

Final Gender Report for IPM Phase Two Maria Elisa Christie, WID-OIRED

Gender Issues

Gender has a major role to play in any project involving IPM. The classical definition of gender distinguishes between sex and gender. While sex refers to male/female bodies, gender refers to learned characteristics inculcated in members of communities according to their particular culture. Together with ethnicity, race, class, age, educational level and other cultural and social attributes, gender shapes the human experience and management decision making. This holds true for all gendered roles: farmers, extension agents, scientists or students. Gender influences perceptions, knowledge, and access to resources including land, labor, education and credit—all important to the adoption of IPM. Farm tasks are often gendered, with some carried out exclusively by women and others by men. Agricultural knowledge is also gendered. For instance, in Kumi district of Uganda, men told IPM CRSP researchers that women did a better job identifying an indigenous weed that looks very similar to finger millet at the seedling stage. Crops too are gendered, with peanuts or groundnut considered a woman's crop in some places, and men's in others.

In most locations the farmer is conceived as male, however, in practice, a high percentage of women work the land in many countries. In Sub-Saharan Africa, women carry out most of the agricultural work. Thus, when scientists fail to take women's knowledge into consideration, they are losing vital information. Gender differences that affect adoption and impacts of IPM include:

- Ownership and control of resources;
- Family provisioning responsibilities;
- Division of household labor;
- Specialized knowledge of crops, pests and traditional pest management practices;
- Attitudes toward health consequences of pesticide use; and
- Other social roles.

Gender issues have a major role to play in any IPM program. The results of omitting women from agricultural training have been shown to be negative in a number of ways. Research in the IPM CRSP sites has dispelled the myth that women do not participate in pest control. On the contrary, in many sites they have considerable influence over outcomes and impacts. IPM CRSP research in Mali has shown that when farmer field schools (FFSs) were limited to men, women continued to believe it was necessary to use chemical pesticides and had these applied to their plots in the same fields where their husbands were using IPM techniques.

Studies conducted across all IPM CRSP sites show that women have an important role in pest management. In Uganda, they are increasingly taking a more predominant part in farming and decision-making along with the increase in female-headed households. In Albania, men spend the summer as migrant laborers, leaving the women behind to look after the farms. In Bangladesh, women may not work in open fields, but do cultivate vegetables and care for animals.

For her doctoral research in Rural Sociology at Pennsylvania State University supported by the IPM CRSP, Irene Tanzo focused on women and pesticide management in Nuevo Ecija, the Philippines. In particular, she studied the roles and knowledge level of farm women cultivating rice and vegetables. One of her key findings was that women have a high level of knowledge of pesticide health impacts, perhaps due to their role as health caretakers in the household and to the presence of IPM CRSP in her research sites. She also found that women performed field and non-field roles in rice and vegetable pesticide management, but that their higher level of activity in non-field roles effectively hides their involvement in pesticide management. Among the factors that affect women's participation are the following: marital status, having a male household member, educational attainment, farm size, having a young child, and perceived control over pesticide usage. The latter was the only influential factor affecting their involvement in non-field roles in vegetable pesticide management. Her findings underscore the need for pesticide management extension services for farmwomen that address gender dimensions, and the need for pest control alternatives such as IPM.

Joseph Kodamanchaly also graduated with a Ph.D. at Pennsylvania State University under the IPM CRSP, in Rural Sociology and Demography. He studied the role of women in pest management and analyzed how the status of women influences their stakes in household decisions about IPM adoption and implementation in Mymensingh and Gazipur districts in Bangladesh. He considered familial power relations and took household division of labor and the outcome of household decision-making as his indicators, looking at three spheres—individual, socio-cultural, and economic. His findings indicated that pest control activities followed a *separate crop and separate task* system, with men predominantly responsible for pest control activities in rice crops and women in vegetables. A higher proportion of women were involved in pest monitoring and non-chemical methods of pest control, but, contrary to expectations, the likelihood of women getting involved in pest control activities diminished with increased involvement of women in agricultural decisions. Documenting traditional pest control methods used by women, he says, will help preserve local knowledge of pest control, minimize reliance of farmers for external inputs for adopting IPM, and help prevent sidelining women's involvement in agricultural activities. He recommends that IPM program managers should deliver “age-task” specific IPM training programs, and take a family approach involving sons, husbands and women to be more effective. He also concludes that programs that conform to societal norms—recognizing the importance of the institution of purdah in the case of Bangladesh—are likely to have better acceptance and success.

It is clear that women farmers need technical support as much as men do. There are few women extension workers, and most tend to work on domestic rather than agricultural issues. Male extension workers rarely provide information to women even in those cultural settings where mixed-sex groups are not an issue. Field days cater largely to male contingents. It is rare to have special provisions made for women to attend, such as separate days for those countries where women and men do not come together in public, or avoiding prime meal preparation hours.

The IPM CRSP global experience has taught us how to deal with gender issues in transferring IPM technology. In the IPM CRSP projects, special effort has been made to not only include women farmers, wherever possible, in all technological transfer activities, including FFSs, but also to use women scientists and women extension agents as much as possible. In Mali, for instance, almost no women signed up for the first FFS, simply because they had not been invited into what they consequently considered a male environment. As a result, while village men in general started to learn about IPM techniques, the female population had very little awareness of them. The IPM CRSP then took steps to include women in the schools by consulting with them to discover the best method of doing so. When they asked for separate schools, special FFSs were established for them. Once these were under way, the female population of the village in general also started to understand the downside of using pesticides and wanted to adopt IPM techniques. When only males participated in the FFS, information about the techniques trickled down to other male non-participants, but not to women. Female non-participants only learned about IPM when women were included in the schools. The result was that most villagers cut down on pesticide usage, and environmental and human health improved, as did the economic levels of those who adopted IPM strategies rather than only using pesticides. Further positive effects were that women were able to farm without being as dependent on their husbands and that fewer trees were cut down as women found they could make higher incomes when they reduced their pesticide expenditures rather than having to rely on selling firewood.

In Uganda, a survey of the IPM villages showed that in addition to economic and health benefits, those women and men farmers who have attended FFSs are not only producing their crops using IPM technologies, but in addition are more able to articulate their problems and collaborate on finding their own solutions than either men or women who have not attended the schools. As a result, in those places where the majority of the FFS participants are women, the women show considerably more initiative and awareness of important issues such as health and the environment than do their men folk.

The increasing number of female headed households in Sub-Saharan Africa requires that gender based knowledge and perceptual differences be assessed and incorporated into agricultural research and extension program delivery if these programs are to have meaningful and sustainable impacts. However, evidence from 200 male and female respondents (52% female; 48% male) working with the IPM CRSP in Eastern

Uganda demonstrated that pest management decisions appeared to be made by the household head, whether that person was male or female. There was general agreement between male and female respondents that although women were as likely to indicate that they were having their fields sprayed with pesticides, men were more likely to be doing the actual pesticide application. Men appeared to have greater access than women to alternative and exogenous sources of information on pesticide usage. Women were significantly more knowledgeable of the four attributes of IPM, particularly, possible negative effects from pesticide use.

Results of a probability-sample household survey in three IPM CRSP research communities showed that women produce and market targeted crops, choose among pest management alternatives, and select and purchase pesticides. As women appear to have less access than men to IPM-related extension, it is recommended that the CRSP intensify efforts to incorporate women farmers in field research activities and to disseminate gender disaggregated information to extension officers.

The Guatemalan IPM CRSP site concentrated on non-traditional export crops. Research confirmed that women are heavily involved in production of IPM CRSP-targeted crops, and the processing, and marketing of these crops. Further, women make up nearly 100% of the non-managerial labor force in packing houses for these crops. A majority of the women involved said that the money from selling their crops allowed them to improve their family diet; they believed that they and their children were benefiting financially from the IPM project. As in other sites, women here were found to be much less likely to have access to



IPM knowledge and technology as they are much less likely to receive agricultural extension in IPM. However, even farm wives who did not work in the fields were more likely than expected to make decisions that impact IPM adoption, such as budgeting for pesticides or alternatives and purchasing pesticides. Significantly, when women have IPM knowledge, they are more likely than men to adopt IPM. It is clear that women farmers, farm wives, and female members of communities affected by pesticide use should be included in IPM research and outreach. To this end, the technology transfer component of the research targeted the future generation of farmers, both male

and female, through an innovative program involving the creation of a didactic guide training teachers to teach IPM principles and techniques in secondary schools, an IPM learning guide for students, pilot testing of both guides as teachers and students apply IPM during a snow-pea production cycle, and dissemination of the guide throughout the national education system. This innovative technology transfer method is expected to effectively train both female and male students in the benefits and practice of IPM and yield higher adoption rates in the future.

Eggplant grafting is a women's activity in Bangladesh. In a small village near Jessore, Bangladesh, under the shade of a bamboo-framed thatch roof, two women sit and work with a razor blade and eggplant seedlings (see photo). With a deft movement of hand on plant, Shovarani Kar and Trishna Rani Biswas are able to graft a high-yielding variety of eggplant onto the rootstock of another variety that is resistant to a devastating soil-borne scourge: bacterial wilt.

Under the IPM CRSP program, women have been trained to perform this task and are paid to do so, thus raising their income while improving the yield for farmers as well. Word has traveled that people in this village are now earning more because of improved IPM practices, and villagers from surrounding towns and even distant villages now travel regularly to this community to learn how to achieve the same results.

Because people in this village are earning more, it has raised their social status. They used to be addressed using the more familiar form of address, “tui,” which is used to speak to children or someone of lower status, but are now addressed with the term “apni,” reserved for someone of a higher status. The women use the money to purchase milk to improve the diet of their children and buy them school-related necessities such as books, notebooks and pens.



In Ecuador, community-based education with rural youth persuaded them to adopt IPM techniques over pesticide use for those who were farming. Those people, who did not farm themselves, including most of the young women, strongly encouraged their brothers not to use pesticides. Women who attended the educational sessions learned about the dangers of pesticides and of the importance of separating clothes used for spraying from the rest of their clothes, as well as the importance of protecting themselves while washing their "spraying clothes".

In Ecuador as well as the Philippines, the IPM CRSP has started to explore innovative distance-learning models of technological transfer for men and women farmers. These methods encourage participants to reason through the principles of IPM for themselves. They are therefore more likely to have a higher adoption rate than by using more traditional methods.

Women scientists and other agricultural professionals have played important roles in the IPM CRSP as collaborators, Site Chairs, and Site Coordinators. In an example of South-South cooperation, a female weed scientist from the Philippines served as collaborating scientist to Bangladesh. A good percentage of the graduate students that have been trained by the IPM CRSP are female, with several (both male and female students) focusing their research on gender issues in IPM. Over the life of Phase Two of the CRSP, three



consecutive Program Directors of Women in International Development at Virginia Tech—Revathi Balakrishnan, Sally Hamilton, and Colette Harris—have lent support through activities ranging from research planning and design to gender training at home and abroad. Together with Carolyn Sachs and Ed Rajotte at Penn State, Keith Moore and George Norton at Virginia Tech, Mark Erbaugh at Ohio State, and Sally Hamilton at the University of Denver (after her departure from Virginia Tech), these team members have contributed a host of publications, posters, and presentations on gender and IPM. They have also advised students studying gender and IPM under the umbrella of IPM CRSP.

“It is important to have female scientists from the US side because it encourages women in the developing world to play a more prominent role in the project. When the cooperators are both women, they don’t have to worry about not being taken seriously. It just takes away one layer of difficulty that comes with working cross-culturally.” Dr. Sally Miller, Professor of plant pathology at Ohio State University and Site Chair, shown here with Mrs. Shamssunahar and Halima Sayeed Jasmine, research assistant for the IPM CRSP in Bangladesh.

One of the key obstacles to recognizing and overcoming gender biases that exclude

women and render their IPM-relevant knowledge invisible is that natural scientists are not trained to pay attention to gender. Perhaps more important is the resistance to social sciences in general, often not considered “real science” in the supposedly neutral field of natural sciences. As one male scientist (of the “natural” variety) put it: “The big issue is not lack of sensitivity to gender per se but some scientists’ lack of awareness of farmers, period.” If the goal of IPM is to change human behavior in order to reduce the negative impacts of pests and agricultural chemicals on human health and environment, then interdisciplinary teams in US and host country are better prepared to take the science beyond the lab than natural scientists alone. Such teams can better understand and address gender dynamics and other social and cultural factors that are important to IPM adoption. In many national agricultural research service (NARS) contexts neither going beyond the lab to the farmer, nor addressing gender, is part of the institutional culture; these NARS require developing new ways of doing things. As an example of such change, the scarcity of social scientists in Bangladesh available to work with IPM CRSP resulted in Mrs. Shamssunahar obtaining a Ph.D. in plant pathology with CRSP financial support.

Another issue is that men often dominate in number and decision-making, even if women compose a majority of the participants in an activity or team. The “glass ceiling” exists both in the US and in participating research institutions abroad, so that even when women are very visible in middle management or research teams, they are rarely in top positions, with implications for exploring and addressing gender biases in the research. Additionally, the male-dominated culture of the “old-boys network” in many areas of scientific inquiry—including blatant sexual harassment—can create unfriendly climates that alienate potential female professionals and make it difficult for all but exceptionally talented, motivated, and powerful women to play important roles. Those most capable of adapting to this men-dominated culture do not necessarily provide alternative women-centered knowledge and insights.

Women’s important role in decision-making and allocation of household finances in many cultures alone warrants targeting them in IPM research and training. In addition, men and women spend money differently based on their different interests, risk exposure, and perceptions. It may make more sense to target farm decision-makers and farm families, rather than male farmers. US scientists—both male and female—are in a position to support gender equity at home and in the host countries and must pay attention to gender issues in IPM. Without ensuring that women participate and have access to the information presented, IPM programs and training events may reinforce the marginalization of women, and a focus on men’s crops in IPM may inadvertently create livelihood hardships for women.

IPM CRSP researchers have identified the importance of gender roles in IPM decision making and implementation as well as documented many obstacles to overcome to achieve effective participation of women in program design and implementation, and equitable distribution of benefits. It has been shown that a contractual obligation is necessary, but not enough, for gender to be a priority in IPM research and technology transfer. Scientists must move beyond the “caboose” approach of attaching gender to the research, recognize and address gender biases, and integrate gender into every aspect of the work. Education about IPM should be provided to male and female farmers in various and accessible formats, and women’s networks, literacy, mobility, and cultural constraints taken into account. Because women have multiple roles beyond agriculture that include care-giving and household chores, their responsibilities must be taken into account and accommodated. Sometimes, this means childcare must be taken into account; it means that IPM activities must be timed to fit into women’s schedule of daily obligations. In some settings cultural sensitivities require that women interview women, or that women be interviewed separately from men. As with everything else in IPM, the specifics of gender issues, gendered knowledge and gendered crops and tasks relevant to IPM are site specific; a high degree of variability may exist within a single region and even between households. Additionally, changing demographics due to AIDS, migration, and other factors mean that any given site may be subject to new gender dynamics from one agricultural season to another. Stereotyping “men”, “women”, “Africans”, “Muslims”, etc. with fixed characteristics or assuming that “gender” can be learned once and for all in a single workshop is underestimating the complexity of culture and the human experience and will not help achieve IPM goals.

While numbers are not enough, they are an important indicator, and the absence of women from meetings, surveys, PAs, workshops etc. is not acceptable. The number of women and men participating at every level should be recorded, disparities explained, and gender equity an unwavering commitment.

Training and ongoing support of researchers, monitoring and evaluation of projects are necessary. Work plans should be revised after baseline socio-economic surveys and PAs are carried out and gender information relevant to the adoption of IPM, such as women's knowledge, risks, and spaces have been identified. Sex-disaggregated data is essential, but without analyzing and acting on it is almost irrelevant. Gender issues cannot be left at the level of research data; these must feed into the planning and implementation of new strategies to achieve IPM program goals.

The importance of having women scientists on the U.S. team can not be overestimated. They can serve as role models for female junior researchers in home and host countries and can sometimes, though not necessarily, be more sensitive to gender biases in the research and technology transfer activities than male scientists. Lack of gender sensitivity is not only an issue in countries of the South, but among US scientists as well; a researcher's gender is not necessarily an indicator of gender sensitivity. Males can be gender sensitive, and women are not necessarily gender sensitive, though both can learn.

IPM CRSP has identified and, in many cases, addressed gendered constraints to IPM adoption and the unique opportunities provided by women's knowledge, attitudes, practices, and aspirations concerning IPM adoption. Certainly there is more to do, and technology transfer in the next stage will build on the experiences of Phase II. There can be no doubt that paying attention to gendered knowledge, responsibilities and decision making is important to the adoption of IPM. It is also clear that concerted effort, special training, ongoing support, monitoring and evaluation, and additional budget are necessary to capitalize on this potential.