



Tropentag, September 18-21, 2016, Vienna, Austria

“Solidarity in a competing world —  
fair use of resources”

## Participatory Research to Identify Irrigation Technologies for Women and Smallholder Farmers in Eastern Uganda

KATE M SCOW<sup>1</sup>, ABRAHAM SALOMON<sup>1</sup>, VICKI MORRONE<sup>2</sup>

<sup>1</sup>*University of California, Department of Land, Air and Water Resources, United States of America*

<sup>2</sup>*Michigan State University, Community Sustainability, United States of America*

### Abstract

Dry season vegetable production has been identified as a high priority in the largely rain-fed (>97%) agricultural systems of Uganda. Off-season vegetable supplies are currently inadequate to meet human nutritional needs. As rainfall patterns become increasingly unpredictable and rapid population expansion places more pressure on food systems, demand for vegetables will further outstrip supplies. This spin-off project convenes stakeholders from public and private sectors to develop innovations in small scale dry season vegetable production for women farmers in East Africa. We are using a participatory approach to research, design and implement dry season vegetable production and marketing schemes and our project builds on local capacity for irrigation and water management among farmer, university, extension, non-governmental, and private industry stakeholders in Eastern Uganda.

The project is working at 6 ‘innovation sites’ throughout Eastern Uganda with a multi-disciplinary research team (farmers, research partners, Ministry of Agriculture, district staff, NGO partners, and university students) to co-develop technologies that will impact horticultural production, particularly by smallholder women farmers who are often excluded from irrigation and marketing developments. Innovations build on existing farmer knowledge as a foundation and combine with it in novel ways that are proving to be appropriate for small scale horticulture in the region (e.g. on-farm water storage, improved conveyance systems, drip irrigation, moveable sprinklers, managed infiltration/drainage, and irrigation strategies/schedules). Initial focus groups revealed that some concerns of women farmers were unique and needed to be considered in designing irrigation strategies and training. A gender sensitive framework is being developed for local public and private sector organisations to create, expand, and disseminate small scale irrigation systems. We are assessing agronomic and economic impacts and moving to further opportunities and education in marketing, nutrition, and assessing gender impacts of different innovations and developing scale-out options for the most promising technologies. Development of a co-innovation systematic approach for assessing and supporting innovations in dry season vegetable production will strengthen small scale farmer enterprises targeted to both local markets and family consumption.

**Keywords:** Agroecozones, irrigation, uganda, vegetables, women empowerment