IPM CRSP Trip Report

Countries Visited: Indonesia and Cambodia

Dates of Travel: October 5 – November 4, 2012

Traveler's Name and Affiliation: Laura Zseleczky, Virginia Tech, Gender Global Theme

Purpose of Trip: Conduct field research on gendered research impact pathways of Trichoderma for the Gender Global Theme. Meet with Gender Global Theme counterparts in Indonesia and Cambodia. Attend annual planning meeting for IPM CRSP Southeast Asia Regional Program and present preliminary findings from field research.

Sites Visited:

Indonesia: Jakarta; Bogor; IPB (Bogor Agricultural University); Cipanas, Cianjur District; Pasir Sarronge, Cianjur District

Cambodia: Phnom Penh; Siem Reap City; Rokar Year Village, Keo Por Commune, Pouk District, Siem Reap Province; East Srith Village, Prasat Bakong District, Siem Reap Province; Ou Louk Village, Prasat Bakong District, Siem Reap Province; Bek Kanploeung Village, Chan Sor Commune, Sot Nikum District, Siem Reap Province

Description of Activities/Observations:

Indonesia

Oct 5 – 6: Travelled from Roanoke to Jakarta (via Chicago and Hong Kong). Arrived late in Jakarta (11pm) and stayed in hotel near the airport.

Oct 7: Moved to hotel in Jakarta and met with Alifah to discuss the upcoming week and to find out more about the Gender Global Theme's work with IPM CRSP in Indonesia. Reviewed presentation for class at IPB (Bogor Agricultural University) the next day.

Oct 8: Drove to Bogor and met Herien at IPB Convention Hotel. She accompanied me to the IPB campus, where I presented on the GGT and Trichoderma research to her graduate level Gender Theory class (Fig. 1). After the class, I met with a smaller group of third and fourth semester graduate students to talk about gender issues in Indonesia and the U.S. I met Vivi, one of my research assistants for the fieldwork, and then met with the head of the Family and

Consumer Sciences Department (in which Herien works) and the Dean of the College of Human Ecology. The Dean asked me to give my presentation on the GGT and Trichoderma research to his class the next afternoon. Herien also gave me a tour of campus.

Fig.1: Group picture with Herien's graduate Gender Theory class after my presentation

Oct 9: I met my other research assistant, Atika, and trained her on the methodology for our study of gendered impact pathways of Trichoderma. Vivi took me into town near campus to buy supplies for the upcoming focus groups and interviews. In the afternoon, Herien and I met with Dr. Aunu and Dr. Meity who are working with the IPM CRSP on Trichoderma. They showed me a PowerPoint presentation with several pictures of the process of producing Trichoderma and data on the impact Trichoderma has had on farmer incomes in Indonesia. I asked them several questions about the processes of researching, producing, and disseminating Trichoderma as well as who is involved in each of those steps. We arranged for me to interview Dr. Meity in more depth on Monday, October 15 at 2pm. After the meeting, I presented on the GGT and Trichoderma research to the Dean's class (Fig. 2 & 3).

Fig. 2: Presenting on the GGT and Trichoderma research to the Dean of Human Ecology's class

Fig. 3: The class during my presentation

Oct 10: Herien, Vivi, Atika, and I drove to Cipanas in Cianjur District in the morning. We met Pak Ujang, the leader of the Pada Jaya farmer group in Cipanas who was trained by Drs. Aunu and Meity in the production of Trichoderma. Vivi, Atika, and I would be staying at his cousin's house for the next two nights. In the afternoon, we held a focus group with 22 men: the men from Pada Jaya including Pak Ujang, and the district extension officer, Pak Dedih (Fig. 4 & 5). Pak Ujang was trained in the production of Trichoderma in 2006 and trained 20 men in Pada Jaya in 2007. IPB provided the initial materials including the inoculation cabinet and grinding machine which stay at Pak Ujang's house. The farmers go to his house to produce the Trichoderma, then bring it back to their own houses and apply it to their fields (primarily on bok choy, broccoli, carrots, onion, and chili). They say production has improved since using Trichoderma and so has their income. They will continue to work with Trichoderma but also hope to start using PGPR (Plant Growth Promoting Rhizobacteria). The men said that women stopped making Trichoderma because it was too complicated and they "prioritized" their other household activities. According to the men, this was the women's choice and not something the men forced on them. After the focus group, we interviewed Pak Ujang in more depth about his business of selling Trichoderma. He makes it with the farmers of Pada Jaya to use on their own fields but also sells it to Pak Dedih, the extension officer who owns an agricultural products company, and farmers in other sub-districts. He says the money from these sales goes to the farmer group. Herien drove back to Bogor at this point. We also took a brief walk around the fields before the rain came.

Fig. 4: Focus group with men from Pada Jaya

Fig. 5: Observing the participatory mapping activity

Oct 11: On Thursday, we interviewed Pak Dedih who is both a district extension officer as well as co-owner of a company (Fumure) that sells Trichoderma and other non-chemical inputs (Fig. 6). He obtains Trichoderma (grown on corn) from about 40 farmer groups and Fumure repackages it to sell directly to other farmer groups on several islands, provinces, and districts. The company employs six women and one of the co-owners is also a woman. He said the business is very beneficial to him since no other companies are selling Trichoderma. We also interviewed one of the women who had been trained in the production of Trichoderma by Pak Ujang. She said she no longer produced Trichoderma because she had a baby and didn't have the time; however, she uses the Trichoderma that her husband makes on her own plants that she sells from her home yard. She also said she benefits indirectly from her husband's increased income from vegetable production using Trichdoerma because the money goes to the whole household. In the afternoon, we took a much longer walk through the fields and the town. We had arranged to interview Bu Ujang, the wife of Pak Ujang, that evening but she was not feeling well so we changed the interview to the next morning.

Fig. 6: Interviewing Pak Dedih (Atika translating)

Oct 12: We interviewed Bu Ujang in the morning and learned more about her role in producing Trichoderma and helping Pak Ujang with his business selling Trichoderma. She said that this business is very beneficial to her. She makes more money helping with the production and sale of Trichoderma than with her other business of selling plants from her home yard; however, the income from Trichoderma is less consistent because they only get large orders a few times a year, so she continues her other activities. After our interview with Bu Ujang, Herien arrived and we held a focus group with the 10 women who had been trained in the production of Trichoderma by Pak Ujang (Fig. 7 & 8). Most of them no longer produce Trichoderma because of their other household and domestic responsibilities (especially caring for small children) or because of other businesses, but a few women are still involved (mostly those who live with or close to Pak Ujang, and only a few times a year). The women all agreed that they benefit from the increased household incomes due to their husbands' use of Trichoderma on their vegetable fields. The women without young children said they would be interested in getting more involved with Trichoderma but that it is difficult because their other activities take up their time. Even then, they would only be interested in producing at a very small scale—enough to use on their plants in their home yards—and not as a business of selling it like Pak Ujang. They have recently started a microcredit group with seed money from IPB to invest in their home yard businesses (mainly decorative plants). Eight women have borrowed money so far and had

few problems paying it back; they said it was very beneficial. Herein, Vivi, Atika, and I drove back to Bogor that afternoon.

Fig. 7: Focus group with women farmers

Fig. 8: Women mapping "the path of Trichoderma"

Oct 13: On Saturday, I typed and organized notes from the Cipanas fieldwork. I had a meeting in the afternoon with Herien, Alifah, and Dr. Titiek (who works with Trichoderma) to discuss the results from the first week's research, plans for the upcoming week, and the gender team's presentation at the annual workshop in Cambodia.

Oct 14: On Sunday, I spent the day finishing typing up the Cipanas notes, reviewing the findings, and writing a research report on the results of the first week's research.

Oct 15: In the morning, I worked from IPB on the trip report and prepared additional questions for the interview with Dr. Meity. Vivi and I prepared the materials for the next day's focus groups. In the afternoon, Herien and I went to the Plant Protection lab and met with Dr. Meity to talk about her work with Trichoderma (Figure 9). She completed her dissertation on Trichoderma at UPLB in the Philippines in 1983 and started working with Trichoderma and other bioagents at IPB in 1986. In 1988, she started training farmers how to use Trichoderma (at this point it was produced by the Ministry of Agriculture) and in 1990 she started teaching farmers how to produce it themselves. Since then, she has trained farmers in the production of Trichoderma almost every year, and they are usually large groups of farmers with a few women. Dr. Meity also raised an interesting gender issue related to the high proportion of women involved in plant protection. She attributes this to her perception that women are more patient than men which is important when working with microorganisms and products that can easily be contaminated and require starting all over again.

Figure 9: Meeting with Dr. Meity in the lab to learn more about Trichoderma

Oct 16: Vivi, Dr. Titiek, and I drove to Pasir Sarongge Tuesday morning. We arrived at the Mandiri Farmer Group organic plots and meeting center where we hosted two focus groups. The women's focus group was first (Figure 10), and we learned that the district extension officer, Pak Dedih, trained the women how to make Trichoderma in May 2012. Only three of the nine women in the focus group have continued working with Trichoderma, specifically in preparing the media (corn) and inoculating it with the pure culture. Men are responsible for mixing the Trichoderma with compost and applying it to the fields. The other women no longer work with Trichoderma because their husbands do not use it (they either are not farmers or use pesticides instead). All of the women are interested in getting more involved with Trichoderma and producing it for commercial sale. After a quick break and getting the room set up, we hosted the focus group with eight men from the Mandiri farmers group (Figure 11). The men were introduced to Trichoderma when Pak Dedih gave them some for free to use; then they were trained by Pak Ujang from Cipanas how to make it themselves. Trichoderma has helped reduce their problems with clubroot and they noted that it has made the soil more fertile and less compact. As a result, it is easier for women to weed, a task for which women are responsible. They also explained that women help with the preparation and inoculation of the corn but that men mix the Trichoderma with compost and apply it to their fields. They would like to continue working with Trichoderma because it addresses their problems but they are also interested in addressing the problems they face with tomatoes with biocontrol agents other than Trichoderma.

Figure 10: Women mapping the path of Trichoderma

Figure 11: Men mapping the path of Trichoderma

Oct 17: On Wednesday I typed and organized the notes from the interview with Dr. Meity and the two focus groups. I also reviewed the findings, and wrote a research report on the results of the second week's research.

Oct 18: Reviewed data from Indonesia and started research report on the path of Trichoderma in Indonesia.

Oct 19: Worked on research report. Collected and checked focus group maps translated by Vivi and Atika. Took pictures of the extra flip chart pages and maps.

Oct 20: Drove back to Jakarta in the morning. Worked on the trip report and prepared my presentation on preliminary findings from Indonesia for the annual planning meeting of the SE Asia regional program.

Key Findings:

There are clear gender-based constraints in terms of women farmers not having the time to make Trichoderma and the language used in the trainings being too technical. The issue of time availability is more of a constraint to participation rather than a constraint to benefits as women still benefit directly by using the Trichoderma their husbands make and indirectly from the increased household income. At this point, there does not seem to be enough incentive for women farmers to become more involved with Trichoderma production

With the exception of Pak Ujang and Pak Dedih, making Trichoderma is not really a potential business in itself like we thought. It's really more about farmers improving production of crops and increasing income that way. It still seems to be in a phase of dissemination—extension officers and IPB scientists continue to train farmers and farmers continue to be exposed to it by seeing their neighbors use it.

Women are not highly involved in the production of Trichoderma (at least in Cipanas), but do help with some of the tasks and are definitely involved at the beginning of the impact pathway in the research and training processes.

There is potential that Trichoderma could benefit women by improving soil quality and thus reducing the time and intensity of labor required for weeding.

Farmers need to be aware of the potential health risks of drying Trichoderma inside the house, as inhalation of the spores can cause symptoms similar to Tuberculosis. While Dr. Meity tells the farmers she trains about this risk, there needs to be more follow-up and emphasis with extension officers to ensure that farmers are drying the Trichoderma in separate closed rooms.

Access/Control/Labor: Women have access to materials and machines, provide labor for washing corn and packaging; men have control/decision-making over the process, sale, and application of Trichoderma; women or men and women together make decisions about the income from Trichoderma

Recommendations:

The IPM CRSP could increase benefits to women by working directly with the women farmers to address the problems they face with the decorative plants they grow for additional income from their home yards. As the IPM CRSP continues to be involved with farmer trainings on Trichoderma, efforts should be taken to emphasize the importance of safety precautions to minimize the risks of exposure to Trichoderma spores.

Cambodia

Oct 21: Flew to Phnom Penh with the teams from IPB and FIELD Indonesia.

Oct 22: On Monday I attended the first day of the IPM CRSP Southeast Asia Regional Program Annual Planning Meeting and Workshop. There were opening remarks by Bill Bradley of USAID Cambodia, John Bowman of USAID Washington, and Bill DeLauder of BIFAD. In his opening remarks, John Bowman emphasized the importance of reaching women farmers. There was also a presentation by Dennis Lesnick, chief of party for the Cambodia HARVEST program, which included an emphasis on working with poor farmers, particularly women. I learned more about the activities of the SE Asia region and specifically the different groups working in Indonesia. There was a very interesting conversation about the differences in approaches to producing Trichoderma in West Java (under the direction of IPB) and in Sumatera (under the direction of FIELD Inodnesia). John Bowman asked about the possibilities for expanding production to a commercial level, and there was ensuing conversation about the issue of quality control. I also met Chanthou, who would be translating for our research in Cambodia.

Oct 23: Tuesday was the second day of the annual planning meeting and workshop. We saw presentations from the Philippines and Cambodia. Dr. Kean Sophea gave a presentation on the work with Trichoderma in Cambodia. Alifah presented the work of the gender team in SE Asia, Herien presented the preliminary findings of their research on gender roles in kitchenspace and home yards in Indonesia, and I presented the approach and preliminary findings of our research on gendered impact pathways of Trichoderma. I was supposed to interview Dr. Kean Sophea during the field trip scheduled for Tuesday, but the trip was cancelled due to time limitations. We made arrangements for me to interview him in Siem Reap on Friday when he would be

there with the team from Clemson. Alifah, Sitha, and I had a long meeting in the evening to discuss the schedule for the upcoming weeks as well as the budget and availability of funds. We also made arrangements to drive to Siem Reap with the group from UPLB who would need to fly out of Siem Reap.

Oct 24: On Wednesday, I checked out of the hotel and checked into a new hotel (the team requested that workshop participants move hotels due to budget limitations). Chanthou showed me around Phnom Penh while the participants were in a second workshop on plant disease diagnostics, and I met up with them at dinner. I continued work on the research report for Indonesia.

Oct 25: I finalized arrangements to move my departure flight up by three days as extra time included in the schedule was no longer needed. I also attended the second day of the disease diagnostics workshop with the other participants (Figure 12) so that I could interview Mr. Chou Cheytheyrih (Thyrith) and Mr. Ngin Chhay during the day. I interviewed Thyrith in the morning and learned that he worked with Trichoderma and trained farmers to use it around 1998 when he had just started working for the National IPM Program; however, at that point they had no local source of Trichoderma and had to purchase it from Thailand which was very expensive. Dr. Kean Sophea was trained in Trichoderma in Thailand and is now the expert on it in Cambodia. The National IPM Program (and IPM CRSP) see Dr. Sophea as a resource on Trichoderma in Cambodia. Dr. Sophea currently produces the "pure" cultures at his own facility in Phnom Penh and gives them to farmers to produce Trichoderma on their own. Right now there are only a few farmers working with it, as it is still in a testing period. Dr. Sophea is in the process of getting registered (currently has letters of support from Clemson and FAO) but it is a long, complicated, and expensive process. They hope to be registered soon. The HARVEST Cambodia program would like to work with Trichoderma but cannot work with Dr. Sophea until he is registered, so Thyrith thinks they may currently be getting it from Thailand, which is very expensive. This seems to be an important potential opportunity to reach many farmers, but requires the registration process to be complete. In the afternoon, I was taken to another hotel across town where Mr. Ngin Chhay was having another meeting but could meet with me briefly during a break so I could interview him. He said that bioagents are generally new to Cambodia and the National IPM Program hopes to promote them more. He also noted that Trichoderma is currently being used in three districts and only at a very small scale due to lack of funds. Farmers have been trained to use Trichoderma, there were demonstrations, and now farmers are producing it locally. Mr. Chhay said that farmers find Trichoderma helpful for production, to decrease their expenses (for inputs), and to improve their health (by decreasing the use of chemicals). He hopes that activities related to Trichoderma can expand, but this is dependent on funds.

Figure 12: Some of the women participants from the workshops

Oct 26: We left Phnom Penh early Friday morning and drove to Siem Reap along with the participants from UPLB. We stopped along the way for lunch and arrived at our hotel in the afternoon. I interviewed Dr. Sophea about his work with Trichoderma that evening. He received his PhD in Thailand in 2010, and the focus of his dissertation was Trichoderma and citrus fruit rot in Cambodia. During this time, he spent two years screening samples and isolating the strain of Trichoderma. This required the use of lab facilities in Thailand since such resources are not available in Cambodia. He came to work for the National IPM Program in Cambodia because of his expertise with Trichoderma. He currently produces Trichoderma cultures on corn media in his home with the help of two employees, one man and one woman. He provides the corn media to farmers to mix with compost or grinds it up into powder to sell. He has trained the national, provincial, and district level IPM staff about Trichoderma, and they are the ones that train the farmers. He would like to continue working with Trichoderma and learning about other bioagents, though he noted challenges regarding finding new strains of Trichoderma in the future and inadequate storage conditions for Trichoderma in farmers' homes. He would like farmers to get to the point where they are producing for themselves and can sell to other farmers at the local level, while he would produce and sell for commercial farms. He is especially hopeful that Trichoderma production could be a potential business for widows.

Oct 27: Sitha and Chanthou took the UPLB participants and me on a tour around Siem Reap.

Oct 28: On Sunday, I met with Sitha and Chanthou in the morning to prepare for the upcoming week's research and fieldwork with farmers. We reviewed the research protocol thoroughly, discussed the most recent changes to the fieldwork schedule, and then went into town to buy flip charts and supplies. In the afternoon, Chanthou prepared the flip charts for the week's focus groups and I typed up my notes from the previous week's interviews. I joined the Clemson team, John Bowman, and Bill DeLauder for dinner that evening and we discussed the opportunities for more gender work in Cambodia through the IPM CRSP and HARVEST projects.

Oct 29: Sitha, Chanthou, and I met with a group of women farmers in Rokar Year Village, Keo Por Commune, Pouk District Monday morning (Figure 13). A district agricultural officer named Boum Chantrung accompanied us. These women did not work with Trichoderma but we took the opportunity to meet with them to discuss gender roles in vegetable production in this area. This also served as an opportunity for the farmers to ask Sitha questions about some of their challenges (especially access to markets and the use of organic fertilizer). This actually ended up being a really good thing because they expressed how grateful they were for the IPM technical officers who actually take time to work with them personally (not like other technical officers who "just visit the field and leave") and thanked us for taking time to ask them questions and give them information. After this focus group, a man brought us to his eggplant field across the street to show us the nursery. In the afternoon, I interviewed Mr. Srey Chaum, district agricultural officer for Prasat Bakorng District in Siem Reap Province. We had a great interview and learned about he was trained by Dr. Sophea and now brings Trichoderma cultures from Dr. Sophea to farmers in his district. He is currently working on Trichoderma with two farmer groups of about 15 – 20 farmers each and said there are more women (70 – 80%) participating in these activities. He noted challenges of "transferring the technology" to farmers given their low levels of literacy and the complexity of the process of making the Trichoderma products, but expressed his interest in continuing to work with Trichoderma and his hope that all vegetable farmers in Siem Reap Province will use it one day.

Figure 13: Meeting with farmers in Rokar Year Village

Oct 30: Our schedule had been reorganized for Tuesday and we planned to meet with two different farmer groups in Prasat Bakong District. Unfortunately, when we arrived in Ta Trev, the first village, no farmers were able to meet. We moved onto the second village, East Srith, and started with a focus group with women (Figure 14). At first there were only about six women, but as we started the timeline activity, several more joined. We had about 20 women total which required asking the questions over again; this caused much confusion as a few of the women said they had worked with Trichoderma but many said they had not and did not know what it was. Eventually, we were able to clear this up and discovered that there had been a training on Trichoderma in Ta Trev and that only one woman and man from this village (East Srith) had attended. The one woman who had attended the training answered some of our questions, but the remaining activities were not relevant to the rest of the group. Instead we talked more about men's and women's roles in agriculture and about their current use of IPM techniques. While none of the other women are currently using Trichoderma, they expressed great interest in using it but said that the major constraints are that it is not available in the village and that it is expensive.

Because the men did not work with Trichoderma either, we did not host a focus group with men and instead interviewed Touk Sokha, the one man who had attended the Trichoderma training in Ta Trev (Figure 15). He is a "core farmer" for this village, working closely with the district agricultural officer, Srey Chaum, and has been given Trichoderma free of charge to use for demonstration on his fields. He noted that the use of Trichoderma has reduced his problems

with stem rot and has made the plants' leaves thicker and more dark green. He does not grow Trichoderma, but only mixes the media given to him with compost and applies to his fields. His wife helps him with these activities and they make decisions together about Trichoderma and the increased income from using it. After lunch we went to Ou Louk Village in Prasat Bakong District and interviewed Ms. Chhoun Savet who attended the trainings on Trichoderma by Dr. Sophea at the General Directorate of Agriculture in Phnom Penh (Figure 16). She is now making her own Trichoderma from her home and has taught her husband so that he can help her. She is also the agricultural input supplier for the village and expressed an interest in producing more Trichoderma to sell to farmers but said that the challenge is low demand as few farmers know about Trichoderma now. When she said this, the agricultural officer accompanying us gave her the contact information for the women in East Srith who said they were interested in using Trichoderma but didn't know where to get it. It was very exciting to be there and see such a connection being made.

Figure 14: Women's focus group in East Srith

Figure 15: Touk Sokha describing his map of the path of Trichoderma

Figure 16: Chhoun Savet demonstrating part of the process of making Trichoderma

Oct 31: On Wednesday we interviewed Mr. Vanh Von in Bek Kanploeung Village, Chan Sor Commune, Sot Nikum District (Figure 17). Like the woman we interviewed on Tuesday, Von attended the Trichoderma trainings at the GDA and now produces Trichoderma from his home with the help of his wife and other farmers. He is also an input supplier for his area. He said that he has tried making Trichoderma four times since he attended the GDA trainings; three of these four attempts were unsuccessful because there was too much moisture in the bags of rice for the Trichoderma to grow. Trichoderma has improved his soil quality, reduced disease, and increased yields. He said that the use of Trichoderma has reduced women's work because women are responsible for plant protection activities (such as spraying pesticides) and the use of Trichoderma reduces the need for such work. He makes decisions about using Trichoderma with his wife and she controls the income that is generated from the use of Trichoderma. Some of the challenges he mentioned include finding dry wood in the rainy season to heat the rice and sterilize it, as well as finding "old rice" in the rainy season which is needed to make the Trichoderma (apparently only "new rice" is available during this time of year).

After the interview with Vanh Von, we facilitated a focus group with seven women farmers from the village who are working with Trichoderma. The women said they were trained by Srey Chaum, the district agricultural officer, to make Trichoderma. Two of the women said they have used it on their fields and have seen a decrease in stem rot disease. When asked if changes from Trichoderma have affected men and women differently, they said "yes, definitely" and explained that the use of Trichoderma reduces women's work spraying pesticides. The women broke into two groups for the mapping exercise and both groups' maps showed them producing the Trichoderma at Vanh Von's house, bringing it back to their houses, men mixing it with compost, and men and women equally applying it to the fields. The women said that their previous training was inadequate and that they are interested in continuing to work with Trichoderma and hope to get more training related to it. At the end of the focus group, the women divided up the batch of Trichoderma that had been prepared earlier in the month to bring back to their homes (Figure 18). That afternoon, Sitha and Chanthou and I met to translate the maps and flip charts to English, take pictures of them, and wrap up the final administrative tasks for the research.

Figure 17: Vanh Von mapping the path of Trichoderma

Figure 18: Women from Bek Kanploeung Village picking up their Trichoderma at Vanh Von's house

Nov 1: Sitha and Chanthou departed Siem Reap in the morning. I spent the day typing up the notes from the week's fieldwork, organizing photos, and updating the trip report.

Nov 2: On Friday, I continued work on the trip report and reviewed the results of our research in Cambodia.

Nov 3: On Saturday I worked on the full research report for Indonesia and Cambodia. I departed for Bangkok in the evening.

Nov 4: Returned to Roanoke via Tokyo and Washington.

Key Findings:

While more research should be done on gender roles in agriculture in Cambodia, some women and men noted that Trichoderma benefits women by reducing the amount they have to spray pesticides (because spraying pesticides is the responsibility of women). This presents a clear opportunity to reduce the use of hazardous chemical pesticides and increase interest in Trichoderma among women.

Trichoderma production in Cambodia is much more rudimentary than in Indonesia. While the use of locally available materials makes it more accessible to many farmers, it does present some potential challenges in terms of contamination and health risks due to exposure to spores. This was most evident in the lack of inoculation cabinets and when the women's focus group in Bek Kanploeung Village reported that children help with the inoculation process.

Activities related to Trichoderma are still quite new and small-scale in Cambodia but there are already clear efforts to increase gender equity through the activities, evidenced in Siem Reap by the gender balance in core farmers producing Trichoderma and the active involvement of at least one group of women farmers.

Recommendations:

The IPM CRSP should continue its work with women farmers and Trichoderma. In particular, the potential for Trichoderma to reduce women's work spraying pesticides should be emphasized as it represents an excellent opportunity to appeal directly to women's agricultural roles. The IPM CRSP should also continue to facilitate communication between project countries so that Cambodian partners can learn from the experience of Indonesian and Filipino partners, specifically regarding technology transfer of Trichoderma. For example, partners in Indonesia have leveraged resources through IPB and the Ministry of Agriculture to provide inoculation cabinets for farmer groups as a means of preventing contamination and reducing

input costs for farmers. This could serve as a model for Cambodia and prevent potential challenges of contamination and health risks.

List of Contacts Made:

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