# Inclusive Transformation of Horticultural Value Chains: Comparative Evidence from Africa and Asia[1]

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## Introduction

In Africa and South Asia, rapid urban growth and rising incomes have driven increased demand for horticultural products. Contrary to popular assumption, domestic production - rather than imports- is the main source to supply the vegetable's increasing demand, positioning horticulture as a powerful engine of agricultural and food system transformation.

Horticultural expansion may or may not result in broad benefits, depending on how value chains evolve, who can join them, how markets are structured, and how risks and rewards are distributed across the value chain. With an emphasis on the tomato value chain in Kenya and the vegetable value chain in Odisha, India, this policy brief summarizes data from the INCATA project regarding the inclusiveness of quickly growing horticultural value chains.

Evidence shows that, over the past two decades, there has been a rapid development of clusters, mostly spontaneous, involving small-scale horticultural producers and actors from a hidden ecosystem comprised of micro, small, and medium-sized enterprises (MSMEs): input suppliers, third-party logistics services, processors, traders, freight forwarders, and other stakeholders. The mutually beneficial relationships between producers and these MSMEs have underpinned the dynamism observed in both Kenya and Odisha. However, the development of these value chains has been accompanied by growing pains: tensions arising from rising costs, intensifying competition, stricter standards, the displacement of production areas, and social pressures associated with the greater participation of women, youth, and historically marginalized groups.

These processes are part of the dynamics of development and shape who benefits and who is left behind. Therefore, coordinated action by multiple actors—governments at various levels, the private sector, civil society, donors, and research institutions—is required to support the ongoing transformation, ensuring that it is inclusive and resilient.

Contrary to the traditional view that considers horticulture a marginal, small-scale activity with low technological investment, the findings show that it is a highly dynamic and inclusive subsector. Horticulture attracts substantial investment in land, irrigation, improved seeds, water pumps, and communication technologies, and mobilizes multiple complementary activities related to production, grading, packaging, transportation, and marketing.

Horticultural value chains are labor-intensive in production and present relatively low barriers to entry compared to other high-value crops, such as those destined for export. Horticulture, thus, creates opportunities for small commercial producers and a wide range of micro and small enterprises. Furthermore, it generates significant multiplier effects in rural and urban labor markets, given that horticulture requires numerous services beyond primary production.

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[1] Policy brief based on the INCATA working document: Trivelli, Liverpool-Tasie & Reardon (2026) "Symbiosis between commercial small-scale producers and micro, small and medium enterprises in the “Hidden Middle”: evidence from the Horticulture Value Chains in Africa and Asia".

Two sets of factors have facilitated this development dynamic involving small horticultural producers and micro, small, and medium-sized enterprises. The first factor relates to enabling conditions: access to land (including rental markets), water and irrigation, roads, market infrastructure (marketing spaces, storage, water and sanitation), electricity, communications, and practical technologies. These conditions reduce costs and risks, incentivizing investment.

The second factor, frequently underestimated, is the dense network of MSMEs operating in the intermediate links of input and output chains. These businesses supply inputs and advice, purchase crops, process products, provide transportation, and connect production areas with wholesale markets and consumers. They constitute significant sources of employment and income and maintain reciprocal relationships with small producers, facilitating processing.

Evidence indicates that this symbiotic relationship between small commercial producers and hidden-environment MSMEs has contributed to inclusive outcomes: job creation, increased income, diversification of food consumption, poverty reduction, and growing opportunities for women, youth, and traditionally excluded groups.

INCATA's results reveal significant differences between contexts. The tomato value chain in Kenya exhibits characteristics of a more advanced stage of transformation: high technological adoption, product differentiation, and changes in commercial intermediation. In Odisha, on the other hand, the process is at an earlier stage, with actors entering the sector and developing expectations of upward mobility. Female and youth participation is considerably higher in Kenya, while in Odisha, the presence of women, lower castes, and tribes is limited.

In both cases, the hidden environment is not a single institution or a small group of large companies, but rather a complex and dense network of interconnected actors. Many interactions occur in local clusters and wholesale markets, which function as central nodes where food, information, labor, and logistical services converge. These markets feed and employ millions of people, but they often face severe infrastructure limitations, especially regarding water, sanitation, and physical space.

This silent revolution is bringing with it growing pains, including competition that displaces players to other links in the supply chain, increasing concerns about food safety, market congestion, logistical limitations, and pressure to improve quality and standards. If not addressed adequately, these tensions can hinder growth or reduce its inclusiveness.

In this context, public action and public-private coordination are fundamental. Investments in irrigation, roads, market infrastructure, and communications can reduce risks and costs. Applied research and the dissemination of improved varieties are essential in the face of new pests, climate stress, and higher quality demands. Effective regulation of agrochemical use, food safety, and wholesale market governance is key to maintaining trust and regular trade.

**Project Methodology**

The INCATA project combined two complementary lines of work.

First, an analysis of nationally representative household surveys (LSMS - Living Standards Measurement Study) was conducted in six African countries: Ethiopia, Malawi, Uganda, Tanzania, Nigeria, and Ghana. These surveys allowed for the documentation of marketing patterns, interactions between producers and companies, and outcomes in terms of inclusion. For the analysis, the sample was restricted to households that reported agricultural production in the year corresponding to the sample.

Second, primary data collection was carried out on horticultural value chains in Kenya and Odisha, India, generating detailed evidence on the structure, evolution, and behavior of the actors participating in different nodes of the chain. The value chain research adopted a three-stage approach:

1. **Rapid Reconnaissance**: semi-structured interviews and direct observation to map actors, identify hypotheses, and refine sampling strategies.
2. **Meso inventories**: structural mapping of markets and territories (districts, production zones), including counting actors by type and size, and analyzing changes over time.
3. **Micro stacked surveys**: coordinated collection of detailed data across multiple nodes (producers, traders, input suppliers, retailers), allowing for the analysis of assets, production and commercial decisions, services, governance, and contractual interactions.

This methodological design combined a comparative cross-sectional perspective with an in-depth analysis of specific value chains, also incorporating a diachronic view that examines how the chains have evolved and how actors perceive their future.

**Policy Recommendations**

1. **Recognize the strategic potential of horticulture.**

Horticultural value chains have enormous potential to drive the inclusive transformation of food systems. They generate employment and income across multiple links—inputs, production, transportation, and marketing—and contribute to dietary diversification. However, they have historically received less attention than staple crops or emerging sectors such as aquaculture. It is necessary to rebalance public policy and investment priorities.

2. **Adopt a systemic view of the value chain.**

Interventions should not focus exclusively on agricultural productivity or consumer behavior. It is essential to address the entire chain, recognizing the interactions among producers and the hidden micro-, small-, and medium-sized enterprises (MSMEs). These relationships are at the heart of the observed transformation and also the arena where tensions and adjustments emerge. A systemic perspective enables the design of policies that facilitate mobility across links, reduce friction, and leverage the labor-absorption capacity of other nodes when certain actors are displaced by competition.

3. **Strengthen the enabling conditions.**

Maintaining and expanding horticultural growth depends on sustained investment in:

- Main and secondary roads.
- Affordable and efficient irrigation systems.
- Electricity and digital connectivity.
- Storage, water, and sanitation infrastructure in markets.
- Functioning of land markets.

Regulatory frameworks and programs are also needed to reduce transaction costs for MSMEs, facilitate their gradual formalization, and align private incentives with food security objectives.

4. **Avoid Interventions that Ignore Existing Dynamics**

Horticultural value chains are not static or failed systems. They are dynamic and adaptable. Interventions should begin by recognizing processes already underway and avoiding approaches that ignore the accumulated experience of local actors. MSMEs are a key resource for co-designing viable and sustainable solutions.

5. **Strengthen Multi-Level and Multi-Sectoral Coordination for the Inclusive Development of Value Chains.**

It is necessary to promote the coordinating role of donors alongside governments, the private sector, and local authorities. To this end, it is key to ensure participatory governance—which incorporates civil society and minority groups—and to use Public-Private Partnerships (PPPs) as a strategic mechanism to finance and coordinate sustainable interventions.