Feed the Future Innovation Lab for Integrated Pest Management Trip Report

Countries Visited: Cambodia and Vietnam

Dates of Travel: May 25-June 4

Travelers' Names and Affiliations: Sara Hendery and Muni Muniappan

Purpose of Trip: TAC Meeting and Review of Activities

Sites Visited: Prey Veng (Thom Village), RUA, CE SAIN Tech Park, SOFRI, GlobalGAP+IPM model at My Tinh An dragon fruit cooperative, GlobalGAP+IPM model at Long Tri dragon fruit cooperative, GlobalGAP+IPM model at Tan Thuan Tay mango cooperative, GlobalGAP+IPM longan model at Cai Lay-Tien Giang province.

Description of Activities/Observations:

Day 1:

Day and Time	Activity	Responsible People
Day 1: Monday, May 28		
8.30 – 9.00 am	Registration	
9.00 – 9.30 am	Welcome, introduction, and review of the year	R. Muniappan, IPM IL
9.30 – 10.00 am	Project presentation: Invasive Species Modeling for South American Tomato Leafminer and Groundnut Leafminer	Abhijin Adiga, Biocomplexity Institute (Skype/Zoom)
10.00 – 10.30 am	Project presentation: Modeling for Climate Change and Biodiversity	Pramod Jha, Tribhuvan University, Nepal Madhav Marathe, Biocomplexity Institute (Skype/Zoom)
10:30 – 11:15 am	Tea/coffee break and group photo	
11.15 – 11.30 am	Welcome and AOR remarks	John Bowman, USAID
11.30 – 11.45 am	Welcoming Remarks from the Cambodia Mission	Sang Lee, Cambodia Mission
11.45 – 12.00 pm	Virginia Tech and the IPM Innovation Lab	Van Crowder, Virginia Tech
12.00 – 1.00 pm	**Lunch**	
1.00 – 1.30 pm	Administrative Information	R. Muniappan, Amer Fayad, Sara Hendery
1.30 – 2.00 pm	Project presentation: Rice, Maize, and Chickpea IPM for East Africa	Tadele Tefera, *icipe*
2.00 – 2.30 pm	Project presentation: Vegetable Crops IPM in East Africa	John Cardina, OSU

2.30 – 3.00 pm	Project presentation: Biological Control of the Invasive Weed *Parthenium hysterophorus* in East Africa	Wondi Mersie, VSU
3.00 – 3.30 pm	Project presentation: Vegetable Crops and Mango IPM in Asia	George Norton, Virginia Tech
3.30 – 4.00 pm	Coffee/tea break	
4.00 – 4.30 pm	Project presentation: Ecologically-based Participatory Packages for Rice in Cambodia	Buyung Hadi, IRRI
4.30 – 5.00 pm	Project presentation: IPM for Exportable Fruit Crops in Vietnam	Nguyen Van Hoa, SOFRI
7.00 pm	**Group Dinner**	

Day 1, May 28 was centered on the presentations of each project. TAC members gave immediate feedback and took notes on what to further discuss. John Bowman, Van Crowder, and Muni Muniappan gave welcoming remarks.

Day 2:

Day 2: Tuesday, May 29		
8.15 am	Arrival	
8:30-9:30	General discussion about yesterday's presentations	
9.30 – 12.00 pm	Separate for committee meetings: - Technical Advisory Committee (TAC) - Program Coordinating Committee (PCC)	TAC: Lawrence Datnoff PCC: George Norton
12.00 – 1.00 pm	**Lunch on the way**	
1.00 – 1.30 pm	TAC meeting review	Lawrence Datnoff
1.30 – 2.00 pm	PCC meeting review	George Norton
2.00 – 3.00 pm	General Discussion	
3.00 – 3.30 pm	Coffee Break	
3.30 – 4.30 pm	AOR's Remarks	John Bowman
4.30 – 5.00 pm	Closing Remarks	Van Crowder/R. Muniappan

Day 2, May 29 was centered on reviews of Day one. The Program Coordinating Committee, encompassed of the Principal Investigators of each project and several collaborators on Cambodia projects, discussed concerns and questions moving forward, especially about publications, data entry, dates of assignments, and what should be done in the remaining year and a half of the projects. The TAC members, however, met with John Bowman and Muni Muniappan separately to generate final notes and recommendations for each project.

The groups came back to share what was discussed in the separate meetings. George Norton reviewed the PCC Meeting for the group and Lawrence Datnoff lead the review of the TAC meeting. Following the review, John Bowman discussed with the group what the main priorities are for the next year and the next cycle of funding. Mostly, he discussed the reframing of the bureau and its new emphasis on resilience and youth. He discussed strategies such as the Innovation Lab thinking more about agricultural systems as well as a focus on diagnostics and invasive species in general.

Day 3-4:

Day 3: Wednesday, May 30		
Full day	Visit Royal Agricultural University and Prey Veng	Kimhian Seng, iDE Buyung Hadi, IRRI
6.30-9.30am	Travel from Dara Airport Hotel to Thom Village (Prey Veng province)	
9.30-10.30am	Visit EPIC Demonstration sites at Thom Village, interact with farmers/partners	IRRI (EPIC) will take charge
10.30-11.30am	Travel to Prey Veng town	
11.30-1.30pm	Lunch at Prey Veng Town	
1.30-3.30pm	Travel to RUA	
3.30-4.30pm	Visit at Vegetable IPM project's demo at CE SAIN tech park at RUA	IDE will take charge
4.30-5.30pm	Travel to Dara Airport Hotel	

Day 3, May 30 was centered on a field visit and university visit. We traveled to Prey Veng to review the Rice IPM project led by IRRI. We were introduced to farmers in Thom Village and asked them about key challenges and how the IPM technologies were operating on the farm. Many farmers said they were satisfied with the project and several women farmers from the community attended the meeting because they were interested in learning more about IPM.

Following Thom Village, we traveled to the Royal Agricultural University (RUA) and observed presentations from students who were doing IPM trials. We visited the Technology Park and observed IPM IL research and demonstration plots.

On **Day 4**, **May 31** before travelling to the airport, Sara Hendery, Muni Muniappan, John Bowman, and Buyung Hadi traveled back to RUA for a seminar. Over 70 students attended the seminar—John's focused on a review of USAID, Muni's focused on entomology, and Buyung's focused on rice production. Several students asked follow-up questions. Buyung was asked to do a TV interview following the seminar.

On **May 31**, Muni Muniappan and Sara Hendery travelled to Ho Chi Minh City, Vietnam to review activities implemented by SOFRI.

Day 1, June 1, Muni Muniappan and Sara Hendery travelled to SOFRI to hear presentations on various activities within the Vietnam exportable crops project and to offer recommendations. Each crop that is worked on in Vietnam (longan, lychee, mango, dragon fruit) were focused on the presentations. The SOFRI team also had IPM products on display.

After presentations, we visited a dragon fruit GlobalGAP + IPM model at My Tinh An co-operative in Cho Gao-Tien Giang province. There, we saw the positive results of dragon fruit sleeving, a technology that has evolved over time. The sleeves are white with holes running up the side, which allow for protection from the sun, water drainage, and protection from pests/canker. The farmers were satisfied with the product and revealed that many other farmers in the community had asked where to purchase the bags. Moreover, Muni discovered a small beetle pollinating the dragon fruit and took specimens. We also observed sweet traps that catch fruit flies.

Next, we travelled to a dragon fruit VietGAP+IPM model at Long Tri Dragon Fruit cooperative in Chau Thanh-Long An province. There, we saw evidence of canker disease on some of the dragon fruit branches. We observed new cement blocks being placed into the field for new orchards.

Day 2, June 2, Muni Muniappan and Sara Hendery first visited SOFRI so that Muniappan could study the beetle he found the previous day under a microscope. Next, we travelled to the Mango VietGAP + IPM model at Tan Thuan Tay cooperative in Cao Lanh-Dong Thap province. There, we observed mango bagging, which has had great success. There are around 70 wax paper bags on each tree—they can be reused for several seasons and each one costs .025 cents. The farmer was very satisfied with the bagging and remarked that it has successfully reduced fruit fly infestation. We also observed grafting.

Next, we travelled to the Cai Lay-Tien Giang province to visit the longan VietGAP + IPM model. Many farmers showed up to the meeting in addition to a person involved in Communications from the community and a representative from the women's farmer cooperative. The farmers discussed the main pests in the orchard and Muniappan gave suggestions of potential solutions. We walked within the orchard where we viewed the orchard trees, where insects are being reared, light traps, etc. The farmer is very satisfied with IPM technologies and says that it helps him reduce the use of pesticides.

Day 3, June 3, Muni Muniappan worked with Dr. Hanh on her manuscript at SOFRI and Sara Hendery edited documents at the hotel. At 5pm, we travelled to the airport to return home.

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

Each of the principal investigators have been requested to send their publications and potential success stories to Sara Hendery to adapt into articles. Moreover, three success stories will be created about the different bagging/sleeving techniques used in Vietnam.

List of Contacts Made:

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