



Agribusiness

Food loss mitigation in mango and tomato value chains in Pakistan and Sri Lanka

Overview

Establishing sustainable food systems is a critical development challenge, especially for emerging economies in South Asia with their ever-increasing demand for food. Fresh fruits and vegetables are highly valued food commodities in both Pakistan and Sri Lanka for their superior nutritional and social values, and as sources of cash income for farmers. They are also regarded as a foundation for new agribusiness value chains, bringing benefits to both rural and urban communities.

For exploiting benefits in these value chains, maintaining quality and freshness under humid tropical conditions presents a vast challenge. Improving supply chain practices towards avoiding large food losses during seasonal gluts, and during transport, storage and handling more generally, presents an amenable pathway towards improving farmer incomes and benefits across the chain to final consumers.

Progress towards modern food systems in both countries is continuing. However, the gap between desired change and current practices still remains large. In many countries, production practices that create greater value for consumers are presenting new opportunities. This involves working closely with chain partners, prioritising ways to remove barriers, and making practice change worthwhile.

Extending such an approach can help farmers gain more stable incomes, adapt to change including that of climate, increase investment in modern value chains, and improve food quality and diversity for consumers. The ensuing reduction in waste and food loss will improve the environment and decrease the costs for stakeholders.



KEY FACTS

ACIAR Project No. CS/2020/193

Duration: 3 years

Target areas: Pakistan and Sri Lanka

Key partners:

- Quaid-i-Azam University, Pakistan
- PMAS-Arid Agriculture University, Pakistan
- Bahauddin Zakariya, Pakistan
- Fortunate Agribusiness, Pakistan
- Institute of Policy Studies, Sri Lanka
- University of Peradeniya, Sri Lanka
- Wayamba University, Sri Lanka
- The Open University of Sri Lanka
- Mallawa Insights, Australia

ACIAR Research Program Manager: Howard Hall

Objective

The aim of this project is to identify the extent and root causes of food losses in Pakistan and Sri Lanka, and to design and demonstrate affordable technological and organisational options to mitigate these losses, and create new economic opportunities across the value chain.

On the ground observations and investigations point to a lack of quality and food safety awareness across fresh fruits and vegetables value chains that hinder the achievement of inclusive growth, food security and nutritional goals. In particular, the poor and vulnerable groups are disproportionately exposed to food security risks.

The project plans to make practice change attractive across primary production to processing and retail stages by demonstrating opportunities to reduce costs, increase market value and improve business competitiveness. It will create lasting food security and sustainability impacts in smallholder farming communities.

The specific objectives of the project are to:

- Work through tomato and mango value chains in Pakistan and Sri Lanka to identify key value chain practices that contribute to food loss and value depletion.
- Understand the emerging trends and contextual factors in the operating environment of these chains, including climate change and COVID-19 implications, which have a direct impact on food loss outcomes and their mitigation possibilities.
- Evaluate ways to transform country and value chain specific risks in creating opportunities for food loss mitigation.
- Identify policies, industry mechanisms and farmer practice change that could reduce costs of loss mitigation and create greater benefits at the local, regional and international levels.

Expected scientific contributions

- Application of recent developments in agribusiness and market development methods, including value chain mapping and modelling, in food loss assessment.
- Quantify the levels of loss in economic value of produce due to nutritional and physical losses, as well as, forgone opportunities for value creation to provide a business case for technology adoption and practice change.
- Articulate key causal pathways to food losses and business process inefficiencies that lead to industry underperformance, and demonstrate loss prevention through developing new organisational skills and business strategies.
- Develop a set of high priority-high impact food loss mitigation innovations to a Proof-of-Concept stage, and identify scalable food loss abatement options for wider adaptation in other contexts.

Expected outcomes

The project's main accomplishment will be its hands-on approach to improved business practice and recommendations leading to continued adoption of improved business strategies and commercial arrangements to achieve the desired development objective — food loss abatement.

The adoption pathway will involve immediate and simple practice changes inspired through facilitated learning, changes in business strategies towards value creation to eventual reform in public institutions (policy and regulatory practices) and improved, industry-driven, market mechanisms resulting in a number of innovations including

- Post-harvest loss reduction through improved service delivery technologies using e-commerce and knowledge share applications to better match producers' supply with consumers' demand.
- Supply scheduling, contracting and quality-focused handling.
- Transition pathways to high efficiency commercial farming from existing semi-subsistence systems.

It is envisaged that the project will lead to tangible business practice changes, visible modifications in business strategy towards value creation, and a foundation to progress necessary policy and behavioural changes resulting in a positive impact on food loss mitigation.



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