



# IPM CRSP Technical Committee Meeting 2012

Memphis Convention Center | Memphis, TN

March 26, 2012 | 8:30 a.m.–4:00 p.m.

## Meeting Minutes

**Present:** Paul Backman (PB), K.R.M. Bhanu (KB), John Bowman (JB), Malvika Chaudhary (MC), Maria Elisa Christie (MEC), Mark Erbaugh (ME), Amer Fayad (AF), Guru Ghosh (GG), Mike Hammig (MH), Sam Kyamanywa (SKy), Marty McVey (MMc), Wondi Mersie (WM), Sally Miller (SM), Muni Muniappan (MM), George Norton (GN), Doug Pfeiffer (DP), Ed Rajotte (ER), Miriam Rich (MR), Merle Shepard (MSh), Melissa Smith (MS), Sue Tolin (ST), Larry Vaughan (LV), Laura Zselezcky (LZ)

**Absent:** Jeff Alwang; Robert Gilbertson (RG)

### 1. Welcome and Opening Remarks

#### **Welcome: George Norton (meeting chair)**

GN welcomes everyone to the meeting. He introduces Brady Deaton, BIFAD chair, agricultural economist, long-time researcher, teacher, and Chancellor of the University of Missouri. Norton also introduces Marty McVey, member of BIFAD and its main private sector representative; Guru Ghosh, associate vice president for international affairs at Virginia Tech; and John Bowman, the IPM CRSP's AOR from USAID. He asks for everyone to go around the table for introductions.

#### **Opening remarks: Guru Ghosh (AVP International Affairs at Virginia Tech)**

GG reads from prepared remarks, mentioning that this is his first exposure to the IPM CRSP. He gives an overview of IPM CRSP involvement in the 7<sup>th</sup> annual IPM symposium and reviews some of the IPM CRSP's accomplishments, highlighting South-South technology transfer.

#### **Recent developments in BIFAD: Brady Deaton (Chair, BIFAD)**

BD thanks everyone for the opportunity to be here, and mentions that he used to teach a course with GN. BD reviews the history of BIFAD and the 1975 legislation that created it. It is a seven-person advisory board for USAID, with the stipulation that four members must be from the university community. The current board members are a distinguished, dedicated group: three are World Food Prize recipients (Gebisa Ejeta, Jo Luck, Catherine Bertini). The group reflects Rajiv Shah's directive to think big, and they have worked together to increase the CRSPs' budget.

BD said he visited East Africa and saw the hands-on, practical work that the CRSPs are doing to alleviate tomato blight. BIFAD has insisted that, when this work is done, it needs to reflect cutting edge, scientific research that is achieving objectives of U.S. foreign policy. These are big picture issues.

There are recent global events we need to look at: food price spikes in 2008; the subsequent riots; and the Arab spring, which, if you look underneath, you see food price issues. There are 7 billion people in the world right now, heading toward 9 billion. Our work becomes critical. The inability to wield science could have grave consequences. We tap into research around the world, ensuring that USAID goes forward with the latest in research.

Rajiv Shah is a proponent of the whole government approach. This is a challenge to the way things have been done. But in this way, you get much more synergy. We want to suggest, in order to get results: Why not a “whole university” approach to match the whole government approach? In this way, all the pieces talk to each other; we’re getting leverage with every piece.

This is an exciting time for the U.S. government, and an exciting time for BIFAD’s purpose, BD says. He notes that Shah asked BIFAD to take ownership of the CRSPs. BIFAD is looking at how U.S. universities will work with the CRSPs in the future to ensure that we are bringing the latest in scientific research to bear on the CRSPs. This is a very aggressive framework.

Finally, Deaton notes that he and a colleague went to visit Paul Findley, originator of the Foreign Assistance Act, the act that created BIFAD and USAID. Findley lives in Illinois, is 90 years old, and he still believes in the act, in BIFAD, in USAID, and what they were designed to do: human development. The focus is on the most vulnerable populations. We must work to uplift the status of women and focus on early childhood and children and youth programs. Findley is still a great advocate for our programs today.

Deaton thanks everyone for the opportunity to be with the program today.

### **Marty McVey (Member, BIFAD)**

MMc thanks GN, and thanks the group for having BD and him with the group today. He speaks about the evolution of BIFAD over the past year, and how it is an exciting time to be with USAID.

He also speaks about his trip to Bangladesh with the IPM CRSP as an “eye opener.” The BARI project in Bangladesh was very impressive, he says, mentioning that its success can be represented in other parts of the world. SKy DeDatta, who was travelling with the IPM CRSP/McVey group, made a comment that this was the first time a member of BIFAD had visited IPM CRSP projects in the field. If we’re influencing projects around the world, MMc says, we need to be visiting them. During the 12 days they were together, he says, he learned more about mealybugs than he ever thought he could.

He closes by saying that he looks forward to getting to know the group, and he will make comments in the meeting as it goes along.

### **An overview of the IPM CRSP: Muni Muniappan (Director, IPM CRSP)**

MM reviews the history of the program, its various phases, and emphases of each phase. Briefly, he notes that the program works in six regions and 17 countries, 13 of which are FtF countries. The program covers 1/3 of the world's population or 2.2 billion people, almost half of the poor people in the world.

He notes that while the first phases were developing components, the subsequent ones spread the components. The current phase emphasizes the development of IPM packages while working on regionalization and globalization of technologies. IPM packages are how scientists holistically address the problems a farmer encounters when growing a crop. It includes seed selection, seedling selection, and more components, and MM provides an example of a tomato package.

The program has had many successes, MM says, citing the introduction of eggplant grafting in Bangladesh almost 16 years ago, papaya mealybug control, and *Trichoderma* and *Pseudomonas* production in Asia. A *Trichoderma* workshop in India was truly a south-south workshop, and even had in attendance a representative from USAID India (New Delhi). BIFAD board member Marty McVey visited our work in SE Asia, and we trained him on how to catch insects!

The program has also been enormously successful in securing associate awards, and MM reviews these. Finally, MM notes the forthcoming IPM CRSP symposia for the rest of 2012, and reiterates the program's goal to regionalize and globalize IPM findings.

## **2. Regional Presentations**

### **South Asia: Ed Rajotte**

#### *Presentation highlights:*

We hit on the package approach six years ago, which has some problems but also good ideas. To develop packages: we determine priorities through surveys; test individual components; combine components in a season-long package; test packages in the control; train disseminators; produce literature in the local language; use local media to promote packages; and do follow-up surveys. We also work on regionalization and hold specialized regional workshops. Using the components available for IPM practitioners, packages for many crops (eggplant, okra, cabbage, cauliflower, onion, cucurbits, and more) have been developed. Packages, which include locally available materials, have become an important brand component for the IPM CRSP and are transferable to other regions.

*Discussion highlights:*

BD asked how the program evaluates effects on vulnerable populations. GN explained that the programs start with participatory appraisals, collecting cost and yield data with adoption data. They try to make sure to integrate the needs of particular vulnerable groups, using an interdisciplinary team and considering the most efficient way of approaching their programs.

MM commented that the program has several experts travelling together and asked ER to comment on marketing components. ER talked about a surprising find: how concerned consumers in SE Asia are about the safety of the food. He thought that if it could be shown that safe food was produced with IPM, it could have an influence in the marketplace, something that has been successfully done in the United States.

PB asked how the program has supported graduate students at Penn State (where ER is faculty). ER responded that he “wants them to get a good education and learn how to be good researchers.”

JB asked, “To what extent are we (the CRSPs, as funded by USAID) doing cutting-edge science as opposed to dumbed-down science?” ER discussed using trans-generational immunity and root grafting – both new scientific advances. “The main thing,” he said, “is that these approaches have to work in that system. Something could be simple, but you may have an opportunity to use something like trans-generational immunity.” GN added that working with graduate students ensures incorporation of cutting-edge science in the programs because they have to use it to get their degrees. “The dissertations help push us,” he said, “and that’s why universities are so important in the USAID programs.”

On the same topic, BD commented that this is an important point and question. He talked about a woman in Tanzania, also a grad student at Penn State and publishing in journals, who is in the fields; she illustrates this point. “When you talk about it in the abstract,” he said, “people who don’t know science can miss that. You can’t get by with using anything that’s not the latest in science.” ER added that “when you come to Penn State, you get a Penn State degree, and it’s not watered down.” JB said that it’s important to get the missions to appreciate the value of all of this, because they might not understand. BD and SKy agreed.

ME noted that JB brought up a good point, as he “notices in talking to people at the missions, they say, ‘Let’s just do tech transfer. Why do we need to do any research?’” He added that when his program takes new practices into the fields, the farmers are reluctant to adopt them. The practices that the program does, that might not be cutting edge here, are radical over there. ER added that “there needs to be sensitivity in the missions that there’s a difference between how universities and Washington work. Missions want to do things the beltway bandit way.” GN added, “People say, ‘Oh agriculture? I thought we solved those problems in the ‘70s.’” BD thought the gap was startling.

## **Southeast Asia: Mike Hammig**

### *Presentation highlights:*

The Philippines was one of the first IPM CRSP countries, and now the SE Asia program also includes Indonesia and Cambodia. The program adapts as markets drive us to adapt. Near Bali, tomatoes are being targeted. Onion is an important IPM CRSP crop in Indonesia and the Philippines, and shallots are one of 2-3 major vegetable crops in Indonesia. The problem is that when farmers use insecticides, they spray themselves when they spray the crops. In Eastern Java, the program has been using insect cages for the crops. The program is also working on eggplant grafting in all three countries. *Trichoderma* is being used a lot, and it is extremely beneficial wherever used. It's a relatively recent development, and Indonesia and the Philippines are fairly advanced in its production while Cambodia is fairly new. Farmers produce *Trichoderma* for outside firms and their own farmer groups. They are also working on broccoli and bok choy. A high quality, organic chili pepper is specifically being grown in Cambodia with the aim of exporting to Thailand; there is a high demand for products like this, and the IPM products have a market and a price premium. This sometimes leaves a problem of what crops are available for local production. The USAID mission has specifically asked for help on problems with cocoa and coffee. Cucumber is a crop that the market seems to be favoring.

### *Discussion highlights:*

MSh indicated that, as far as training activities go, the goal is to have an organic province. To this end, the program has farmer field schools and regional workshops. The notion of biodiversity is important, and IPM is also important – both to the region and the program. IPM and biodiversity have important crossover linkages that not everybody understands; this has led to a workshop coming together, planned for July 2013 in N. Sulawesi, Indonesia.

SM asked about the photos of VAM and follow-up about control of wilt. MSh indicated that there is a researcher flying in later who can answer that. JB asked about the program's challenges in working in Cambodia. MH responded that Cambodia is new as an IPM CRSP country, and the mission questioned the small amount of money allocated for the program activities in the country (30k/year). To contrast, he explained that the mission has established a new harvest project (through Fintrac) with a \$50 million budget. The program is open to ideas that they can support, and they have considered working with Karim to get some Cambodians to MSU. The human infrastructure is very weak in Cambodia compared to Indonesia, and MSh added that the program can provide a lot of help, because they have both U.S. and regional experts.

MM asked about Fintrac, as they hadn't supported any IPM CRSP suggestions. MSh indicated that the organization sent a Cambodian to a regional meeting and appeared to be open to ideas.

## **Central Asia: Karim Maredia**

### *Presentation highlights:*

The program worked in Tajikistan, Uzbekistan, and Kyrgyzstan on wheat and potato, but the program's budget has been cut and now only operates in Tajikistan. Ninety-two percent of Tajikistan is mountainous, and potatoes and wheat are very important there. KM reviews the wheat IPM package and short-term training, including an IPM short course at MSU in June. He also reviews the potato IPM package. Gender is important to the program, as women make up the majority of agricultural workers. He reviews the graduate student program and outreach and advocacy work. Some funding from Michigan State has allowed the program to carry on additional activities.

## **Latin America and Caribbean: Paul Backman (in for Jeff Alwang)**

### *Presentation highlights:*

The program has two relatively mature sites: Ecuador and Honduras. In Ecuador, they have done cocoa work in the past, and they are working on naranjilla. Honduras is largely a vegetable-growing area. Guatemala is a new site that is developing, and the Dominican Republic has been cut. IPM for naranjilla: starting grafting technology and breeding (in fourth generation of resistance); integrating root-based resistance to nematodes; and the program advocates for field sanitation, but it is difficult to keep farmers from moving infested seeds to new sites. In Guatemala, there is a heavy focus on virus identification. In Honduras, there are zebra chip programs in solanaceous crops. Packages for Honduras are reviewed.

### *Discussion highlights:*

SM asks if the program has seen bacterial canker in naranjilla, something that is spread easily in the grafting process and has caused problems in tomatoes. PB notes that he hasn't seen it, but that they have good grafting suppliers.

MM asks what the program is doing to control the naranjilla fruit borer. PB indicates that an entomologist was working on it.

JB asked about the Dominican Republic country cut, and PB responded that in trying to address the FtF countries, the program had to remove the Dominican Republic. GN added that they moved researcher Beth Gugino (Penn State) to another LAC country because her Dominican Republic program was cut.

## **East Africa: Mark Erbaugh and Sam Kyamanywa**

### *Presentation highlights:*

(Erbaugh portion): The program makes a contribution to FtF objectives through its two primary objectives: to build a regional model of collaborative IPM research, training, and knowledge dissemination; and to develop IPM research programs for higher value, marketed horticultural crops. The program has been working on FtF objectives before there was FtF. In building a regional model, the program brings partners together in regional meetings to share knowledge within the region. The program has a robust human development program and continues to be participatory, collaborative, multi-country, and multi-institutional. The most highly prioritized crop is tomato in Uganda, Kenya, and Tanzania, as it is an important marketed crop on which farmers heavily and consistently use pesticides. Women tend to participate more in the production of horticultural crops as opposed to field crops. The program has been selecting field research sites, conducting socioeconomic baseline studies, and testing management options on tomatoes. In Uganda, the program has been using nursery seedling management and bacterial wilt control through solarization; they have reduced pesticide sprays down from 12 sprays to 3. In Kenya, there has been more emphasis on grafting.

(Kyamanywa portion): Practices for coffee in Tanzania and Uganda and onion in Tanzania and Kenya are reviewed.

### *Discussion highlights:*

MM mentions to SKy that control for the coffee berry borer, a native of East Africa, has been developed in Indonesia and that MH can talk about the technique.

## **West Africa: Doug Pfeiffer**

### *Presentation highlights*

DP explains that because he sits on two programs, he sees an opportunity to move information from one to the other, an exciting aspect of IPM CRSP work. Program development requires navigating around social complexities. As IPM farmers have a higher crop rotation than non-IPM farmers, smaller parcels of land may not be conducive to that practice. Gender is also a complex issue in West Africa, as there are differences in crop growing and marketing between villages. Primary crop focus is on tomato, for which the program has developed a host-free period against whitefly along with other IPM components; initially the host-free period was miscommunicated to farmers, but now has been clarified. There is also a potential IPM program for bacterial wilt, and the program has brought in improved tomato cultivars. IPM practice for tomato recommends soil sterilization with flame to control pests and avoid using the traditional “broadcast” method with hybrid seeds. For cabbage IPM, sometimes planting with tomato suppressed the diamondback moth, but they have determined that having natural parasitoids is the best

course of action to control the moth. For potato IPM, some tactics may not be possible to adopt, as they are based on the farmer's holdings. The program is also running into political in-country issues (elections in Senegal and the coup in Mali) that may lead to program funding issues.

*Discussion highlights:*

AF asks about additional options for preparation of seedling beds in sterilized soil, with DP responding with other methods. ME asked about where the host-free period had been implemented and what types of growers were incorporated. DP responded that small-scale growers were included, but village-level enforcement would be necessary to ensure observation. The virus incidence after the host-free period was low. ST added that the host-free period work was started in the Dominican Republic and Guatemala where whitefly had devastating effects, with Robert Gilbertson bringing in the technology to West Africa. ME was concerned about the length of the host-free period, but DP clarified that it's a two-month period.

### **3. Global theme presentations**

#### **Gender Global Theme: Maria Elisa Christie**

*Presentation highlights:*

Gender is not about just working with women – it also includes working with men. One of the contributions of the theme is to bring social sciences into the projects. The theme's objectives are to work toward gender equity, capacity building, and research. Each regional program is obligated to include gender in their work as part of USAID's commitment to gender equity. There are gender experts in every regional program who can help with these objectives. The program is working in new places and acquiring baseline information. The first activities were to develop a structure for the program, including regional leaders, country leaders, and a team for the program; this is outlined online. The program has increased women's participation in workshops. A gender workshop has been held in each region and includes men and women. Toward its capacity building goals, the program has students undertaking gender research in five of the six IPM CRSP regions. Rapid gender assessments have provided insights into each region: In Uganda, women are fearful of investing in long-term crops because of fears of marriage and divorce, and in Ghana, the program found that not using pesticides was aligned with a lower social status. Christie suggests capitalizing on a growing interest in organic farming in the Philippines. The program has found that there is a disparity in education and access to technical training, and the IPM CRSP is in a position to work on these issues because they are built into its structure.

*Discussion highlights:*

BD asks about tomatoes as a cash crop. MEC responds that, in Ghana it's a cash crop with 80% losses, making it amazing that women cultivate tomatoes at all. They cultivate because they have hope that such a high value crop will succeed. BD follows up by asking if there are other places where women are involved with cash crops. MEC explains that over the past 10–15 years in the Philippines, there has been a shift with women being more involved in agricultural production to bring more money into the household. There are so many differences from site to site.

A question is asked about whether or not the introduction of packages displaces women. MEC explains that women will resist a package that increases labor, adding that if women aren't benefitting from the money coming back, they have no incentive to participate. She also mentions that literacy level, activities, and involvement have to be addressed. MM asks about grafting and gender. MEC responds that she explored grafting in Nepal and found that men are receiving the training because they are the nursery owners, but the workers are women. "What needs to be focused on is what can benefit women," she says.

### **International Plant Diagnostic Network: Sally Miller**

*Presentation highlights:*

Diagnostics are often treated as unimportant. The high value crops that the IPM CRSP deals with means that pesticides are used and over-used. Even at the professional level, there is a lack of education, and increasing diagnostic capacity is an ongoing activity. The program is working to expand its network through an online diagnostic system at the University of Florida, with a "low-tech" Excel spreadsheet as its counterpart. The program is working on developing diagnostic assays and protocols, reporting new diseases and pests, and prioritizing survey targets. Because surveys can be expensive, they are done in conjunction with regional projects. She talks about a survey on *Ralstonia* in Uganda by a student. The program is working on developing standard operating procedures, which will be used for training and for placement on a web portal. The program is also working on IPM recommendations and professional training, and they have trained hundreds of people in general and in-the-lab diagnostics. The minimum budget for a 15-20 person training workshop is \$25k. Pest and diagnostic training continues at OSU and OARDC-Wooster, where IPM CRSP trainees receive discounts.

*Discussion highlights:*

JB comments that the Horticulture CRSP is in the process of setting up innovation and demo centers in SE Asia, Honduras, and Tanzania that can house training events – would there be the possibility of collaboration with cost-sharing advantages? SM responds that one of the problems is getting money in the right places. GN and ME mention the collaboration with the AVRDC, something that is not working. ME mentioned that cost-sharing for training has worked with graduate students, and maybe this is an area where

the missions could help. When JB asked if this was a cost problem or something else, ME indicated that the AVRDC has said that unless they were provided \$1 million, the effort was not worth their time.

## **International Plant Virus Disease Network: Sue Tolin**

### *Presentation highlights*

Diagnosis of plant virus diseases is important for the appropriate interventions. In order to diagnose properly, the program involves virologists and entomologists who take the diagnostics and work with people who are in the field. The program likes to have technology transfer done by host-country people. Highlights of the program's work in every region are provided, including virus identification and capacity building through graduate student work, as well as challenges the program faces.

### *Break for lunch.*

Additional introductions of Laura Zselezcky (Graduate Assistant for Gender Global Theme) and Malvika Chaudhary (BioControl Industries in India) are made after lunch.

## **Parthenium: Wondi Mersie**

### *Presentation highlights*

The program's focus is on *Parthenium*, an invasive weed that originated in Central America and has spread to many African countries. It is a big problem in Ethiopia where it affects food security by displacing valuable crops and adversely affecting livestock and humans. The control for *Parthenium* is done by hand-weeding, mostly by rural women. The project's goal is to develop control mechanisms for *Parthenium*. The weed's history and presence in Uganda, Kenya, and Tanzania are reviewed. While the major focus is on biocontrol via a beetle called *Zygogramma*, which has been tested in Ethiopia, the program is also looking at evaluating a native species that can suppress *Parthenium*. The project supports three M.S. students, and has created a network of scientists from Australia, India, the United States, and eastern and southern Africa.

### *Discussion highlights*

MMc asked about health concerns associated with *Parthenium*. WM responded that when people come in contact with it, they develop rashes that are sometimes confused with other things, adding that it causes blisters on the mouths of livestock, rendering them unable to feed. MM added that the pollen is very allergic. ME asked why the weed can't be addressed with an herbicide. MM responded that the country would have to be hit every month, as the seeds last in the soil for years. One of the problems, MM adds, is that the approval for the biocontrol (*Zygogramma*) has been dragging on for two years. MM added that USAID asked the program to review the biocontrol and then have it reviewed by USDA, Ethiopia, and

Ethiopia's EPA – all of which the IPM CRSP has done. They are still waiting for final approval. JB asks, “Washington USAID keeps wanting you to do something?” and MM responds, “Yes. It's been two years.”

## **Impact Assessment: George Norton**

### *Presentation highlights:*

The program's goal is to apply a common set of methods for impact assessment in IPM CRSP regional programs, and the program has completed its surveys. In many cases, the program is measuring not just adoption, but also adoption profile surveys and the most cost-effective ways to get adoption of IPM technologies. The adoption occurs not just this year, but over a period of time. GN provides the example of pheromone trap spread in Bangladesh, where the regional program worked with the private sector, which sold traps to 50,000 farmers last year. The traps have saved \$100 million in losses, and the study was done as part of a graduate student's work. Other programs developing packages can learn lessons from the impact assessments. The program found that awareness is the key to adoption, the technology has to be easy to use, and the potential user has to perceive benefits from it. The programs need to put more emphasis on awareness and demonstration, need marketable products, and need to relay simple messages.

### *Discussion highlights:*

SKy asks about the efficacy of hands-on demonstrations. GN responds that there are many different kinds of these – field days, one-to-one, etc. They have costed out all of these models, but the answer about how many resources to put toward one versus another depends on the country. They look not just at impact but also at how to improve impact. ER comments that he'd like to see how this sort of information should be packaged. ER also asks, “What kind of information are the recipients going to use in a policy framework?” BD says that making the information available to BIFAD is important, because they can use it with Administrator Shah. Information can be sent to the BIFAD office, then on to USAID senior staff. BD notes that some of the content that they're interested in is private sector partnership and leveraging. MSh comments that there is a huge ecological impact that is not usually addressed. BD adds that the program cannot miss an opportunity to call attention to that – it's just important to not take it for granted that people understand it.

## **4. Topical presentations**

### **Bacterial Wilt: Sally Miller**

#### *Presentation highlights*

Bacterial wilt is a very critical disease, and for some crops, it's the most important pest. If a tomato plant gets this, it's going to die. But there are some pre-emptive things you can do;

this is what we've been working on. In some places the problem is new, but in some places it has been a scourge for a long time. Bacterial wilt affects 450 plant species. The United States considers it a quarantine pest – it's a "select agent," which means you will go to jail if caught with it. Bacterial wilt was introduced in the United States with geranium from Guatemala and Kenya, where it is a serious problem. If it were established in the United States, it would cause serious problems with tomatoes. It is a highly variable pathogen that is very persistent in the environment, and it survives in soil for many years and in water. While mulching can be helpful, developing a resistant plant is the most important way of dealing with bacterial wilt; 100% resistance is very unlikely. This is where grafting comes in – it is low-tech, but it works. There is a substantial increase in yield when grafted tomato plants are used versus non-grafted. There is a student working on this project, focusing on collecting and looking at rootstock against a wide variety of strains in South Asia.

#### *Discussion highlights*

ME asks if there is a way to do plant breeding. SM responds that there is, but none of them are 100% resistant. ST asks about a rapid molecular marker. SM responds that there is a real-time plant PCR assay. AF asks if there is a certified lab to test for the biovar, to which SM responds that there is.

### **Private Sector Involvement: Ed Rajotte**

#### *Presentation highlights*

The goal of the IPM is to develop, test, and evaluate appropriate IPM tactics and packages and then move these into dissemination pathways through extension services, NGOs, and the private sector (local and multinational businesses). Several examples are cited. In Indonesia, *Trichoderma* is being grown in labs and mass-produced, and in the Philippines, the farmers are producing VAM. In India, the papaya mealybug intervention has benefitted papain and silk production. BioControl Research Labs in Bangalore, India, has helped with upscaling many IPM technologies (*bacillus*, *Trichoderma*, pheromones for traps, and more) and distributing them around the country. Grafted plants are being sold by local companies in Bangladesh and Nepal. Ispahani Tea company has established a deal to distribute and produce IPM technologies. A U.S. private company is benefitting through the use of cuelure in fruit fly traps in Bangladesh. ER recommends that the program work with business development agencies (government and donors), hold a business showcase, and conduct publicity interviews on business successes.

#### *Discussion highlights:*

ME talks about how some technology developed with passion fruit in Kenya has been transferred to the private sector. He asks how the program can get more credit for the work. ER asks if the private sector recipients could speak up for the program at the missions. MMc explains that these things need to be documented for BIFAD and others and mentions that including MBA students on teams might help to engage businesses.

Opportunities for businesses in Asia versus Africa are discussed, and GN comments that there are opportunities to support individuals in innovation and entrepreneurship. ST, MM, and KM talk about areas for private sector development: seeds, nurseries, and pheromone traps.

*(Muni Muniappan introduces KRM Bhanu [KB] of BioControl Research Labs in India)*

KB talks about BioControl Research Labs' production of 20 different pheromones. The group discusses the Global Development Alliance and ways to link up to it. WM comments that banks don't lend money for start-ups in other countries, making it difficult for small agri-businesses to find funding. MMc comments that including someone from business schools on program teams will help tell these stories. GG talks about the need to engage with the banking and business worlds. GN explains that linking with iDE in Nepal allowed IPM products to be marketed in that country. GN then asks BD and MMc for comments and questions about IPM CRSP work.

BD talks about how impressed he is with the work that the CRSPs are doing with educating students, addressing ecological diversity, drawing on research, linking with the private sector, and drawing on resources when funding is limited. He says that the more documentation the program can provide him, the more it helps IPM CRSP's cause. CRSP work, he says, is very visible despite the modest financing, which is something the BIFAD board is aware of. BD talks about the current CRSP assessment led by Robert Jones, vice president of the University of Minnesota. MMc talks about needing the tools of documentation, especially where there are successes and huge impacts. The group talks about capacity building, relating it to impact. BD urges people to get in touch with alumni institutions to find program alumni.

MM asks where environmental and ecological impacts are shown in the FtF rubric. BD says that this is linked up in the sustainability impact, and that FtF looks at an "all of health" approach. MM talks about how the environmental impacts of feeding a large population should not be ignored and should be taken into consideration from the beginning. BD talks about having a BIFAD report in the next 12 months on the FtF program. DP, BD, MEC, and ME talk about the problem of focusing on staple crops at the expense of dietary diversification. MEC adds that the preference for high-calorie crops presents a gender issue: The fact that women are often responsible for feeding the families, and focusing on staple crops means affecting quantity versus quality.

BD, ST, PB, GN, and SM talk about graduate student funding. ST asks if there could be targeted funds for graduate education for CRSPs that are not part of each individual CRSP's budget. BD says that there is a sub-task force looking at the human/institutional aspect in development, and that Administrator Shah is aware of these concerns. PB comments that students will be out for multiple generations, creating a ripple effect. SM and GN talk about problems with the TRAINET system, especially when programs try to bring graduate degree-seeking students who have families to the United States.

MC and GN talk about how technology transfer is often difficult to do between countries, and how a network may help. MM and GN talk about mass media in program countries. GN comments that mass media can develop awareness of IPM and create training opportunities at a low cost. MM and DP talked about a program with farmers in India on All India Radio.

*(Fifteen minute break)*

GN goes over minutes from last August. There's one correction on minutes: p. 8: "We believe that it's must better." Fix: "much better." The group approves the minutes and moves on.

*(Marty McVey has left the meeting at this point.)*

## **6. Planning Meetings: Larry Vaughan**

*(Note: No presentation was given; the discussion was led by Larry Vaughan)*

ST and LV talk about attending the East Africa planning meeting, where participants distributed drafts of research summaries and discussed how to publish findings. GN adds that the meetings are more about reviewing and planning than just planning. MM says that there is generally one planning meeting per year for each program, and the management entity usually attends each planning meeting. MH talks about how the meetings, which are usually inexpensive to hold, are a chance for researchers across very large regions to come together. He also adds that the meetings work to develop and bring expertise to the region.

GN and DP say that the regional planning meeting sites rotate. ME talks about how the programs used to visit field sites more often during the meetings, but there is less of an opportunity to do that now. SM talks about the advantage of researchers getting field time, using an example of setting up an experimental design plot at a Philippines test-site with ER.

## **7. Recent Developments in USAID: John Bowman**

*(JB has a presentation, but discussion happens throughout – not after – the presentation.)*

*Presentation and discussion highlights:*

JB says that the news for the CRSPs looks good given the current areas of focus. He highlights a growing focus on sustainable intensification (SI). He also highlights Africa Rising as an upcoming project. He says that the primary research scopes being focused on are production, profit, gender, natural resource management, and nutrition, with secondary research areas on strong formal linkages.

MEC, JB, SM, ME, and MM talk about a recent call for proposals for short-term, six-to-nine month projects in FtF countries through USAID. SM comments that she submitted something for it, but MM questions the ability of the researchers to accomplish results in such a short time-frame. JB says that he expects that there will be more calls like this in the future, and 20–30 projects in the \$100-200k range will be supported in this round of proposals.

JB talks about how IPM could be looked at as an environmental service (a buzzword, and ES for short) and a systems approach to improve national capital in developing countries. He also mentions the development of new capacity building programs, adding that developing country students are coming here and students here are going there. He says that BIFAD has gotten lot of input that this is a high priority.

JB talks about increasing CRSP collaboration and interfacing with the mission value chain, both priorities in terms of self-preservation and standing out from other CRSPs. He adds that the CGIAR should be convinced of the IPM CRSP as an environmental service. He said that there are other capacity building opportunities and initiatives to be aware of, not necessarily for the CRSPs, but for students working with the CRSPs.

JB says that the FtF initiative required a change in direction, sometimes requiring cutting or diluting programs. He said that he has mentioned the idea of having reserved or built-in funds for the CRSPs, so this doesn't have to happen. Everyone says that this is how the funding used to work. GN, ME, and LV indicate that the change was because of a shift to open competition for the IPM CRSP awards, adding that going back to the reserved fund would likely be welcome. JB comments that because missions do not have input early on, a reserved fund might be helpful for the CRSPs to have the capability to adjust based on mission needs.

MM raised a question about the funding cut for SANREM and IPM, a cut made because they weren't working in FtF countries. JB says that other CRSPs and the CG system was cut. SM adds that it would have been helpful to have reasons other than, "you're not working in the FtF countries." JB says that USAID can only say so much, but they do not make arbitrary decisions.

LV asks what the future is for CRSPs in non-FtF countries. JB responds that this is an exercise for extreme focus on strategic countries, with more focus as opposed to expansion likely to happen. JB says that he thinks that there will be a certain allowance to work in other non-FtF countries.

## **8. Closing comments**

GN draws the meeting to a close and asks GG for closing comments.

GG thanks the group for sharing the work of the IPM CRSP, adding that it makes a very compelling case for the partnerships between us and other universities. He is impressed with the program and Muni's leadership. He recognizes Sally's comments about graduate and undergraduate students. He mentions the impact that the program has with farmers around the world. He asks for an increased focus on the human element to show how real-life people are affected by the program's work.

MM thanks BD, GG, MMc, and JB for attending, adding that it was very productive and useful to have them here. He thanks LV, AF, MR, and MS for taking care of all of the local arrangements and the PIs for joining. He also mentions two upcoming IPM CRSP events.

BD thanks MM, GN, and GG. He commends the work of the IPM CRSP on behalf of BIFAD. He says that, in regards to the USAID topics LV and JB were talking about, all he can tell us is that Administrator Shah asks us to think big. If you're thinking big, he says, every little piece counts. BD says that in the case of the IPM CRSP, it's about focusing on the welfare of farmers and contributing to the capacity to feed the world, adding that this gives you the sense of the importance of all of this.

GN says that he appreciates MMc, JB, and GG attending the meeting. He seconds what MM said, and thanks MM and the management entity.

*Meeting closes at 4:00.*