Terms of Reference

Please send your inputs/comments on draft TOR at

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Terms of Reference

The study has the following objectives:

Part 1: Baseline Survey of Capacity (Overall/District-wise/State-wise/Product-wise/Cluster-wise) and Technology of Cold Storages and other components of cold chain infrastructure

Part 2: Gap analysis of capacity (Overall/District-wise/State-wise/Product-wise/Cluster-wise) and technology of Cold Storage and other components of cold chain infrastructure

A : Terms of reference for Baseline survey of Capacity and Technology of Cold Storage and other components of cold chain infrastructure (Part 1)

The study /survey shall :

1. A base line information gathering exercise of cold storage Capacity has been carried out by NHB in the year 2013.This information is to be updated and analysed for existing capacity of cold storages as also for pack-houses with pre-coolers, reefer transport and food processing units on all India basis including Port based infrastructure, farm gate infrastructure, production clusters and distribution hubs.
2. The collated data should include onsite inspection detailing capacity, age of the infrastructure and soundness of infrastructure.
3. Record the accessibility to the infrastructure/ facilities by value chain stakeholders including, producer owners, traders and logistics service providers, etc.
4. Evaluate the surrounding and main facility upkeep at each individual facility. Define purpose and product type for the facility, with respect to single product or multiproduct facilities.
5. Evaluate identified cluster based cold chain infrastructure and commodity/product specific cold chain infrastructure.
6. Provide a basic general layout of the facility and the mandatory geo-tagged photographs.
7. Describe the catchment area around the facility and suitability of facility location.
8. Identify the basic service model of the facility (whether it is a service provider, producer owner, storage or a distribution hub).
9. Gather data regarding back end infrastructure availability. Does the cold storage have appended back end infrastructure or partners with other for some e.g. pre-coolers.

10. Identify the type of technology used for the cooling equipment with size and capacity including information like equipment type, model, capacity, cooling range and supplier details.
11. Find out the maintenance practices for equipments and whether under guarantee or under other maintenance schemes.
12. Details regarding power source including generators or other alternate methods.
13. Record the capacity utilisation monthly over previous 6 months/ 1 year.
14. Record the process and documentation followed at the cold stores, including HACCP, ISO, traceability or other quality certification.
15. Record whether the facility setup was under assistance through govt (central or state) schemes or subsidies. If yes, which scheme was utilised.
16. Capture the ownership and management structure for the facility i.e. Individual, cooperative, private company etc.
17. Access the availability and employment of managerial, supervisory, technical and labour staff

Required output

a) Existing capacity (Overall/District-wise/State-wise/Product-wise/cluster-wise) of fresh produce cold storage, pack-houses with pre-coolers, Reefer transport and food processing units.
b) General layout of the facility : Boundary area vs covered area, no of floors , no of chambers, stacking system , parking space, public utility etc
c) Upkeep of facility : External condition of buildings, external hygiene conditions, internal road areas, internal vehicular movement
d) Geo tagged links cold storage, pack-houses , food processing units with brief profile
e) Catchment area near facility and product type stored : Overall capacity utilization of store, product-wise capacity utilization,
f) Recent trends in cold chain industry in India with regard to multiproduct cold stores, Controlled Atmosphere (CA) stores, Pack houses with processing and pre-cooling facility and ripening units.
g) Availability of crop cluster based cold chain infrastructure and commodity/product based cold storage and cold-chain infrastructure.
h) Ownership and management structure: Proprietorship, partnership, private limited Company, Public limited Company, Government , Cooperative etc
i) Accessibility to infrastructure by value chain stakeholders : Proximity to highways, Railways, Airport , Seaport,
j) Service model of the facility : Lease rental model or captive use model
k) Backend infrastructure availability : Ante rooms, sorting grading facilities, pack house
l) Technology and equipment used in CS's :
m) Capacity utilization and pattern : Overall capacity utilization,
n) Power source and its utilization : Sanctioned load, energy cost , availability of grid power ,

o) Automation in material handling : Conveyor belt, automatic ventilation system, CO2 sensors, automation in drives, etc

p) Business process and documentation : Business process and documentation/certificate, Quality certification FSSA, HACCP, ISO etc

q) Subsidies and assistance : Details of subsidies availed with name of agency

r) Status of trained manpower and employment generation: No of trained manpower and persons employed on average basis.

s) Any other report , as required , on the basis of data collected / available information.

B: **Terms of reference for Capacity and Gap analysis of Cold Storage and other components of cold chain infrastructure**

The study shall:

1. Assess cold storage and other cold chain components infrastructure status, based on the available and updated base line information of the existing capacity.
2. Assess existing capacity of production and/or originating unit (food processing unit and fresh produce pack-houses) from secondary data.
3. Assess the refrigerated transportation available in cold-chain.
4. Assess the existing throughout capability of the existing infrastructure across product (temperature) segments.
5. Assess demand for cold-chain facilities, basis production figures of raw, material and market growth trends for both fresh produce and food products.
6. To output consolidated document with segment-wise and category-wise needs across all infrastructure components required to develop integrated cold-chains from farm/production points to market.
7. The details study and analysis on existing capacity and the gap across all infrastructure components of cold-chain should be comprehensive and highlight the region specific and product specific status . This information is to assist policy makers and developers to target specific regions , clusters and markets and to thereby develop appropriate business models with suitable infrastructure.

Required output

a) Existing throughout capacity (Overall/District-wise/State-wise/Product-wise/cluster-wise) of fresh produce pack-houses with pre-coolers, cold storage, transport and food processing units.
b) Cold storage required number and capacity cross tabbed by application segment (mild, chill, and frozen) and regions
c) Reefer transport existing and required, categorised by carrying capacity and monthly throughput.
d) Current market demand-domestic and international and market demand trends over previous five years and for the next five years.
e) Matrix to assess infrastructure needs on the basis of existing market demand linked to existing production and growth trends.

f) Mapping of cold chain infrastructure around highways and proposing new cold chain infrastructure locations forming a grid on these highways pertaining to output of clusters for seamless road connectivity with major ports, airports, rail, terminal markets, distribution hubs etc.
g) Any other report , as required , on the basis of data collected / available information

Information/ Data to be analyzed

Data collection from primary and secondary sources, its processing and preparation of report shall be the sole responsibility of the agency. The NCCD will designate, a contact-cum-coordinating officer for the study with whom the agency may have consultations regarding any of the aspects of evaluation studies containing methodological aspects etc for the study. All data sources to be tabulated in the output report. Some of the suggested source of data is as under:

i. A base line information gathering exercise of cold storage Capacity has been carried out by NHB. This information to be updated and analysed for existing capacity status of cold storages.

ii. The production capacity of food processing units to be accessed from Ministry of Food Processing Industries, NABARD, etc.

iii. The availability of modern pack-houses for cold-chain to be assessed from State Government, NHB,SHM, APEDA, DMI, NABARD, Licensing authorities or other sources.

iv. The actively refrigeration transport vehicles available in the country. Information from ministry of Road Transport and highways, RTO, and Industry estimates to be used.

v. The existing container, railways and waterways capacity for domestic transport of perishable goods to be accessed from NHB, Railways (Concor) and IWAI or other sources.

vi. The existing export and import capacity in terms of reefer containers and Perishable Cargo Center from APEDA, Airport Authorities and Port Authorities.