

## Assessment on Cold-chain Infrastructure (NCCD)

### Summary of support schemes

#### DAC - MIDH:

Credit linked back ended assistance to attract private companies for the creation of integrated post-harvest infrastructure, including setting up of cold storages, modern pack-houses, transportation, processing units, ripening chambers and retail infrastructure. Subsidy @35% of the admissible cost in general areas and @50% in case of hilly and scheduled areas is provided to beneficiaries.

#### DAC - ISAM:

Integrated Scheme for Agricultural Marketing (ISAM), through the sub-scheme Agricultural Marketing Infrastructure (AMI), subsidy is available for construction of cold storages when created as part of Integrated Value Chain (IVC) Projects. Subsidy @33.33% in case of North Eastern (NE) States, Sikkim, Andaman & Nicobar and Lakshadweep Islands, hilly areas, Registered FPOs, Panchayats, Women, SC/ST entrepreneurs & their cooperatives and Self-help groups. Subsidy is @25% for all other categories.

#### MoFPI

Ministry of Food Processing Industries implements a scheme under which financial assistance (grant-in-aid) @50% of admissible cost in general areas and @75% in difficult areas subject to maximum of Rs. 10.00 crore / project is availed.

MoFPI is providing grant-in-aid for development of common infrastructure for mega food parks, upto 50 crores. Common infrastructure has cold-chain components.

#### APEDA

Ministry of Commerce through Agricultural & Processed Food Products Export Development Authority (APEDA) also provides assistance to private companies @ 25% for setting up infrastructure including specialized cold stores.

### Concessions in Duties Taxes

- Central Excise Duty exempted for specified equipment's for storages or transport, self-loading / unloading trailers / semi-trailers;
- Exemption from basic customs duty for manufacture of refrigerated vans/trucks;
- Concessional custom duty for initial installing or expansion of a cold storage, cold room, processing, etc.;
- Service Tax Exemption for 'Erection, Commissioning or Installation' of Cold Storage and transport, services of storage, handling and transporting agriculture produce and
- Deduction of 150% of the capital expenditure for setting up and operating a Cold-chain facility.



## Cold-chain Capacity Gap and Action taken

### **A. Cold-chain Infrastructure**

- 1. Created capacity in cold storages is 31.2 million tons (average of 5021 tons per cold store, total of 6227 facilities).**

This number does not account for other storage capacity created exclusively for captive use by users - e.g. milk coolers, abattoirs, hotels, food processing factories and actual numbers are expected to be larger. As per recorded data, basis last done survey by NHB (executed by Hansa Research Group) in 2013. The survey data is pending ratification.

- 2. This survey also indicates that approximately 1100 cold stores have shut down due to ageing, obsolete business model, etc.**

Therefore, the current total operational capacity in cold storages is estimated at 26 million tons (approx. 5200 cold stores).

- 3. An earlier study conducted by National Spot Exchange (NSEL) in December 2010 estimated the total requirement of cold storages as 61.13 million metric tons.**

This indicates a current gap of 35 million tons in cold storage capacity. This capacity gap does not account for the gap in other allied infrastructure, such as reefer vehicles, pack-houses and ripening chambers, which are necessary for holistic development and overall benefit of cold-chain.

- 4. It is recommended that integrated pack-houses and transport connectivity be the focus areas for future development to enable domestic produce to be initiated into cold-chain and take advantage of existing cold storage capacity.**

Majority - 67% of cold stores are focused on single commodity storage for crops like potato, chilly, apples and are designed to support price arbitrage across lean periods and commodity trading. To support small farmers involved in high perishable crops, cold-chain infrastructure that serves as a link that opens multiple market access needs to be promoted.

- 5. As per estimates by NCCD, there exists a minimum requirement of 30,000 modern pack-houses, each supported with at least 2 reefer transport units.**



The country has less than 10,000 reefer trucks and less than 200 modern pack-houses and the majority are used for export trade. Pack-house development will bring capital influx into rural areas and enable producers to pre-condition their produce to take advantage of existing cold storage infrastructure. NCCD recommended that Pack-houses as source points of cold-chain and transport links need to be thrust area. These estimates are on the basis of existing cold storage capacity only and not directly linked market demand.

#### **6. CEO NCCD has provided inputs as member of 2014 Task Force on Cold chain Projects, under Chairmanship of secretary (MoFPI)**

Concept of cold-chain as a supply chain, its differentiation and alignment with Food Processing Industries, value to Farmers from both options and throughput concerns have been incorporated in the Task Force report in October 2014.

### **Summation - Infrastructure**

- A survey of existing operational capacity of cold storage infrastructure was undertaken in 2013. On release of this report a more accurate assessment of available cold-storage capacity is planned.
- For other cold-chain components - refrigerated transport, pack-houses with pre-coolers, estimates indicate a major shortfall.
- A comprehensive capacity gap assessment across all cold-chain infrastructure for selective perishable product types, with a demand driven focus has been initiated. All previous studies were supply driven on basis of production and hence did not have a market linked focus on infrastructure needs.

## **B. Losses incurred in perishable produce**

- 1. CIPHET report published in 2012, estimated losses ranging from 6% to 18% in selected fruits and vegetables.**

This report was based on a nationwide sample survey conducted during 2005 to 2007. CIPHET is undertaking a follow up study, sanctioned by MoFPI, and report is awaited.

- 1. The 2012 CIPHET report did not factor in analytics of the losses that can be directly attributed to lack of cold-chain.**

The losses (5% to 18%) incurred by perishable produce, as indicated in the study, include the status while the produce is in the cold-chain. There has been



no comparative assessment on losses that can be directly attributed to lack of cold-chain. Such a study, with correct yardstick so as to benchmark performance difference in ordinary supply and cold-chain supply can be undertaken for a few commodities.

2. A June-2014 report of FAO's High Level Panel of Experts on Food Security and Nutrition (HLPE) states that 12600 Kgs per capita per annum food is lost in South and Southeastern Asia before reaching the consumer.

The loss translates into estimated 2,731 lakh tons in this region. This report also does not segregate the losses by perishable nature of the produce – it includes grains and fruits and vegetables. However, experienced stakeholders inform that perishable fresh produce within well managed cold-chains still incur loss, albeit minimal (~5% or more), provided the supply is continually linked with markets, with deliveries well within the enhanced life.

### **Summation - Losses**

- There is no relevant study at hand that differentiates between losses within the cold-chain and outside the cold-chain.
- NCCD has recommended that cold-chain infrastructure components be also developed so as to serve as an intervention that opens multiple market opportunities, thereby reducing the scope of loss – instead of such infrastructure being viewed merely as a temperature controlled storage option to counter any immediate loss.
- Developing of cold storage alone shall not greatly mitigate losses incurred by domestic perishable produce, unless allied infrastructure like pack-houses and transport links are also developed.

## **C. Plan of Action to improve Post Harvest Management:**

1. The Mission for Integrated Development of Horticulture (MIDH) was launched in 2014 with its thrust area being Post Harvest Management & Markets Development.

In XI plan, priority was given to Area Expansion with 47.8% allocation of the horticulture budget and PHM (5th in priority) was allocated 8.2% [Total XI Plan Budget 4942 crore]. Under MIDH, in the XII plan, the largest share of budget is allocated to PHM (25%) as a thrust area [Total XII Plan Budget 16834 crore].



- 2. Critical missing links in cold-chain infrastructure were identified and operational guidelines for XII Plan have incorporated strategic support for such components, under MIDH.**

NCCD provided inputs and listed missing links in cold-chain. Other components that impact on the operational efficiency of cold-chain were also identified. Suitable changes were made and new components added to the central support from Ministry of Agriculture under MIDH scheme. This changes include:

1. Integrated pack house as new component.
2. Precooling unit with revised norms.
3. Cold room (staging) as new component.
4. Cold storage units with revised norms.
5. Refrigerated transport with revised norms.
6. Ripening chamber with revised norms.
7. Fifteen add-on equipment for technology induction as new components. These include Multi-modal refrigerated containers, packing lines, handling equipment, Solar powered and alternate energy options.

- 3. Action Plan and Budgetary allocation has been completed. Under MIDH, the NHB has been assigned the task of development of large capacity infrastructure. The intention is to projectise large development initiatives under NHB. In case of allocation through State missions, project sizes are such so as to even incentivise private entrepreneurs and upcoming Farmer producer organisations.**

The new MIDH scheme has been incorporated in the action plan of all the states. Thrust area is on cold-supply-chain and not only on cold storage and is shared through awareness programs. While sanctioning projects this is emphasised.

#### **4. Other Initiatives**

- a. Ministry of Agriculture established the National Centre for Cold-chain Development (NCCD) which recommends on development direction and guides policy for the schemes. NCCD also undertakes institutional capacity building, provides strategic and technical guidance to States, conducts knowledge dissemination activities and addresses industry concerns on cold-chain development matters.
- b. Nodal Officers for Cold-chain Development (NOCCDs) have been nominated at States. These officers are undergoing capacity building trainings through NCCD. The Nodal Officers shall serve to locally address concerns of cold-chain developers and liaise with DAC and NCCD for possible redressal of these concerns.



- c. The **Subsidy Process streamlined**, doing away with need of LOI (treated as approval) from government body. Now any beneficiary with a bank sanctioned loan can apply for subsidy and appraisal committee only assesses on the technical aspects of the project.
- d. States have also been asked to set-up **Technical Committees** which are to be trained to conduct project appraisals at State level so as to fast track the support process.
- e. Interactions initiated with SBI to **develop Credit Products**, so that most of the components for support can be easily funded and linked with subsidy. Development interventions such as modernisation and technology add-on components will benefit from this development by eased access to non-project funding.
- f. Interactions with NABARD held to help develop scheme to utilise the **Warehouse Infrastructure Fund (WIF of Rs 5000 cr)** announced in the Union Budget. Under this scheme through NABARD, the fund will also be available to Farmer Producer Organisations, Private Cooperatives and Private Companies, besides NABARD's Institutional funding to States/PSUs.
- g. A **Reefer Vehicle Call-in-centre** is developed and launched. This provides a toll free number for all perishables transport to call in with concerns faced on the highways, including extortion, delays, bottlenecks. The information will lead to improved governance of perishables movement and redressals.
- h. A study is underway through NHB/RITES on assessing feasibility of introduction of **Special Purpose Wagons (SPW) under Liberalized Wagon Scheme of Railways**, for horticulture goods.
- i. A study is underway to undertake cold-chain capacity gap, with an inverse approach to the supply chain. The study will focus on throughput in the cold-chain instead of traditional approach of storability in cold stores.

### **Summation – Action**

- Bottlenecks to holistic development of cold-chains were identified with NCCD and suitable amends to centrally sponsored schemes were made.
- Cold-chain has been given first priority to ensure productivity is achieved across the entire value chain.
- Allocations under State Action Plans and NHB have been accordingly made.
- Streamlining of funding being undertaken.

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## Recommendations

- Service tax exemption is given when handling agriculture produce – defined by produce which is normally processed by cultivator/producer. This exemption is to be amended to include the services provided by aggregator for cold-chain. This is typically to be done at farm gate level at pack-houses with pre-coolers.
- Existing service tax exemption for loading unloading of agriculture produce at storage/warehouse may be amended to include the same at cold-chain facilities (cold storages, pack-houses, refrigerated transport), for perishable produce that has not undergone food processing.
- Knowledge dissemination in cold-chain be treated at par with agriculture extension services.
- Cold-chain projects are not provided low interest rate loans under priority sector lending. Cold-chain infrastructure, including pack-houses, transport, cold stores may be provided direct lending status under priority sector lending.
- Subsidy and associated norms to be deliberately delinked from overall project costs and instead induction of technologies to bring viability and environment friendly strategies are to be incentivised. The long term requirements for developing of efficient supply chain systems for horticulture produce through greater emphasis on modern pack-houses and transportation links is to be promoted. End-to-end uninterrupted cold-chain, that conveys value produced at farm-gate to be thrust area. Add-on technologies to give direction for modernising the existing infrastructure are to be incorporated. Incentives are also to be linked with environment concerns and for compliance with Montreal Protocol.
- All support schemes under Government to follow common norms under a national strategy for cold-chain development.
- States must invest in components and models such that cross regional trade is promoted. Storing for deferred trade should not be a priority option in case of perishable foods like fruits and vegetables.

