# Indian Economy · GS - III

**How can strengthening India's cold-chain infrastructure contribute to reducing post-harvest losses and food-price volatility? Examine the structural constraints that limit its effectiveness.**

| EXAM YEAR | PAPER | SUBJECT |
|---|---|---|
| DAILY PRACTICE 21/11/2026 | GS - III | Indian Economy |

| MARKS | WORD LIMIT |
|---|---|
| 15 | ~250 words |

## Answer Hint

**Post-harvest losses, farm-gate infrastructure, integrated cold chains, food inflation, supply-chain efficiency, smallholder farmers, climate resilience, public-private partnerships.**

## Model Answer

### Introduction

India incurs substantial annual losses in fruits and vegetables due to inadequate storage, transportation delays and fragmented supply chains. Strengthening cold-chain infrastructure can improve food availability and reduce avoidable price pressures.

### Role in Reducing Losses and Inflation

- **Preservation:** Pre-cooling, packhouses and refrigerated storage extend the shelf life of perishable commodities.
- **Price stabilisation:** Scientific storage enables staggered market arrivals, reducing seasonal supply shortages and price spikes.
- **Farmer incomes:** Reduced spoilage and distress sales improve farmers' bargaining power and market realisation.

- **Market integration:** Refrigerated transport connects production centres with distant consumption markets.
- **Food security:** Better preservation improves the availability of nutritious food throughout the year.

**Structural Constraints**

- High capital and electricity costs make cold storage difficult for small farmers and local enterprises.
- Inadequate farm-gate facilities and refrigerated transport create gaps in the supply chain.
- Fragmented landholdings, weak aggregation and limited processing capacity reduce economies of scale.
- Climate shocks, poor roads and inefficient market distribution can independently drive food inflation.
- Commodity-specific temperature requirements make uniform storage infrastructure unsuitable.

**Way Forward**

Develop integrated cold-chain networks through packhouses, reefer vehicles and modern warehouses. Promote farmer-producer organisations, solar-powered cooling, food-processing clusters and digital supply-chain monitoring. Strengthen schemes such as the Agriculture Infrastructure Fund and PM Kisan SAMPADA Yojana.

**Conclusion**

Cold chains are essential for reducing post-harvest losses and improving market efficiency, but they must complement broader agricultural reforms, resilient logistics and better market distribution to deliver sustained food-price stability.