

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

*Within 15 days following the completion of each international trip, travelers must submit a trip report to the PI who then approves and transmits the report to the ME. If several individuals are traveling together, a single report representing the group will suffice. The suggested format is provided below. Please cover accomplishments and critical issues encountered, but be concise. You can always add annexes if you feel it necessary. After review, these reports will be posted by the ME on the Feed the Future: Innovation Lab for Integrated Pest Management web site.*

**Country(s) Visited:** USA

**Dates of Travel:** July 5-10, 2016

**Travelers' Names and Affiliations:** Srinivasan Ramasamy, World Vegetable Center, Tainan, Taiwan

**Purpose of Trip:** To attend the IPM Innovation Lab Joint Meeting of the Technical Advisory Committee and Project PIs

**Sites Visited:** Virginia Tech

### Description of Activities/Observations:

Listened to the presentations made on all ongoing projects funded by IPM Innovation Lab and offered suggestions.

### Training Activities Conducted:

Program type (workshop, seminar, field day, short course, etc.)	Date	Audience	Number of Participants		Training Provider (US university, host country institution, etc.)	Training Objective
			Men	Women		

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

[List any suggestions, recommendations, and/or follow-up items you may have.]

### Comments on various projects funded by IPM Innovation Lab

**Project:** Vegetable and mango IPM in Asia

The team has extensive experience in both Bangladesh and Nepal. However, Cambodia is a new addition in this phase of IPM IL, and the lead organization is iDE. Hence, General Directorate of Agriculture, and Royal University of Agriculture may be included for relevant activities. In general, it is suggested that appropriate public sector partners are brought into the collaboration for effective implementation in all the countries. More short-term training programs on pest and disease diagnosis (not just virus diagnosis, as mentioned in the presentation) should be organized in all the countries. There are several ongoing programs related to IPM in the region. For instance, BMZ/GIZ's ASEAN Sustainable Agrifood Systems (SAS) and CABI's PlantWise programs are being implemented in the region. The IPM IL project can have strategic partnerships with these programs to create more impacts in the target countries.

**Project:** Biodiversity and climate change assessment for IPM in the Chitwan-Annapurna hills in Nepal

This project has interesting research objectives. It is suggested that appropriate monitoring and evaluation mechanism(s) are in place to achieve the research tasks fully. This project, probably, has the maximum number of graduate students. The project leader(s) should ensure not only completion of students' research projects, but also their timely publication in peer-reviewed journals.

**Project:** IPM for exportable fruit crops in Vietnam

The lead organization, Southern Horticultural Research Institute – SOFRI, may need more guidance from the IPM IL Management. The situational analysis on pests of target fruits crops can be kept as a minor activity, since these details have already been established. More emphasis has to be given on Research & Development of new bio-rational IPM technologies. It was not clear to what extent isolation of beneficial microbes will contribute to this project. Probably, SOFRI needs to identify and work with appropriate partners, if they intend to work on the local beneficial microbes. They should also consider most effective IPM technologies instead of onion and garlic extracts (e.g., Longan eriophyid management). Since the target crops are exportable fruits, the growers do not mind investing more on effective IPM technologies (e.g., protein baits from brewery yeast waste). SOFRI has more R&D experience in high-end technologies, as it was working on similar IPM technologies almost two decades ago in projects funded by ACIAR. Hence, they can focus more on sustainable IPM technologies for exportable fruit crops.

**Project:** Ecologically-based participatory IPM packages for rice in Cambodia

This project has well-planned activities. It also involves appropriate collaborators in Cambodia. It is suggested to conduct more participatory IPM trials. Also, effective technology dissemination strategies should be adopted to drive home the novel rice IPM technologies.

**Project:** Biological control of *Parthenium hysterophorus* in East Africa

This project is a continuation of the project(s) in earlier phase(s) of IPM IL. I am not sure whether any evaluation has been carried out in the past on the performance of this project. If not, I suggest that IPM IL may consider evaluating the impacts (if no impacts, at least on the intermediate outcomes) of this project. The training programs have to be designed in such a way that the capacity of the local staff will be enhanced to ensure the sustainability of the project outputs / outcomes for larger impacts.

**Project:** Rice, maize and chickpea IPM for East Africa

This project also has well-planned activities. Besides push-pull, other IPM technologies can also be scaled out to extension agents and farmers through participatory IPM trials, and other dissemination strategies.

**Project:** East Africa (Kenya, Tanzania & Ethiopia) vegetable IPM

Key constraints such as Irish Yellow Spot Virus (onion), bacterial wilt (tomato) and Bagrada bugs & turnip mosaic virus (brassicas) were surprisingly not listed in the priority list of pests and diseases. Although Kenya Agricultural and Livestock Research Organization (for instance), the predecessor of KARI is a partner in Kenya, this project failed to capture the key constraints in the target crops. Hence, it is suggested to review the existing R&D works on target vegetable crops in the region, and work with all possible collaborators (both public & private sectors) in the region. Also, link the seedling production workshop with the commercial seedling production in target countries.

**Project:** Invasive species modeling for South American tomato leaf miner and groundnut leaf miner

Groundnut leaf miner (*Aproaerema modicella*), native to Asia is recently reported in Africa. *coxI* analysis found that the African population is related to *A. simplexella*, which is found in Australia, according to a study from South Africa, which has several flaws including sole reliance of the maternally inherited *coxI* gene, lack of reference sequences of *A. modicella*, inappropriate outgroup (*Helicoverpa armigera*) and lack of morphological comparison between *A. modicella* and *A. simplexella*. Since this project also considers comparing *Aproaerema* populations based on *coxI* gene, I suggest using additional, nuclear genes / regions such as ITS2. Also compare the adult populations based on morphological characters.

**List of Contacts Made:**

Name	Title/Organization	Contact Info (address, phone, email)