



Integrated Cold Chain and Value Addition Infrastructure (ICCVAI)

India's Post-Harvest Supply Chain from Farm Gate to Consumer

Key Takeaways

- In July **2025**, the Union Cabinet approved an additional **₹1,920 crore** for **PMKSY**, raising the total outlay to **₹6,520 crore** for the 15th Finance Commission cycle (till March 2026).
- Approval includes **Rs.500 crore** to support setting up of **50 Multi Product Food Irradiation Units** under the component scheme-Integrated Cold Chain and Value Addition Infrastructure (ICCVAI).
- Since **2008**, **395** cold chain projects have been approved; **291** completed and operational, creating **25.52 LMT** preservation and **114.66 LMT** processing capacity annually, generating **1.74 lakh** jobs.
- Since **2016-17**, **₹1,535.63 crore** has been released against approved grants of **₹2,066.33 crore** for **269** projects, with **169** operationalised nationwide.

Introduction

Post-harvest losses remain a significant challenge in India, particularly for perishable commodities such as fruits, vegetables, dairy, meat, poultry, and fish. Research indicates that considerable losses occur throughout the supply chain, from harvesting and handling to transport, storage, and processing, reducing farmers' incomes, increasing consumer prices, and undermining food security. To tackle these challenges, the **Ministry of Food Processing Industries (MoFPI)** runs the **Integrated Cold Chain and Value Addition Infrastructure Scheme**, commonly referred to as the Cold Chain scheme as part of the **Pradhan Mantri Kisan Sampada Yojana (PMKSY)**. The main goal is to build a seamless cold chain from farm gate to retail outlet, to reduce post-harvest losses and help farmers secure better returns for their produce. Although the scheme was launched earlier, it was restructured and included under **PMKSY** in **2016-17**. **PMKSY** is an umbrella scheme of the Ministry of Food Processing Industries which aims to create modern infrastructure with efficient linkages and supply chain management from farm gate to retail outlet. The Cold Chain Scheme was brought under the umbrella of **PMKSY** for creating complete cold chain solutions that connect farmers, processors, and markets, and for cutting wastage, boosting employment, and strengthening the competitiveness of the perishable goods sector.

Moreover, the significance of cold chain infrastructure extends beyond mere storage. It includes pre-cooling facilities at farms, modern processing centers, efficient distribution hubs, and temperature-controlled transport systems that work together in sync. The scheme encompasses multiple sectors, including horticulture (excluding fruits and vegetables since 2022 which get covered under a separate scheme), dairy, meat, poultry, and marine or fish products (excluding shrimp), thereby addressing a

broad spectrum of perishable commodities crucial to agriculture and allied industries. This restructuring aimed to streamline assistance and prevent duplication. It also transferred fruits, vegetables, and shrimp under the Operation Greens scheme, another component of PMKSY focused on stabilizing supply chains.

An evaluation study conducted by NABARD Consultancy Services Pvt. Ltd. (NABCONS) in 2020 highlighted that interventions under the ICCVAI scheme resulted in a significant reduction in wastages, particularly in the Fruits & Vegetables, Dairy, and Fisheries sectors.

Objectives of the ICCVAI

The founding objectives of the scheme were clearly defined to ensure the holistic development of cold chain infrastructure:

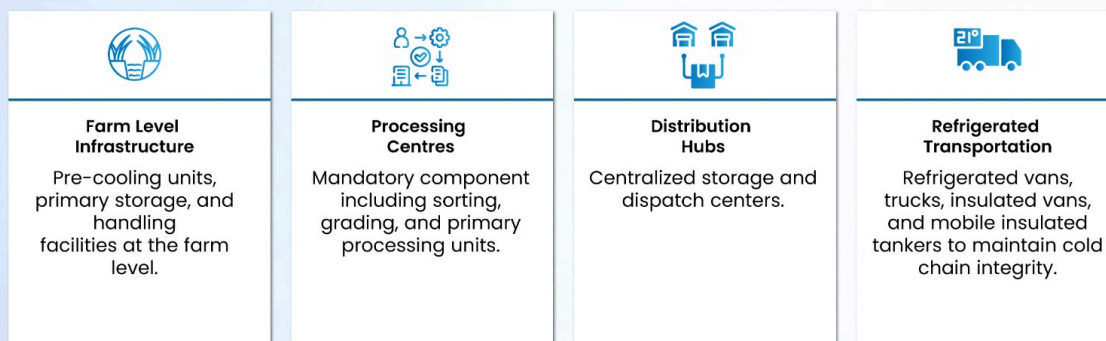


Key components of ICCVAI

The scheme supports the creation of facilities across the supply chain, often emphasizing infrastructure at the farm level. For an applicant to receive financial assistance under the general cold chain scheme (as per 22.05.2025 guidelines), they must set up Farm Level Infrastructure (FLI) and connect it with either a Distribution Hub (DH) and/or refrigerated/insulated transport.

Its key components include:

Key components of ICCVAI



Source: Ministry of Food Processing Industries

Eligibility of PIA to establish Food Processing Unit

ICCVAI is a demand driven scheme. Various eligible entities (Project Implementing Agencies – PIAs can establish the food processing units. PIA can be anyone from the following:

- Individuals (including farmers).
- Entity/Organization such as Farmer Producer Organizations (FPOs), Farmer Producer Companies (FPCs), Non-Governmental Organizations (NGOs), Public Sector Undertakings (PSUs), Firms, Companies, Corporations, Cooperatives, and Self-Help Groups (SHGs).

Ministry invites applications/proposals from eligible entities through floating **Expressions of Interest (EOIs)** based on the availability of funds. Obtaining consent from the States for the storage of food commodities is not mandatory; however, their assistance is required in establishing the food processing units.

Key Government Initiatives Complementing the ICCVAI Scheme

Mission for Integrated Development of Horticulture (MIDH), National Horticulture Board (NHB), and Agriculture Infrastructure Fund (AIF) are some key government initiatives that complement the **ICCVAI Scheme**.

1. Mission for Integrated Development of Horticulture (MIDH)

Under the **MIDH**, financial assistance is provided for a range of horticulture activities, including the construction, expansion, and modernization of cold storages with a capacity of up to **5,000 MT** across the country. These projects are implemented based on Annual Action Plans submitted by States and Union Territories. The cold storage component is demand and entrepreneur-driven, which offers credit-linked back-ended subsidies of **35%** of the project cost in general areas and **50%** in the North Eastern and hilly states, as well as in scheduled areas. The support is extended through the respective State Horticulture Missions.

2. Operation Greens Scheme

This is another Central Sector Scheme being implemented by MoFPI under Pradhan Mantri Kisan SAMPADA Yojana since 2018-19, with the objective of enhancing the value realisation of farmers and minimizing post-harvest losses. The scheme was initially intended for the integrated development of Tomato, Onion and Potato (TOP) value chain, but was later extended to cover a variety of other vegetables and fruits, and also shrimp.

3. National Horticulture Board (NHB)'s Initiative

NHB is implementing a scheme namely "Capital Investment Subsidy for Construction/Expansion/Modernization of Cold Storages and Storages for Horticulture Products". The scheme provides a credit-linked back-ended subsidy of **35%** of the project's capital cost in general areas and **50%** in the case of North Eastern, hilly, and scheduled areas. It supports the construction, expansion, and modernization of cold storage and Controlled Atmosphere (CA) storage facilities with capacities ranging from **5,000 MT to 20,000 MT**, thereby promoting scientific storage and reducing post-harvest losses in the horticulture sector.

4. Agriculture Infrastructure Funds (AIF)

To further strengthen agricultural infrastructure across the country, the Government has launched the **AIF** with a corpus of **₹1 lakh crore**. The Fund aims to facilitate the creation of post-harvest management and community farming assets, including cold storages, warehouses and processing units. All the eligible beneficiaries can avail collateral-free term loans of up to **₹2 crore** along with an interest subvention of **3% per annum** on the term loan.

Financial Assistance

Enhanced Budgetary Allocation under PMKSY (2025)

The Union Cabinet in **July 2025** approved an additional outlay of **₹1,920 crore** for the **PMKSY**, raising the total allocation to **₹6,520 crore** for the **15th Finance Commission cycle (up to March 31, 2026)**. This approval includes **Rs. 500 crore** to support the setting up of **50 Multi-Product Food Irradiation Units** under the component scheme-Integrated Cold Chain and Value Addition Infrastructure (ICCVAI). This significant increase reflects the government's strong commitment to expand the impact of cold chain infrastructure.

The scheme provides grants or subsidies to set up integrated cold chain projects covering **35%** of the eligible project cost in general areas and **50%** in difficult areas, as well as for proposals from **SC/ST groups, FPOs, and SHGs**. **Difficult Areas** include North-Eastern States (including Sikkim), Uttarakhand, Himachal Pradesh, Jammu & Kashmir, Ladakh, Integrated Tribal Development Programme (ITDP) areas, and Islands. Each project can receive up to **₹10 crore** in financial assistance.

Achievements and Progress

As of **June 2025**, a total of **395** integrated cold chain projects have been approved under the Cold Chain Scheme since its launch in 2008. Out of these, **291** projects have been **completed and are operational**, creating a **preservation capacity of 25.52 lakh metric tonnes (LMT)** per year and a processing capacity

of **114.66 LMT** per year. The completed and operationalised projects have contributed to the generation of **1,74,600 jobs** across the country.



Substantial progress became evident after 2016–17. Since **2016-17**, an amount of **₹1535.63 crore** has been released against approved grants-in-aid / subsidy of **₹2066.33 crore** for implementing **269** approved projects with **169** cold chain projects have been completed and operationalised across the country.

Major Revision and Policy Updates

The scheme has undergone several revisions to enhance its effectiveness and align with emerging needs:

June 2022 Revision: A significant policy change was implemented on **June 08, 2022** when the scheme discontinued support for cold chain projects in the **fruits and vegetables sector**. Moreover, the sector was shifted to the **Operation Greens Scheme** which is another component of PMKSY specifically designed to address price stabilization measures in the horticulture sector. Therefore, this strategic reallocation allowed for specialized focus and optimized resource utilization.

August 2024 Guidelines: Operational scheme guidelines were issued on **August 06, 2024** for setting up multi-product food irradiation units (use of ionizing radiation to preserve food, extend shelf life, and reduce post-harvest losses for various products) under the cold chain scheme. Therefore, this addition reflects the incorporation of modern preservation technologies that extend shelf life and ensure food safety without compromising nutritional quality.

May 2025 Revision: The latest operational guidelines, released on May 22, 2025, focus on strengthening preservation and value-addition infrastructure across the entire supply chain, from the farm gate to the consumer. These measures aim to minimize post-harvest losses of non-horticulture produce, while also ensuring farmers receive fair and remunerative prices and consumers benefit from the year-round availability of food products.

Conclusion

The evolution of the scheme demonstrates adaptive governance. The 2022 sectoral realignment, transferring fruits and vegetables to Operation Greens, reflects strategic specialization. The 2025 budget increase to ₹6,520 crore underscores the government's focus on strengthening and expanding the impact of cold chain infrastructure. The introduction of irradiation facilities and regular guideline revisions shows responsiveness to technological advancements and ground-level requirements.

The scheme's financial framework ensures that cold chain development remains economically feasible for a wide range of stakeholders, from individual farmers to large corporate entities. It aims to ensure that projects are implemented in response to actual market needs. Furthermore, the scheme holds significant potential. Integrating modern technologies such as IoT-based monitoring, energy-efficient systems, and AI-driven logistics optimization can greatly enhance operational efficiency. Strengthening linkages with agricultural marketing reforms can further amplify benefits for farmers.

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