Opportunities in Post-harvest Management Centre of Excellence (CoE)

India has been self-sufficient in Fruit and Vegetable production since 2014

Fruits: Area of Cultivation: 6.3 M hectares producing 90.2 M tonnes of **fruits**
Vegetables Area of Cultivation: 10.1 M hectares producing 169.1 M tonnes of vegetables
Indian National Horticulture Board (2015-16)

- **Average small holder farmer cultivates 1-2 ha of land-**
- **Produce Transported by truck/cart to local wholesale markets- products are aggregated and sent by small trucks to local markets**
- **90% of fruit and vegetables are purchased from local markets**

Opportunities in Post-harvest Management Centre of Excellence (CoE)

Showcasing post-harvest technology across the supply chain:

Harvest maturity determination

- Texture (Penetrometer)
- Refractometers (Sugars)
- Skin Colour (Colourimeter)
- Acids (Titrators)
- Ethylene Conc. (GC-FID)

Storage

- Research storage facilities.
- Semi-commercial stores -pilot
- trials
- Controlled Atmosphere systems. (Dynamic & Standard CA) for apple and other fruit and vegetables.
- Flow through systems (CA).
- Refrigerated storage – humidity control .

Processing

- Precision Cooling: soft fruit and perishable crops (e.g. Blast chilling/Vacuum Coolers).
- Hydrocooling
- Washing plants: root crops
- Ripening Rooms: mango, banana, pears.
- Peeling/Processing - cold press and hot extrusion technology for purees.
- Drying facilities.

FOOD SAFETY

Opportunities in Post-harvest Management Centre of Excellence (CoE)

Showcasing post-harvest technology across the supply chain:

Handling and Packaging

- Grading and sizing
- Manual handling solutions
- Sustainable packaging (recyclable/compostable/
- alternatives to plastic).
- Modified atmosphere packaging (bags and liners).

Quality control and Certifications

- Setting quality thresholds for retail sector and export markets.
- MRL's for residues.
- HACCP, Global Gap, BRC standards.
- Disease detection and disease control.

Nutritional and organoleptic analysis

- Storage potential dry matter and mineral content.
- Biochemical analysis (HPLC, spectrophotometry).
- NIR technology.
- Volatile analysis (GC-MS).
- Freezers.
- Freeze-dryers.

FOOD SAFETY

Opportunities in Post-harvest Management Centre of Excellence (CoE)

The Centre of Excellence will include:

Pilot plant for trials to adapt UK technology to local crops:

- Onion, potato (seed) tomato.
- Citrus, strawberry, guava, peppers, gourds.
- Potato/Apple (long-term storage)
- Mango, banana, pears (ripening).

Training centre on:

- Post-harvest biology and technology.
- Food safety and certifications.
- Storage and packaging solutions.
- Validating the design of packhouses, equipment and processing flows.

Opportunities in Post-harvest Management Centre of Excellence (CoE)

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