

# COLD CHRONICLE



Everything about COLD-CHAIN



## COLD CHAIN FOR ALL

### ADVICE FROM SECRETARY

Message from Sec- MoA&FW

### FOOD SAFETY AND THE ROLE OF COLD CHAIN

Article Inside

### SETTING UP OF DEMONSTRATION UNIT AT NCCD

NCCD Secretariat, Gurugram

### ISHRAE: REFCOLD 2024

Kolkata, W.B.

### WLC EXPO 2024: NEW DELHI

Yashobhoomi, New Delhi

### ENERGY TRANSITION IN COLD CHAIN

Article Inside

# Revolutionising Bihar's Mango Trade

## Breaking Barriers with Innovative Business Models

Bihar, India's third-largest mango producer, contributes 7.5% to the nation's total production, with regions like Bhagalpur and Darbhanga playing crucial roles. Bhagalpur is particularly renowned for its GI-tagged Jardalu mangoes, while Darbhanga is the state's highest producer, yielding a diverse array of varieties such as Dudhiya Maldah and Bombai. Mangoes from Bihar are highly sought after, both for fresh consumption and in the processing industry, particularly during the peak season from May to July. The case study presented here discusses the importance of cold-chain access in rural parts of the country, which can improve the market reach for the good quality horticulture produce, providing better earnings to the producer and lowering post-harvest losses.

### Challenges in the Mango Supply Chain

Despite its potential, Bihar's mango value chain faces significant challenges, particularly in post-harvest management. The lack of standardised harvesting and post-harvest practices severely limits the ability of Bihar's mangoes to penetrate broader domestic and international markets. Additionally, inadequate infrastructure, such as the scarcity of integrated packhouses and poor transportation facilities, exacerbates these issues.

Traditional trade systems that dominate the region further restrict market expansion and profitability, making it difficult for local farmers to achieve better market outreach and pricing.



### Innovative Solutions: A Packhouse-Centric Approach

To address these challenges, a new packhouse-centric business model is emerging as a promising solution for developing a sustainable value chain in Bihar. This model focuses on strengthening market linkages and enhancing the post-harvest process, with integrated packhouses serving as the hub for various critical functions. These facilities provide the essential cold-chain infrastructure that preserves mango quality during transit with processes like Hot Water Treatment (HWT) and Vapor Heat Treatment (VHT), a global phytosanitary requirement, which is effective in eliminating major issues of Anthracnose (a fungal infection) in North India mangoes and educates farmers on key preconditioning processes such as sorting, grading, cleaning, and precooling. By adopting a participatory business model, this approach encourages collaboration, where risks and profits are shared between buyers and farmer groups, fostering trust and breaking away from the constraints of traditional trade practices.

## Case Study: Jitban's Collaboration with Agro Point FPC

Supported by the Industry Department of Bihar, the pilot intervention led by Jitban in collaboration with Agro Point FPC, showcased the effectiveness of this pack-house centric model, demonstrating how integrated packhouses using a buyer-driven model can ensure better market access and higher profits for farmers. The initiative facilitated the shipment of GI-tagged Jardalu mangoes to premium domestic markets like Bangalore and Mumbai, as well as to Middle Eastern and Southeast Asian countries.

The success of this pilot suggests that such models could be replicated across other regions, providing a blueprint for transforming Bihar's mango value chain.



### How this Model Benefits FPCs

The participatory model offers significant advantages to FPCs, making it an attractive alternative to traditional trading systems. Enhanced market connectivity and reduced losses during the supply chain are just the beginning. The model also provides FPC members with training in best operational practices and post-harvest management, equipping them with the skills necessary to maintain high standards. Additionally, the shift to a more transparent and ethical business environment offers greater flexibility in trading and secure payment modes, empowering FPCs and ensuring a more sustainable and profitable future.

### Impact and Replicability

This model has the potential to significantly impact local communities by providing employment opportunities for both women and men in handling packhouse operations and equipment. By adopting an innovative participatory trade model, FPCs can not only improve the mango value chain but also explore the integration of other crops into the packhouse and cold supply chain, enhancing the overall agricultural output. This model emphasises the importance of training and capacity building in good post-harvest management practices, leading to improved product quality and market readiness. With its proven success in expanding market outreach and establishing strong linkages, this approach serves as a replicable model for other community-based farmer groups, enabling them to access broader markets and achieve greater economic benefits.

### The Way Forward

By continuing to innovate and expand this model, players like Jitban will be crucial to revolutionise Bihar's horticulture value chain, providing sustainable solutions that benefit farmers, improve market access, and enhance overall profitability. Jitban plans to expand its participatory model across Bihar by partnering with more FPCs and focusing on integrated packhouses in regions like Bhagalpur to access premium markets. The model will gradually include high-value crops like pointed gourd, chilli, banana, litchi, and okra.

### Author: Mr. Alok Pandey

Alok Pandey is working with the Alliance for an Energy Efficient Economy as Manager of Projects in the sustainable cold chain vertical. Alok has done his Bachelor's in Agriculture from Allahabad Agriculture Institute (Deemed University) and MBA (Marketing) from Birla Institute of Technology, Mesra. He has 22 years of expertise in agribusiness incubation, FPO business ecosystem development, Market linkages for agri input and output, Potato Contract Farming, Buying & Merchandising, Strategic Direct Farm Sourcing, retail and Warehouse Operations Management.

