



## Controlled Atmosphere Storage Facility

A strong business case for setting up controlled atmosphere (CA) storage facilities in J&K. With a hybrid business model and full state support, this is a highly viable business venture.

1.24 Million MTs of Apples Lost Due to Huge Shortage of CA Storage Facility



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## Current shortage and Statistics :

Region : J&K	Statistics
Total Apple production	20 Million MT 2019-2020 (77.7% of India's production is from J&K)
Total Stores in J&K Max to max	Appx 40
Total Capacity of J&K CA Stores	150,000 MT
Required Storage Capacity	5 lakhs MT
State & Central Govt.	Priority Sector

## Prospects

1. Jammu & Kashmir region is a major apple production hub in India, but low-income farmers face limited access to affordable cold storage facilities.
2. Our proposal through the Industrial and Development Corporation of the State Government aims to provide quality, affordable cold storage facilities to underserved farmers.
3. This will create new or improved livelihood opportunities and help reduce losses due to lack of storage facilities, which reached 1.24 million metric tons in 2019-2020, valued at nearly US \$239 million.
4. Despite annual apple production of 20 lakh MT in the region, only 1.80 lakh MT of controlled atmosphere storage is currently available.
5. **Our focus is to address this gap in storage capacity and support the sustainable growth of the apple industry in Jammu & Kashmir.**

# Purpose

## "Preserving the Harvest: CA Storage Facilities in J&K to Meet High Demand for Fruit Storage"

### Products & Services

1

#### **Purpose of apple storage:**

maintain quality and  
provide a uniform flow of  
apples year-round

2

#### **Requisites for efficient**

**storage:** adequate  
insulation, outside  
waterproofing, inside vapor  
proofing, ventilation, air  
distribution, and adequate  
humidification

3

#### **Design :**Properly designed

controls needed to  
maintain storage  
atmosphere precisely

Temperature, humidity, and  
air movement are key  
factors affecting storability

# Rationale for the Proposal

J&K is the main supplier of fruits in India. The lack of affordable cold storage facilities has a significant impact on perishability and quality of seasonal produce. This leads to huge losses for farmers and traders.



## Losses Due to Perishability

Losses due to lack of storage facilities alone reach 1.24 million metric tons.



## The Impact on Farmers

Only 400K MT storage facility space in J&K, Shortage of facilities affects low-income farmers the most.

# Proven Customer Need

1 In Jammu & Kashmir, 50% of the population depends on fruit and vegetable farming.

2 Fruits like apples and dried fruits have a limited shelf life after harvest.

3 Post-harvest cooling rapidly removes field heat, reduces respiratory activity, internal water, wilting, and slows down the growth of microorganisms.

4 The unavailability of cooling and storage facilities leads to distress sale and significant losses.

5 Post-harvest cooling provides marketing flexibility and can help farmers store their produce and sell it at the right time.

6

- Losses due to lack of storage facilities alone reaches 1.24 million metric tons, valued at nearly US \$239 million.

# Target Market

A diagram illustrating the target market for apples in India. It features a central horizontal line with five yellow square markers. Above the line, from left to right, are the labels 'Market' and 'Shortage'. Below the line, from left to right, are the labels 'Requirement', 'Indian Market', and 'Population'. A large, stylized syringe is positioned diagonally across the diagram, with its needle pointing towards the 'Shortage' section. The background consists of concentric red circles, resembling a target.

## Market

- Local state market of Kashmir in Jammu & Kashmir.

## Shortage

- J&K has only 1,50,000 MT of CA storages against a total of 24,15,421 MT of fruit and vegetable production.

## Requirement

- Domestic apple supply cannot meet demand in India due to seasonality, geographical separation, and insufficient infrastructure.

## Indian Market

- India has a huge requirement for apples throughout the year and imports from overseas or has poor-quality local products.

## Population

- Increasing population, growing disposable incomes, improving lifestyle, health awareness, and a large percentage of vegetarian consumers are fueling apple demand in India.



# Sales & Marketings

- Our company has established partnerships with local growers and traders who are interested in pre-booking our storage facilities.
- Through our market research, we have determined that there is a current demand for at least 400,000 metric tons (4,000 metric tons of storage space) in the state.
- We have a competitive advantage in the market by offering storage space on a first-come, first-served basis.
- Our target audience for marketing efforts will be low-income farmers who need storage facilities to generate extra income for their livelihoods.
- We will use a mix of online and offline marketing strategies to reach our target audience, including social media, flyers, and word-of-mouth referrals.

# Brief Business Plan

Targeting local growers, traders, and horticultural departments to cater to their cold storage needs with a focus on low-income farmers in need of a storage solution.

## 1 Target Market

Local growers, traders, and horticultural departments in Kashmir, J&K

## 2 Sales & Marketing Strategy

Tie-ups with local growers and traders who book in advance, targeting 2.5% of shortage to start and aiming to increase to 10% in the future

## 3 Business Model

Phase(I): Set up 10,000 MT CA store for renting. Phase(II): Increase own hybrid plantation and capacity to 40,000 MT by 3rd year for higher profitability.

## 4 Competitive Advantage

Self-sustained business model with location proximity, best European technologies, access to growers, full state support and tax benefits, and more.



# Synoptic Viability: Likely Scenario



## Projected gross profits:

Rental Profit (6 months)

USD \$1.20m

Sales Profit (9 months)

USD \$2.57m

Total Gross Profit (12 months)

USD \$3.77m

# Hybrid Business Model



Phase(I)

- Plan to establish 15,000 MT capacity CA store
- Rent most of the space to local farmers and use some for own procurement.



Phase(II)

- Expansion of capacity to 40,000 MT by the third year will be pursued.
- Establishment of an own hybrid plantation will also be undertaken.
- These initiatives are expected to significantly increase revenue and profitability.

# Full State Support

1

## Integrated Facilities

Access to growers through ground work with horticultural and fruit growing associations and cooperatives, logistics with own electric truck fleet

2

## Tax Benefits & Subsidies

Tax benefits and subsidies on performance

3

## Power Backup

Full support of state with integrated facilities and power backup

4

## Management Team

Strong management team

# Concluding Thoughts

- The CA store in J&K can save millions of metric tons of fruits from spoilage due to storage shortage.
- The estimated shortage of 22,65,421 MT of storage capacity and 1.24 million MT annual loss of fruits show a significant economic impact.
- The project aims to provide affordable and accessible storage facilities, leading to increased profitability for farmers, reduced food waste, and higher quality produce for consumers.
- Plans to expand to 40,000 MT by the third year and potential for a hybrid plantation can generate long-term revenue and employment opportunities.
- Overall, this project has the potential to benefit all stakeholders involved and positively impact the economy of J&K.

