 

**Farmer to Farmer East Africa**

**Volunteer Assignment Scope of Work**

**NOTE: SCOPE OF WORK AWAITING FINAL EDITS**

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| **Assignment Summary** | |
| **Assignment Code** | **TZ93** |
| Country | Tanzania |
| Country Project | Grains Project |
| Host Organization | Sokoine University Of Agriculture, College Of Agriculture  Department of Food Technology, Nutrition and Consumer Sciences (DFTNCS) |
| Assignment Title | Food Analysis Laboratory and Pilot Plant Equipment Repair and Maintenance Training |
| Assignment objective | To enhance the laboratory staff capacity in repair and maintenance of the equipment so as to improve efficiency in supporting consultancy, research and training services |
| Desired skills | Proficiency in laboratory equipment management, maintenance and repair. Preferably a well- seasoned laboratory technician working in a very busy food science/processing laboratory. Laboratory accreditation is also a critically desired skill. |
| Assignment preferred dates | Any time of the year. The July-October window is more preferred |

**Background**

The Farmer-to-Farmer (F2F) East Africa program is a program that uses short-term US volunteer expertise to assist small holder farmers and small scale processors in East Africa to improve their business practices through volunteer assignments conducted with host organizations. For Tanzania, Catholic Relief Services’ (CRS) F2F project objective is to support smallholder farmers to improve access and utilization of markets and credit so they can broaden their participation in the grain and horticultural value chains as producers and service providers.

The Tanzanian Agricultural Universities are a target for F2F to channel technical assistance to because they support a sustainable, large-scale increase in capacity of the future generation of agricultural educators, researchers, producers, and service providers. Strategic interventions in the University system have great potential to contribute to the USAID goal of sustainably reducing poverty and food insecurity by increasing productivity and profitability of Tanzanian crops nationwide.

This scope of work is for providing volunteer technical assistance to Sokoine University of Agriculture (aka SUA). SUA is Tanzania’s premier agricultural research and training institute. It’s located in the municipality of Morogoro, approximately 200 km West of Dar es Salaam. The mandates of SUA include: selling, customer care, training, research, consultancy and outreach. SUA offers training that lead to awards of Certificates, Diplomas, Bachelors, Masters, and Doctorates.

Currently SUA has two campus Colleges (College of Agriculture and College of Social Sciences and Humanities), and three faculties (Faculty of Forestry and Nature Conservation, Faculty of Veterinary Medicine and the Faculty of Science). Other relevant academic units include the Directorate of Research and Postgraduate Studies, Pest Management Centre, and the Sokoine National Agriculture Library. SUA also hosts the African Seed Health Centre.

SUA is offering 37 undergraduate and 48 postgraduate degree programmes. It also offers 6 non-degree programmes including Certificates and Diplomas. The University has a student population of 7,228: 1,553 are postgraduates, 5,475 are undergraduates, 152 are diploma students and 48 are certificate students. It has a total of 1,343 employees; 503 are academic staff members. The potential for researching at a University of this size and repute is substantial.

One of the College of Agriculture Departments is the Department of Food Technology, Nutrition and Consumer Sciences (DFTNCS) that manages two small laboratories and a pilot plant that generate data for laboratory oriented teaching activities, research and consultancy services related to food processing, food analysis and product development

Apart from students the laboratories target the food manufacturing industry, small scale food processors, regulatory agencies and other food and nutrition stakeholders

**B: ISSUE DESCRIPTION**

SUA currently operates a food analysis lab and a pilot plant for both teaching and research activities. The current state of the lab does not allow for an efficient analysis due to limited capacity utilization of available equipment as well as technical backstopping, making it impractical to provide quick food analysis and recommendations to clients. There is a great need for improvement in the procedures managing samples, maintaining equipment, and providing quick results to clients. Current challenges to the facility revolves around providing efficient consultancy services, research support and training services using the available facilities and staff (technical and administrative)

* The DFTNCS Lab has been serving the growing demand of food testing services against a background of limited improvement in analytical facilities, decreasing number of seasoned technical staff and inexperienced newly recruited staff.
* The current trend of retirements of highly experienced technical staff, which is now being overcome by recruiting newly graduated Technicians /Technologists. There is a need for conducting rigorous inductive training courses to improve their skills and catching up with the current performances
* The Department intends to commercialize some of the analytical and product development services which require improved quality assurances as demanded by National and International standards bodies. Quality standards for laboratories are meant to ensure fairness in services provision and business conducts environment, similar to other service offering institutions
* The major advantage for the services offered by this Departmental laboratory is that all services related to food analysis, product development, nutrition profiling, food safety and quality assurance are accessible from one hub. However, with the current demands for commercial agricultural produce value addition and development of convenience foods to meet the growing demand resulting from the rural-urban migration it is very difficult to meet demands and wants of our esteemed customers using the existing facility. There is also need to improve the analytical protocols and staff competences.
* SUA, in collaboration with various institutions and stakeholder*s* is constantly acquiring new state of art equipments which needs some more technical expertise
* The Department of Food Technology, Nutrition and Consumer Sciences, for example, has currently acquired through the World Bank and KOICA projects, some of the equipment as listed below;

1. Freeze Drier, Scanvac Coolsafe 55-9
2. Protein Analyzer: Kjeldahl Foss Kjeltec 8200 series,
3. Fiber Analyzer: FOSS Fibertec 1020 Series
4. Fat Analyzer: Foss Soxtec 2055Steam generator (Boiler): MAGNABOSCO s.r.l, GVR. 150 (6.5 bar)
5. Spectrophotometer: X-Ma 3000, Model-X-max 3000
6. Incubator(oven): Termaks, Bergen-Norway, Type KBP 6395
7. Thermos scientific freezer, Model 8814 s/n. 830800-23 DXF 24040V
8. HPLC: Ballstones HP 469

**C: OBJECTIVE OF THE ASSIGNMENT**

To provide technical support which will improve the efficiency of the food analysis laboratory and pilot plant operations in offering consultancy, research support and training services through the repair and training of the laboratory staff with specific details as follows:

* Enhancing the capacity of the laboratory staff so as to improve quality assurances and compliance to the Regional (TBS, EAS, ARSO) and International (Codex and ISO standards)
* To conduct inductive training courses to Technicians /Technologists for improving their skills and catching up with the current performance in the utilization of in-house training in preventive maintenance and troubleshooting for the mentioned laboratory equipments
* To conduct inductive training courses to Technicians /Technologists for improving their skills in marketing and good customer services

This initial assignment will assist the Department of Food, Nutrition and Consumer Sciences in developing a program that will lead to the accomplishment of the objectives as outlined above. In addition to developing the program, the volunteers will also prioritize the next volunteer assignments and in collaboration with SUA staff and F2F program team in Tanzania, develop the scopes of work for F2F volunteers.

**Host contribution** – SUA will mobilize all targeted staff to participate in all planned training, as well as provide stationary and other supplies like projectors for effective learning. If there is any translation required, the host will provide. The host will also provide the training venue for the assignment, and any other related costs like snacks/water and refreshments to enable full time participation of required staff members.

**D: ANTICIPATED RESULTS FROM THE ASSIGNMENT**

The key long-term result is a model laboratory facility that can support research and training services while offering consultancy service commercially, with the ultimate goal of attaining ISO accreditation

**E: SCHEDULE OF VOLUNTEER ACTIVITY IN TANZANIA**

This will be developed in collaboration with the volunteer(s) once identified and confirmed

**F. DESIRABLE VOLUNTEER SKILLS**

A laboratory Engineers/ Technicians /Technologists who are familiar with various laboratory equipment operation, service, and maintenance, specifically in the above listed equipment.

**G: ACCOMODATION AND OTHER IN-COUNTRY LOGISTICS**

On arrival in Dar es Salaam the Volunteer will be accommodated at:

The Amariah Boutique Hotel

Mobile: +255 789 471461, Email: [info@amariah.co.tz](mailto:info@amariah.co.tz)

Website: <http://www.3star.co.tz/AMARIAH/MIKOCHENI/index.html>

Address: Dr. Kariuki Road, Mikocheni A, Dar es Salaam

While in Morogoro, the Volunteer will be accommodated at an appropriate hotel/lodgingnearby to SUA premises to be identified later. All the facilities have the necessary amenities of water, electricity and internet access. Volunteers are normally provided with an internet modem, cell phone, and pre-loaded sim card for assured communication for the period of their work in Tanzania.

**H: RECOMMENDED ASSIGNMENT PREPARATION**

**I: KEY CONTACTS**

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