

# Sustainable Agriculture | India: Project “Unnati” Sustainable Mango Production



**Location:** Andhra Pradesh, India

**Timeline:** 2011-2015

## Funding (Initial Phase):

- Coca-Cola India: US\$1,000,000
- Jain Irrigation Systems: US\$1,000,000

## Key Partners:

- Jain Irrigation Systems Ltd.
- The Coca-Cola Company (TCCC)

## Summary:

Project “Unnati” is a partnership between TCCC and Jain Irrigation, Coca-Cola India’s largest mango supplier. The initiative provides field-based training to Indian mango farmers on modern, sustainable agriculture and the adoption of the Ultra-High Density Plantation (UHDP) technique. Through Coca-Cola India’s focus on ‘Parivartan’ meaning ‘Transformation through Training’, these efforts are expected to double mango yields for over 50,000 farmers, thereby increasing farmer incomes and the availability of an important commodity in TCCC’s agricultural ingredient supply chain.

## Goals and Objectives:

- Encourage sustainable, modern agricultural practices among Indian mango farmers, such as grafting of commercial mango varieties and special pruning, fertilization, and drip irrigation techniques
- Establish 300 acres of UHDP demonstration plots
- Double per acre mango yields
- Increase income of more than 50,000 farmers over a 5-year period through training programs
- Decrease the quantity of water used per kilo of mango produced

## About Jain Irrigation and Drip Systems:

Jain Irrigation Systems Ltd. (JISL) is a leading processor of fruits and vegetables (including pureed mangos), and India’s largest provider of drip irrigation systems. Using a network of lines with precisely controlled emission points, drip irrigation delivers water and nutrients directly to the root zone of the plant. In this way, the plant’s withdrawal of moisture and nutrients is replenished almost immediately, providing optimal growth and high yields while conserving water.

## Details:

India is the world’s largest producer of Mangos but has some of the lowest farm productivity rates in the world. As India’s demand for mangos grows, so does the need to increase per acre yields on a long-term and sustainable basis. TCCC and Jain Irrigation have partnered to address this need through creating farmer training programs to enable adoption of the Ultra-High Density Plantation (UHDP) technique.

In traditional mango cultivation, trees are allowed to grow as high as possible and are rarely maintained. In UHDP, the canopy is pruned for maximum light distribution and volume. Grafts of commercial mango varieties are planted close to each other, while special

techniques for pruning, fertigation (the application of fertilizer through an irrigation system), drip irrigation, and growth promotion lead to optimal yields. Special care is also taken for nutrition management and pest control. Together, these techniques can double mango yields and allow nearly 600 trees per acre compared to conventional planting of 40 trees, while decreasing the quantity of water used per kilo of mango production. Moreover, UHDP enables farmers to begin commercial harvests in 3 to 4 years as opposed to the 7 to 9 years required for traditional farming.

To date, 100 acres of demonstration plots belonging to 62 farmers have been seeded. In the next two years, Project Unnati intends to scale the project to cover 300 acres of demonstration farms. These farms will be used to showcase and train farmers under a joint capability building program between Jain Irrigation and Coca-Cola India. Using dedicated mobile vehicles for field-based training, this program is expected to increase the yields and incomes of more than 50,000 farmers over 5 years.

As a means of meeting increased demand for mango-based beverages, Project Unnati is a model sustainability effort. Further, as UHDP can be undertaken in all regions where mangoes are grown traditionally, practices learned from this innovative project are expected to scale, benefiting farmers and increasing production throughout India.



A Project Unnati mango farmer stands in front of a newly planted demo plot expected to double his traditional yields