 

**Farmer to Farmer East Africa**

**Volunteer Assignment Scope of Work**

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

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| **Assignment Summary** | |
| Country | Tanzania |
| **Assignment Code** | **TZ106 SOW** |
| Country Project | Tanzania F2F Horticulture project |
| Host Organization | Natural Extracts Industries Ltd (NEI) |
| Assignment Title | NEI Training on extraction and distillation techniques, food flavor development, analytical methodologies and quality control processes |
| Assignment objective | Support NEI in product development in order to expand its range of food flavor products from tropical crops found in Tanzania. |
| Desired skills | A PhD/MSc in food technology, food science or other related field, with 10-12 years of experience; a focus on flavors is necessary |
| Assignment preferred dates | January 2017 onwards |

1. **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. The goal of the Farmer-to-Farmer (F2F) horticulture project is to increase incomes and improve nutritional status of Tanzanian smallholder farmers through; smallholder farmers increased productivity of horticultural crops, improved access to and utilization of markets and credit and preservation and enhanced natural resources upon which target communities depend.

In Tanzania, horticulture makes a significant contribution to food security, nutrition improvements and economic growth. Horticulture is mainly practiced by female smallholder farmers as well as a limited number of large scale operators. Commercial horticulture is endowed with local and foreign investors, particularly in floriculture and export vegetables, and has production and market growth potential. Tanzania’s favorable socio-political environment provides an opportunity for horticulture sector to thrive.

Since the horticulture sector makes a significant contribution to food security, nutrition and economic growth, development of the sector offers the opportunity to increase incomes through meeting demand in domestic, regional and international markets, while simultaneously improving household nutrition through dietary diversity.

The key challenges that the horticulture industry faces in Tanzania include; low productivity of horticultural crops, limited processing of horticultural products and poor access to markets. Some key opportunities that favor the growth of the industry and thereby success of the F2F project in Tanzania include the multiple players in horticultural value chains working at various levels to include the USAID Feed the Future Tanzania Agricultural Productivity Program (TAPP) and Tanzania Horticultural Association (TAHA) programs. Through these structures, specific interventions will allow volunteers to reach out to smallholder farmer groups, small and medium companies.

This scope of work is for providing volunteer technical assistance to Natural Extracts Industries Ltd (NEI), a social enterprise company pioneering the sustainable extraction industry in Tanzania, starting with vanilla and other flavors. The company works in all areas from cultivation, to post-harvest processing, to value-add manufacturing and to international sales and marketing. The supply chain currently integrates over 1200 farmers from Kilimanjaro, Morogoro and Arusha regions, and through this sourcing model NEI aims to deliver a longer term socioeconomic impact of ~$180 in incremental annual income per smallholder household, on average. Currently, products include natural flavors, such as: (i) liquid extracts from vanilla, orange and cacao; and (ii) solid flavors like gourmet-grade bourbon vanilla pods. The company is embarking on a product development effort to expand its range of food flavors and nutrients products, particularly from tropical crops found in Tanzania

1. **Issue Description**

NEI is a pioneer company in the extraction of natural flavors in Tanzania and to its credit its quality has been recognized both in the regional and international markets and it continues to explore ways to improve the products and develop new flavors. Currently the gourmet beans processed are grown exclusively by smallholder farmers, giving a unique taste due to the climatic and soil conditions in each area. The curing takes place at processing centers led by skilled farmers who have been trained in the traditional bourbon method by NEI. The intensive and meticulous process yields a burst of aroma that is appreciated by home chefs and restaurateurs alike.

The key challenge that NEI is experiencing with all aspects of vanilla and other products’ processing is lack of a qualified chemist/ food scientist /technologist on staff. The only staff on board for such activities is a newly graduated food science specialist from one of the local universities who doesn’t have sufficient practical skills required for in-depth product development. Most of what has been achieved is through a trial and error. On the other hand, NEI has not been able to install the right machinery and equipment; nor has it been able to design standard operating procedures and quality control methods for the development of new products

**C: OBJECTIVE OF THE ASSIGNMENT**

The objective of this assignment is to build the capacity of the NEI

* Advise the management team on new equipment and technology necessary for the new products;
* Design standard operating procedures and quality control methods for new products developed;
* Train NEI’s in-house food scientist in various methods of production techniques, food flavor development and analytical methodologies, within a resource-constrained context

**Host contribution:** NEI will mobilize the food technology staff and management to the trainings to be conducted by the CRS F2F volunteer. The team will be available for the training in addition to working closely with the volunteer, during the demonstration periods. The host will also provide translation services during the training and other related training costs as appropriate.

**D: ANTICIPATED RESULTS FROM THE ASSIGNMENT**

* Draft standard operating producers (SOP) documents and quality control methods for extraction and distillation based production of new or improved flavors, being mindful of the resource-constrained context in which NEI operates;
* A training session to address various production techniques in extraction, product development in food flavors and analytical analysis methods in the same;
* A list and specification of end-to-end equipment necessary for the proposed SOPs and quality control methods.

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

*Note: this schedule is only indicative. Once the volunteer is in Tanzania, they will collaborate with the host to prepare a firm schedule.*

Week No 1: (a) Analyzing NEI production operations, existing products and quality control capabilities, and (b) revising existing SOPs and Quality control documents

Week No 2: Research on new SOPs and training materials on production techniques and analytical analysis methods relevant to NEI production methods

Week No 3: Research to develop new food flavors that closely fit NEI’s capabilities

Week No 4: (a) Delivering training session for NEI in-house food science graduate (b) Meeting with management on capacity building requirements (c) Delivering final report on the equipment necessary for new/improved flavor products

The in-house food technologist will work closely with the volunteer during these 4 weeks

**F. DESIRABLE VOLUNTEER SKILLS**

The volunteer will have the following qualifications and competencies:

* A PhD/MSc in food technology, food science or other related field, with 10-12 years of experience; a focus on flavors and/or nutrients is necessary;
* Excellent analytical skills as well as data presentation skills;
* Ability to communicate clearly and effectively with non-native English speakers;
* Excellent hands-on training skills to an adult audience is necessary;
* Ability to work in a multi-cultural environment and be sensitive to foreign culture;
* Have an interest in exploring and adding value to local crops with a combined commercial and social impact philosophy.

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

In Moshi, the volunteer will stay at the ELCT Uhuru Hostel and CRS will pay for hotel accommodation and provide volunteer with per diems to cater for meals and other incidentals. For more information, please refer to country information that will be provided.

**H: RECOMMENDED ASSIGNEMENT PREPARATION**

As part of preparation for the work ahead the volunteer should familiarize her/himself with the CRS Tanzania F2F program proposals and scope of work for this particular assignment. At the volunteer’s request, NEI may share electronic copies of operations documents in advance of her/his arrival. It is also advisable that the volunteer read and familiarize with Tanzania, its development challenges and opportunities. For any printed material these will be printed at CRS office in Dar es Salaam before commencement of the assignment. NEI will print documents required on site during the training and any other required training materials like flip charts, markers and masking tapes.

**I: KEY CONTACTS**

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