

## **“Cold-chain Business” Planning and Strategy**

**A.**

**Identify Target Markets:** tabulate consumption habits at population centres - the type and total volumes of products/goods consumed, and tentative growth trends. Market intelligence as above will be used to rank the opportunity at various population clusters.

**B.**

**Quantify demand at each market:** All existing volumetric flow into market to be quantified into revenue options by factoring the current wholesale prices. Low volume or low cost products not to be ignored, as these will also serve as fillers at a later stage.

**C.**

**Identify Source Points:** for each product segment, the source to be identified by distance from each market. This can be ice-cream factory, abattoir, Fruit & Veg producing centre.

**D.**

**Categorise target volumes:** each identified product type to be segmented by its perishability factors – holding life, holding parameters and packing essentials.

**Explanation:**

Volumetric throughput helps identify the foot-print of the front-end assets, i.e. distribution hub, delivery vehicles, prospective clientele of perishable produce and products.

Segmenting this volume into holding criteria, helps to understand and define design of these assets and costs thereof.

Quantifying flow by wholesale price allows for subsequent decision on the business model and pricing strategy.

Identifying source points will contribute for decisions on total value chain to be captured, including own growth plans.

### **Option 1 (Food supply & delivery system)**

**E.**

**Business model:** the above points will typically suggest the following strategic paths:

- i. Front end distribution hub is key access to market.
- ii. Three revenue streams should be optioned-
  - a. Own produce sales (high margin business).
  - b. Service/rental business (low margin, filler business).
  - c. Trading of imported products (fluctuating margins).
- iii. Where produce can be procured at farm-gate (fresh whole fruits and vegetables), owning the source (through collaboration or setting up pack-houses) is most profitable segment. Pricing strategy will be skimming model, depending on demand, season, quality and brand building.

- iv. Where product is established (ice-cream, branded foods), the infrastructure asset is used to provide service. The pricing strategy will be cost-plus and competitive as clients will be the established product owners (HUL, Amul, etc) using service.
- v. Where retail clientele is available, tapping into existing demand for products and trading or partnering with traders will be possible, with ownership of front end infrastructure. Pricing strategy will not be as much opportunistic as volume based.

## **F.**

**Operating model:** Key will be service excellence, be it for own product or for 3<sup>rd</sup> party products. For this, owning and having full control of the cold-chain infrastructure is critical, especially in the initial stages of setting up. In this sector, leasing of infrastructure, puts one in risk, at play of asset owner. The following are key technical DO NOTs:

- i. Design for any one select segment.
- ii. Ignore building-in redundancy safe guards of key equipment.
- iii. Save cost on insulation as this effects holding period during emergencies.
- iv. Ignore transport ownership - strategically must own some of the delivery system.
- v. Build in multiple layers – better to provide easy and quick access to products.
- vi. Miss opportunity of creating own brand in food products – offers high valuations.

The following is a preferred strategic and operational agenda.

- i. Build a platform (distribution centre/hub) close to high paying urban centre.
- ii. Own at least 10% of delivery vans. Outsource remaining needs.
- iii. Initially access low-hanging fruit by earn through providing service for existing trade, but aim for own produce/brand in long run - keep at 5% of initial capacity to service own produce.
- iv. Develop with partners own source points (pack-houses). If owning DC at multiple markets, build own sourcing pack-houses.
- v. Enter into fresh produce retail packing – unlike finished products from food processing units, for fresh produce no factory is needed. Just source, aggregate and package from farms to establish a fresh food brand (long term value).

## **Option 2 (Hold inventory for off-season):**

Use cold-chain for trading in produce, with minimal service intervention. This model is already evident in case of dried chillies, apples and potatoes. In this case, the produce is essentially sourced at farm-gate, stored in bulk at back-end warehouses for deferred sales. Risk is in holding inventory and in demand variations, since buyers have to reach the supply side (asset owner). In the long run, a successful commodity trader, will also have to reach out to buyers as this segment is getting commoditised.

This model requires less management and operational skills and since it is applicable to single harvest crops only, the demand is habitually well established. The revenue stream is commodity linked and this model has inventory based valuation – hoard and sell model.

## **Money matters**

Government subsidy is available across each infrastructure component in the supply chain. Banks provide loans as a priority sector (NABARD offered a Funding Window with lower interest loan - about 3 to 4% cheaper than commercial banks) and government subsidy is provided to projects that have full financial closure (directly linked to credit).

Tax deduction at 100% of capital invested in infrastructure is available. Buying and selling agricultural produce (fresh produce) is free of income tax. Services provided to make agricultural produce marketable, starting from pack-house, transport and cold storage is free of service tax.

Energy costs are dependent on infrastructure design and operating procedures. Nevertheless, for an average 5000 ton cold store for potato, the annual energy bill is not more than 20-25 lakhs (about 3.5% of wholesale selling price of goods). In the case of apples, with added energy for nitrogen generators and packing lines, the equivalent energy bill is about 50 lakhs. In case of front-end cold store (distribution hub), the energy cost can be higher but linked to goods turn-around-time and the revenue is also higher.

## **Infrastructure matters**

Location is key to both the business main business models. In the first model, being close to consumers is important so that last mile delivery can be made in time, on demand – the earning is linked to fulfilling delivery. In the latter model, being close to farm-gate is better, so that quick entry into warehouse is possible and earning is depending on negotiating commodity transaction.

In each, the design of infrastructure – layout and technology – helps mitigate operating risk and energy bills. Design should suit the operations intended and will vary on shape of land, access, etc. Capacity utilisation is favoured by keeping multiple compartments so that idle space can be disconnected from refrigeration load. Staggering refrigeration size and compartment size can help balance energy load in off-peak periods. A well located Distribution Centre will normally always run at high capacity. In case of DCs, designing large ante-room with multiple loading/unloading bays for cross docking operation is important with features to avoid in-operation energy leakage.

Sourcing of infrastructure equipment is typically guided by consultants, but only requires some basic knowledge. Blind trust is not necessary and sourcing from local presence is recommended for reasons of maintenance and warranty.

The entire energy cost is for countering external heat ingress, hence erring on safer side in case of insulation is cheaper than spending on over-sized refrigeration.

## **Other matters**

This sector is dominated by old enterprises, whose capital cost has long been recovered. Hence, there can be stiff initial competition from these players. However, there is a vacuum or little participation in the marketing of own produce. For this, the business opportunity lies in procuring and packing at back end. In this case, the existing stakeholders at consumption end can become service providers or a sales channel. This

option can mean minimal or zero capital investment in front end cold stores (only lease space in existing), but requires building assets in form of pack-houses at back-end at multiple locations, to brand and supply fresh produce as and when available. A combination strategy, is the optimal model to have, resource permitting.

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Above are generic inputs as each instance will depend on type of business model selected, the location, budget allocated and team involved. Trends in this sector were that at first the commodity trading model was most profitable – this has become competitive now; the distribution & delivery model is still developing and an opportunity – this requires close monitoring and management. In my opinion, both remain profitable options.

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## Information Bulletin (Ministry of Agriculture)



### “Centrally Sponsored Scheme for Cold-chain Projects”

Cold-chain logistics is a thrust area for development, and considered as part of the second green revolution. Cold-chain is viewed as an end-to-end logistics bridge, providing uninterrupted custody of value harvested at farm-gate to the end-consumers. The Government of India supports the development of cold-chain and through the Mission on Integrated Development of Horticulture of the Ministry of Agriculture provides several incentives to interested participants. Financial assistance of 35% to 50% of admissible cost is granted.

*Who can apply:* Private Industry, Entrepreneurs, Cooperatives, Farmer groups, PSUs.

*When to apply:* Scheme is demand driven and can be availed all through the year.

*Where to apply:* Offices of local Horticulture Mission or National Horticulture Board.

*Eligible Components:* Modern Pack-houses with Pre-coolers, Cold Rooms, Cold Stores, Reefer Vehicles, Reefer Containers, Ripening Units, Alternate Energy, Retail shelves, Vending carts.

*Requirements:* Fully funded project with loan sanctioned from a nationalised Bank. Subsidy is credit linked to incentivise owners by reducing their credit burden. Supported components are explained in the scheme Guidelines, should abide minimum System Standards. You can create market links & reduce Food Losses!

*Guidelines & Standards:* See [www.MIDH.gov.in](http://www.MIDH.gov.in) or [www.NCCD.gov.in](http://www.NCCD.gov.in) | *For more information:* Contact the closest State Horticulture Department or your State’s Nodal Officer for Cold-chain Development (NOCD).

### **Benefits of investing in Cold-chain**

- Investment Linked 150% Tax Deduction (Section 35-AD of IT Act) -
- Low interest loan from Warehousing Infrastructure Fund (NABARD) -
- Credit linked Subsidy to projects @ 35% to 50% of admissible costs (MIDH) -
- Service Tax exemption for preconditioning, storing, transporting agricultural produce -
- Service Tax exempted for ‘Erection, Commissioning, Installation’ of Cold storage & transport -
- Rewards of endless Demand, Smart bridge between rural & urban, reduced Food loss -
- Growing market for Fresh Fruits and Vegetables, domestic and international -
- Option to avail of Negotiable Warehousing Receipts as per WDRA norms -
- 100% FDI through automatic approval route, and ECB route open -



*\*Starting 2017, Investment linked tax deduction will be 100%*