

Increasing Smallholder-Vegetable Farmer Utilization of Grafting and Low and High Tunnel Microclimate Management Tools in Kirinyaga District, Kenya

Matthew D. Kleinhenz, Monicah Waiganjo, J. Mark Erbaugh, and Sally A. Miller

The more successful, widespread use of grafting and low/high tunnels may benefit many in East Africa, especially commercial vegetable farmers. We set out to develop information required to adequately test this hypothesis.



Why the Project is Important

- Tomato and pepper production and consumption are key sources of income and nutrition in East Africa.
- Abiotic and biotic stress constrains tomato and pepper production in the region.
- Grafting and low/high tunnel use can reduce stress but are under-utilized in vegetable production in East Africa. Why? What knowledge and materials are required to change this status?



OUR THREE-PHASE APPROACH: 1) *document* baseline human and material resources available for grafting and low/high tunnel use, 2) *develop* educational products and programs designed to increase stakeholder success in using these techniques and tools, and 3) *test and evaluate* these products and programs as foundational components in larger regional efforts.

Our USAID-HORT CRSP supported partnership works with the 700+ member (327 female) Kangai Tisa Horticultural Farmers Association to introduce and train farmers in the use of farm-friendly tools and techniques, including grafting and low/high tunnels.



Phase 1 (assessment) is complete: 109 farmers interviewed, most interested in but unfamiliar with grafting, tunnel use.

Regarding impacts, we expect to:

- Equip other teams to succeed in follow-up projects, especially as they involve a regional application of approach, technologies and training materials.
- Prepare farmers to use grafted plants and low/high tunnels.
- Reduce crop stress, improve farm health, strengthen economy.

