 

**Farmer to Farmer East Africa**

**Volunteer Assignment Scope of Work**

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| **Summary Information** | |
| Assignment code | ET 30 |
| Country | Ethiopia |
| Country Project | Grain Crops Production and Sector Support |
| Host Organization | Hararghie Catholic Secretariat (HCS) |
| Assignment Title | Harvesting and post-harvest management practices on grains (maize wheat and other grains) |
| Assignment preferred dates | January or February 2016 |
| Assignment objective | Improve harvesting, post-harvest handling and storage management practices |
| Desired volunteer skill/expertise | Specialist on post-harvest management including modern harvesting techniques, grain storage facilities/constructions, grain post-harvest handling and food safety |

1. **BACKGROUND**

The Farmer-to-Farmer (F2F) East Africa program is a program that leverages US volunteer’s 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. Through F2F intervention, CRS will improve the livelihoods and nutritional status of significant numbers of low income households 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.

Grain crops sector are the most important integral component of agriculture and food security in Ethiopia. Although Ethiopia is one of the largest grain producers in Africa, there are still large pockets of food insecurity mainly caused by high population pressure, low agricultural productivity, poor management of crop loses and uneven distribution of grain produces. Low use of agricultural technologies including post-harvest management techniques and farm mechanization technologies contribute to low productivity and loss of produce and quality. Most grain crops in Ethiopia are cultivated under rain fed farming while the few potential irrigation farming is mostly under horticultural crops and floriculture industry.

Most grain producers in Ethiopia are smallholder farmers whose average land holding is less than a hectare per household[[1]](#footnote-1). Compared to all grown crops, the grains had the greatest share in 2012/13 both in area coverage (91%) and production share (79%)[[2]](#footnote-2). Among the cultivated grain crops in 2012/13, teff has the first (22%), maize the second (17%), sorghum the third (14%), and wheat the fourth (13%) land area coverage in the main (*meher*) rainfall season. In terms of production share, maize is the first (27%), teff is the second (16.3%), sorghum is the third (15.9%) and wheat is the fourth (15%) followed by barley, finger millet, rice and oat from the cereal group (2). Grain legumes (pulses) are also important in Ethiopian agriculture and food security, accounting for 15% of land coverage and 12% of production share in the main rainfall season of the 2012/13 (2). However, the order importance in East Hararghie pursues sorghum, maize, grain legumes, teff and other crops.

The Hararghie Catholic Secretariat (HCS) is implementing several agricultural development and food security related projects including Development Food Assistance Program (DFAP) of the Productive Safety Net Program (PSNP) and the Community Managed Disaster Risk Reduction (CMDRR) program. It operates in a number of zones and districts in Oromia and Somali regions and Dire Dawa city administrations. For this particular grain post-harvest volunteer assignment, it selected three neighboring districts (Kersa, Meta and Goro Gutu) of East Hararghie zone of the Oromia region. The volunteer will transfer technologies on the selected grain crops (sorghum, maize and other grains) which are important food security crops of the districts and the region. The Oromia region is one of the four Feed the Future (FtF) and Agricultural Growth Program (AGP) regions of Ethiopia.

In pursuance to the value chain approach of the F2F program, this grain post-harvest assignment is a follow-on assignment to the last grain agronomy assignment conducted in the same districts by Dr. Michael Lyle Colegrove, who assisted 194 smallholder farmers and their agents on improved grain production methods. One of the main arguments in favor of engaging in such type of post-harvest intervention to reduce post-harvest losses is that it is a more resource-efficient means of increasing food supply than just producing more food.

1. **ISSUE DESCRIPTION**

Although accurately measuring post-harvest losses is difficult, the extent of the losses is substantial and estimated at 5-30% or more in sub-Saharan Africa (3). Ethiopia incurs post-harvest grain losses of between 15 to 30 percent for maize[[3]](#footnote-3), primarily on-farm, but als o in storage. This can largely be attributed to use of traditional and conventional methods as well as loss due to pest infestations. Crop harvesting by majority of farmers in these districts takes place manually and involves hand mowing of crops using sickles. Then for several days crops stay piled either around homestead or in the fieldbefore shelling and threshing.

Post-harvest loses in the assignment area includes on-farm losses, when grain is threshed, winnowed and dried, as well as losses along the chain during transportation, storage and and processing. On-farm losses occur when the grain is being stored for home consumption or waiting for when prices are favorable. The timing for harvesting is determined by indigenous knowledge, which at times lead to early or delayed harvesting, both of which may lead to high losses. After shelling and threshing of grains, farmers use various methods and types of facilities for storage. The traditional grain stores in the assignment area includes *gotera* (grain pits), bags (made of polyethylene, sisal or goat skin), earthen pots and others similar methods, which makes the grains very susceptible for storage pests and decaying. The major causes of post-harvest losses in storage are weevils, rodents and molds. To overcome these problems, some farmers use chemical pesticides which are not only expensive, but may also be hazardous to health while also being unfriendly to the environment. Untimely rain fall also causes damage on grains and stalks/straws.

The host organization has requested assistance in addressing the post-harvest losses of grains during and after harvest. Improvement in harvesting, post-harvest management technologies on sorghum, maize and other grains were chosen by the host as one of the most important value chain activities to contribute to food security and increased income earnings. The volunteer will improve the knowledge and skills of smallholder farmers on harvesting, post-harvest handling (grain and stalks/straws), storage management and food safety. The major modalities of such technology transfer are informal adult training and on-farm/site based practical demonstrations and advice to the subsistence smallholder farmers.

1. **OBJECTIVES OF THE ASSIGNMENT**

The objective of this assignment is to improve the harvesting, post-harvest handling and storage of grains. It will also addresses improper handling and mismanagement of straw during harvesting and afterwards. It is targeted to address 90 smallholder farmers and 7-10 key staffs of the hosts and key stakeholders of the agricultural offices, research centres and others as a Training of Trainers (ToT). The TOT will continue training after the volunteer left. The specific objectives of this volunteer assignment, therefore, include:

* Improving harvesting and post-harvest technologies and introduction of any new overseas’ innovations on harvesting, threshing/shelling, handling, management of grains and stalks/straws, food safety, etc;
* Benefit 90 smallholder farmers and 7-10 keys staffs (as a TOT) of the host and key stakeholders;
* Develop and submit simple guidelines on post-harvest management of rain fed grains.

**Host contribution** – The host will select 7-10 key staffs for TOT and the 90 smallholder farmers from its beneficiaries. The host will also avail key personnel to work closely with the volunteer at all times to ensure translations to local languages, assist volunteer during training and demonstrations at Farmer Training Centers (FTCs), and join on-farm and household visits. HCS will also select scheduled training forms for the volunteer to conduct training for the ToT. The host will also provide the volunteer with office space and office furniture as required. In consultation with CRS, it will also facilitate hotel lodging and assist the volunteer in showing good hotel services for meals and related services. For field traveling within the assignment area, the host will provide the volunteer with transport. HCS will consult CRS if fuel cost can be covered in mode of fuel receipts, millage or any convenient ways as per the financial/administrative regulation of CRS.

1. **ANTICIPATED RESULTS FROM THE ASSIGNMENT**

As a result of the volunteer technical assistance, it is anticipated that this assignment will result in improved harvesting and post-harvest technologies during harvesting times and after harvest, which include better way of harvesting and threshing techniques, post-harvest grain and straws/stalks’ handling, grain storage management and food safety. It is also anticipated that 90 smallholders farmers and 10 key staffs (as ToTs) benefited from the training and practical technical assistance. As a result, it is anticipated that farmers will incorporate lessons learnt to improve harvest, post-harvest handling and storage of grains to minimize grain losses and deterioration in quality. Specific outputs from this assignment include but not limited to the following:

* + Improved harvesting, post-harvest handling and storage methods
  + Storage pests control and management
  + Introduction of small scale modern shelling, threshing equipment, storage construction/facilities, etc.
  + Simple guidelines on modern harvesting and post-harvest management techniques,

The anticipated deliverables by the volunteer include:

* + Initial presentation
  + Training and direct assistance conducted
  + Field report with recommendations
  + Group presentation with stakeholders at the host organization level
  + Debriefing conducted with CRS staff and USAID representative
  + Outreach events conducted in the US.

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

**SCHEDULE MUST BE NO MORE THAN 20 DAYS DUE TO CURRENT VISA ISSUES.**

| **Day** | **Activity** |
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| Days 1 | Arrival into Ethiopia, Bole international Airport. The volunteer will be picked by Sor-Amba hotel with a placard bearing “**CRS logo and volunteer name”**. |
| 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, |
| Days 3 | Local flight to Dire Dawa, the station of the host. S/he will be introduced with the host and accommodated at in a hotel or guesthouse. If time permits, general orientation with the host will be pursued. |
| 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. |
| Day 5 | * Quick field observation and assessment; * Planning to demonstrate with model staff and selected adoptive farmers, fields, equipment, etc. |
| Day 6 | * Further identify skill and training gaps; * Based on information gathered and gaps identified, enrich the prepared training materials incorporating hands-on practices * Firsthand information/data collection by volunteers as applicable |
| Day 7 | * Conduct firsthand training and presentation to staffs (CDWs, DAs and other key staffs of the host/government) * Assess and refine the quality of trainings and practical demonstrations through feedback and actual observations. |
| **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. * Assess and refine the quality of trainings and practical demonstrations through feedback and actual observations. |
| **Day 15** | **Rest day** |
| Days 16-21 | Continuation of trainings and technical assistance of Days 9-14 continue |
| **Day 22** | **Rest day** |
| Days 23-24 | Continuation of trainings and technical assistance of Days 16-21 continue |
| Day 25 | * Wrap up trainings and emphasize key concepts of assignment. * Participants evaluate the training and together with the volunteer discuss final report recommendations. |
| Day 26 | * Group presentation to the host in the presentation of CRS * Volunteer travels back to Addis Ababa (afternoon) |
| Day 27 | * 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 |
| Day 28 | Depart for USA |
| TBD | Outreach event when back in the US |

1. **DESIRABLE VOLUNTEER SKILLS**

* Qualifications in postharvest technology in grain crops are desirable.
* Good knowledge on post-harvest handling of grains (sorghum, wheat, and other grains) and storage techniques
* Wide experience in working with commercial grain farmers.
* Knowledge on the range of post-harvest handling technologies and grain pests.
* Good writing and analytical skills, interpersonal communication and presentation skills (adult education 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 Dire Dawa (main station) and in other towns during fieldworks if applicable. The accommodation details will be confirmed prior to the volunteer arrival in country. 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 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.

1. **KEY CONTACTS**

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1. *Paul Dorosh and Shahidur. 2012. “Food and Agriculture in Ethiopia.” Progress and policy challenge*  [↑](#footnote-ref-1)
2. *Report of the 2012/2013 by the Ethiopia Central Statistics Authority (CSA)*  [↑](#footnote-ref-2)
3. *Shahidur Rashid, Kindie Getnet and Solomon Lemma 2010, Maize Value Chain Potential in Ethiopia: Constraints and opportunities for enhancing the system. IFPRI* [↑](#footnote-ref-3)