



FEED THE FUTURE TANZANIA KILIMO TIJA (HORTICULTURAL PRODUCTIVITY) PROJECT

IRRIGATION CONSULTANT SCOPE OF WORK

Assignment Title: Training Public and Private Sector Agronomists on Drip Irrigation Design, Installation, Operation, and Maintenance for Horticulture Production

Assignment Number: FTFT-KTP FGI STTA 05

Assignment Location: Iringa & Mbeya, Tanzania

Date Range & Length: October – November 2024 for a total of 20 days LOE (up to three weeks in-country)

I. Project Overview

The Feed the Future Tanzania Kilimo Tija Horticultural Productivity Project (FTFT-KTP) is a five-year, \$37.9M activity that will transform the Tanzanian horticulture market system into a more vibrant, competitive, resilient, and inclusive one capable of fueling sustained growth and drawing in new market participants. The purpose of the USAID Kilimo Tija Activity is to sustainably increase economic opportunities in horticulture market systems, especially for youth.

Strategic Result Areas:

1. Strengthening horticulture market systems to increase enterprise and employment opportunities.
2. Increasing access to commercially provided, climate smart, and productivity-enhancing agricultural technologies; and
3. Strengthening the enabling environment for market systems.

Implementation:

To implement FTFT-KTP, ACDI/VOCA has partnered with ASPIRES and Fintrac Global. FTFT-KTP works in close collaboration with the Government of Tanzania, and partners with private sector stakeholders, non-governmental organizations, and other local organizations along the horticulture value chain. Through the Activity, Tanzanian horticulture enterprises will be upgraded, and smallholders and producer organizations will benefit from improved commercial access to productive technologies and training to help them produce quality fresh and processed fruits and vegetables for an expanding and diverse market of domestic and international buyers. The Activity was awarded on September 29, 2022, for a duration of five years, with an expected close out date of September 29, 2027.

A priority target group for this Activity is youth aged 15-29 and gender empowerment has been highlighted as a guiding principle.

Geographical Coverage:

FTFT-KTP's Zone of Influence (ZOI) includes the regions of Morogoro, Iringa, Njombe, and Mbeya in the Mainland, and both Pemba and Unguja Islands in Zanzibar.



It will also work in establishing close linkages and strengthening business interactions in the market shed of Arusha, Dodoma, Dar es Salaam, and Songwe. Within the five ZOI regions, we have selected 11 districts:

- Mbeya region: Mbarali, Rungwe, and Mbeya
- Njombe region: Njombe and Wanging'ombe
- Iringa region: Iringa, Mufindi, and Kilolo
- Morogoro region: Kilosa, Mvomero, and Kilombero
- Zanzibar region: Pemba and Unguja

II. Summary of Assignment: Rationale for Engaging Drip Irrigation Consultant and Expected Results

Background:

Drip irrigation systems/technologies were introduced in Tanzania around 2009 and have been promoted since by various USAID projects and technology companies. In Tanzania, some horticulture farmers have adopted this production-enhancing technology, but there is a limited number of experienced experts available in-country to provide training on efficient design, installation, operation, maintenance, and utilization of irrigation systems. Most technical assistance in irrigation comes from government extension officers and private sector agronomists who may or may not have developed an expertise in drip irrigation. As a result, farmers working with FTFT-KTP have requested that the program provide training experts to improve their knowledge of these systems.

Problem:

The biggest challenge facing the widespread adoption of drip irrigation systems is that they require significant technical knowledge to implement successfully. Despite efforts by the Tanzanian government through the National Irrigation Commission and development partners, the level of demand for technical drip irrigation services far outpaces the available supply of extension service providers with the required knowledge. There are very few local consultants for drip irrigation and those who do exist still have knowledge gaps in key areas of utilization of these systems.

As a result, many farmers who install drip irrigation are not seeing the full potential of these systems that results from proper design, installation, operation, and maintenance. In some cases, lack of knowledge prior to design and installation can result in financial losses for the farmer.

Proposed Solution:

FTFT-KTP will hire an expert consultant to build the capacity of extension service providers (from both government and private sector entities) in drip irrigation for horticultural crops to increase productivity and promote efficient water utilization among farmers in the program's ZOI.

The drip irrigation consultant will be a technical expert on drip irrigation systems in horticultural production and will have extensive experience working on agricultural programs with both the public and private sectors. The consultant will also have a strong background in training and research. During the assignment, the consultant will support FTFT-KTP with activities related to training and technical assistance on drip irrigation design, installation, operation, and maintenance/

Drip irrigation system is a familiar practice among most horticulture farmers and irrigation schemes in Tanzania due to its advantages for horticulture crop production, including high water efficiency and small evaporation loss as compared to furrow or basin irrigation. This consultancy will improve the extensionist workforce's ability to provide quality technical assistance related to these systems and will result in better result among farmers who install drip irrigation on their farms.

Consultant Scope of Work (SOW)

The consultant will conduct theory and practical training in drip irrigation practices (design, installation, operation, and maintenance) for FTFT-KTP staff, government extension officers (GEOs), and grantee/non-grantee agronomists from Zanzibar, Morogoro, Iringa, Mbeya, and Njombe. Specifically, the consultant will:

- Prepare practical training materials (presentations and handouts) on the methodology for designing, installing, operating, and maintaining drip irrigation systems.
- Develop a Drip Irrigation Manual, a technical guide for smallholder farmers to follow.
- Conduct two five-day theoretical and practical on-farm trainings (in Iringa and Mbeya) on drip irrigation, covering:
 - Water use efficiency, water use practices, the impacts and benefits of drip irrigation, and the advantages and disadvantages of drip irrigation compared to other irrigation methods.
 - Irrigation system design criteria based on topography of the area for horticultural crops and row crops, including piping size and layout, pump selection, filtration, minimization of pollutants, design of inflow rates, fertilizer application methods, sprinkler irrigation, etc.
 - Drip irrigation system installation, operation, and maintenance for horticultural crops such as tomato, eggplant, sweet pepper, watermelon, okra, onion, avocado, etc.
 - Automation to improve drip irrigation management including irrigation system design software such as Autocard and Irricard.
- Conduct site visits to discuss particulars of drip irrigation for specific crops.
- Prepare a report, including photos, of the trainings conducted in each region, detailing attendance levels, and recommendations for FTFT-KTP staff.

Consultant Profile & Qualifications:

- Minimum of bachelor's degree in agriculture, agronomy, botany, horticulture, or related field
- Must have excellent knowledge in horticulture production, as well as possess strong leadership skills and have a proven track record in agriculture development projects
- Expert-level experience in and understanding of drip irrigation system design, installation, operation, and maintenance
- Proven track record in working in horticultural production applying drip irrigation technologies
- Experience working on drip and sprinkler irrigation design in large-scale farms, especially in horticultural production in tropical areas



- Good communication skills and ability to work in remote areas with diverse and multicultural teams (soft skills such as cross-cultural communication and ability to promote female participation.)
- Previous or current experience in the horticulture industry in Tanzania is an added advantage.
- Proficiency with Microsoft Office and other media creation/editing programs
- Ability to produce quality written deliverables and comply with deadlines
- Fluency in written and oral English

Deliverables:

Pre-training:

- Drip Irrigation Manual for smallholder farmers, customized to Tanzanian agro-climatic and growing conditions
- Training Plan
 - Agenda for two five-day trainings including theoretical sessions in the classroom and practical sessions on the farm
 - Workplan detailing timeline, requirements, and responsible parties for preparation of the events
- Training materials (handouts and other interactive material as appropriate)
- Training presentations (in PowerPoint or other appropriate format)

Post-training:

- Draft Training Report including a numbered list of recommendations to be adopted by the project
- Final Training Report incorporating feedback from the project
- Consultant Certification Form verified by a field staff representative

Expected Results/Impact:

Beneficiaries: At least 50 extension staff(20female/30male) from private and public sector receive training on Drip irrigation Design, installation, Operating and Maintenance

Other Results/Impact: At least 400 smallholder horticulture farmers receive training in drip Irrigation system operation in horticultural production best practices through cascading trainings to be done by the Agronomists

To Apply:

Email cover letter and curriculum vitae (CV) to recruitment@fintrac.global. Please reference "Tanzania Irrigation Consultant" in the subject line of the email.