Safe Vegetable Value Chains in Cambodia

HORTICULTURE INNOVATION LAB

Farmer field sites in three villages including ~600 farming households

Our team negotiated with leaders in three villages to establish agreements with farmers who now participate in our project, field trials, field demonstrations, and farmer field schools to examine the adaptability and adoptability of horticulture technologies including CoolBot, nethouses and composting.

Our team provided technical support to a farming community to design a collection center and packinghouse and leverage USAID funding

Partnering with the Cambodian government, private sector partners and a farmer cooperative, we co-invested in a collection center and packinghouse facility that includes a retail shop and cold room powered by the Horticulture Innovation Lab technology CoolBot.

CoolBot technology being tested on farm and in markets

To determine how cold chain can be established for the first time and sustained in Cambodia long-term, our team is testing how the cold chain, powered by CoolBot functions at different points in the value chain.

New farmer's association established as a way to introduce new horticulture technologies into a community-led framework

Tarsey Samaki Farmer's Association, established September 1, 2017, is the first of multiple cooperatives planned for Battambang Province. Tarsey Samaki is a cooperation including >165 farming families.

TRAINING UNIVERSITY STUDENTS COUNTRY-WIDE

Training Students Country-Wide - Chea Sim Komchay Mea University

Conducted training for 36 students and faculty to increase knowledge about vegetable production, the definition of safe and organic vegetables, and the advantages of integrated pest management techniques as alternatives to chemical pesticides.

Training Students Country-wide - University of Built Bright

Field study for Professor Ly Visoth and 24 students of Agricultural Economics from Build Bright University to train students about:

- History of vegetable value chains in Cambodia
- Safe vegetable production
- Comparison of vegetables produced inside and outside nethouses
- Pest management practices
- Making compost
- Marketing
- Learning from farmer's experience

Undersecretary of State Visits and Commits Government Support to Our Project Site

Undersecretary of State, H.E. San Vanty, visited our project site and committed:

- Funding to support a retail store at the collection center / packinghouse
- Support from Cambodian government to register Tarsey Samaki Farmer Cooperative

SUCCESS STORIES

Collaboration leads to expansion of horticulture technologies and increased training opportunities for Cambodians

In the first year of this project, our international team of researchers has formed multiple partnerships that have resulted in expansion of field testing of horticulture technologies to additional provinces. Additionally, the project team has been the driving force behind newly emerging cooperative agreements among multiple development partners and the provincial government to develop a packinghouse and producer's association that will supply new safe vegetable markets, thereby expanding the safe vegetable value chain in Battambang Province.

Collaborations have also lead to additional training opportunities for Cambodians. For the first year of this project, we expected to offer degree-granting training to 6 individuals, however, we were able to offer opportunities for 11 individuals to work in our project. This was possible because we worked with students to garner additional funding from outside sources to support their research within our project. Furthermore, we expected to have 3 short-term in-country trainings for farmers and other value chain actors. However, we identified multiple opportunities to collaborate with other organizations to offer additional trainings (21 total) for not only farmers and other value chain actors but also university students from other regions of Cambodia, government officers from multiple countries, and international training for our staff and interns. The annual reports we prepared were quite extensive and within them are more details about these activities.

It is noteworthy to point out that we accomplished and exceeded the expected year 1 activities on a project budget of only $120,000. These USAID funds were leveraged through our cooperation with other organizations that have funded directly transportation, accommodation, meals, instructional materials, instructors, research materials, and other costs. Through cooperation, we are having a significant impact on the horticulture sector in Cambodia.

Leveraging USAID funds to scale up use of horticulture technologies in multiple regions of Cambodia

Our team's efforts are leveraging USAID funding to help spread the use of nethouses throughout the country.

Our previous project (the HARE-Network Project that ended in 2014) was the first to introduce nethouses and work with Cambodian farmers to understand how they can best function in Cambodia. After the HARE-Network project funding ended, our team continued to promote nethouses and support our private sector and producer partners. Our current project, Safe Vegetable Value Chains in Cambodia, began at the end of 2016 and has scaled up to introduce nethouses in different provinces. While our project is no longer directly active in Kandal, the previous activity of our team was sustained within the community itself, which has caught the attention of other organizations, including an NGO that is now funding a project to scale up use of nethouses in Kandal.

Other organizations now show a great deal of interest in nethouses and many have started to promote this Horticulture Innovation Lab technology in various forms. Our team recently partnered with the General Department of Agriculture (GDA) and another NGO to garner financial support and conduct additional field trials using nets. The results of the experiments will be published in the conference proceedings of an upcoming international conference in Myanmar. The NGO partnership is resulting in installation and additional field tests of nethouses in another non-Feed the Future province.

While our project funding is limited to one Feed the Future province in Cambodia, our team's efforts and long-standing expertise and reputation using nethouses in Cambodia has spread their use to multiple regions of the country.

FARMER TRAINING

Vegetable Safety and Alternative Marketing Strategies Training for farmers in Alongrun Village

To address the overusage of chemical inputs by 193 households in this village, our team conducted a training to introduce farmers to alternative agricultural practices that can reduce chemical usage. The team also introduced farmers to alternative marketing strategies for safe vegetables.

Additional trainings conducted for 116 farmers.

FAST FACTS – YEAR 1

448

Households Benefitting

21

Short-term Trainings

6

Organizational Development Assistance Partnerships

11

Degree-granting Training

Impact throughout the Region

Dissemination to other Development Partners, the private sector and farmers in regions outside the Zone of Influence

Field study tour for Deutsche Gosellschaft fur International Zusammenarbelt (GIZ) Officers, Provincial Department of Agriculture, Angkor Green Company and farmers from Bantay Meanchey Province about vegetable production, pest management, crop production inside nethouses, marketing, and producer association development.

Additional funding to scale dissemination of nethouses to a province outside the Zone of Influence

Partnership with International Volunteer Youth (IVY) and University of Svay Reing to expand testing and dissemination of nethouses to southeastern Cambodia.

U.S. Ambassador and Cambodian Minister of Agriculture award USAID Master's Degree scholarship to our team

Karen LeGrand will mentor Royal University of Agriculture Master's student to conduct her thesis research as part of our project. Her project is titled: *Development of Cold-Chain to Decrease Postharvest Loss and Enhance Quality and Safety of Vegetables in Domestic Market*.

Discussions are underway for collaboration with the Horticulture Innovation Lab Regional Center, Kasetsart University and the Sustainable Intensification Lab,.

Project Team Introduces Horticulture Innovation Lab Technologies to Bangladesh Ministry Leaders

Our project hosted a team from the Ministry of Agriculture and the Ministry of Planning in **Bangladesh** to share information about Horticulture Innovation Lab technologies that have been successful in Cambodia. Participants learned about and discussed the potential for nethouses, composting and CoolBot technology to be used in Bangladesh to decrease chemical usage, improve quality, increase shelf-life and reduce postharvest losses.

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