

VOLUNTEER REPORT FORMAT

To be submitted to CRS at the end of volunteer assignment and shared with the Host

1.1 Assignment information

- a) Volunteer Name: **Dr. Michael Lauer**
- b) State of Origin: **Iowa**
- c) Host Organization: **Meki Catholic Secretariat (MCS)**
- d) Assignment: **Maize post-harvest handling technology**
- e) Dates of Assignment: **November 26 – December 8, 2017**
- f) Number of days worked **11**

1.2.1 Objective 1 in your SOW **Provide training on post-harvest processes including maturity indices, drying, moisture determination, storage, quality control and assurance, and control of storage pests**

- a) Progress with the objective
Trained 89 smallholders and 19 staff on principles and best practices beginning with harvest, through shelling, drying, and storage of maize grain in 3 interactive instructional settings and 3 on-farm training/demonstrations.
- b) Expected impacts/results
Expect smallholders will harvest more timely, dry grain actively, reduce damage during shelling, clean grain more effectively and store high quality grain for extended periods of time retaining quality without use of pesticides. Impact will be increased food stability for family and increased income via marketing of high quality grain
- c) Recommendations¹
 - a. **Reinforce value of training through timely follow-up (1-2 months before harvest) so famers can appropriately and advantageously plan harvest and post-harvest activities and storage**
 - b. **Identify local metal-worker to manufacture hand corn shellers for farmers**
 - c. **Construct cleaning sieve for maize in the 3 kebales**

1.2.2 Objective 2 in your SOW **Provide recommendation on simple, cost effective storage facilities that have proven to work for grain producers in other developing countries at the household level**

- a) Progress with the objective. **Training provided in the use of PICS bags. This technology provides safe, affordable long-term storage of grain without the use of pesticides**
- b) Expected impacts/results. **Eliminating use of storage pesticides, particularly aluminum phosphide, will improve home safety and health. Improved, extended, safe storage with PICS bags will preserve grain quality and avail farmers enhanced marketing opportunities and improved income.**
- c) Recommendations
 - a. **Continue storage demonstration with PICS bags following “PICS demonstration outline.” See attachment.**
 - b. **Assist and coordinate with district officials to facilitate localized distribution of PICS bags**

1.2.3 Objective 3 in your SOW **Provide basic understanding of how field infestation of insects and molds contribute to storage losses, aflatoxin development in the field and in storage, and how to minimize.**

- a) Progress with the objective. **Emphasized that highest yield and quality of maize grain is when it reaches maturity. Demonstrated maize black layer formation as indicator of**

¹ **Note:** Only make not more than 6 recommendations. The most useful recommendations for hosts are ones that they can implement themselves with minimal expense. For example, a cooperative might change its financial reporting procedures or hold more regular meetings of its board. Broad recommendations on tax or credit reform, changes in government policy, or investment in large-scale equipment, are usually not within the host organization’s reach.

maturity. Explained and encouraged harvest practices that moved maize ears directly to the home and into improved gotera for continued drying and safe storage.

- b) Expected impacts/results. **Expect some farmers will modify current practice to take this step. Result will be reduced loss to birds, mold, insects, rodents, and theft. Impact will be higher quantity, higher quality maize.**

- c) Recommendations

- a. **Assist model farmers with construction of improved gotera using plans provided. Assist construction in each of the 3 kebales where training was provided.**

1.2.4 Objective 4 in your SOW **Show how sorting can avoid grain contamination with mold, damaged grain and foreign material.**

- a) Progress with the objective **Demonstrated on-farm the need to sort moldy and damaged maize ears from healthy ears before shelling. Showed how failure to do this results in shelled grain with high levels of moldy and damaged seed**
- b) Expected impacts/results **Farmers saw the difference in quality of the shelled maize. They understand that high quality maize stores better, is safer, and can bring a market premium. They may choose to implement so they can store and market high quality grain.**
- c) Recommendations

1.2.5 Objective 5 in your SOW **Explain the relationship between grain quality standards and food safety**

- a) Progress with the objective **Gave farmers an explanation of the relationship between grain quality and storability.**
- b) Expected impacts/results **Farmers understand that moldy grain is unhealthy to consume.**
- c) Recommendations

1.3 Recommended future volunteer assignment:

After host reevaluates impact and progress from current assignment, future volunteer may need to reinforce training and appropriately provide instruction on grain marketing and farmer grain gathering points as a means of capturing more value for grain at the farmer level

1.4 Action Plan

Recommendation	Specific Action	Responsible person	By when
1. PICS demonstration	See attachment.	Sintayehu	Dec - March
2. Construct improved gotera, share plans for improved gotera	Identify 1 farmer in each kebele to build. Provide assistance. Use plans provided.	Medi and Sintayehu	July
3. Improve PICS bag access	Work with district officials to bring PICS bags to ag distributor level. Continue to promote value of bags with farmers to generate demand.	Medi and Sintayehu	January
4. Follow-up training	Visit the farmers in each the kebales (Arjo, Dannissa Bunge and Walilalti to repeat training before harvest.	Medi and Sintayehu	August
5. Arrange for skilled metal-worker to construct hand shellers for maize	Visit local metal-workers and encourage them to construct hand maize shellers based on sample and plans provided.	Medi and Sintayehu	January
6. Construct sieve for cleaning maize grain	Construct 2-person cleaning sieve using 4.5 mm mesh screen in each of the kebales for the model farmers	Medi and Sintayehu	January
7. Demonstrate provide mechanical shellers with screens for maize	Work with local operators of motorized mechanical shellers to access and install maize screens and train on adjustments to minimize damage to grain. Use model farmers to show value	Medi and Sintayehu	March / Sept

1.5 Number of people Assisted

- a) Through formal training (Classroom setup) 89
- b) Through direct hands on practical assistance (Do not double count) Most of the 89 above
- c) Out of these above, number of host staffs 0
- d) Training/assistance to Woreda Agricultural Staff 19

Category	Total	Males	Females	Category	Total	Males	Females
Smallholder farmers				Woreda Agriculture specialists			
Arjo	23	13	10	Extension head	1	1	
Dannissa Bunge	34	18	16	Agronomist	2	2	
Walilalti	32	15	17	Protectionist	1		1
				Development agents	6	6	
				Development animators	6	3	3
				Agricultural supervisors	3	3	
Total	89	46	43	Total	19	15	4

1.6 Gender

- a) What gender roles did you recognize in your host community? Did these roles play a part in your assignment? How? **Men seemed in charge of farming decisions but women were engaged participants in the discussion and presentations. The women spoke up almost as much as the men. MCS staff did an excellent job of encouraging women to attend as exhibited by the balance in gender participation in the table above.**
- b) How might CRS or the host organization improve opportunities for the women in this host or host community? **No ideas come to mind**

1.6 Value of volunteer contribution in \$

- a. Hours volunteer spent preparing for assignment:
14 hours @ \$110/hour (current compensation level) = \$1,540
- b. Estimated value of all material contributions volunteer contributed to host during assignment
\$50

1.7 Value of hosts' contribution in \$ (Please consult the host as well)

- a) Meals \$0
- b) Transportation \$260
- c) Lodging \$0
- d) Translation \$100
- e) Other (Specify)

1.8 Host Profile Data:

Did you obtain any data that supplements or corrects the data in the existing host information as detailed in the SOW? Please list it.

No

1.9 Recommendations for CRS: **Was suggested that CRS deliver PICS bags to agro-dealers at local level. Agro-dealers would deliver bags to farmers and teach how to use. Farmers link back to agro-dealer for advice and additional PICS bags as needed. Creates linkage and sustainable system.**

1.10 Press Release

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FOR IMMEDIATE RELEASE

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[US City] Farmer [Researcher, etc] Works with Counterparts in [Country]

Farmer-to-Farmer program promotes economic growth and agricultural development in East Africa

[DATELINE: City, State, Month, Day, 2016]--- **[Name]**, a **[title]** from **[city, state]** who is a **[add your title, or area of expertise]** travelled to **[country]** for **[x]** weeks to share **his/her** technical skills and expertise with local farmers. **[Name]**'s assignment is part of Catholic Relief Services' Farmer-to-Farmer program that promotes economic growth, enhanced nutrition through access to healthy food, and agricultural development in East Africa.

"[Volunteer quote]," said **[name]**. *[Quote should tell why you were there and how you spent your time, what you were trying to accomplish and how your visit made a difference. Quotes that are short (2 sentences) and paint a picture are strongest.]*

Farmer-to-Farmer matches the technical expertise of U.S. farmers and professionals in agribusinesses, farming cooperatives, and universities with farmers in developing countries to assist them in improving agricultural productivity, accessing new markets, and increasing their incomes. Farmer-to-Farmer is funded by the U.S. Agency for International Development (USAID).

In a world where 80% of food is produced by farmers working on small farms or fisheries, the movement to share proven farming and business skills can improve the quality and quantity of the world's food supply. For communities in the developing world who often struggle to produce enough food, this can improve access to a reliable source of food and better nutrition. For the farmers, it can strengthen their path to prosperity.

The goal of **[name's]** assignment was to **[__describe goal__]**. He/she worked with **[# of and type of beneficiaries]** who **[describe situation/challenge/opportunity]**. Most of **[name's]** time was spent in the **[describe the location/part of the country]** working with **[name the partner]**. **[Optional Statement: What impact do you think your work will have?]**

This is **[name's]** (first, second, third, etc.) volunteer assignment with Farmer-to-Farmer and is one of nearly 500 assignments that focus on improving approaches to local agriculture practices, expanding production of quality food crops and nutrition in Ethiopia, Tanzania, Kenya



and Uganda. The program, funded by the U.S. government has been running for nearly 30 years.

CRS is partnering with five U.S. institutions to tap into the rich diversity of the U.S. agriculture community: the National Catholic Rural Life Conference, Foods Resource Bank, National Association of Agricultural Educators, American Agri-Women, and the University of Illinois' College of Agricultural, Consumer and Environmental Sciences.

The volunteers travel to East Africa for anywhere from one to six weeks.

"We are certain that this program will be beneficial not just to the farmers in East Africa but also to the volunteers from America," said Bruce White, CRS' director for the program. "It's going to make the world a little bit smaller and a whole lot better for everyone involved."

For more information, visit farmertofarmer.crs.org

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***Catholic Relief Services** is the official international humanitarian agency of the Catholic community in the United States. The agency alleviates suffering and provides assistance to people in need in more than 100 countries, without regard to race, religion or nationality. CRS' relief and development work is accomplished through programs of emergency response, HIV, health, agriculture, education, microfinance and peacebuilding. For more information, visit www.crs.org or www.crsespanol.org and follow Catholic Relief Services on social media: [Facebook](#), Twitter at [@CatholicRelief](#), [@CRSnews](#) and [@CRSnoticias](#), [Instagram](#), [Pinterest](#) and [YouTube](#).*



Attachment 1:

PICS bag Demonstration outline

Purpose: Demonstrate benefit of PICS bag for effective, chemical-free, long-term storage of grains in Ethiopia

Farmer selection:

- Select a smallholder who plans to store at least 2 quintals of maize in open-weave poly bags for 3 months or more
- Farmer should not be planning to use insecticides. But if (s)he does ensure insecticides are properly used.
- Farmer should be respected by other farmers and willing to share his/her experience with other farmers
- Find 1-2 such farmers in each of the 3 kebales to build a reasonable dataset

Grain preparation: Grain should be clean (sieved and winnowed) and dry (less than 13.5% moisture). Inspect grain for cleanliness and test moisture to ensure it is < 13.5%.

Storage preparation: Farmer should have storage facility prepared that protects stored grain from rain, rats, sunlight and direct heat. Bags must be elevated off the soil and should not be in contact with structure walls.

Procedure:

- Explain procedure to farmer. Ensure his/her complete agreement. Farmer must be willing follow procedure and share experience with neighbors.
- Sample about 200 grams grain prepped for storage. Sort insect damaged, mold damaged, foreign material and quality grain. Weigh each fraction to 0.0 gram accuracy. Samples must be sorted within a week of sampling to benchmark quality of grain load into bags.
- Fill the PICS bag and the poly bag with 100 kg clean, dry grain.
- Place in farmer's store.
- Check with farmer periodically to make sure store is safe.
- At 3 months return and sample grain from each bag. Collect a 200 gram sample from each bag. Sort insect damaged, mold damaged, foreign material and quality grain. Weigh each fraction to 0.0 gram accuracy. Samples must be sorted within a week of sampling to ensure insect deterioration does not advance.
- Compare change in insect damage pre- and post-storage in PICS versus poly bags.
- Report and share with other farmers.

Expectation is that insect damage in PICS bags will not increase significantly from initial level and that poly-weave bag will show significant increase in insect damage (note: would expect only slight increase in insect damage if insecticide is used with poly bag). Mold should not increase in either bag.

May extend storage for 3 additional months for more dramatic effects.

This demonstration will show the value and effectiveness of this insecticide-free method of storage in retaining quality of grain for extended periods of time. Preservation of high quality grain will open marketing opportunities that may further enhance smallholder income and stability.



Attachment 2

Books donated to host:

Plant pathology, Agrios

Experimental design, Cochran and Cox

Books donated to CRS for distribution to universities and other host orgs at CRS discretion:

Breeding field crops, Poehlman

Invitation to biology, Curtis and Barnes

Biochemistry and molecular biology of plants, Buchanan, Gruissem and Jones

Anatomy of seed plants, Esau

The nature and properties of soils, Brady

Transport in plants, Luttge and Higgenbottom

Biochemistry and physiology of plant hormones, Moore

Introduction to plant biochemistry, Goodwin and Mercer

Principles and procedures of statistics, Steel and Torrie

Plant physiology, Taiz and Zieger

Entomology and pest management, Pedigo

Recombinant DNA, Watson, Gilman, Witkowski, and Zoller

Cellular and molecular biology of seed development, Larkins and Vasil

The structure and reproduction of corn, Kiesselbach

Corn and corn improvement, ASA monograph, ed., Sprague