



# Jointly supporting the sustainable production of high-quality vegetables



## Food Safety

Promoting the responsible and safe use of chemicals in line with IPM principles and FSSAI Regulations

## Marketability

High-quality marketable yields of up to 8–10 %

## Sustainability

Adherence to the principles of sustainable agriculture

food chain partnership



# What was the market situation?

India is the world's second-largest producer of vegetables and fruits with an annual production of 182 and 94 million metric tons respectively. Geographical and climatic diversity provides a unique opportunity for the production of fruits and vegetables from temperate to tropical crops year-round. While production is high, there is ample room to improve the productivity per unit area in order to bring it in line with global standards.

The production of vegetables is always a challenging task given the characteristics of Indian farming, such as

fragmented land holdings, low levels of mechanization, lack of support for technical expertise, and multiple crops. When it comes to marketing the produce, multi-layered supply chains, the absence of alternative options, and a lack of infrastructure make it even more challenging. It is an established fact that farmers get only 30–40% of the price consumers pay for the produce.

## The Indian Vegetables Initiative

METRO Cash & Carry, the leading international player in the self-service wholesale business, and Bayer have been working together since 2011 to improve yields and quantities at the farm level and ensure customers' requirements are met in terms of food quality, safety, and traceability.



**Challenges:**

- Improving the yield and quality of vegetables
- Implementing Good Agricultural Practices
- Quality, food safety, and traceability
- Awareness of post-harvest practices

**Solutions:**

- Developing and implementing the innovative “5 P” program for a variety of vegetables
- Training courses in good agricultural practices for growers
- Records documented in field passports to ensure traceability and prevent any possible food safety risk

**Benefits:**

- 8–10 % increase in marketable yields
- 35 % higher net income for farmers
- Availability of year-round market for farmers
- Farmers educated in good agricultural practices
- METRO able to buy good-quality vegetables and strengthen its relationships with growers

“Food Chain Partnership  
in India has helped to upgrade farmers  
on Good Agricultural Practices and build a  
market for quality produce.”

Mr. Srinivas K Ranganathaiah, Head Quality Assurance



## What were the challenges?

The evolution of organized retail and wholesale networks in India has opened up new markets for ever more demanding customers who want high-quality, healthier, and safer products available year-round. This is why organized wholesalers and retailers have to guarantee that their produce meets such standards by sustainable means.

The aim of this Food Chain Partnership is to create a win-win situation for all partners involved by implementing best agricultural practices, improving yield and quantity at the farm level, and ensuring customer requirements are met in terms of food quality, safety, and traceability.

## What was the solution?

Bayer Crop Science and METRO focused on supporting farmers in achieving higher yields and quality; the former through the Food Chain Partnership project and the latter through their direct farm procurement program. With its innovative product portfolio and global expertise, Bayer Crop Science has been supporting METRO in developing and implementing the innovative “5 P” program for a variety of vegetables. The focus crops in this project have been tomatoes, cabbages, cauliflowers, and cucumbers.

The project started with 122 registered growers with one location in Hyderabad and has now expanded to include 471 farmers in five locations: Vantimamidi in Telangana, Malur and Chikkaballapur in Karnataka, Manchar in Maharashtra, and Barasat in West Bengal.

Training courses for farmers, an integral part of the program, aimed to raise awareness of quality improvement, disease, and pest management, as well as the safe use

and handling of crop protection products. Bayer's Food Chain Team provided technical support to METRO's farmers. Apart from this training, the Bayer Food Chain Project Officer regularly visited the farmers to monitor and guide them through the pest and disease management and spraying operations. In order to create a high level of awareness about the safe use of the crop protection products, the information was made available at the collection center.

Good Agricultural Practices were followed, giving due importance to Integrated Pest Management, worker protection, environmental care, and related aspects in order to strengthen the sustainability aspect of this project. The Bayer Passport, a tool for record management, documentation, and traceability at the farmer level, was implemented in order to ensure produce traceability. Last but not least, the farmers were advised and trained by METRO to harvest, grade, and pack the vegetables in line with customers' requirements.

“Collaboration brings trust between stakeholders and that motivates everyone to contribute and strive for a common objective.”

Pankaj Kumar Sharma, Bayer Crop Science, India



## What did we achieve?

Farmers were able to increase their yields by an average of 7 %. Guidance throughout the crop cycle also resulted in better quality and a higher net income of about 35 % for the farmers. On average, the farmers received 4–5 % higher prices by marketing through METRO. In turn, METRO was able to buy good-quality vegetables and strengthen its relationships with the farmers on the basis of the greater benefits they received through being part of this managed production program. Bayer's products and services helped the farmers to protect their crops and produce vegetables of higher quality and in greater quantities.

# About Food Chain Partnership

Consumers are becoming increasingly conscious of the need for healthy nutrition. Food Chain Partnerships help to supply consumers with high-quality fresh produce, which forms the basis of a healthy diet. But such partnerships can only succeed if they involve every player in the food chain – from the farmer and processor to the exporter or importer and retailer. The Crop Science Division of Bayer has the global experience and cutting-edge expertise to create a successful partnership at every level.



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FCP-18-1656

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