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Farmer-to-Farmer Program Small Farms Conference Report

July 2022
Kamwenge, Uganda



Small Farm Conference participants with MAAIF, Kamwenge District Local Government and CRS staff at the closure of the conference. Photo by Ivan/CRS

ACKNOWLEDGEMENT

The Farmer-to-Farmer (F2F) Uganda Team is grateful for the support and contributions of the many stakeholders who made the Small Farm Conference a success. Special thanks go out to the Global F2F Director Mr. Patrick Bell, Deputy Director Ms. Nyambura Theuri, and MEAL Technical Advisor Mr. Kariuki Peter, who provided continuous guidance during the planning phase of the conference. Thanks are also extended to the senior management of the CRS country program in Uganda, notably Ms. Olive D’Mello, Deputy Head of Programs, who graced the event on behalf of senior management team. Special thanks to the conference facilitators Mr. David Lusesa, independent consultant and former F2F local volunteer; Mr. Joseph Mulindwa of Makerere University, Mr. Ssali Martin of SMART FOODS Ltd., Dr. Zipporah Waithathu of the Sustainable Agriculture for Rural Development Network (SARD-Net) and former F2F local volunteer, Mr. Ivan Atwijukire of Solar Irrigation, Mr. Ivan Arinda of VermiPro, Mr. Justus of Rainbow, facilitators and conference exhibitors. Finally, we want to appreciate our F2F host representatives who travelled from different regions of the country to participate and learn during the conference.

BACKGROUND

CRS’ F2F is a USAID-funded five-year program running from 2019 to 2023 with the primary goal of reducing hunger, malnutrition, and poverty across six countries: Benin, East Timor, Ethiopia, Nepal, Rwanda, and Uganda. The program aims to achieve this goal: ***through advancing inclusive and sustainable agriculture-led growth aimed at generating sustainable, broad-based economic growth in the agricultural sector.*** The program’s secondary goal is ***to increase US public understanding of international development issues and programs and share the knowledge back in the U.S.*** To achieve these goals, the F2F program provides volunteer technical assistance to farmers and farmer groups (associations and cooperatives), private agribusinesses, and agriculture education institutions in developing countries, like Uganda, to address host-identified technical needs in selected agricultural value chains. F2F volunteers are recruited from a broad range of agricultural expertise from private farmers, university professors, bankers and certified accountants, animal health and nutrition specialists, soil scientists, and agronomists who support local host organizations. The F2F program introduces innovations and develops local organizations capacity for more productive, profitable, sustainable and equitable agricultural systems while providing an opportunity for people-to-people interactions within the agricultural sector. In Uganda, the F2F program focuses its technical interventions in livestock and agribusiness value chains.

To introduce and create stronger networks among the F2F host organizations, CRS’ F2F program organized the Small Farm Conference, the third of its kind bringing together different agricultural value chain actors with a special emphasis on smallholder farmers from different districts of Uganda to southwestern Uganda to share knowledge and experiences on farming practices, network with other farmers and provide an opportunity to learn new tools and technologies from recent agricultural research. The conference attracted diverse participants from farmer cooperatives, district farmer associations, farmer-serving NGOs, savings and credit cooperative organizations, agro-processors, and agro-input and equipment manufacturers.

THEME AND OBJECTIVE OF THE SMALL FARM CONFERENCE

The theme of the 2022 Small Farm Conference was ***“Adapting to the changing trends for improved production, health and wealth.”*** Learning topics were carefully selected to contribute to the conference theme, these included climate change mitigation and adaptation measures, nutrition and food safety,

exhibition of small-scale agricultural technologies for smallholder farmers, and field learning visits to model farms.

The main objective of the conference was to share knowledge and experiences on farming practices, network with other farmers and provide an opportunity to learn new tools and technologies from recent agricultural research.

CONFERENCE PROCEEDINGS

Welcome remarks by Gillian Twesigye of the Kamwenge District Local Government

Before the official opening of the conference, Ms. Gillian Twesigye, District Commercial Officer and representative from Kamwenge District Local Government, gave remarks appreciating the tremendous work of Catholic Relief Services (CRS) in promoting and improving the livelihoods of smallholder farmers across the country. She appreciated the timeliness and relevance of the Small Farm Conference. She emphasized three concepts which the conference was directly addressing: agriculture production for sustainability, healthy eating, and production and sale of surplus.

Remarks and official opening of the conference by Assistant Commissioner Jennifer Oyuru of MAAIF

Ms. Jennifer Oyuru, Assistant Commissioner of Agriculture Extension and Skills Management from the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), as chief guest, gave remarks and officially opened the conference. Among her remarks, Ms. Oyuru highlighted the mandate of MAAIF to provide technical information to farmers, in partnership with development partners like CRS, for wider coverage and information dissemination. The ministry supports all actors in the food security and productivity sectors.

F2F complements MAAIF's extension activities well, focusing on Farming as a Business (FaaS) business plan development for farmer organizations and providing technical information on production and processing. The F2F program, through the Small Farm Conference, is providing an opportunity for farmers to share information with each other. Ms. Oyuru conveyed, "Knowledge is wealth – and therefore [we] urge participants to obtain [the] latest information for improved livelihoods."

She further noted that the conference theme aligned well with government priorities for the agriculture sector and changing trends. Labor is a key factor of production, and the health and wellbeing of the producer is significant for agriculture production both for consumption and market. The ministry developed the [National Adaptation Strategy 2018](#) to guide the country to adapt to the changing climate (e.g., intense heat, pest and disease outbreaks, flooding) with the aim of promoting a climate resilient system.

At the end of her remarks, the Assistant Commissioner officially opened the Small Farm Conference.

CRS Overview by Olive D'Mello, Deputy Head of Programs for CRS Uganda

The CRS Uganda Deputy Head of Programs, Ms. Olive D'Mello, provided an overview of CRS programming in Uganda, referencing the [CRS Uganda Programming Map](#). CRS Uganda programs address the following program areas:

Emergency response to both rapid and protracted crises. CRS targets the most vulnerable populations and designs programming informed by the country's emergency response gaps and available funding.

Food security. Two programs operate in the Karamoja subregion: Nuyok, a food and nutrition security program targeting pregnant and lactating women and children under age two; and DINU which aims to improve livelihoods and address malnutrition in collaboration with smallholder farmers. Considering the

current food crisis in the region, implementing partners and government can focus on a range of activities to improve livelihoods: changing local mindsets, coordinating among partners, and addressing security concerns (by government). The food security crisis needs a practical, well-coordinated and comprehensive approach to interventions in the subregion, layering services for lasting change.

Health. Health programming focuses on HIV/AIDS programming targeting children and adolescents. These efforts promote testing; improve access to treatment; address adherence and suppression among target groups; as well as focus on some of the underlying issues affecting uptake and adherence to treatment (e.g., nutrition, economic strengthening, improving access to information for caregivers of children, infants and adolescents living with HIV).

Microfinance. CRS in Uganda integrates its savings and internal lending communities (SILC) methodology (a village savings and loan association model) as cross-cutting in all projects.

Agriculture. The CRS country program in Uganda implements F2F, Vines (Food for Progress), and the International Agricultural Education Fellows Program. More information is available in the project briefs.

Overview of the Farmer-to-Farmer Program and Significance of the Small Farm Conference by George Ntibarikure, F2F Uganda Country Director

Mr. George Ntibarikure gave an overview of the F2F program and broadly explained the program goals: economic development through agriculture and cultural exchange between the U.S. and Uganda through U.S. volunteers. Due to the COVID-19 pandemic, F2F program had to adapt by working with local volunteer experts. USAID has appreciated the internal country capacity and expertise and appreciates host organizations for the flexibility to adapt to the paired remote volunteer approach.

The Small Farm Conference is different from ordinary conferences which aim to share project results but rather giving priority to smallholder farmers to hear, learn and adopt innovative approaches from agricultural researchers.

F2F Key Impact Indicator Overview: F2F does not provide funds to host organizations, but rather empowers hosts to mobilize resources through capacity building initiatives (e.g., strategic and business planning, technical support) which prepares host organizations to qualify for and secure funding opportunities. As such, several hosts have reported receiving new funding revenues because of F2F volunteer support. The F2F team will begin collecting impact data to include in its annual report to the donor.

Small Farm Conference Overview: CRS' F2F Small Farm Conference is different from traditional conferences that focus on sharing project results or progress. The Small Farm Conference targets smallholder farmers to impart and learn practical solutions, modern technologies, and peer learning with agriculture researchers. CRS promotes a **“see, learn, adopt” approach** through the conference. As highlighted by MAAIF Assistant Commissioner Jennifer Oyuru, the theme aligns well with national and subnational government priorities. Conference topics were thoughtfully selected and interwoven to address changing climate trends, food safety, and value addition for improved nutrition.

Presentations

A. Soil Health Management by Ivan Arinda of VermiPro Ltd.

The facilitator shared practical soil management practices for smallholder farmers, soil nutrient depletion and replenishment practices, and cautioned farmers to detoxify soils before fertilizer application and promoted the use of organic fertilizers. During the exhibition, the presenter shared

some of their products that detoxify and replenish the soil, address the nutrition needs of livestock and aquaculture production, and compost production. See the presentation for details.

B. Overview of Climate Change by Ivan Atwijukire of VanTech Ltd.

The presenter provided an overview of the climate change effects on agriculture development and some of the adaptation measures, focusing on solar powered irrigation and harnessing water for agricultural production. See VanTech-Agric.com for more information.

C. Access to the F2F Digital Library by Maria Nakayiza of CRS

The facilitator demonstrated how hosts can access documents from the library to suit their information needs. The access link and user guide will be included in the information package sent to conference participants. See [CRS Farmer-to-Farmer](#) for more information.

Questions and Recommendations from Participants

The conference agenda held two questions and answer sessions through panel discussions, giving participants the opportunity to address presenters or provide feedback based on their experiences. Below is a summary of questions and responses and general feedback.

Communication and information gaps – Farmers lack capacity to identify and address challenges in the field, specifically issues of soil health and pH testing; the Zonal Agricultural Research and Development Institute lacks information from the farmers (a bottom-up information gap). Extension agents should act as a bridge between researchers, partners and smallholder farmers to facilitate two-way information flow.

Extension workers – Lack soil testing kits and have a knowledge gap on conducting soil testing. Soil analysis is a big challenge and government is aware and working to address existing gaps.

Group formation (Karamoja issue) – Formation of new groups driven by donors and implementing partners is not sustainable. Partners should validate existing groups before starting interventions.

Uganda National Farmers Federation (UNFFE) – The mandate of the UNFFE is, “to organize, advocate for favorable policies and transform farmers into prosperous communities.” The issue of weak farmer organizations continues to be a challenge. There are weak succession plans, and poor governance and management, which are addressed by UNFFE. The solution is to strengthen existing farmer organizations rather than creating new groups to ensure they are sustainable in the long term.

Crop cost-benefit analysis – MAAIF conducted a cost-benefit analysis of crops through the cluster approach, working with various District Local Governments. However, the process was not farmer-inclusive for validation – particularly in asking for farmers’ input or feedback on selecting practical enterprises that work for farmers.

Policy change – Driven by high tax rates, smallholder farmers need support to understand relevant policies and how they are affected by implementation of such policies, and support women’s empowerment through advocacy.

Kitchen gardening – How can farmers access vegetable seeds? We have failed to preserve seeds like our elders used to. This has resulted in extinction of some of the indigenous fruit and vegetable varieties which are important if we are to keep healthy.

Q: At the end of F2F volunteer assignments, volunteers and hosts develop action plans to inform implementation of volunteer recommendations. However, implementation is often hindered by a lack of funds to support mentorship and cascade of the trainings to other farmers through the training-of-trainers model.

A: Government should complement ongoing partner activities and initiatives through facilitation of extension workers/ToTs to continue with the good initiatives created/introduced by partners for sustainability.

Q: Participants are discouraged by risk of aflatoxin and aflatoxin management.

What is the economic value of organic (bio) fertilizers versus inorganic fertilizer?

Using the optimal dose for one acre:

Organic = Ushs. 217,000 (\$57)

Inorganic = Ushs. 430,000 (\$113)

Additionally, organic fertilizer improves soil health and increases productivity, while inorganic fertilizer changes soil pH, reduces soil productivity, and becomes costly in the long term.

A: Access information on prevention and management of aflatoxin. Knowledge is power and each stakeholder has a role to play.

Q: Value addition – Why does the soya bean protein content increase on processing?

A: During processing, the dry matter of soyabeans increases due to water lost during heating. This can explain the increase in the protein content of the soya bean product compared to the raw material.

Q: A coffee farmer lost their market due to use of Glyphosate, a weed killer. What alternatives exist?

A: Consider alternative options, such as options provided by Rainbow (one of the conference exhibitors). One alternative is SG1000 for soil detoxification (apply 100mls/20 liters of water).

Recommendations from Participants and Presenters

Through MAAIF, the government has recruited extension agents at district and subcounty levels. Farmers should use these resources to reinforce demand for services.

CRS should create a platform for continued interactions and learning among participants.

District Local Governments should create a database profiling existing and active farmer or producer groups and share such information with development and implementing partners at the start of projects and programs. This will inform project interventions and reduce time and efforts dedicated to creating new groups.

MAAIF should involve farmers at the field level for assessments that directly affect them. The ministry committed to continue engaging smallholder farmers at the grassroots level.

Government should complement ongoing partner activities and initiatives, such as these, through facilitation of extension workers training-of-trainer sessions to continue with the good initiatives created or introduced by partners for sustainability.

Additional recommendations to improve future Small Farm Conferences:

- Increase time of conference to 4-5 days
- Allocate more time (80%) for practical sessions, field visits, and exhibitors
- Provide a certificate of attendance to participants
- Increase participant involvement, for example a session for sharing experiences, achievements, the impact of volunteer assistance, and engaging directly in practical sessions
- Early planning for better results and rotational events
- Invite more stakeholders (e.g., local processors, traders, transporters) to share experiences
- Identify better farms
- More information on vanilla production and processing

Nutrition Related Presentations and Field Visits

A. The Relationship between Agriculture, Food Safety, and Health by Joseph Mulindwa, Food Scientist of the National Agricultural Research Organization (NARO) (See presentation for more details)

The presenter tackled three subjects: a food systems approach to agriculture development, food safety, and aflatoxin management.

Food System: The food system encompasses a wide range of actors and interlinked value adding activity. Key concepts of the food system and how it relates to food safety and health are included in the detailed presentation.

Aflatoxins are introduced across the food chain from production, harvesting, and storage. They have adverse effects on human health, leading to stunting and cancers, among others. Acceptable limits of aflatoxins are 10ppm.

Food Safety: Food safety relates to the biological, chemical, and physical food hazards that make food unsafe for human consumption. Some key concerns are invisible toxins, such as aflatoxins and ochratoxins, and environmental pollution.

Aflatoxin Management: Toxins produced by microorganisms (*Aspergillus flavus*) commonly affect foods including grains (e.g., maize, sorghum), bread, animal source foods (e.g., eggs, meat), dried fruits, cocoa, and coffee. Aflatoxin infestation can be caused by drying on bare ground and storing poorly dried grain with a high moisture content.

B. Kitchen Gardening by Sr. Zipporah Waithatu of SARD-Net (See presentation for more details)

Kitchen gardening, or cottage or backyard farming, can be carried out on a small piece of land to address the nutritional needs of a household, and is usually accompanied by small animal rearing (i.e., livestock and ruminants), for a rotational feed system, and crop production. Kitchen gardens enhance food security, among other benefits, and should include seasonal vegetables for year-round production.

New concepts included:

- Cinnamon boosts root system development
- Research about Rabbit Urine Extraction and associated benefits (e.g., urine should be applied to plants after fermenting for five days)
- Mushrooms have the equivalent protein content as animal source foods
- Neem, onion, and pepper blend – biopesticide for pest and disease control for vegetables and other plants

C. Soya Bean Processing and Nutritional Benefits by Ssali Martin of SMART FOODS Ltd.

Soya bean is a miracle bean – for both animal and human consumption. Soya is the cheapest plant protein source available of equal quality to animal source foods and contains essential amino acids that are easily digestible by the body. Soya bean varieties are selected based on the intended final use (e.g., oil extraction, composite flours, animal feed). Soya bean can be processed into a functional ingredient used in the bakery, meat, and beverage industries. Protein is a key ingredient for maintaining health, boosting immunity (especially for children), and reducing the risk of cardiovascular diseases, such as high blood pressure. Soy has a protein content of 40-50% (40-50 grams per 100 grams) but will vary

depending on the processing of the soya product. Soya beans contain unsaturated fat – the good fat that our bodies need. See the presentation for more information.



Ivan Arinda From VermiPro Ltd. explaining the use of an organic pesticide. Photo by Ivan/CRS

Summary of Exhibition Activities and Practical Sessions

A. Exhibitions

The conference had several exhibitors who contributed technologies or products that directly contributed to the conference theme and learning topics. Exhibitions included: agrochemicals (organic and inorganic pesticides), sunflower oil processors for cooking oil, soya bean processed products (e.g., yogurt), spices, nutrient-dense groundnut sauce, composite flours, vegetable seedlings and fruit tree seedlings to promote kitchen and backyard gardens. Technologies exhibited included solar powered irrigation and water harvesting techniques.

B. Field Visits

Participants were briefed on the three options for field visits and asked to select based on their interest. Field visits were to model farms in Kamwenge district:

- Fish farming of tilapia and catfish from locally excavated fishponds
- Dairy farming showing the transition from traditional open grazing to zero grazing using improved pastures and locally improved feeding structures and paddocks
- Mango and coffee farming harnessing the rocky terrain



Chairperson Benon Mwebembezi of the Kamwenge District Farmers Organization (KADIFO) shares his experience working with new coffee varieties. Photo by Ivan/CRS

Conference Evaluation

Small Farm Conference facilitators asked participants to fill out a survey to provide feedback on the conference. Here is summary of the major themes from that survey:

Most rewarding experience:

- Food safety information on aflatoxins, relationship from farm-to-fork and nutrition, and the soya bean presentation was eye opening
- Kitchen gardening and ability to utilize small space for production
- Well prepared guides and presentations, knowledgeable facilitators
- Practical field visits and relation to real life experiences
- Networking opportunity
- Exhibitions made learning more practical
- Organic fertilizer application by VermiPro

Adequacy of topics in addressing the conference theme:

- All respondents agreed that topics addressed the theme

Additional learning areas:

- Simple soil sampling and testing for essential soil nutrients, soil conservation measures, and non-cash investments in soil management
- Value addition (e.g., fruit drying and packaging, yogurt processing), to promote cottage industries, and practical food preparation

- Marketing and market linkages
- Transitioning village savings and loan associations to savings and credit cooperative organizations and farmer groups to cooperatives to harness the benefits associated with working in larger numbers
- Cross cutting issues (e.g., environmental management, gender, HIV/AIDS)
- Safe food handling
- Invite policymakers to share information with farmers, such as taxation for agricultural produce and products
- Nutrition and health
- Dairy calf management and fodder establishment (more emphasis was placed on crops)
- Plant pests and disease identification and agronomy
- Cost-benefit analysis for crops
- Proposal writing
- Fish farming (e.g., pond measurements, access to fish fingerlings)
- Spraying techniques
- Growing mushrooms
- Water harvesting techniques
- Mindset change of rural farmers for sustainable development

Willingness to cost-share for future Small Farm Conferences:

- 50% participants are willing to cost share on transport to and from venue, provided the information is communicated in a timely manner.

Other areas of cost share highlighted included exhibition, facilitating sessions, sharing experiences, adding value to milk production (e.g., yogurt processing), conducting practical demonstrations, publicizing the event through different media channels, and supporting preparation and publishing of conference materials for wider dissemination. Very few participants mentioned cost sharing for food and accommodation.

Closing Remarks

Remarks and Official Closure by Hon. Karungi Joseph, LCV Chairman

Chairman Joseph Karungi welcomed participants on behalf of the Kamwenge District Local Government. He spoke about his appreciation of CRS for organizing the conference and bringing business to the district. The Chairman shared lessons he learned from the conference recap and panel discussions, “Plants pick nutrients from the soil; our bodies absorb

“Plants pick nutrients from the soil; our bodies absorb nutrients when we eat them, we therefore need to take care of the soil. We are made from the soil and God continues to feed us through the soil. We must protect, nourish, and love the soil every day.”

Chairman LCV Karungi, Kamwenge District Local Government

nutrients when we eat them, we therefore need to take care of the soil.” Mr. Karungi referenced a biblical quote (Genesis 2:7), “We are made from the soil and God continues to feed us through the soil. We must protect, nourish, and love the soil every day.” He acknowledged that climate changes are mostly a result of our actions. Trainings such as these (i.e., the Small Farm Conference and F2F program) help us adapt to changes in the climate. The Chairman urged CRS to continue helping farmers to adopt Good Agricultural Practices, including post-harvest and storage practices, before officially closing the conference.

Annexes:

Annex 1: Conference Evaluation Tool

Small Farms Conference Evaluation

Please fill out the questionnaire form to your best satisfaction to help us plan better for the next conferences.

1. What was the most rewarding experience, and why?
2. Did the topics covered adequately address the conference theme? [Theme: *“Adapting to the changing trends for improved Production, Health and Wealth”*], and why or why not?
3. *What other learning areas could we focus on in future small farm conferences?*
4. *If we are to conduct a similar activity next year, would you be willing to cost share in any form? If yes, what are some of the ways you (as a farmer, exhibitor, or cooperative) would you be able to cost share?*
5. *What other recommendations do you have for a future event like this?*