

Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss (PHLIL)

Newsletter – September 29, 2022

Title: PHLIL Greetings on International Day of Awareness of Food Loss and Waste

On this International Day of Awareness of Food Loss and Waste, we wanted to share highlights from our recent activities to curb this challenge in the field. As PHLIL continues through its ninth year, several of the innovations our in-country, US and other international collaborators have validated are being locally produced and scaled with inclusive impacts.

Headlines:

- PHLIL engages Sesi Technologies to enhance postharvest technologies to 65,000 ZeroFly Hermetic bags and GrainMate moisture meters in rural Ghana
- PHLIL Bangladesh continues research on the Arc'teryx Tent dryer
- PHLIL-Ethiopia graduate research students transition to Makerere University in Uganda to complete their PhD research
- PHLIL launches the Mycotoxins research lab at LUANAR
- Food Loss and Waste podcast – Dr. Jagger Harvey contributes to the podcast on Food Loss and Waste with USAID's Bureau of Resilience and Food Security
- PHLIL hires K-State's PhD student: Bolanle Adijat Atilola (Khadijah)
- PHLIL promotes Mamadou Thiam to Project Assistant Director

Text:

Ghana:

As part of the year 9 effort to reach smallholder farmers and end users at scale, PHLIL is collaborating with Sesi Technologies to scale best practices and technologies around drying, moisture measurement and storage. As part of this effort, Sesi Technologies is forming a youth RESCUE (RESilience CULTivating Envoy) team to help with extension and intervention sales with end users. PHLIL KSU team member Mamadou Thiam traveled to Kumasi, Ghana to work with the Sesi Technologies management team to formulate a strategy to identify dynamic youth and women as agents, and also identify local storekeepers to participate in the distribution system as points of sale and rural distributors.



Emmanuel Kyei (left) demonstrates the GrainMate moisture meter to a poultry farmer in Ghana - Phone 2022

PHLIL has procured 65,000 ZeroFly Hermetic bags from both BagCo of Nigeria and Vestergaard from Vietnam to support this scaling plan. Sesi Technologies will continue to produce the GrainMate moisture meter at their facility in Kumasi and make them available to the free market with the goal to reach every grain producer in the northern region and poultry farmers throughout the country.

To help ensure scaling sustainability, PHLIL will work with ACDI/VOCA's Market System and Resilience (MSR) project to scale these interventions in the Feed the Future Zone of Influence. Initially supported by PHLIL, the plan is for Sesi Technologies to supply technologies to and support the MSR project to reduce post-harvest losses with their target beneficiaries.

Bangladesh:

PHLIL Bangladesh and BAU have been very successful in introducing and scaling the BAU-STR dryer with LPG and rice briquette and a 12-ton capacity dryer to support to the local production of paddy rice.

“BAU-STR dryer has solved the paddy drying problem of farmers. Now, a woman can dry 500 kg of paddy within 4-5 hours at a cost of USD 4.7-5.9 using BAU-STR dryer irrespective of weather conditions, whereas, it requires USD 10.6-18.8 for sun drying the same quantity with 2 laborers in a minimum of 2 days. The dryer also reduces the sun drying loss of paddy from about 2.4% to 0.5%.” said Dr. Alam. More than 230 BAU-STR Dryer have been made and sold in Bangladesh to date.



BAU-STR Dryer-Rice Briquette being demonstrated by farmers

PHLIL is adapting a tent dryer developed by Arc'teryx, a Canadian mountaineering equipment company, for drying of nutrient-dense perishables. The BAU team has drafted a target product profile and identified candidate crops like chili for which solar drying could be improved. PHLIL-Bangladesh hosted US-based team members Mike Friend (dryer development consultant) and Dr. Tricia Jenkins of (KSU) Kansas State University to pilot the Arc'teryx dryer at the Bangladesh Agricultural University. Their work focused on dryer installation, drying protocol adaptation, testing and data collection.



From left to right: Mike Friend, Dr. Saha, Dr. Tricia Jenkins along with BAU students examine the installation and drying process of the newly installed Arc'teryx dryer at the Bangladesh University of Agriculture - Photo, May 2022



Chili peppers drying under the Arc'teryx Tent Dryer at the Bangladesh Agriculture University - Photo, May 2022

Ethiopia:



From left to right: Samuel (Sami) Alemayehu, Dr. Richard Edema and Muez Berhe shortly after their arrival at Makerere University in Uganda.

Following the onset of violence in Tigray in 2020, PHLIL graduate students and faculty members at Mekelle University were displaced. Two of these are PhD students who were close to finishing their degrees: Samuel Alemayehu and Muez Berhe. After a long and indescribably challenging road for the students, Makerere University in Uganda is now hosting them through to completion of their degrees, with continued PHLIL sponsorship. They arrived earlier this month, thanks to the leadership and facilitation of Dr. Fetien Abay (former Mekelle University President, and PHLIL Ethiopia in-country lead) and Dr. Richard Edema (Director, Makerere University Regional Center for Crop Improvement). Dr. Abay travelled from her current home in California to Sudan, to arrange Muez's release from a refugee camp where he had been for 20 months. Sami and Muez are both happily settling in and reporting a very warm welcome from the university and colleagues. We look forward to the impacts they will continue having on African food security throughout their careers!

Malawi:



From left to right: Professor Limbikani Matumba and a research student at the launch of their newly renovated mycotoxins research lab at LUANAR - Phone July 2022

PHLIL team members have been working under the Nascent Solutions' USDA-FAS McGovern-Dole School Feeding and Child Nutrition Program. Our in-country lead, Lilongwe University of Agriculture and Natural Resources (LUANAR), launched the "McGovern-Dole Mycotoxin Laboratory" at their university on August 1.

Drs. Jagger Harvey and John Leslie from KSU traveled to support preparations for the lab launch, led by in-country partner Dr. Limbikani Matumba of LUANAR. The event received national coverage as a state-of-the-art facility to conduct research, promote education and prepare extension material to support local and regional farmers. The lab is equipped with multiple sample processing and mycotoxin diagnostic platforms, for research across a range of crops and foods.

The music group Symon and Kendall, which is very popular with farmers and others in Malawi, debuted a song that highlights the importance of postharvest

practices such as hermetic bags; this collaboration is indicative of the innovative outreach strategy being undertaken by the project team.

Dr. Leslie also led workshops on development of a national post-harvest extension manual, scientific writing and research ethics.



Newly installed lab equipment at the LUANAR mycotoxins research lab, Lilongwe, Malawi. Photo 2022

USAID Food Loss and Waste Podcast. Episode 2: Reducing Post-Harvest Losses with Jagger Harvey:

Dr. Jagger Harvey, Director of Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss answers questions about global Food Loss and Waste, climate change and resilience on the podcast with the USAID's Bureau of Resilience and food Security – [Click here](#) to listen for the full interview.

New hire:



PHLIL is happy to introduce Ms. Bolanle Adijat Atilola (Khadijah) of the K-State College of Agriculture, department of Agriculture Economy. Ms. Atilola is a doctoral student at Kansas State University's department of agricultural economics. She is originally from Ibadan, Oyo state, in the southwest region of Nigeria. Ms. Adijat's dissertation is on the assessment of how conflict affects the nutritional and health outcomes of children in Nigeria. In addition, the study examines how farm households' coping strategies contribute to their resilience to conflicts. With PHLIL, Adijat's contribution will be instrumental in data management, administrative task support and annual reporting.

Promotion:

PHLIL hired Mamadou Thiam in August 2021 as a Program Coordinator to support the Management Entity with administrative and organizational tasks. With his background in international development, having held positions of Chief Of Party for the Horticulture Innovation Lab's Buy-In Youth-Led Horticulture Training and Service Center in Guinea, and his experience as Farmer-To-Farmer Assistant Country Director under the Winrock International Guinea Program; Mamadou has ascended to Assistant Director of PHLIL during their scaling phase. He will continue in this role to bolster the program's efforts to scale innovations, develop extension material and help in-country partners develop resilient market systems for its post-harvest mitigation technologies. Both Mamadou's contributions are important to supporting PHLIL partners as they address post-harvest issues at scale, and increase resilience within vulnerable communities around the world.

