 

**Farmer to Farmer East Africa**

**Volunteer Assignment Scope of Work**

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| **Assignment Summary** |
| **Country** | **Tanzania** |
| Assignment Code  | TZ32 SOW |
| Country Project | Tanzania F2F Horticulture project |
| Host Organization | Natural Extracts Industries Ltd (NEI) |
| Assignment Title | NEI Capacity enhancement on extraction techniques, food flavor development, analytical methodologies and quality control processes for vanilla and other crops |
| Assignment objective | Support NEI in product development in order to expand its range of food flavors and nutrients products from tropical crops found in Tanzania. |
| Desired skills | Formal qualifications in food technology, food science or other related field; with 2-3 years of experience; a focus on flavors and/or nutrients is necessary  |
| Assignment preferred dates |  February –June 2015 |

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.

Key challenges the horticulture industry faces in Tanzania include the following: low productivity, limited processing and poor access to markets. Some 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, and small and medium companies.

This scope of work is for providing technical assistance to Natural Extracts Industries Ltd (NEI), a social enterprise company pioneering the sustainable flavors extraction industry for vanilla and other flavors. The company works in all areas from cultivation, post-harvest processing, value-added processing to marketing, nationally and international. The vanilla supply chain currently integrates over 900 farmers from Kilimanjaro, Morogoro and Kagera regions, and through this sourcing model NEI aims to deliver a longer term socioeconomic impact with an average of $250 in additional annual income per smallholder households cultivating this crop. 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 and in the process promoting expanded production by the smallholder farmers.

1. **Issue Description**

NEI is a pioneer company in the extraction of natural flavors in Tanzania. To its credit, the quality of their natural flavors is now recognized both in regional and international markets. NEI continues to explore ways to improve products and develop new flavors. Currently the gourmet vanilla pods the company processes are exclusively grown by smallholder farmers in the Kagera, Morogoro and Kilimanjaro regions of Tanzania, which have a unique taste due to the climatic and soil conditions in this region. 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 challenge that NEI is experiencing with all aspects of vanilla and other product 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 does not have enough practical training on the unique skills required for this job. Other team members in the unit are the production operator who just completed high school and is under training. The general manager has a Bachelor’s degree in technology – with Chemical Engineering and Master of Business Administration with 6 years of experience. He does most of the research on the extraction process even though he is not a food /chemical scientist. Most of what has been achieved is through reading and applying research based on this.

Related to this, NEI has not been able to install the right machinery and equipment, and it has not been able to design standard operating procedures and quality control methods for the development of new products because of poor skills on the right way to approach the subject.

**C: OBJECTIVE OF THE ASSIGNMENT**

The objective of this assignment is to build the capacity of NEI as per the following:

* Advise the management team on affordable new equipment and technology necessary for the current and new products;
* Support the design of standard operating procedures and quality control methods for all the products produced;
* Train NEI’s in-house food scientist and management team on 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, provide local transport and any required training materials. 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**

* Modified standard operating producers (SOP) documents for improved production;
* Comprehensive report on quality control methods for extract production;
* Food scientist /production team trained and competent in various production techniques in extraction, product development in food flavors and analytical methods in the same;
* Recommendations /report on technical capabilities needed to develop new products within the NEI operations.

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

Week No 1: (a) Studying and analyzing NEI production operations and quality control producers (b) Working on SOPs and Quality control documents

Week No 2: Deliver training session on production techniques and analytical analysis methods relevant to NEI extraction operations

Week No 3: (a) Understanding the availability of raw material (b) Research to develop new food flavors that closely fit NEI capabilities

Week No 4: (a) Delivering training session for NEI in-house food science graduate (b) Meeting with management on capacity building (c) Delivering final report on all the areas of the volunteer work

(Please note that the day to day activities will be finalized with NEI once the volunteer is on site)

**F. DESIRABLE VOLUNTEER SKILLS**

The volunteer will have the following qualifications and competencies:

* Formal qualifications in food technology, food science or other related field with practical experience ; a focus on flavors and/or nutrients is required
* 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 flora 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 with USAID Feed the Future program, scope of work for this particular assignment and Tanzania Horticulture country project. 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 while 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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