# CRS-logo.jpg C:\Users\maria.figueroa\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\60LBWCCW\F2F Logo (2).PNG

**Farmer to Farmer East Africa**

**Volunteer Assignment Scope of Work**

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| **Assignment Summary** | |
| Assignment code | KE69 |
| Country | Kenya |
| Country Project | Horticulture Country Project |
| Host Organization | Siwongo Processors |
| Assignment Title | New products development; Orange Fleshed Sweet Potato bio-fortified and nutritious food products |
| Assignment preferred dates | February – May 2016 |
| Type of volunteer assistance: | Technology Transfer (T) |
| Type of value chain activity: | Processing (P) |
| Assignment objective(s) | * Enhanced capacity of Siwongo processors to develop new and nutritious flours using the orange fleshed sweet potato as an ingredient * Develop protocols and guidelines for development and formulation of the new products |
| Desired volunteer skills/ expertise | Food processing expert with experience in development of fortified food products |

1. **Background**

Orange Fleshed Sweet Potatoes (OFSP) is an important food crop as well as a cash crop for the people of Western Kenya. Siwongo processors, a local small scale food processor established a processing unit in Busia County western Kenya so that it could process orange fleshed sweet potato fresh roots into high value flour. The company also packages and distributes to various consumers in and outside the region. The processing into flour is important because fresh sweet potatoes are highly perishable. Processing into dry chips and milling into flour allows many consumers to access and utilize sweet potatoes at a later date after harvesting.

There are many farmers’ and farmer groups that are producers of sweet potatoes who are targeting Siwongo Processing Plant to purchase their produce. Siwongo plant processes the fresh roots into chips for ease of fast drying into dry chips, and then mills to OFSP flour which is then distributed as a premium product under the Azuri Health brand. This relationship favors the Azuri brand more than Siwongo, and for this reason, the company is working towards creating their own brand under which they will market their products. So far, Siwongo has received one F2F volunteer who facilitated the development of a quality control and quality assurance program. The company is in the process of acquiring certification from Kenya Bureau of Standard, KeBs, a body that is charged with the mandate of ensuring the production of quality goods; improvement of measurement accuracy and circulation of information relating to standards.

1. **Issue Description**

Sweet potato is an important food security and cash crop in Kenya. The orange-fleshed sweet potato (OFSP) varieties are rich in pro-vitamin A and play an important role in reducing vitamin A deficiency which is a major problem in Kenya. Siwongo has been involved in value addition of the sweet potato crop with noticeable success. Because of this success, the processor has started plans to expand its business to include more products to contribute toward production of nutritious food products through fortification of commonly available maize, cassava, sorghum and millet flour in Busia County.

Siwongo appreciates that this expansion will require additional skills and knowledge, and they acknowledge that the staff and management lack appropriate technical knowledge and skills in product formulation and development, food safety and quality as well as Good Manufacturing Practices (GMP) associated with these new products. It is for this reason that Siwongo processors have requested for CRS F2F volunteer to facilitate in the development of new products through formulation of nutritious, maize, cassava, sorghum and millet flour using orange fleshed sweet potato. This is a targeted fortification aimed at adding sufficient amounts of micronutrients to provide large proportions of the daily dietary requirements through foods formulated mainly for children, reproductive mothers and the elderly people. The company anticipates formulating and developing nutritious flour that can consistently achieve good quality standards and further ensuring that their products meet the quality that will appeal to the target market. Through natural fortification of indigenous flour, Siwongo will seek to address the challenge that many low income earners have been faced with of not affording high nutritious foods that have always been targeting the high end buyer due to their high cost. This will ensure that the enterprise combat malnutrition especially among children that has been a challenge in the region.

1. **Objectives of the Assignment**

The objective of this volunteer assignment is to enhance the capacity of Siwongo processors in the formulation of nutritious fortified food products using orange fleshed sweet potato flour, to fortify commonly used maize, cassava, sorghum and millet flour. Additionally, the volunteer assignment will involve training of selected groups on the importance of developed nutritious fortified food products. The F2F volunteer technical expert will support the following

* Develop protocols and guidelines for development and formulation of the new products
* Facilitate analysis of the ingredients from the different flour mixes
* Develop product mix guidelines
* Train production team on proper handling and storage of formulated products
* Food sanitation hygiene
* Product processing quality control

**Host contribution**–Siwongo processors will mobilize selected farmer groups for the nutrition trainings to be conducted by the CRS F2F volunteer. Also the Siwongo processors and REFSO staff will be available for the training on addition to working closely with the volunteer, during the preparations and actual trainings. The organization will also provide the training venue as well as meeting the participants travel and other related training costs.

1. **Anticipated Results from the Assignment**

The anticipated results from this assignment are:

* Developed guidelines and protocols on the product development process and shared with the processor
* PowerPoint Presentation on importance of food fortification
* Assignment related photos
* Debriefing with USAID and in country group presentations after assignment
* Field trip reports
* Outreach activity or a press release and a media event back in US

1. **Schedule of Volunteer Activities In Kenya**

**NOTE: Rest days will be on Sundays**

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| Day | Activity |
| Day 1 | Leave US |
| Day 2 | Arrival into Kenya. The volunteer shall be met by a **cab driver** CRS uses, who will have a placard bearing **CRS logo**, and who will wait at the arrivals section with the placard displaying the volunteer name. The volunteer will be driven to **Wasini Hotel** in Westlands or another hotel to be communicated prior to arrival. |
| Day 3 | Briefing meeting at CRS offices with CRS F2F staff and become fully briefed on logistics and itinerary of trip. Discuss anticipated outcomes and work plan, prepare any handouts |
| Day 4 | Travel to Busia |
| Day 5 | Introduction of the volunteer by CRS staff to Siwongo processors management and staff  Review the main objectives of the assignment and adjust the agenda for the coming days.  Courtesy call at County office |
| Day 6 | Visit selected consumers of cassava, maize, sorghum and millet products |
| Day 7 | Day off |
| Day 8 & 9 | Meet with Siwongo to review nutrition composition of the various raw materials based on their analysis and Determine mixing rations for various products to be developed |
| Day 10& 11 | Formulation of bio-fortified products using orange fleshed sweet potato and cassava, maize, millet and sorghum |
| Day 12 & 13 | Training of production team on mixing, handling, hygiene & safety  Training on best practices in food fortification |
| Day 14 | Day off |
| Day 15 | Development of fortification procedure for sorghum, millet, cassava and maize flour |
| Day 16 & 17 | Training of selected groups on nutrition and benefits of developed products |
| Day 18 | Reviewing of the entire process with Siwongo to ensure thorough understanding of the skills |
| Day 19 | Volunteer PowerPoint Presentation on importance of food fortification to selected Siwongo stakeholders  Exit meeting between Siwongo management, the volunteer and CRS F2F |
| Day 20 | Travel to Nairobi |
| Day 21 | Debriefing at CRS office with USAID Mission and CRS staff.  Complete Trip Report (TR),  Volunteer departs for USA |

# Desirable Volunteer Skills

The volunteer must have the following qualifications and competencies:

* Degree in Food Science, Technology and Nutrition or related sciences preferable.
* Specialized expertise in formulation and development of fortified foods
* Experience in implementing Quality Control and Assurance procedures for food fortification
* Excellent hands-on training skills to an adult audience is necessary
* Good writing and analytical skill as well as good communication skills
* Availability during the assignment timing

1. **Accommodation And Other In-Country Logistics**

While in Nairobi, the volunteer will stay at the Wasini All-Suite Hotel; Church Road, Wetlands; P.O. Box 75362 – 00200, Nairobi Kenya; Email: [enquiries@wasinihotel.com](mailto:enquiries@wasinihotel.com) Tel: +254 (0) 20 234 9545; Fax: +254 (0) 20 445 4353; Cell: +254 (0) 734 082 328). or any other hotel identified by CRS and communicated to the volunteer prior to arrival. While in Busia, the volunteer will stay at a hotel to be identified by the host. Busia town is located at the boarder of Kenya and Uganda.

CRS will pay for hotel accommodation, and provide volunteer with per diems to cater for meals and other incidentals. The volunteer may get an advance which has to be liquidated before departing Kenya. For more information, please refer to country information that will be provided.

1. **Recommended Assignment Preparations**

CRS-F2F designs assignments with the assumption of some pre-departure preparation by the volunteer. Actual preparation time will vary based on the experience of the volunteer, as well as informational or training resources the volunteer has readily available. CRS relies on the volunteer to assess the tasks outlined in this SOW and to make his or her own judgment about how much and what kind of preparation is needed prior to arriving in Kenya.

The volunteer should prepare materials for hand out which can be printed at CRS office in Nairobi before commencement of the assignment. Flip charts, markers, masking tapes can be obtained at CRS offices. Depending on the training venue the volunteer may use a laptop and projector for power point presentations. But if the training venue is in the community, it will be difficult to use PowerPoint.

CRS strongly recommends that the volunteer become familiar with CRS programs in Kenya, the horticulture project description, other information in the briefing pack before arrival to Kenya

1. **Key Contacts**

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| **CRS Baltimore** | **CRS EA Regional Office** |
| **Maria Figueroa**  Volunteer Coordinator  EA Farmer-to-Farmer Program  228 W. Lexington Street  Baltimore, MD 21201  410-951-7366  Email: [maria.figueroa@crs.org](mailto:maria.figueroa@crs.org) | **Nyambura Theuri**  Deputy Project Director  EA Farmer-to-Farmer Program  P.O. Box 49675 – 00100  Nairobi, Kenya  St. Augustine Court Karuna Close Road  Email: [nyambura.theuri@crs.org](mailto:nyambura.theuri@crs.org) |
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**Host**

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