

Feed the Future: Innovation Lab for Integrated Pest Management Trip Report

Country(s) Visited: Cambodia
Dates of Travel: May 28 – 30 2018
Travelers' Names and Affiliations: John Cardina, Ohio State University
Purpose of Trip: Attend the joint meeting of the Technical Advisory Committee and Program Coordinating Committee
Sites Visited: Phnom Penh, RUA and Prey Veang, Cambodia

Description of Activities/Observations:

Monday May 28, 2018:

IPM Innovation Lab TAC Meeting Minutes

Day 1: May 28, 2018

Muniappan welcomed all to the meeting in Cambodia. The World Vegetable Center was represented by Dr. Pepijn Schreinemachers. Other attendees: John Bowman, Wondi Mersie, Tadele Tefera, George Norton, Nguyen Van Hoa, Pramod Kumar Jha, Abhijin Adiga (in Blacksburg) Dr. Theng (Cambodia Mission representative), and other Cambodia project collaborators.

Muni reviewed activities since the last meeting:

Lack of available funds from USAID.

City University of New York and CABI projects were terminated.

New project in Nepal has initiated by Dr. Pramod Jha.

Three webinars were conducted (Neem, Trichoderma, Tuta); three PERSUAPS approved.

\$50,000 from VP of International Affairs at VT for impact assessment on Trichoderma and coconut pith in Bangladesh, India, and Nepal.

Plans for next 12 months:

Develop IPM packages for vegetables, fruit, rice, maize, and chickpea.

Study biodiversity in Nepal.

Symposia, webinars, specialized training, PERSUAP submissions.

Presentations by Project PIs

Abhijin Adiga (via video-link): Invasive Species Modeling

Explanation of multi-network agent-based model. How to integrate with a physiologically based demographic model with human mediated dispersal. Economic impact model is complete. Estimates require accurate data on spread, damage, and costs. Preliminary version of the model was applied in Nepal; results show a non-radial pattern of spread, corresponding to domestic trade and seasonal production. The SE Asia study covers several countries. Key challenge is lack of reliable data. Studying temperature and photoperiod response for fecundity, developmental time etc. In Africa, low genetic diversity for leaf miner in Senegal. Also found in soybean fields. Few specimens in Malawi and South Africa.

Pramod, Jha, Modeling for Climate Change and Biodiversity

The project has five PhD students and 12 MS students. Each is introduced with photo and project goals. Six dissertations completed and several papers published.

Temperature dynamics in CHAL area vary with elevation. He is adding satellite images for invasive species. The idea is to map changes in invasive species from 1990 to 2017 with respect to climate changes.

Report by AOR, John Bowman:

He is considering the priorities for the Lab in the final year of the phase and directions for the next five years.

Funding: “incremental delay.” Can’t get funds to Cambodia or Ethiopia because of Congress. BIFAD is restructuring, so lines of supervision are unclear. Agriculture research under scrutiny. There will be four new centers of excellence; fate of IPM Innovation Lab is unclear; probably in the agricultural productivity center.

Future direction: IPM IL in relation to systems agronomy rather than packages and individual technologies or inputs.

IPM needs to link to nutrition, diet diversity and micro nutrient delivery. Example is indigenous crops in Asia and Africa.

Need work on IPM delivery instead of conventional delivery of IPM (maybe What’s App or other social media?).

Youth engagement connection to food security; belief that this will connect to high-tech thinking.

New name: Bureau for Resilience and Food Security. A resilience team will operate at level of importance; should be good for IPM.

IPM and biological control connection to resiliency of food production. Consider biocontrol relation to resiliency for smallholders to adjust to shocks to system.

Service to missions is back in favor. Different centers should better serve missions.

Collaboration with other labs and agencies and the US private sector. Hard to show what IPM IL has done for private sector. IPM IL needs specific indicators for impact analysis.

Other needs: Connect IPM to rural and urban youth; Track early adoption and diffusion of technologies.

Project extension: difficult.

There are now 12 priority countries, but this is not clear; no project shut-down in non-priority countries.

Van Crowder Presentation:

CIREG goals at VT. Current portfolio of \$70 million, including IPM Innovation Lab as well as projects in Senegal, Armenia and Afghanistan.

Continue with PI Presentations:

Tadele Tefera, Rice, Maize, Chickpea IPM for East Africa

He is testing biopesticides and botanicals for rice blast as well as Trichoderma and Bacillus. Termite management trails at Bako include mulching and manuring; also evaluating effects of intercropping. Push-pull demonstrations for stem borers in Hawassa. Thirty farmers in Tanzania using push-pull system.

John Cardina, Vegetable Crops IPM in East Africa

A revised plan was presented to “breathe new life” into the project, including redirection of funds.

Wondi Mersie, Biological Control of the Invasive Weed Parthenium in East Africa

Parthenium still a major pest in Ethiopia and Africa in general. Three rearing sites were described for biocontrol agents, done by locally trained people. New release site is in the south. Effort to evaluate new Parthenium biocontrol agents and get permits for release in Kenya and Uganda.

George Norton, Vegetable Crops and Mango IPM in Asia

Activities at RUA is done by students. They are conducting a long-bean package trial. For Bangladesh the focus is mango fruit fly and mango hopper. They have an IPM package for bitter melon and are evaluating resistant rootstock, monitoring of Tuta, testing IPM for white mold, tested performance of IPM and non-IPM for eggplant. In Nepal they are evaluating lures for fruit flies and IPM packages for chili, onion, French beans and eggplant. Anaerobic disinfection work focuses on carbon sources. Dissemination activities: Nepal uses a "Last mile supply chain" approach for rural collection centers, where over 3K farmers are trained. Cambodia had an IPM farmer field day in Siem Reap. Bangladesh has good interaction with NGOs, 750 farmers trained.

Buyung Hadi, Ecologically-based Participatory Packages for Rice in Cambodia

For weeds, they use land preparation row seeding by a drum seeder, low seed rate, use of certified seeds, paddy seed sample contamination. Reused seeds were contaminated with weed seeds, including 34 species in farmer's saved seeds. Sieving separates most weed seeds from paddy rice. Trichoderma and host plant resistance are used for rice blast. Rodent management was critical and increased yield. Studies are seeking the barriers for women to attend trainings.

Nguyen Van Hoa, IPM for Exportable Fruit Crops in Vietnam

Biorational IPM technologies were described. Focus is on local registration and market requirements. Natural enemies on demonstration models, applications of beneficial organisms and botanical pesticide on control pests. For mango: 2 IPM demonstrations have been finished and fruit bagging/sleeving has had major success. Lychee pests are being controlled, provided facilities for these models applying IPM and VietGAP standard, bagging is good for control of fruit flies, technology transfer and extension.

Day 2: May 29, 2018

General Discussion about Day 1

Muniappan reviewed information on calendar for submitting reports.

Discussion continued with questions for various speakers from Day 1. Considerable discussion about information transfer and mapping of information networks. John Bowman confirmed the interest of missions with diagnostic services. He asked if this is something to include in the next project.

PI Meeting

George Norton led a discussion. Topics included: project extension potential and timing of notification as well as budget availability. We were told that the renewal might or might not include IPM; it might or might not be competitive. Some countries currently in the project could be dropped; others added. The current trend is not to do a no cost extension. The new youth engagement requirement was questioned. Does it mean youth engagement, or gender? There are many dimensions to youth. A priority is on finishing up students just in case there is a no cost extension. End-of-project survey similar to baseline.

We discussed the upcoming edition of Crop Protection. Data must be in open access, a federal requirement. We discussed the difference between research and engagement; there is also interest in job creation and entrepreneurship. We discussed problem with lack of regular predictable availability of funds

Lawrence Datnoff Presented TAC Meeting Notes

Lawrence reminds the group that only one and a half years is left so focus is necessary. He summarized critical comments for all projects.

George Norton Presented PCC Meeting Results

John Bowman, AOR Remarks

Brainstorming session on future of IPM IL project ideas. He emphasized the need to work with value chain projects. Possible center of excellence in West Africa where IPM could engage. We engaged in a wide-ranging discussion including subjects such as: invasive species, specific IPM technologies, resistance, farmer vulnerability, risk reduction, toxic chemical reduction, resilience ties to IPM, farmers scale, smallholder vs meso scale, and engagement of private sector.

Van Crowder, Closing Remarks

Day 3: May 30, 2018

The group visits RUA and Prey Veng.

Suggestions, Recommendations, and/or Follow-up Items:

The meeting was very far away. More use of video-linkage, such as was done with two PIs at VT, should be considered as a way to save time and money. The time was brief and the level of absorption of information was uncertain. PIs need positive feedback so they know what they are doing well, and what others are doing well.

Our project will focus more on selling the good results we have obtained. Our plant health network meta data will be analyzed to determine usefulness, and to demonstrate the value of the connections and community rather than the overemphasis on correctness of diagnosis.