

Innovations in Dry Season Horticulture for Women and Smallholders in East Uganda-Production and Marketing for Income, Nutrition, and Climate Resilience—Kate Scow UC Davis, USA and Catherine Wandera, Busitema University, Uganda

INTRODUCTION

- Spin-off project from Hort CRSP project on participatory extension development for production and marketing of indigenous leafy greens in central Uganda.
- Technologies & opportunities for **dry-season production** identified by farmers as a major need for successful and profitable vegetable production
- Womens' participation in design and development process is key for improving access and uptake of technologies suitable for smallholder farming systems in East Africa-



OBJECTIVES

Objective 1. **Develop innovations** in small-scale irrigation and soil-water management technologies fitting the needs of smallholder fruit and vegetable growers in East Africa through a participatory process

Objective 2. **Evaluate** agronomic, economic, market, nutrition, and gender implications of innovations through participatory, multi-stakeholder performance assessments.

Objective 3. **Develop protocols** for integrating women into small-scale irrigation scheme design and planning

Objective 4. **Strengthen capacity** among farmers and local agricultural support organizations (research institutions, local government, NGOs, university faculty and students) to establish and improve sustainable small-scale irrigation schemes that lead to increased income and health for farmers.

APPROACH

- Identify 'Innovation Sites' of existing smallholder irrigation expertise
- Establish committees to channel knowledge of the irrigation communities at innovation sites to project team expertise
- Design technology / management approaches and innovations in collaboration with farmer committees
- Develop region-specific evaluation parameters for smallholders in East Africa and gender-specific ways to improve access to irrigation / water management
- Conduct agronomic, economic, and social evaluations of different innovations with farmer committees focusing on womens' access and use of improved water management systems
- Develop a practitioners' toolkit for establishing and upgrading small scale irrigation systems at a local scale (rather than large-scale scheme irrigation)
- Train farmers' and students' to improve local capacity to innovate in small scale irrigation and water management



PARTNERS

- National Semi Arid Resources Research Institute (NaSAARI)
- Teso Womens Development Initiative Uganda (TEWDI-Uganda): Spearheading meaningful womens' participation
- Buginyanya Zonal Agriculture Research Development Institute (BugiZARDI): Research / Development implementation in Eastern Uganda
- Amelioration of Agricultural Risk (AMARI): Expertise in smallholder irrigation design
- Busitema University: Student training, internships, network building, and opportunities to improve curriculum

NEXT STEPS

- Finalize evaluation parameters and research protocols
- Develop plan for student involvement in evaluation process
- Establish protocols for evaluation of womens' access and benefits from irrigation
- Install technology innovations and make detailed designs
- Collect evaluation data on key parameters
- Develop toolkit for agriculture practitioners in the region



RESULTS-NEEDS ASSESSMENT

MAJOR IRRIGATION CHALLENGES FOR SMALLHOLDERS IN UGANDA

- 1) Access to land in irrigable plots
- 2) Unequal water supply to all plots
- 3) Lack of institutions to manage water
- 4) Insufficient water supply
- 5) Physical drudgery from manual irrigation
- 6) Small irrigable area in relation to water supply

OPPORTUNITIES TO IMPROVE WOMENS' ACCESS

- 1) Reduce labor **time** and **difficulty**
- 2) Target irrigation investments to **production zones** accessible to women
- 3) Build public infrastructure for conveyance that can be cheaply tapped by individual farmers

