 

**F2F EA & ELRP-DFSA Projects**

 **(Volunteer Assignment SOW)**

**Fruits and Vegetable Preservation Technique and Technology**

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| **Summary Information**  |
| Assignment Code |  |
| Country | Ethiopia  |
| Country Project | Horticulture Country Project.  |
| Host Organization | MCS (Meki Catholic secretariat DFSA & LRO project).  |
| Assignment Title | Root Cellar technology (Horticulture Preservation Technology ). |
| Assignment dates | Dec/January,2018  |
| Objective assignment |  To reduce post-harvest losses by introducing selected technology and technique.  |
| Desired volunteer skill/expertise | Construction and design of root cellars in various climates. Experience on horticulture, post-harvest handling / produce storage and leading trainings. |
| Assignment Location  | Zuway Dugda woreda (Ushitti, Arafa Chaffa & Shalil Butto) kebeles. |

**Why?**

1. **BACKGROUND**

The Farmer-to-Farmer (F2F) East Africa program is a program that leverages US volunteer expertise to assist smallholder farmers and small scale processors in East Africa to improve their business practices through volunteer assignments conducted with host organizations. As project objective Through F2F intervention, CRS will improve the livelihoods and nutritional status of significant numbers of low income households( PSNP/DFSA), local staff and model farmers or clients in Rift valley area by: i) broadening their participation in established commodity value chains as producers and service providers; ii) strengthening community resilience to shocks such as droughts that adversely affect livelihoods; and iii) preserving/enhancing natural resources upon which most rural communities depend. CRS will also increase the American public’s understanding of international development programs and foster increased cross-cultural understanding between host countries and US volunteers.

Vegetable production and marketing has become an increasingly important sub sector in Ethiopia. In the rift valley areas farming activities range from smallholder vegetabe and seed production to commercial state and private farms (Zelleke and Gebremariam, 1991). In DFSA project operational areas vegetable and fruit production cover larger part of the farm land where irrigation water is available (this include Zuway Dugda and surrounding areas). The location has favorable climate and edaphic conditions for the production of tropical, sub-tropical and temperate vegetables in the lowlands, midlands, and highlands, respectively. Despite its potential, vegetable production and productivity is very low. The assignment area is located in the rift valley areas of the country where DFSA Food security project is operating. DFSA or PSNP clients of the project woreda (Z/Dugda) are the target for the volunteer assignment for this round, which planned on Vegetable and Fruit preservation technique and technology adoption and Agricultural skill transfer. The crops selected for the volunteer assignment among widely grown vegetables are potato, tomato, red-onion, kale (Ethiopian cabbage), onion, chilies, carrot, garlic and cabbages.

Layering and leveraging the other US – funded projects to increase project achievement is at the center of DFSA project design and implementation modality. Through the support of the F2F assignment, DFSA aims to increase clients’ awareness access to suitable preservation techniques and technology thats used by farmer in US. Ultimately its believed that use of technique / technology by the farmers will reduce the high post-harvest loss of fruits and vegetables. Associated economic and nutritional loss will also be minimized.

This assignment on post-harvest technology is crucial to support increasing production and productivity of highly perishable produces. Root cellars are structures built underground or partially underground to store harvested goods and protect against loss. Root cellars are a simple, cost effective and easily modifiable to varying climates.

1. **PROBLEM STATEMENT**

Horticulture production under conditions where poor postharvest management prevails is characterized by very high post-harvest loss. That is because most horticulture produces have high water content and are highly sensitive to damages during harvest, insect damages and storage/transportation conditions after harvest. Produces are especially sensitive to temperature, moisture and air conditions.

Post-harvest losses are high in Ethiopia, reaching up to 1/3rd of total produces. This causes a significant loss of food, nutrition and income to individuals and households. In DFSA targeted areas farmers also face high losses because there are no innovative and improved methods of increasing the shelf life of these crops. Improved food processing/storage techniques and post-harvest handling are the main tools to reduce food losses and maintain/raise the quality of products. Demand for horticultural products tends to grow very rapidly with urbanization and increased income in the target area. Wider diversity of fruits and vegetables are demanded by consumers, such growth provides major opportunities for farmers to diversify their production and increase their incomes

Farmers need simple and affordable technology/techniques to increase the shelf life of fruit and vegetables until they reach market or to be stored for longer times during surplus production. Post-harvest losses are exacerbated by the fact that it takes long time to reach markets and limited presence of agro-processing plants that utilize local products.

Together with other factors such as, access to credit, input and poor market linkages, post-harvest management is key to improve income, food availability and livelihoods of producers.

MCS (Meki Catholic secretariat DFSA & LRO project areas)., therefore, requested F2F volunteer assistance to provide technical support on root cellar construction and post-harvest management for small-scale and back yard farming. This is usually undertaken by poor DFSA/PSNP or NPSNP clients especially women farmers.

Accordingly, the F2F volunteer specialist will address these knowledge gaps through a variety of training interventions and practical demonstration.

1. **OBJECTIVES OF THE ASSIGNMENT**

Vegetable production plays important role in poverty alleviation through employment generation, improving the feeding behavior of the people, and creating new opportunities for poor farmers. With increasing production and diversity of fruit and vegetable crops proper storage is required.

Therefore, the objective of this volunteer assignment is to train and practically demonstrate Fruit and Vegetable preservation techniques and technology that simple, efficient, suitable and applicable in the local context of the Rift valley woredas of DFSA.

The specific areas the volunteer might focus will include:-

* Provide very brief presentation on proper handling of vegetables such as harvesting, sorting, cleaning, storing and packaging.
* Factors related to post-harvest storage: effects of temperature, relative humidity, etc.
* Simple storage structures suitable to local environment etc.
* Develop simple guidelines demonstrating principles and practices of effective post-harvest handling of vegetables.
* Preservation techniques and methods.
* Root cellar storage construction techniques.

By this first round 80 people from Zuway Dugda woreda including farmers and host staffs will be covered by the volunteer assignment. 60 farmers will be from Zuway Dugda (three kebeles, 20 individuals each ) and 20 of them from local area and host staff . The 20 staffs will include the government extension agents, government staff and DFSA & LRO Staff, and MCS HQ Supportive & project community Animators.

**How?**

**Volunteers Methodology**

Volunteer can use multiple ways to deliver required skill and knowledge to the volunteer farmers at project operational areas as appropriate. For example:

* Briefing on the main objectives and modality of the assignment and adjust the agenda and lessons schedule with participants.
* Further identify skill and training gaps through farm visiting and discussing with clients/customers.
* Local market visit and information.
* Based on information gathered and gaps identified, enrich the prepared training materials incorporating hands-on practices.
* Firsthand information/data collection by volunteers as applicable.
* Assess and refine the quality of trainings through feedback and observations. And
* Practical demonstration of root cellar construction and learning of technology on farm field.

**Host contribution**

The host Meki Catholic Secretariat will select members and stakeholders in various positions to attend trainings, gather materials in addition to a root cellar demonstration site, and facilitate the volunteer to reach them. The host will make prior arrangements to ensure that the volunteer can attend scheduled training forums to train the farm employees. The host will also provide the volunteer with office space with furniture. In consultation with CRS, the host will arrange vehicle for field work and facilitate volunteer field travel and related any security clearance. The host will also, avail key personnel to work closely with the volunteer, during the preparations and actual trainings, to ensure that key staff are trained and will continue training other farmers even after the assignment is completed. The host will also arrange translation services.

1. **ANTICIPATED RESULTS FROM THE ASSIGNMENT**

Because of the volunteer assistance, the following outputs are aanticipated that in this assignment

* Beneficiaries’ general Knowledge of fruit and vegetable Post harvest management strengthened
* New Practical Skill acquired on root cellar construction, maintenance and benefits from US Volunteers.
* Training of trainers (Local staffs) to support continued capacity building and knowledge transferl.
* Overall all step by step clear guideline developed to enable others to access and share the resource later.
	+ Increased incomes from reduced product losses that farmers change in to cash increase.
	+ Contribute for market stability by improving market supply.
	+ Dietary diversity contributing to improved nutrition and enhanced food security.
	+ Employment creation for youth engaged in this project.

**The anticipated deliverables by the volunteer include**:

* + Initial presentation (outlines/list of activities, plan, approach, etc),
	+ Training and direct assistance conducted as planned,
	+ Field report with recommendation,
	+ Presentation to CRS staff and USAID,
	+ Outreach events conducted in the US.

The schedule for Volunteer Assignment will be from January, 1/2017 up to January, 17/ 2017.

1. **SCHEDULE OF VOLUNTEER ACTIVITIES IN ETHIOPIA**

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| Day | Activity |
| Days 1  | * Arrival in Addis. The volunteer will be met at Bole Airport by CRS’s client hotel Saro Maria Hotel (mail: reservation@saromariahotel.com ; [Phone](https://www.google.com/search?rlz=1C1GGRV_enET751ET751&q=saro-maria+hotel+phone&sa=X&ved=0ahUKEwie4JH0gNfWAhXFOBoKHS8rB1sQ6BMIwwEwEA): +251 11 667 2167).The volunteer will locate the Saro Maria hotel kiosk and receive their pre-arranged transport
 |
| Day 2 | * Introduction with CRS higher officials and briefing meeting (security and general orientation) at CRS office where s/he will be fully briefed on security plan, logistics and itinerary of trip. Discuss anticipated outcomes and work plan,
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| Days 3 | * Travel to training area the station of the host. S/he will be introduced with the host and accommodated at in a hotel.
* If time permits, general orientation with the host will be pursued.
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| Days 4 | * First hand briefing on the main objectives and modality of the assignment and adjust the agenda for the coming days (work planning session). Briefing and debriefing with the field staffs.
* Quick field observation and assessment as necessary

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| Day 5-7 | * Conduct firsthand training and presentation to beneficiaries
* Assess and refine the quality of trainings and practical demonstrations through feedback and actual observations.
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| Day 8 | Rest day.  |
| Days 9-14 | * Trainings and technical assistance (demonstrations, on-farm and household visits) to grain farmers’ beneficiaries and cooperative leaders through formal and informal trainings, groups and individual contacts/discussions, and demonstrations.
* Evaluate/collect feedback on the training, present and discuss final recommendations with the host.
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| Day 15  | Return to Addis, Saro Maria Hotel |
| Day 16 | * Finalize reimbursement expenditures and liquidations (if any) with finance. Volunteer also finalizes his/her reporting and submit training M&E forms to CRS F2F staff.
* Debriefing at CRS office with USAID Mission and CRS staff.
* Complete any unaccomplished activities
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| Day 17 | Depart for USA |
| TBD | Outreach event when back in the US |

**Where?**

The host Meki Catholic Secretariat will select the specific place for the training at the Woreda centre for Kebele most probably (FTC, Schools or open field). The exact training venue will be communicated up on the arrival of the volunteer .

1. **DESIRABLE VOLUNTEERS SKILLS**

The desired skills of the volunteer will include a background and experience the following:

* Experience in post-harvest management, specifically practical experience in Root Cellar design and construction
* Preferably graduate in horticultural science
* Experience in adult training or learning alliances with smallholder farmers, community development/extension workers, members of community based organizations (CBOs), etc.
* Good analytical and intercommunication skills.
1. **ACCOMMODATION AND OTHER IN-COUNTRY LOGISTICS**

Before travelling to the host partner at the assignment site, the volunteer will stay in Addis Ababa at one of the CRS’s client hotels, Sor-Amba hotel ([www.sorambahoteladdis](http://www.sorambahoteladdis)) or other hotels that will be booked before arrival dates. In Addis Ababa, the hotel usually has rooms paid together with services such as airport pick and drop, breakfast, wireless internet, etc. The hotel or CRS will arrange a vehicle for short travel from the hotel to CRS and vice versa in Addis Ababa. All required materials will be prepared ahead of time and will be provided to the volunteer.

During the assignment period, the volunteer will stay at Haile Resort in Ziway town. CRS Ethiopia will pay for hotel accommodations and CRS HQ will provide the volunteer with per diem advance to cater for meals and incidentals. The volunteer will liquidate all advances received in Ethiopia before departure.

1. **RECOMMENDED ASSIGNMENT PREPARATIONS**
* Although CRS DFSA and F2F has developed such hinting SOW, the volunteer can fine-tune through her/his professional qualification to successfully carry out this small scale based agricultural knowledge/skill transfer program.
* Prior to travel, the volunteer will be advised to prepare necessary training and demonstration aids and written handouts. Softcopies of the handouts and any other paper materials can be printed for immediate use at the CRS office in Addis Ababa on request by the volunteer;
* If the volunteer requires use of simple training aids like flip charts, markers, masking tapes, etc, s/he should make the request and collect from the CRS office at Addis Ababa prior to travel to the assignment place;
* Translation of handouts to local languages can be done in the locality of the assignment, if required. Depending on the meeting places and availability of electric power and LCD projector, the volunteer may use a laptop and projector for power point presentations.

**Budget Source and DSPN**

1. **KEY CONTACTS**

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