samit Jain, Director Pluss Advanced Technologies Pvt Ltd briefed about the use of thermal banks to store and retrieve cooling at will. The ability to treat temperature the way electricity is stored in batteries, allowed for a new level of innovation in the cold-chain sector. He explained how special Phase Change Material (PCM) was used for this purpose various sectors like pharmaceuticals, dairy, horticulture products. He also briefed on portable PCM based application for beverages.
28. Shri. Kapil Singhal, MD. BP Refcool, briefed about the activities taken up by ISHRAE on skill development and briefed about M/s Refcool activities.

#### Open House

29. This session was moderated by Dr. Ranjeet Mehta, Director, PHD Chamber.
30. Ms. Seema Gulati raised queries regarding availing Duty Exemption for Reefer vehicles and using Agricultural Land as collateral for banks. Shri. Hitin Suri responded to her queries by informing that agricultural land could be converted into change of land, for use as collateral.
31. It was also informed that the entrepreneur had to list reefer vehicle transport under cold-chain in their VAT No to be eligible to have duty exemptions for the reefer vehicles.
32. Information on different types of refrigeration and available technologies to promote energy efficiency and reduction in carbon foot prints was explained by Shri. Harshal Surange.
33. Off grid use of refrigeration in remote areas through use of absorption system was explained by Shri Anurag Agarwal

The session concluded with short remarks by Mr. Kohli followed by the vote of thanks by Dr Ranjeet Mehta, Director, PHD Chamber.

-Appended for reference is the Report and Recommendation compiled by PHD Chamber-



## **NATIONAL LEVEL CONCLAVE ON STRENGTHENING OF FARM-TO-CONSUMER COLD-CHAIN INFRASTRUCTURE**

**31<sup>ST</sup> MAY 2016, PHD HOUSE, NEW DELHI**

Organised by:  
Roads, Ports & Other Infrastructure Committee  
PHD Chamber of Commerce & Industry

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**Mr. Ashish Mohan Wig**, Chairman  
**Mr. Manas Agarwal**, Co-Chairman  
**Dr. Ranjeet Mehta**, Director  
**Mr. Abhishek Mehra**, Deputy Secretary

### **PHD CHAMBER OF COMMERCE AND INDUSTRY**

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## BRIEF NOTE

Roads, Ports & Other Infrastructure Committee of PHD Chamber in association with National Centre for Cold-Chain Development (NCCD), organised a National Level Conclave on “Strengthening of Farm-to-Consumer Cold Chain Infrastructure” on 31st May 2016 at PHD House, New Delhi which was attended by more than 110 delegates and 28 speakers from Industry, government and other stakeholders during the full day event.

Road Ports and Other Infrastructure Committee, PHD Chamber and NCCD prepared a report on ‘Doubling Farmer’s Income by Strengthening India’s Cold Chain 2016’ which was released during the inaugural session.

Dr. Mahesh Gupta, President, PHD Chamber in his welcome address said that India’s cold-chain industry has evolved to a great extent; however, there is a need to strengthen it further by filling the existing gaps. The President emphasised that with relevant infrastructure which ensures and integrates the activities of preconditioning, refrigerated movement and storage, the gainful use of cold-chain connectivity will help to balance regional fluctuations in demand-supply gaps of fresh produce. Dr. Gupta congratulated NCCD for bringing out the above report with PHD Chamber for identifying the gaps in India’s cold-chain sector.

Mr. Ashish Mohan Wig, Chairman, Roads, Ports & Other Infrastructure Committee, PHD Chamber gave the industry perspective and said that Cold-chain should be able to link producing points with consumption centres.

Dr. Shakil P Ahammed, Jt. Secretary, Ministry of Agriculture & Farmers Welfare and Mission Director, MIDH, Govt. of India was the chief guest on the occasion. In his address, Dr. Ahammed emphasised on the need of policy for cold chain development in consultations with all concerned stakeholders and appreciated NCCD and PHD Chamber for organizing this conclave.

Mr. Pawanexh Kohli, CEO & Chief Advisor, National Centre for Cold-chain Development addressed the participants and highlighted the challenges being faced by the cold-chain industry in India and also suggested solutions to meet these challenges.

Mr. Cédric Prevost, Counsellor for Agricultural Affairs, Regional Economic Service, French Embassy in India highlighted the importance of collaboration between France and India in the Cold-chain space.

Mr Saurabh Sanyal, Secretary General PHD Chamber delivered the vote of thanks in the inaugural session.

In the last, Dr. Ranjeet Mehta, Director, PHD Chamber delivered the formal vote of thanks and concluded the conclave with his concluding remarks.

**NATIONAL LEVEL CONCLAVE ON  
STRENGTHENING OF FARM-TO-CONSUMER  
COLD-CHAIN INFRASTRUCTURE  
31<sup>ST</sup> MAY 2016, PHD HOUSE, NEW DELHI**

**AGENDA**

**09:30 AM – 10:30 AM REGISTRATION & TEA**

**10:30 AM – 11:00 AM INAUGURAL SESSION**

**Session Moderator:**

**Dr. Ranjeet Mehta**, Director, PHD Chamber

**10:30 AM – 10:35 AM Welcome Address by:**

**Dr. Mahesh Gupta**, President, PHD Chamber

**10:35 AM – 10:40 AM Industry Perspective by:**

**Mr. Ashish Mohan Wig**, Chairman, Roads, Ports & Other Infrastructure Committee, PHD Chamber

**10:40 AM – 10:45 AM Address by:**

**Mr. Pawanexh Kohli**, CEO & Chief Advisor, National Centre for Cold-Chain Development

**10:45 AM – 10:50 AM Address by:**

**Mr. Cédric Prevost**, Counsellor for Agricultural Affairs, Regional Economic Service, French Embassy in India

**10:50 AM – 10:55 AM Key Note Address by:**

**Dr. Shakil Ahammed**, IAS, Jt. Secretary, Ministry of Agriculture & Farmers Welfare, Govt. of India and Mission Director, MIDH, Govt. of India

**10:55 AM – 11:00 AM Vote of Thanks by:**

**Mr. Saurabh Sanyal**, Secretary General, PHD Chamber

**11:00 AM – 11:30 AM NETWORKING TEA**

**11:30 AM – 12:30 PM SESSION 1**

**IDENTIFYING & FILLING GAPS IN COLD-CHAIN INFRASTRUCTURE**

- Government initiatives to build a robust cold chain
- NCCD-NABCONS study - Identifying the gaps in the cold-chain

- Farm gate to consumer – development of integrated & dynamic cold chain system in India

Presentation: AICIC Study 2015 by **Mr. Pawanexh Kohli**, CEO & Chief Advisor, National Centre for Cold-chain Development & Panel Moderator

**Panelists:**

- **Ms. Anuradha Prasad**, Joint Secretary, Ministry of Food Processing Industries, Govt. of India
- **Mr. Sunil Kumar**, Director, Agricultural & Processed Food Products Export Development Authority, Govt. of India
- **Mr. Krishan Jindal**, CEO, NABCONS

Q&A

**12:30 PM – 1:30 PM**

**SESSION 2A**

**CAPACITY BUILDING IN COLD-CHAIN**

- Capacity building initiatives
- Entrepreneur development
- Revisiting the concept of cold-chain as a supply chain

Session Chair: **Mr. Pawanexh Kohli**, CEO & Chief Advisor, National Centre for Cold-chain Development

**Panelists:**

- **Mr. Mahendra Singh Dhakad**, Director, State Horticulture Mission, Govt. of MP
- **Dr. S K Yadav**, Director, IGNOU
- **Mr. C S Rao**, Director, Samagra Agribusiness Services Pvt. Ltd.
- **Mr. Nagahari Krishna L**, Director - Strategic Initiatives & Industry Affairs, Danfoss India

Q&A

**1:30 PM – 2:30 PM**

**LUNCH**

**2:30 PM – 3:30 PM**

**SESSION 2B**

**SKILLING THE COLD-CHAIN**

- Entrepreneur & Skill development
- Nutritional security & Food safety
- Suggestions for next steps in capacity building

Moderator: **Mr. Pankaj Mehta**, Country Head & Director, Carrier Transicold, India

Panelists:

- **Dr. Satinder Singh Arya**, CEO, Agriculture Skill Council of India
- **Mr. Hitin Suri**, Jt. MD, Suri Agro Fresh Pvt. Ltd.
- **Mr. Atul Khanna**, Director, ICE Centre of Excellence
- **Mr. Ramachandran Ezhilarasu**, Manager – Training, Danfoss India

Q&A

**3:30 PM – 4:30 PM**

### **SESSION 3**

#### **INNOVATION IN COLD-CHAIN SECTOR**

- Cold-chain as an Enabler to double farmer's income
- Developing multi modal transport system
- Innovative packaging for cold chain
- Promoting organised retail
- Gainful productivity to agriculture in terms of delivery

Moderator: **Mr. Srinivasa Ramanujam**, Sr. VP & Business Head, Adani Agrifresh Ltd.

Panelists:

- **Mr. Anurag Agarwal**, Director, New Leaf Dynamic Technologies (P) Ltd.
- **Mr. Harshal Surange**, CEO & Director, ACR Consultants
- **Mr. Devendra Gupta**, CEO, Ecozen Solutions Pvt. Ltd.
- **Mr. Samit Jain**, MD, Pluss Advanced Technologies Pvt. Ltd.
- **Mr. Kapil Singhal**, MD, BP Refcool

Q&A

**4:30 PM – 4:40 PM**

#### **Summing up & Vote of Thanks by:**

- **Mr. Pawanexh Kohli**, CEO & Chief Advisor, National Centre for Cold-chain Development
- **Dr. Ranjeet Mehta**, Director, PHD Chamber

**4:40 PM**

#### **Networking High Tea**

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## RECOMMENDATIONS

The following recommendations evolved from the deliberations at the Conclave:

1. **National Policy on Cold-Chain:** The need of the hour is a sound National Policy on Cold Chain. Farming or food processing, are on the production side of affairs, and can be a State subject. Cold-chain primarily is cross regional intervention, bridging farmland with markets, both domestic and international. Cold-chain has to be driven by a National agenda, preferably on the concurrent list as it is a key to a nationwide network for high value foods and for food security.
2. **Need for development of Cold Chain Logistics Infrastructure:** With increased population and rise in per capita consumption, we are slowly moving from self sufficient economy to dependent economy with huge increase in import of agriculture and horticulture products. To support the local produce and imported foods products, adequate cold chain, logistics and distribution infrastructure is required. The major infrastructure components that need to be developed for effective integration of the cold-chain sector are:
  - a. Static Infrastructure – immobile infrastructure at farm-gate (modern pack-houses with pre-coolers, value adding units), term based storage (Bulk cold warehouses), and Cold distribution Hubs (Cold stores for last mile access to markets).
  - b. Mobile Infrastructure – transport units for connecting the static infrastructure - designed for logistical load factors (small volume transit and long haul transits). Additionally, cold-chain extends to last mile retail or point of sale at merchandising platforms.
3. **Cold Chain Capacity should be diversified:** 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 population rise and consumption habits change.
4. **Capacity Building in Cold-chain:** A key gap in cold chain space is lack of adequate & relevant human capital to manage and operate the cold chain systems. So, focus should be on opening more and more specialized training institutes for cold chain professionals and technicians where they can avail on job training. Also, there is equal need for giving training to farmers so that they are able to better manage their produce both pre harvest and post harvest. The industry should also come forward and work in this direction.
5. **Encouraging Reefer Transportation in India:** Most of the refrigerated transport segment in India is fragmented with large number of small, unorganised/non-integrated private players focusing on select commodities or regions and even



processors and the producers are increasingly outsourcing the logistics facilities rather than creating it as an integral part of their business. To improve the existing scenario in reefer transportation, Government support is required in the initial years.

6. **Promotion of alternate sources of energy like solar thermal and other non conventional and hybrid energy systems in the Cold Chain sector:** Efforts need to be made in order to introduce the concept of Green Technology as also the use of renewable energy for the cold chain sector. Energy efficient practices like: energy recovery systems, energy efficient designs of refrigerated equipment and automation are some of the innovative features.

## GLIMPSES OF NATIONAL LEVEL CONCLAVE ON “STRENGTHENING OF FARM-TO-CONSUMER COLD-CHAIN INFRASTRUCTURE”

### Inaugural Session



(L to R): Mr. Saurabh Sanyal, Secretary General, PHD Chamber; Mr. Ashish Mohan Wig, Chairman, Roads, Ports & Other Infrastructure Committee, PHD Chamber; Mr. Cédric Prevost, Counsellor for Agricultural Affairs, Regional Economic Service, French Embassy in India; Dr. Mahesh Gupta, President, PHD Chamber; Dr. Shakil Ahammed, IAS, Jt. Secretary, Ministry of Agriculture & Farmers Welfare, Govt. of India and Mission Director, MIDH, Govt. of India; Mr. Pawanexh Kohli, CEO & Chief Advisor, National Centre for Cold-chain Development; Dr. Ranjeet Mehta, Director, PHD Chamber

### Launch of PHD Chamber – NCCD Report on “Doubling Farmer’s Income by Strengthening India’s Cold-Chain 2016”



(L to R): Mr. Saurabh Sanyal, Secretary General, PHD Chamber; Mr. Ashish Mohan Wig, Chairman, Roads, Ports & Other Infrastructure Committee, PHD Chamber; Mr. Cédric Prevost, Counsellor for Agricultural Affairs, Regional Economic Service, French Embassy in India; Dr. Mahesh Gupta, President, PHD Chamber; Dr. Shakil Ahammed, IAS, Jt. Secretary, Ministry of Agriculture & Farmers Welfare, Govt. of India and Mission Director, MIDH, Govt. of India; Mr. Pawanexh Kohli, CEO & Chief Advisor, National Centre for Cold-chain Development; Dr. Ranjeet Mehta, Director, PHD Chamber

## Session 1 – Identifying & Filling Gaps in Cold-Chain Infrastructure



(L to R): Dr. Ranjeet Mehta, Director, PHD Chamber; Mr. Krishan Jindal, CEO, NABCONS; Mr. Pawanexh Kohli, CEO & Chief Advisor, National Centre for Cold-chain Development; Ms. Anuradha Prasad, Joint Secretary, Ministry of Food Processing Industries, Govt. of India; Mr. Sunil Kumar, Director, APEDA

## Session 2A – Capacity Building in Cold-Chain



(L to R): Mr. Mahendra Singh Dhakad, Director, State Horticulture Mission, Govt. of MP; Mr. C S Rao, Director, Samagra Agribusiness Services Pvt. Ltd.; Mr. Pawanexh Kohli, CEO & Chief Advisor, National Centre for Cold-chain Development; Dr. S K Yadav, Director, IGNOU; Mr. Nagahari Krishna L, Director - Strategic Initiatives & Industry Affairs, Danfoss India



## Session 2B – Skilling The Cold-Chain



(L to R): Mr. Ramachandran Ezhilarasu, Manager – Training, Danfoss India; Dr. Satinder Singh Arya, CEO, Agriculture Skill Council of India; Mr. Pankaj Mehta, Country Head & Director, Carrier Transicold, India; Mr. Hitin Suri, Jt. MD, Suri Agro Fresh Pvt. Ltd.; Mr. Atul Khanna, Director, ICE Centre of Excellence

## Session 3– Innovation in Cold-Chain Sector



(L to R): Mr. Harshal Surange, CEO & Director, ACR Consultants; Mr. Kapil Singhal, MD, BP Refcool; Mr. Anurag Agarwal, Director, New Leaf Dynamic Technologies (P) Ltd.; Mr. Srinivasa Ramanujam, Sr. VP & Business Head, Adani Agrifresh Ltd.; Mr. Pawanexh Kohli, CEO & Chief Advisor, National Centre for Cold-chain Development; Dr. Ranjeet Mehta, Director, PHD Chamber; Mr. Devendra Gupta, CEO, Ecozen Solutions Pvt. Ltd.; Mr. Samit Jain, MD, Pluss Advanced Technologies Pvt. Ltd.

## Concluding Session



(L to R): Mr. Pawanexh Kohli, CEO & Chief Advisor, National Centre for Cold-chain Development; Dr. Ranjeet Mehta, Director, PHD Chamber



Glimpse of the participants at the venue

## Notes

## Notes