

TRIP REPORT: IPM CRSP GENDER GLOBAL THEME TRIP REPORT

Maria Elisa Christie, Gender Equity Coordinator for IPM CRSP

P.I. for the Gender Global Theme in the IPM CRSP

Countries visited: Ghana and Mali

Dates: July 7 – August 2, 2011

Travelers: Maria Elisa Christie, Virginia Tech
Laura Zseleczky, Virginia Tech (stays to finish fieldwork in Ghana through August 13)

Purpose: Hold Gender and Participatory Methodologies Workshops in Ghana and Mali
Plan and initiate impact assessment survey in Ghana and Mali
Train surveyors for gender and impact assessment research in Mali
Launch IPM GRA Master's Thesis research (Laura Zseleczky)
Launch qualitative research and a survey to obtain baseline information on gender and pesticide use and safety in the three villages where IPM CRSP is to begin work on tomatoes in Mali, and new IPM site in Tuobodom in Ghana.
Initiate comparative study for the Gender Global Theme in Ghana-Mali.

Sites visited: Kumasi, Ghana
Agogo, Ghana
Techiman, Ghana
Tuobodom, Ghana
Ouéléssébougou , Mali
OHVN's Centre de Formation et d'Animation Rurale (CFAR) at Ouéléssébougou (OHVN=Office de la Haute Vallée du Niger)
Villages of Dafara, Freintoumou, and Dialakoroba in Ouéléssébougou

Summary description of activities:

All activities were in conjunction with the West Africa Regional Program of IPM CRSP, and coordinated with host county partners-- in Ghana, the Crops Research Institute (CRI), and in Mali, l'Office de la Haute Vallée du Niger (OHVN).

The visit to Ghana consisted of pre-testing of a socio-economic survey, focus group activities and household visit methodologies in Agogo; planning the socio-economic survey activities; training leaders of the break-out groups in the Gender and Participatory Methodologies workshop; holding the workshop in Techiman, with field activities in Tuobodom; and launching Virginia Tech student research on gender in IPM in Tuobodom. All goals were met beyond expectations. The effort was

part of the Gender Global Theme of the IPM CRSP, and the Impact Assessment Global Theme of the IPM CRSP.

In Mali, the Gender Global Theme held a workshop entitled “Gender and Research Methodology Workshop: Baseline for assessing impact of IPM CRSP on practices, knowledge, beliefs, and perceptions surrounding pesticides for tomato production.” Its purpose was to train surveyors, carry out a rapid gender appraisal, and begin a baseline study with farmers in three villages in Ouéléssébougou (Dafara, Freintoumou, et Dialakoroba), Mali. The workshop was held at OHVN’s Centre de Formation et d’Animation Rurale (CFAR) at Ouéléssébougou. The effort served to initiate IPM CRSP work on tomato with the three villages.

In both Ghana and Mali, the workshop included Focus Group discussions and household visits with variety of activities including interviews. Participants worked in a gender-segregated fashion, with the women participants leading the women’s focus groups and interviewing women and vice versa with the men. The workshop concluded with presentations by participants. Plans were then made for immediate implementation of the survey primarily (by CRI in Ghana, and in Mali, by OHVN, with data entry and analysis of the data by IER).

Plans were made to implement the survey in Ghana in August, and in Mali in September.

See full reports on Ghana and Mali workshops, below.

Chronology and description of activities:

- Thursday, July 7: Arrival in Accra, Ghana
- Friday, July 8: Travel to Kumasi
- Saturday, July 9: Preliminary planning meeting with Joyce Haleegoah, CRI; market visit and unstructured interviews with pesticide vendors
- Sunday, July 10: Reviewed and prepared materials for pretesting
- Monday, July 11: Met with CRI director Dr. Hans Adu-Dapaah; planning and preparation for pretesting
- Tuesday, July 12: Pretesting and revision of survey in Agogo
- Wednesday, July 13: Pretesting and revision of Focus Group Discussion and Household Visit methodologies in Agogo
- Thursday, July 14: Revision of workshop materials
- Friday, July 15: Printing and compilation of workshop materials; training of trainers for workshop team leaders
- Saturday, July 16: Final preparation of workshop materials; compilation of weekly notes
- Sunday, July 17: Revision of student research timeline; development of student research coding system for respondents
- Monday, July 18 – Friday, July 22: Gender and Participatory Methodologies Workshop, Techiman
- Saturday, July 23: Workshop wrap-up and reporting; fly to Accra
- Sunday, July 24: Write workshop report in hotel. Fly to Bamako, Mali

- Monday, July 25: Met with OHVN Director General Issa Djire; planning and preparation for workshop with Mah Koné, Issa Sidibé, and Bocoum Boubacar.
- Tuesday, July 26-29: Gender and Research Methodology Workshop: Baseline for assessing impact of IPM CRSP on practices, knowledge, beliefs, and perceptions surrounding pesticides for tomato production, held at OHVN's Centre de Formation et d'Animation Rurale (CFAR) Ouéléssébougou.
Met with Associate Director (Directeur General Adjoint) of OHVN, Mamadou Lamine Sylla, Souleymane Zanga Bamba, Chef du Secteur for Ouéléssébougou (who participated in day one of the workshop), Cheik Omar Coulibaly, Chef du Secteur Adjoint for Ouéléssébougou.).
- Saturday-Sunday July 30-31: Write reports in hotel
- Monday August 1: Wrap-up meeting with Mah Koné, Issa Sidibé and Bocoum Boubacar; meet with OHVN Director General
Meeting with Mme. Gamby, Institut d'Économie Rurale (IER); Midnight flight to Paris and on to Roanoke

Training Activities Conducted

Non-degree Training

Gender Global Theme in West Africa, Ghana only, 2011

| 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 | | |
| Workshop in Agogo, Ghana (half-day) | July 12 | Drs. Awere Dankyi and M.E. Christie, Laura Zseleczky (Va. Tech) and Bright Owusu Asante, Agricultural Economist CSIR-Crops Research Institute. | 2 | 2 | Virginia Tech (CCRA PI) and CRI/host country institution | Pretest gender/socio-economic impact survey for implementation in Ghana and to serve as basis for other surveys in Gender Global Theme |
| Workshop in Agogo, Ghana (day-long) | July 13 | Laura Zseleczky, Leticia Dawson, Joyce Haleegoah. | 0 | 3 | Virginia Tech (GGT PI) | Pretest qualitative research instruments and field-train key members of team for workshop. |
| Train-the-trainers workshop (half-day) at CRI, Kumasi, Ghana | July 15 | CRI scientists and technicians | 2 | 2 | Virginia Tech (GGT PI) | Train team leaders for Gender and Participatory Methodology workshop the following week |
| Gender and Participatory Methodology | July 18-22 | Members of the IPM CRSP Ghana network of collaborators: scientists and | 12 | 12 | Virginia Tech (GGT PI) | Increase understanding of gender and USAID requirements and present participative |

| | | | | | | |
|---------------------------------|---------|---|----|----|--------------------------|---|
| workshop Techiman, Ghana | | technicians from the Crops Research Institute, Agricultural Extension Agents from 3 regions in the country, and technicians from the Ministry of Agriculture; US-based GRA for IPM CRSP Gender Global Theme | | | | methodologies aimed at increasing women's participation in and benefit from IPM CRSP research. Train partners and collaborators in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations |
| Workshop/Focus Group Activities | July 20 | Tomato producers from Tuobodom, Brong Ahafo Region, Ghana | 36 | 12 | Virginia Tech (GGT PI) | Train partners and collaborators in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations; technical assistance provided by CRI scientists and MoFA AEAs in plenary session |
| Household visits | July 20 | Tomato producers from Tuobodom, Brong Ahafo Region, Ghana | 4 | 4 | Virginia Tech, CRI, MoFA | Raising awareness of problems affecting tomatoes and their possible solutions—including those less dependent on high doses and frequent applications of pesticides |

Non-degree Training

Gender Global Theme in West Africa, Mali only, 2011

| 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 | | |
| Workshop in Ouéléssébougou; final day in Bamako, OHVN office. | July 26-29 | 9 staff from OHVN and one researcher from IER. Includes IPM CRSP gender point person for Mali; IPM project leader was present first day. OHVN's Chef du Secteur for Ouéléssébougou, Zanga Souleman Bamba, also participated the first day. | 6 | 5 | Virginia Tech (GGT PI) | Pretest gender/socio-economic impact survey for implementation in Mali. Begin to implement survey in 3 communities. Increase understanding of gender and present participative methodologies aimed at increasing women's participation in and benefit from IPM CRSP research. Train partners in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations |

| | | | | | | |
|---------------------------------|----------------|--|-----------------------|-----------------------|---------------------|---|
| Household visits and surveys | July 26 - 27 | Tomato producers in the villages of Dafara, Freintoumou, and Dialakoroba in Ouélessébougou (4 households in each village, two women and two men interviewed in each village) | 6 | 6 | Virginia Tech, OHVN | Raising awareness of problems affecting tomatoes and their possible solutions—including those less dependent on high doses and frequent applications of pesticides |
| Workshop/Focus Group Activities | July 27 and 28 | Tomato producers in the following villages: Dafara (18 men/10 women) Freintoumou (10 men/10 women) Dialakoroba (5 men/7 women) | 18 10 5 | 10 10 7 | Virginia Tech, OHVN | Train partners and collaborators in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations; technical assistance provided by OHVN |

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Maria Elisa Christie



| IPM CRSP (Tomato) | | | |
|---|-----------------------------|--------------|--------------------------------------|
| GENDER AND PARTICIPATORY METHODOLOGY WORKSHOP | | | |
| GROUP 1 | DISCIPLINE | PHONE NUMBER | EMAIL |
| Dr Joseph Nketiah Berchie | Crop Physiologist - CRI | 0243709476 | jnberchie@yahoo.com |
| Chanagia Edward Smart | A.E.A – Upper East | 0246862741 | |
| Pricilla Francisco Ribeiro | Plant Biotechnologist - CRI | 0244723713 | Prisboat@yahoo.com |
| Ketor Kobia Kugbe | A.E.A - Akomadan | 0244668454 | kenket1966@gmail.com |
| Gifty Kwantwiwaa | A.E.A – Techiman | 0243412623 | |
| GROUP 2 | | | |
| Agnes Ankomah | Biometrician - CRI | 0244541714 | aaankomadanso@yahoo.co.uk |
| Abdulai Mugiss | A.E.A – Brong Ahafo | 0249268199 | badigamsii@yahoo.com |
| Dr. Moses Brandford Mochiah | Entomologist - CRI | 0244213204 | mbmoch@gmail.com/mochiah63@yahoo.com |
| Benedicta Nsiah Frimpong | Agric-Economist CRI | 0244106392 | benenash@yahoo.co.uk |
| Osman Bawa Issaka | A.E.A – Upper East | 0245224297 | |
| GROUP 3 | | | |
| Alexander Adu-Appiah | Agri-Business - CRI | 0207646369 | aalexappiah@hotmail.com |
| Felicia Akudago | A.E.A - Techiman | 0247944132 | |
| Dr. Kingsley Osei | Nematologist CRI | 0244131944 | oseikingsley4@gmail.com |
| Matilda Ayirebi Dansoh | Agro-Forestry - WIAD | 0244618790 | babstonegl@yahoo.com |
| David Obeng Dauda | A.E.A – Agogo | 0246289082 | |
| GROUP4 | | | |
| Zippora Appiah-Kubi | Pathologist - CRI | 0244648651 | zipak1@yahoo.com |
| Iddris Abdulai Salifu | A.E.A – Tanoso-Techiman | 0242924239 | abdulaisalifuddris@yahoo.com |
| Leticia Dawson | Economist | 0245817238 | Marlit20@yahoo.co.uk |
| GROUP 1 | | | |
| Dr. Joseph N. L. Lamptey | Pathologist | 0244861290 | jnillamptey@yahoo.co.uk |
| Atinga Robert Baba | A.E.A – Upper East (Bongo) | 0549603057 | |

Participants and team composition in Ghana

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Participants in gender workshop at Ouélessébougou, Mali OHVN/Virginia Tech, July 26-29, 2011

| Team # | Member | Name | Position/institution* |
|--------|--------|------------------|---|
| 1 | A | Anna Dembélé | Chef de Section, Développement Communautaire |
| 1 | b | Youman Travelé | Animatrice rurale, Ouélessébougou |
| | | | |
| 2 | a | Aissata Samaké | Animatrice rurale, Dialakoroba |
| 2 | b | Kadiatou Soumaré | Chef de Volet, Project Communautaire et Coordinations des Projets |
| | | | |
| 3 | a | Bocoum Boubacar | Chef de Volet, Élaboration des Projets et Rapport |
| 3 | b | Mama Diarra | Chercheur, IER |
| | | | |
| 4 | a | Daou Birama | Technique Organisation paysanne |
| 4 | b | Talibi Sanogo | Chef de Volet, Alphabétisation Fonctionnelle |
| | | | |

*All OHVN except Mama Diarra from IER

Gender and Participatory Methodology Workshop

IPM CRSP, Virginia Tech and CRI, Ghana (July 19-22, 2011)

Report by Dr. Maria Elisa Christie, PI for Gender Global Theme in IPM CRSP, Program Director of Women in International Development at the Office of International Research, Education, and Development (OIRED), Virginia Tech

Summary

The IPM CRSP West Africa Regional Program in Ghana, led by Virginia Tech in partnership with CRI, held a Gender and Participatory Methodology Workshop to build capacity and begin a baseline study with farmers in Tuobodom, Brong Ahafo Region, Ghana. The effort served to increase the presence of IPM CRSP among participants and farmers. The workshop was held at the Dery Hotel in Techiman, Brong Ahafo Region, Ghana. The workshop included 24 participants, including senior scientists (a crop physiologist, entomologist, nemotologist, and two pathologists) from CRI and a representative from the Ministry of Agriculture's (MoFA) Women in Agricultural Development (WIAD) program. There were also agricultural extension agents from all three regions where IPM CRSP will be working and which are important tomato-growing areas in the country: Upper East, Brong Ahafo, and Ashanti. Gender balance was achieved (12 men, 12 women). All participants have extensive experience working with farmers and will be able to apply techniques learned on the ground; indeed, they made written and oral commitments to do so. The quality and diversity of participants, and their level of interest, focus, and engagement made this a very successful event. Participant goals included gaining better understanding of gender roles in relation to the tomato IPM CRSP project and better knowledge of issues of gender equity. Participants also wanted to learn more about how farmers use chemicals and the effects of these chemicals, and to get a better understanding of IPM; while there were several discussions and opportunities to discuss these, both among workshop participants and with the farmers, a follow-up workshop (with participants and with the farmers, separately) is recommended to address these goals. The workshop was opened by Dr. Hans Adu-Dapaah, Director of CRI, and Mr. Augustine Akona, representing the director of the Ministry of Agriculture; they participated in all day one activities as well. Members of the press (Radio Ghana and Radio Brong Ahafo Region) attended the first day also. The participants included Laura Zseleczky, Masters student at Virginia Tech, and Leticia Dawson, National Service

Personnel working with CRI, who will continue work in Tuobodom during two weeks of follow-up field work.

Goals of the workshop

1. Increase gender awareness and commitment to gender issues in Ghana Program
2. Build host country capacity to increase equity, empowerment, and sustainability through gender-sensitive research and participative methodologies
3. Understand how gender issues and women's participation play a role in success of IPM objectives
4. Increase the profile of gender issues and activities in IPM CRSP programs
5. Identify gender-based constraints and opportunities in Ghana Program

Outcomes/Products

1. 4 day workshop on gender and participatory methodologies in Ghana
2. Basic gender literacy among IPM CRSP directors, researchers and extension
3. Exposure to quantitative and qualitative gender research tools
4. Model/tool to implement gender-sensitive, participatory research in the field
5. Recommendations and plan for integrating gender and addressing equity issues in participating institutions

Activities

Prior to the workshop, the team spent several days in the field in Agogo pre-testing the survey and qualitative research methods, as well as training team leaders at CRI. The workshop began with a half day of introductory presentations, where workshop materials were distributed to participants including handouts of activities for the workshop, background materials, and a CD with all of the workshop and background documents. The second day was a full day of presentations on gender awareness, participatory research methods, gender analysis framework, and preparation for the next day's field exercises. The following day consisted of focus group activities with 48 farmers (36 men, 12 women) in the morning and 8 household visits (4 men and 4 women) in the afternoon. These activities were conducted in a gender-segregated fashion in order to create more opportunities for women farmers to express themselves: women workshop participants facilitated women's focus groups and interviewed women farmers while men workshop participants facilitated men's focus groups and interviewed men farmers. The final day of the workshop consisted of reporting findings, analysis of data, identification of gender-based constraints, and recommendations for action. Team leaders met to assess the workshop and make recommendations following the close of the workshop.

The agenda was changed and workshop activities reorganized four times to accommodate 1) the director's and scientists schedules due to a morning symposium at CRI, 2) the AEA's request that meeting with farmers be at 6:00 a.m., 3) farmers' requests for meeting for household visits

on the same day of the Focus Groups rather than the next day as we had already interrupted their farming activities, and 4) participants' requests for working late and finishing on Thursday rather than finishing on Friday, given their long travel time. Organizers and participants adapted to these changes and worked well together in a dynamic relationship to achieve workshop goals.

See agenda below. Also, see additional file for photos of the entire process.

Methods used

The workshop introduced the Gender Dimensions Framework (GDF) and used it to analyze data collected during field days. The GDF contemplates four dimensions: access to and control over key productive assets (tangible and intangible, including knowledge); beliefs, and perceptions; practices and participation, and laws, legal rights, policies, and institutions. In addition to these four is the cross-cutting dimension of power. The GDF was developed to provide guidance to USAID staff and partner organizations for working with USAID projects looking at promoting equitable opportunities in agricultural value chains. (See Rubin, D., Manfre, C. and K.N. Barrett. (2009). Promoting Gender Equitable Opportunities in Agricultural Value Chains [Handbook]. Greater Access to Trade Expansion (GATE) Project under the Women in Development IQC. USAID.)

Focus group activities included a timeline, activity chart, and mapping exercises. In the timeline, farmers were asked to chart changes in their tomato production and pests and diseases over time. The activity chart showed which gender carried out different productive, reproductive, and community activities. The options on the chart were: only men, men with the help of women, men and women equally, women with the help of men, and only women. The mapping exercise involved having farmers draw “the path of the pesticide” from the place of purchase to its final destination.

Household visit activities included photo interpretation, mapping, semi-structured interviews, and household observation. In the photo interpretation activity, farmers were asked to describe three different photos: one showing diseases and pests on tomatoes, one showing a man carrying pesticides on his bicycle, and one showing naked children in a field. This activity aimed to gauge farmers' perceptions and knowledge of pest problems and issues of pesticide safety. The same mapping exercise (“the path of the pesticide”) as in the focus groups was used in the household visit. The semi-structured interview, below, was a sub-set of question drawn from the socio-economic survey pretested the week prior to the workshop. A sub-group of participants translated the household interview guide into Twi for more consistent discussion and so that the teams could better explain the concepts to the farmers (see also below).

Engagement with farmers

The group met with 48 farmers in 8 small focus-groups and plenary session, and with 4 women and 4 men farmers for 8 household visits.

The field day served as an opportunity to introduce IPM CRSP, for farmers, extension agents, and scientists to have a discussion about pest management, and for IPM CRSP to provide technical assistance. It also provided an opportunity for farmers to learn from each other, which was particularly important since this population does not have an active farmers' association. It generated interest in learning about alternatives to chemical methods of pest management and methods to increase production. Both focus group and household activities created opportunities for extension and IPM CRSP to build on in the future. Farmers showed interests in the discussions and in particular in learning how to manage pests and diseases with their tomatoes. While "only" one third of the farmers in the focus groups were women, one team leader pointed out that rather than looking at it as a disparity between 12 and 36, this represented going from zero women in such a meeting to 12. Obtaining the 12 woman was especially difficult given that women have recently withdrawn from tomato production.

Note that Abdulai Mugiss, the AEA now responsible for Tuobodom, is only temporarily replacing the regular AEA (who has gone to school) and thus has no prior relationship with farmers or site-specific information.) Regardless, he was able to pull together the focus group. With the household interviews, some farmers who had agreed to participate during the focus group were not available; we found that farmers could also be recruited on the spot with a visit to their homes.

Key agricultural findings (field reports are available from each of the 4 break-out groups)

Farmers have witnessed increases in pests, decreases in production, increases in use of pesticides, reporting as much as 70-100% losses. Despite this, it is important to note, and an opportunity for IPM CRSP, that both women and men farmers express ongoing interest and determination, and express "hope that it will get better." But many women have stopped production because of the losses and their inability to pay back loans.

They have a big problem with fertilizers, and all expressed negative ideas about it. Some no longer using any after a batch they received burnt all their crops.

Farmers make chemical cocktails out of variety of pesticides.

Because farmers often buy pesticides on credit, even when the vendor does not have what they want, they feel obliged and buy whatever the vendor does have in stock and is recommending.

Farmers are aware that pests have developed resistance.

All farmers reported taking pesticides from the store directly to the farm and burying the containers there, though this was found to not always be the case and requires further investigation. It was not clear where the container for mixing was stored after use or if clothes were washed after applying pesticides.

The most alarming finding was that farmers use scent as the principal means of determining whether the pesticide mixture is the right potency and do not show awareness of any risk associated with this.

All farmers reported using their own seeds or those of other farmers; scientists in the workshop called for the introduction of new and resistant varieties of seeds. (Some men farmers expressed interest in having new varieties.) Farmers do not associate any problems with using their seed over and over again.

The picture of the children in the field showed that people have some awareness of basic issues of hygiene and risks of soil-borne diseases. Interestingly, several people noted the risk of insects as a danger to the children, while very few mentioned the risks of pesticides. Since people do not use pesticides on their groundnut (the photo was of a groundnut field—no photo of children in a tomato field was available), it was decided to ask a fourth question when showing this picture if the farmers had not mentioned pesticides: “What if this were a tomato field?” This did prompt responses regarding pesticides as a concern.

Every farmer recognized the pesticide bottle in the picture of the man on the bicycle; some felt it was dangerous and could spill on him or the ground, while others said he was carrying it correctly and there was no problem (one said there would be a problem if he carried on the back and thus would not know if it spilled on the ground, where it could hurt others).

While farmers know that it is recommended to leave pesticide containers in the field, they do not see a problem with storing the drum used for mixing in the house.

Gender-specific findings

Women fully participated in women-only focus group whereas they do not in mixed groups. In the final plenary women did present their results, some alongside workshop participants for support, but only one woman (compared to 5 men) expressed views in the discussion.

Women have been withdrawing from tomato production. Women’s greater vulnerability makes it more difficult for them to resist shocks.

Because women depend on hired male labor for land clearing and preparation, and have less money than men, this creates a labor bottleneck and impediment to tomato production for women.

Farming tasks are segregated by gender; all the men's and women's focus groups agreed that men do the weeding. Women farmers hire men laborers for this task, while men farmers can hire out but also do it themselves. This, as with land preparation, also a man's task, presents insurmountable challenges to some women given their lower resources.

In addition to participating in the majority of the farm tasks, women carried out all the socio-economic reproductive activities in the home, with men helping sometimes with child care; we added a task to address men's provision of funds for caretaking as this was considered important by both men and women and led to the chart incorrectly that men and women equally share some domestic chores.

While agreeing on who does what in most activities, men and women had different perspectives on a few. For instance the majority of men said men alone buy agrochemicals, while three women's groups reported that men and women equally buy them, and one said women only. The latter may be due to the fact that some women own their own fields (or work their own fields) and go buy the chemicals alone. All the men's groups said only men apply the pesticides, while two of the women's groups agreed, and two said men with the help of women.

Notably, all of men's groups and two of the women's said only men participate in trainings.

This exercise also pointed to the need for scientists to learn from the farmers (in each site, as gender roles differ). In the activity chart done by the pre-workshop team leaders' training, they marked "men and women equally" for "weeding," whereas all four men's groups and three of the for women's groups said "men only." The other women's focus group said "men and women equally." This indicates that weeding is a man's task and that even women producers have to hire male labor for this; thus, like land preparation, it presents a labor bottleneck that combined with women's few resources and lack of credit can push women out of tomato production.

Impacts

Impacts were on multiple levels and met the three goals of the IPM CRSP Gender Global Theme: capacity building, research, and gender equity. Impacts were on the workshop participants themselves, and on the farmers that took part in the focus group and household visit activities. Given the work responsibilities and commitments of workshop participants, various techniques for increasing gender equity and increasing the participation of women will impact many future farmers as well. In addition, the presence of two high-level administrators (CRI and MoFA) contributes to greater gender awareness and potentially increasing gender equity at the institutional level. The presence of two reporters (radio and printed media) is expected to lead to diffusion of the workshop that will raise the visibility of IPM and of gender issues; at the least,

the media representatives, who stayed the full first day, were made aware of gender and IPM, and of IPM CRSP and Virginia Tech's work in the region. Finally, the workshop left a wealth of data that will be used by researchers at CRI and Virginia Tech, and the Ministry of Agriculture.

Awareness was raised among participants of potential health impacts of pesticides, the possibility of alternatives to chemical application of pests and diseases, the extent and importance of gender inequities for agriculture. They also learned the meaning and importance of qualitative and quantitative indicators.

The week of exercises provided participants with the tools to carry out a gender-sensitive Participatory Rural Appraisal and to use the Gender Dimensions Framework analyze results. The CD with workshop documents will support this.

Workshop participants learned strategies for increasing women's participation in training and agriculture and committed to applying these in their work.

They learned that it was possible to increase production while reducing the use of pesticides.

This workshop will have multiplying effects on thousands of farmers due to the nature of the participants' work, the techniques they learned, and the commitments they made at the close of the meeting. The workshop has the potential to impact over 9,000 farmers through the 9 agricultural extension agents that participated (each AEA works with at least 10 communities in the operational area within the district in which they work. Each community has at least 100 farmers.) In addition, one of the participants was from the Women in Agricultural Development directorate of the Ministry of Food and Agriculture who works with women in farming communities and thus will have a multiplying effect as well.

Each workshop participant committed to implementing methods that increase women's participation, such as those practiced in the workshop, thus increasing the opportunity to enhance gender equity within and beyond IPM CRSP. Participants wrote commitments down and signed them, and made them publicly at the graduation ceremony. The intent is for people to keep their word on testimony before the group. They retained their commitment sheet for future reference, while IPM CRSP has photocopied versions for impact assessment later on.

The workshop provided a data set of information about farmers' perceptions, practices, and problems for use and analysis by CRI researchers. In addition, this data set, as well as the capacity-building effort through this workshop, will facilitate adding a gender dimension to CRI research.

Recommendations for CRI and IPM CRSP

The biggest problem that was found was the lack of access to education (for men and women) and the need for education in order to allow farmers to understand basic safety measure for handling pesticides as well as IPM alternatives. The workshop participants called for IPM CRSP to address this through a variety of educational techniques (outreach, informal education, etc.). IPM CRSP has the opportunity, and could make a major impact. Women's lack of access to training is also IPM CRSP can address head on using the participation strategies presented in the workshop.

Working with women in separate focus groups and having women interview women in household visits is recommended as the participants felt this clearly created space for women to speak freely, whereas in the meetings they generally have with farmers, women may be present but do not participate.

Organizing a farmers' association, including one for men and one for women only, is recommended to facilitate IPM CRSP and agricultural extension to work with this population on IPM for their tomatoes and especially to enhance women's ability to obtain credit.

The same group of workshop participants should be brought together for training on IPM because they are interested in promoting it, but many do not have enough information about it.

Because IPM CRSP is targeting market-oriented tomato farmers—and these farmers referred to tomatoes in those terms—it needs to consider the value chain and the link to processors and consumers. This could include arranging meetings between farmers and tomato processors in the area, developing educational materials for market vendors who seek tomatoes with evidence of pesticide spraying, and targeting consumers who may be concerned about their health with educational programs or materials (using radio and other mechanisms).

It is important that IPM CRSP return to the farmers involved in the workshop activities and formally meet with them to provide information and training on alternatives to pest management.

Sample questions for further exploration

Is it true that women are disproportionately dropping out of tomato farming?

Is it because they can't pay their loans?

If women dropped out of tomato production, what are their livelihood strategies now?

What do people see as the problem in the field: insects or pesticides? What do they do about them?

What happened to the tomato-growers' association?

What happened with fertilizer?

Look at where farmers mix the pesticides and what is done with the containers used for mixing (Do they wash them? Where? Do they store them? Do they use them to hold other things (salt, water)?).

Evaluations

Evaluations were carried out at the end of each day. Participants were generally very enthusiastic about the workshop, engagement with farmers, level of presentations, and participant engagement. The field day in Tuobodom went very well. It provided an opportunity for discussion with farmers and for farmers to present their knowledge. There were complaints about the infrastructure and lack of food and vehicles. These shortcomings relate to the insufficient budget that was allocated to the implementation of this workshop. Some participants stayed at the Dery Hotel, while others stayed at the Dymes Hotel. While the conference room at the Dery Hotel met the needs of the workshop, it is not recommended for lodging in the future. The Dymes Hotel is recommended for lodging.

Team

The workshop was facilitated by Dr. Maria Elisa Christie, PI for the Gender Global Theme of the IPM CRSP, assisted by Laura Zseleczky, Graduate Research Assistant for the Gender Global Theme of the IPM CRSP. Primary responsibility for coordinating the workshop in Ghana was taken by Joyce Haleegoah, Regional Gender Coordinator for IPM CRSP West Africa. Initial planning for the workshop was undertaken by Mrs. Haleegoah and Michael Osei of CRI. In-country support was provided by Dr. Moses Brandford Mochiah. Team leaders for each of the four breakout groups during the workshop were: Dr. Joseph Nketiah Berchie, Agnes Ankomah, Alexander Adu-Appiah, and Zippora Appiah-Kubi. Administrative support was provided by Julia Haleegoah and Harriet Dwamena. Agricultural extension agent Abdulai Mugiss arranged focus group discussions and interviews with the farmers.

Non-degree Training

Gender Global Theme in West Africa (Trip July – August 2011) 2011 (FY 2)

| 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 | | |
| Workshop in Agogo, Ghana (half-day) | July 12 | Drs. Awere Dankyi and M.E. Christie, Laura Zseleczky (Va. Tech) and Bright Owusu Asante, Agricultural Economist CSIR-Crops Research Institute. | 2 | 2 | Virginia Tech (CCRA PI) and CRI/host country institution | Pretest gender/socio-economic impact survey for implementation in Ghana and to serve as basis for other surveys in Gender Global Theme |
| Workshop in Agogo, Ghana (day-long) | July 13 | Laura Zseleczky, Leticia Dawson, Joyce Haleegoah. | 0 | 3 | Virginia Tech (GGT PI) | Pretest qualitative research instruments and field-train key members of team for workshop. |
| Train-the-trainers workshop (half-day) at CRI, Kumasi, Ghana | July 15 | CRI scientists and technicians | 2 | 2 | Virginia Tech (GGT PI) | Train team leaders for Gender and Participatory Methodology workshop the following week |
| Gender and Participatory Methodology workshop | July 18-22 | Members of the IPM CRSP Ghana network of collaborators: scientists and technicians from the Crops Research Institute, | 12 | 12 | Virginia Tech (GGT PI) | Increase understanding of gender and USAID requirements and present participative methodologies aimed at increasing women's participation |

| | | | | | | |
|---------------------------------|---------|--|----|----|--------------------------|--|
| Techiman, Ghana | | Agricultural Extension Agents from 3 regions in the country, and technicians from the Ministry of Agriculture; US-based GRA for IPM CRSP Gender Global Theme | | | | in and benefit from IPM CRSP research. Train partners and collaborators in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations |
| Workshop/Focus Group Activities | July 20 | Tomato producers from Tuobodom, Brong Ahafo Region, Ghana | 36 | 12 | Virginia Tech (GGT PI) | Train partners and collaborators in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations; technical assistance provided by CRI scientists and MoFA AEAs in plenary session |
| Household visits | July 20 | Tomato producers from Tuobodom, Brong Ahafo Region, Ghana | 4 | 4 | Virginia Tech, CRI, MoFA | Raising awareness of problems affecting tomatoes and their possible solutions—including those less dependent on high doses and frequent applications of pesticides |

WORKSHOP AGENDA

(Version actually implemented, after changes departing from original plan)

Day 1:

- 3:00-4:15 Registration
- 4:15-4:30 Opening (Words from CRI Director and representative on behalf of MoFA Director)
- 4:30-4:35 “Vote with your feet” exercise
- 4:35-4:45 Workshop goals and outcomes
- 4:45-5:00 Break for group picture (for workshop record and media representatives)
- 5:00-5:30 Women in Agriculture: the Gender Global Theme in IPM CRSP (Dr. Maria Elisa Christie)
- 5:30-5:45 Snack break
- 5:45-6:30 IPM Country Program overview and questions/discussions (Dr. Moses Brandford Mochiah)
- 6:30-6:45 Evaluations and Wrap up

Day 2:

- 8:05-9:10 Gender awareness: exercises and discussion (discussed difference between sex and gender; “It’s a boy!” activity; “What if you were born the opposite sex?”; “Why are we like this?”)
- 9:10-9:45 Women in Agriculture in Ghana (Joyce Haleegoah)
- 9:45-10:00 Snack break
- 10:00-10:10 Discussion of logistics for field work tomorrow
- 10:10-10:25 Strategies for increasing women’s participation
- 10:25-11:35 Gender Dimensions Framework (presentation; “Conditions and Inequality” chart)
- 11:35-11:50 Measuring equity and impact: qualitative and quantitative indicators
- 11:50-12:15 Participatory methodologies (presentation)
- 12:15-1:30 Lunch

1:30-4:00 Activities for focus group discussions (Day 3)
4:00-4:15 Snack break
4:15-4:30 Activities for household visits (Day 4)
4:30-4:40 Evaluations and wrap up

Day 3: Field work (focus group discussions and household visits)

5:50-6:10 Transport to Tuobodom for field work
6:10-10:00 Field work with farmers: Focus group discussions and activities (Location: California Hotel, Tuobodom)
10:00-11:00 Break
11:00-1:30 Group work and reports
1:30-3:30 Break
3:30-3:45 Meet in conference room for materials and instructions
3:45-4:00 Transport to Tuobodom for field work
4:00-6:00 Household visits

Day 4:

8:30-10:30 Group work and reports
10:30-10:40 Agree or disagree: “Participatory methodologies do not produce scientific results”
10:40-10:55 Heterogeneity exercise
10:55-11:30 What do we know? What do we need to know? (Activity profile)
11:30-12:05 Snack break
12:05-1:00 What do we know? What do we need to know? (Mapping and timeline)
1:00-2:30 Lunch
2:30-3:20 What do we know? What do we need to know? (Photo interpretation and household interview)

- 3:20-4:30 Gender-based constraints and recommendations for action
- 4:30-4:35 Gender impacts on program? Program impacts on gender?
- 4:35-4:40 Review original goals
- 4:40-4:50 Commitments for the future and final evaluations
- 4:50-5:10 Snack break
- 5:10-5:35 Certificates of completion
- 6:00-7:00 Team leader wrap up meeting

Semi-structured Interview (Household Visit); 20 min
IPM Gender Global Theme: Ghana

1. What is your source of tomato seeds?
2. What are the main pests affecting your tomato crops and what problems do they cause?
3. What percentage of your crop do you lose to these different pests?
4. What control methods do you use for these pests?
5. Are there insects that do not cause damage to your tomato crop? If yes, what are they?
6. If you use any pesticide on tomato, where did you learn about it (them)?
7. Do you use any non-pesticide control method for tomato pests? If so, where did you learn about that method?
8. Is there any danger associated with using pesticides? If yes, what?
9. Do you think there are pesticide residues on the tomatoes you eat from your fields?
10. Have pesticides caused any health problems for you or your family? If so, what?
11. What do you do with empty pesticide containers? Why?
12. What do you do to find out if the pesticide mixture is the right strength?
13. Have you ever tasted the pesticide mixture before spraying to know that it is the right strength?
14. Who decides how to spend the money that comes from the sale of your tomatoes?
15. Have you heard of Integrated Pest Management? (ex. staking, mulching, different non-chemical methods of pest control) If yes, what do you know about it?
16. Do you store your pesticides? If so, where?

Demographic Information

1. Age: _____
2. How many years of formal education do you have? _____
3. How many people are in your household? _____
4. How many children (less than 18 years) are in your household?

5. Are you (yourself, not your spouse) a member of any farmers' association?
____ YES ____ NO

Thank you for your time!

- ① Koo nyi ntooze abo no wo hen?
- ② Mmawaa ben pa na koo wo ntooze a w'adua no na eden nnummawaa mi Ede bi
- ③ Ma yadek bién pa na cha ntooze a w'adua no na eden nnummawaa mi ede ba?
- ④ Cho nkyekyé mu sen na ntooze mu mmawaa yi ee yere yi SEE ntooze a w'adua no?
- ⑤ Edéen mi wo yi de si ntooze mmawaa ne yadek yi anu kuan?
- ⑥ Baabu ben na mo de ko ntooze dum na ho ban?
- ⑦ Mmawaa ben na gusho a. Ense, wo ntooze a w'adua no. SE Ebi wa ho sny, baba wan clin?
- ⑧ Se wo de ntooze mmawaa mmwaa no bi gu wo ntooze som a wo sugga sia mmidee yi fri hen?
- ⑨ Ko de odo paper bi a enye mmuro bo wo ntooze mi ho ban anaa, wo eva sia nimdes yi fri hen?
- ⑩ Mmoo mmuro no wo okutawo bi anaa? SE Etesea, kyere yen?
- ⑪ Wo suai se mmuro a yede gu apuo zo no Ebi ka nnabaez a ye di mo area?
- ⑫ Mmuro no = mo de gugu apuo no so no, Ede haw bi bere wo anaa w'akubuu mi bi anan? Eje sia layere mu?
- ⑬ Mmuro no itaa no, se wo de gugu so wie-a wo yi no den? Aden ntia?
- ⑭ W'akua achiro no bi atwé da se wobé mmu n'a hosden ansa na wo de gugu so anan?
- ⑮ Hwan na okyere des yede sika a jengya fri ntooze tan no ho ye?
- ⑯ W'atete akwan paper bi a yede wo ntooze mmawaa yi ha ban a enye arteng nkana? SE Ete san, den na wo numpa ho?
- ⑰ Koo de wo mmu yi sie? SE san, ehen na wo de sie?

Translation of questionnaire into Twi for unstructured interview

IPM CRSP (Tomato)

GENDER AND PARTICIPATORY METHODOLOGY WORKSHOP

| GROUP 1 | DISCIPLINE | PHONE NUMBER | EMAIL |
|-----------------------------|-----------------------------|--------------|--------------------------------------|
| Dr Joseph Nketiah Berchie | Crop Physiologist - CRI | 0243709476 | jnberchie@yahoo.com |
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| <hr/> | | | |
| GROUP 2 | | | |
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| Osman Bawa Issaka | A.E.A – Upper East | 0245224297 | |
| <hr/> | | | |
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| <hr/> | | | |
| GROUP4 | | | |
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| <hr/> | | | |
| GROUP 1 | DISCIPLINE | PHONE NUMBER | EMAIL |
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| Atinga Robert Baba | A.E.A – Upper East (Bongo) | 0549603057 | |

Participants and team composition

See photo essay on separate document.

Gender and Research Methodology Workshop: Baseline for assessing impact of IPM CRSP on practices, knowledge, beliefs, and perceptions surrounding pesticides for tomato production in Ouéléssébougou, Mali

IPM CRSP, Virginia Tech and OHVN, Mali (July 26-29, 2011)

Report by Dr. Maria Elisa Christie, PI for Gender Global Theme in IPM CRSP, Program Director of Women in International Development at the Office of International Research, Education, and Development (OIRED), Virginia Tech

Summary

The IPM CRSP West Africa Regional Program in Mali, led by Virginia Tech, held a Gender and Research Methodology Workshop in partnership with OHVN to train surveyors, carry out a rapid gender appraisal, and begin a baseline study with farmers in three villages in Ouéléssébougou (Dafara, Freintoumou, et Dialakoroba), Mali. The workshop was held at OHVN's Centre de Formation et d'Animation Rurale (CFAR) at Ouéléssébougou. The workshop included 8 participants, 7 of whom were OHVN staff and one a researcher from IER. It included two women "animatrices" or extension workers from the region. The effort served to initiate IPM CRSP work on tomato with the three villages. It also began a new collaboration between OHVN and IER, given that IER had not worked on tomatoes in this region, and that the two will work together on the survey that was begun during the workshop. Mme. Diallo Mah Koné, Chef de Division Développement Durable Marketing et Commercialisation à l'OHVN, Ingénieur d'Agriculture et de Génie Rural, Master en Gestion des Projets et des Organisations, Spécialité en Genre et Développement, organized the workshop, which was facilitated by Dr. Maria Elisa Christie. The primary goal was to launch qualitative research and a survey to obtain baseline information on gender and pesticide use and safety in the three villages where IPM CRSP is to begin work on tomatoes. (IPM CRSP has a long history working on green beans in the region, and with two of the three villages in this study). This was achieved through Focus Group discussions and household visits which included a variety of activities. Workshop participants worked in a gender-segregated fashion, with the women participants leading the women's focus groups and interviewing women and vice versa with the men. The workshop concluded with presentations by participants. Plans were then made for immediate implementation of the survey primarily by OHVN, and data entry and analysis of the data primarily by IER.

Goals of the workshop

1. Increase gender awareness and commitment to gender issues in Mali IPM CRSP Program
2. Build host country capacity to increase equity, empowerment, and sustainability through gender-sensitive research and participative methodologies
3. Demonstrate how gender issues and women's participation play a key role in the success of IPM CRSP objectives
4. Increase the profile of gender issues and activities in IPM CRSP programs
5. Identify gender-based constraints and opportunities in the Mali Program
6. Initiate baseline survey in region of Ouéléssébougou (villages of Dafara, Freintoumou, Dialakoroba)
7. Carry out qualitative research in same region
8. Obtain data to permit a comparative study with Ghana

Outcomes/Products

1. 4 day workshop on gender and qualitative research methodologies
2. Team exposure to quantitative and qualitative gender research tools
3. Survey pre-tested and revised
4. Initiate IPM CRSP work in Ouéléssébougou district
5. Team ready to implement survey
6. Recommendations and workplan for integrating gender in IPM CRSP in Mali

Activities

The workshop was preceded by a planning day at OHVN. The actual workshop began with a brief introduction to gender and qualitative research methods, and a run-through of the exercises for the household visits. That afternoon, the 8 workshop participants worked in teams of two to carry out such visits and apply the socio-economic survey to four households in the village of Dafara. In pairs, women interviewed women, and men interviewed men. Two women and two men were interviewed. The trainer stopped in on each team several times to check on the activities and provide guidance on methodology. It was a long day, with the group returning exhausted and exasperated after 7:30 pm due to the length of the survey and time it took to implement it—as long as 3 hours in one case. Both of the women interviewed took at least one hour more than the men; this reflects the difficulty women had understanding the questions due to lesser education levels and less participation in tomato production and pesticide use; it points to the need to plan for interviews of women to take more time during the implementation of the survey. Once again, time allowed for exercises proves to be a gender equity issue. That evening, the survey was revised to remove some of the lengthier components that were not deemed essential; manual changes were made on each blank copy to be used during the remainder of the workshop.

The following day began with a review and discussion of the activities implemented the previous day. The last exercise planned for each household visit was observation to see where pesticides and reused containers were stored, but few of the teams carried this out; more time is required to do so and especially to gain the farmer's acceptance for this activity. The group was walked through the changes in the survey. The teams then split so that each workshop participant interviewed one person of their own gender. One member from each team went to Freintoumou and one member to Dialakoroba, such that two men and two women were interviewed in each of those two villages. The group returned to the training center for lunch, a brief discussion of the highlights from that morning, and preparation for the focus group activities that afternoon; this was followed by a visit to Dafara, where the four women team members held a focus group with women from that village, and the men held a focus group with the men. That evening the teams began to write reports on the first two days of field work.

The following was a hectic day, with focus groups in Freintoumou in the morning and in Dialakoroba the afternoon. It left little time for discussion, though some that morning was spent going over the previous day's findings and methods. The group left Ouéléssébougou just after 5 p.m. to return to Bamako.

Friday was a half-day of presentations and final discussions at OHVN, with team representatives reading from their reports to share their findings with the whole group. In closing, members of the group were asked to share the principal finding and/or recommendation that they took away from the 3 days in the field. Finally, reports and their corresponding maps were collected (two maps were not turned in: one for the women's focus group in Dafara, and one for a household visit with a woman in Dialakoroba). Issa Sidibé joined the group for this last day of presentation of results.

Methods used

Focus group activities included a timeline, activity chart, and mapping exercises. In the timeline, farmers were asked to chart changes in their tomato production and pests and diseases over time. The activity chart showed which gender carried out different productive, reproductive, and community activities. The options on the chart were: only men, men with the help of women, men and women equally, women with the help of men, and only women. The mapping exercise involved having farmers draw "the path of the pesticide" from the place of purchase to its final destination.

Household visit activities included photo interpretation, mapping, semi-structured interviews, and household observation. In the photo interpretation activity, farmers were asked to describe two different photos: one showing diseases and pests on tomatoes, one showing a man carrying pesticides on his bicycle. This activity aimed to gauge farmers' perceptions and knowledge of pest problems and issues of pesticide safety. The same mapping exercise ("the path of the

pesticide") as in the focus groups was used in the household visit. The socio-economic survey, below, was subsequently modified. See final version attached. All activities were implemented in Bambara, the local language.

Key findings (Note: copies of hand-written field reports in French are on file)

Each method brought out important information, which, taken together, provided a good rapid appraisal of the challenges faced by men and women farmers in each village, including gender constraints, agricultural, and market issues. It also showed that while the villages had some difference, they shared many characteristics. These, together with the surveys, once completed, should provide ample information to serve as a baseline for IPM CRSP impact on knowledge, beliefs, perceptions, and practices surrounding pesticides for tomato production.

The mapping the path of the pesticide exercise revealed that almost all respondents say and draw that they leave their pesticide containers in the field, either in a hole, in the field itself, or just outside the field. One person said they can't stop kids from using them for water. Clearly they are not disposed of properly and are posing dangers for people's health.

The timeline exercise carried out in the Focus Groups showed that men had been growing tomatoes "for over 40 years" (that is, "since the time of the first president of Mali"—a key event in the history of the country and in farmers' minds), while women were more recently involved, as little as 5 years ago. Farmers reported that in 1986 problems started in the nursery and through transplant and harvest. The worst problem they call "la lepre" (leaf curl?) and "la virose." 2010 was the worst year ever for both production and marketing of tomatoes. The men's focus group in Freintoumou reported 2000-2001 as the best. The closing of the Eastern European tomato processing plant which farmers had come to depend on brought the onset of unscrupulous vendors from the city (all women) who set the rules, agreeing on a price among themselves, and buy the tomatoes on credit from the farmers and at a very low price (as low as 1500-2000 CFA paid by women then sold as high as 40,000 CFA in Bamako). Some of these vendors did not even return to pay the farmers. They farmers that sell to these women are primarily men, and they cite women villager's incapacity to negotiate as the reason for this (though their complaints reflected their own lack of capacity in this area). Problems cited regarding market in addition to the market women from the city were lack of transportation and sudden drops in prices. The exercise also captured farmer's perceptions of recent pests and diseases affecting their tomatoes, notably tomato wilt and leaf curl.

All exercises revealed that while men use agrochemicals, women have less access to fertilizer, pesticides, or cash.

The socio-economic activity chart—5 total, one for men in each village, and one for women in Dafara and Freintoumou—showed many commonalities. The women in the Focus Group in Dialakoroba were not tomato farmers and were therefore not asked to participate in this exercise, though they did draw a map of the pesticide and participate in discussion. In all, farmers agreed men carry out pesticide activities (buying, mixing, applying), as they do for herbicides and fertilizers. Women pointed out they are not in charge of nurseries so they do not carry out activities there; likewise, they do not have access to fertilizer that would need mixing so they have no activities there. While all agreed women were in charge of most “reproductive” activities for the household, including cooking and washing clothes, men said that women and men shared the responsibility for taking care of the sick, given that they provide money for medicine. (If no money was available, farmers turned to traditional cures, one woman said.) This is an important finding and area for future research as if men are paying for medicines they may be as likely as women to be alert to illnesses brought on by pesticide poisoning. Washing and cooking continue to be areas that could lead women to recognize chemical smells on one hand, and have concern for healthy food on the other—both forming a basis for pesticide safety education. Children are heavily involved in farm tasks, with one report that boys as young as ten help mix the pesticides. On the other hand, and contradictory to this information, farmers showed awareness of some dangers associated with pesticide use and said because women care for children they keep both of them away from the chemicals. This concern was not extended to the discarded containers.

The photo exercise showed that farmers are aware of and interested in different varieties; they mentioned different ones they have used in the past and the need for new ones.

Mapping showed the usual discrepancy between men’s access to transportation such as donkey carts, bikes, motorcycles, and cars, for carrying the pesticides to the farm or home. The new information here was that women drew themselves carrying the pesticides on their head as they walked home from market, presenting particularly dangerous possibilities for spills to cause harmful effects on women. (Note: this map is missing and seems to be the one for the women’s Focus Group in Dafara.) This reflects the lack of access to assets that leads women to use their bodies to carry heavy and dangerous items that put them into direct risks for their health.

In an interview with a male farmer in Freintoumou, the mapping exercise revealed that he stores chemicals for tomatoes (DECIS) with food, cereals and seeds, as well as cooking implements on little shelf above these. Interestingly, he keeps agrochemicals for cotton in a different and separate storage place as he believes these are very dangerous to human health—showing no awareness of danger of chemicals used on tomatoes despite his awareness of dangers of pesticides used on cotton. One farmer reported using pesticide containers for holding water “after they were washed very well.” Another reported children using the containers they found in the field to drink water.

A serious gender constraint is women's lack of access to land; they reported having to depend on the man giving her use of a small portion of his field. This was explained as a way to have women contribute to the household income.

Women's lesser access to knowledge and information presents significant constraints. In Dafara, the school classrooms listed equal numbers of male and female students in fourth grade (18 each), but only 11 girls compared to 20 boys in the next grade up. Is fourth the last year of schooling for many girls? Also, women's less knowledge about basic tomato planting practices in general show they have had less access to training than men.



Recommendations:

- 1) IPM CRSP work with tomatoes in Ouéléssébougou should very consciously piggy-back onto its previous activities and social relations in the region. Given the success of the earlier intervention with green beans, this connection should be made explicit to farmers who did not participate in and may be unaware of previous efforts; farmers' positive experiences and lessons learned should be presented and shared with others by the farmers themselves in a "farmer-to-farmer exchange." Care should be taken to select equal numbers of men and women farmers to provide testimony and share experiences.
- 2) Lack of information and education is the single most important obstacle to safe pesticide usage and to understanding IPM alternatives. Educational and training activities must accompany research and should raise awareness of pesticide safety issues and present information of health impacts of reusing containers. Activities should also address the

fact that women have less experience growing tomatoes and do not have basic knowledge of growing, much less pest control.

- 3) IPM CRSP should target women through women-only activities and working with women's groups. Working with women in separate focus groups and having women interview women in household visits is recommended as this creates space for women to speak freely and fully participate.
- 4) IPM CRSP activities should aim to reduce the inequity in access to formal education between boys and girls. It should investigate the story behind the numbers above and identify the pattern of when girls leave school and why, and take specific actions to encourage their continuation in the classroom
- 5) The survey should be carried out in the three villages selected, with a total of 20 households interviewed in each village. Either one man or one woman representing the household should be interviewed, but not both, so as to get equal numbers of women and men (10 each per village) interviewed but representing a different household per person.
- 6) The whole IPM CRSP team at OHVN and IER should follow up on the surveys with a "restitution" providing farmers with a presentation of key findings and using this as a basis for introducing IPM alternatives. This should take place shortly after completing the surveys.
- 7) The project should respond to farmer demand for new seed and resistant varieties.
- 8) Research should follow the map of the "path of the pesticide" beyond the point indicated by farmers. What is happening to all the empty pesticide containers people are throwing out in their field? How exactly are they being disposed of and in what condition (holes in bottom? burned?) Who is using these discarded containers and for what? Where do they go from there? Similarly, follow the path of the pesticide residues on the mixing containers, etc. Surveyors should take note of where these come into contact with reproductive activities and spaces such as food preparation and caring for the children or sick.
- 9) Application of surveys must be accompanied by observation in the household and the field to follow "the path of the pesticide" as described above and map where the pesticides are stored, mixed, and used and where all containers, clothing, and fruit making contact with the chemicals are stored and what they are used for and who is using them. Surveys should have space and prompt at the end for the surveyor to make note of observations as they follow its path. Household visits should include some unstructured

questions, to allow for discussion outside of the script established in the survey questions. The key points should be recorded by the surveyor at the end of the survey. After each survey, the researcher should ask to see where pesticides are stored, mixed, and where the containers are put after use. Note that the responses to the survey questions may not match what is observed, and that the researcher should take note of discussion during this period that sheds further information on “the path of the pesticide” and what people do and think relating to pesticide safety issues.

- 10) Surveyors should be selected from those trained in the workshop who are familiar with the mapping the path of the pesticide exercise. Following the completion of the surveys and observation, they should as a team make a map of the path of the pesticide for each community studied and include a written description and observations as done in the workshop reports. These should be made collectively by the team rather than relegated to one reporter; it should be a result of group exercise and discussion (men and women together) and reflect everyone’s observations and group consensus; it should include information from both men and women farmers’ pesticide practices. This final “path of the pesticide” exercise carried out by the team itself should not be one that illustrates farmers’ beliefs and perceptions but rather the finding of the team and should represent the reality encountered by the research team to the best of their ability to represent this in two-dimensional form.
- 11) Enough time should be given for respondents to finish the surveys without pressure; in particular, surveys should be scheduled to reflect the fact that women interviews take more time to implement and that it is a gender equity issue to allow women the time needed. Scheduling on interviews should respect the daily schedule of both men and women farmers and adapt to these rather than vice versa.
- 12) Several additional issues provide avenues for future research: How are farmers transporting pesticides from stores to home or fields and what dangers result from this? Are women carrying them on their head? Are they carried in crowded public transportation? Are there measures that can be recommended to reduce health risks? What are the differences and relationships between the messages people are getting for agrochemical use on cotton vs. on tomatoes and how do their practices differ? Are men aware of (or can be sensitized to) health impacts of pesticides by virtue of their role in buying medicine for sick members of the household? Do women recognize (or could be sensitized to) pesticide dangers due to their roles washing –via recognition of chemical smells on one hand—and cooking—and concern for providing healthy food to the family?

- 13) The survey should be repeated in two to three years to assess the impact of IPM CRSP activities on people's practices, knowledge, beliefs, and perceptions surrounding pesticide safety and IPM for tomato production.
- 14) IPM CRSP should organize a farmers' association, or work with one if it exists already, including one for women only, to facilitate IPM CRSP and agricultural extension to work with this population on IPM for their tomatoes and especially to enhance farmers'—and especially women's—ability to obtain credit and learn negotiation skills to have access to better prices for their tomatoes.
- 15) Because IPM CRSP is targeting market-oriented tomato farmers—and these farmers referred to tomatoes in those terms—it needs to consider the value chain and the link to processors and consumers.

Evaluations

Participants filled out an evaluation the last day. There were positive comments on different elements in the workshop. Criticisms referred to the dense program and long days, the poor lodging and low per diems.

Non-degree Training Gender Global Theme in West Africa (Trip July – August 2011) _MALI ONLY_2011 (FY 2) _____
 Gender, quantitative and qualitative research with tomato growers, focusing on use and perceptions of pesticide _____

| 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 | | |
| Workshop in Ouéléssébougou; final day in Bamako, OHVN offices. | July 26-29 | 9 staff from OHVN and one researcher from IER. Includes IPM CRSP gender point person for Mali; IPM project leader was present first day. OHVN's Chef du Secteur for Ouéléssébougou, Zanga Souleman Bamba, also participated the first day. | 6 | 5 | Virginia Tech (GGT PI) | Pretest gender/socio-economic impact survey for implementation in Mali. Begin to implement survey in 3 communities. Increase understanding of gender and present participative methodologies aimed at increasing women's participation in and benefit from IPM CRSP research. Train partners in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations |

| | | | | | | |
|---------------------------------|----------------|--|-----------------------|-----------------------|---------------------|---|
| Household visits and surveys | July 26 - 27 | Tomato producers in the villages of Dafara, Freintoumou, and Dialakoroba in Ouélessébougou (4 households in each village, two women and two men interviewed in each village) | 6 | 6 | Virginia Tech, OHVN | Raising awareness of problems affecting tomatoes and their possible solutions—including those less dependent on high doses and frequent applications of pesticides |
| Workshop/Focus Group Activities | July 27 and 28 | Tomato producers in the following villages: Dafara (18 men/10 women) Freintoumou (10 men/10 women) Dialakoroba (5 men/7 women) | 18 10 5 | 10 10 7 | Virginia Tech, OHVN | Train partners and collaborators in use of participatory techniques addressing gender issues; provide farmers (especially women) with opportunities and skills in map –making, self-reflection and presentations; technical assistance provided by OHVN |

List of participants

| Team # | member | name | Position/institution* |
|--------|--------|------------------|---|
| 1 | a | Anna Dembélé | Chef de Section, Développement Communautaire |
| 1 | b | Youman Travelé | Animatrice rurale, Ouéléssébougou |
| | | | |
| 2 | a | Aissata Samaké | Animatrice rurale, Dialakoroba |
| 2 | b | Kadiatou Soumaré | Chef de Volet, Développement Communautaire et Coordination des Projets |
| | | | |
| 3 | a | Bocoum Boubacar | Chef de Volet, Élaboration des Rapports Techniques et Projets et Requête de Financement |
| 3 | b | Mama Diarra | Chercheur, IER (sociologue) |
| | | | |
| 4 | a | Daou Birama | Chef de Volet, Organisation Paysanne |
| 4 | b | Talibi Sanogo | Chef de Volet, Alphabétisation Fonctionnelle |
| | | | |
| | | Mah Koné Diallo | Chef de Division Développement Durable, Marketing et Commercialisation |
| | | Issa Sidibé | Chef de Section Recherche et Diversification des Cultures |

*All OHVN except Mama Diarra from IER