

7 Women in IPM training and implementation in Indonesia¹

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The importance of women's role in agriculture has been widely acknowledged (e.g. Boserup, 1984; Sajogyo, 1983; IRRI, 1985; Shiva, 1989; Siwi *et al.*, 1990), but has seldom received specific attention in agricultural development programmes. In most cases this lack of attention has meant that males automatically become the target group for community programmes. In Indonesia this is usually a result of a general assumption that heads of families will be men, who are also expected to represent their households in formal village activities. That is, while the exclusion of women from training programmes does not seem to have been intentional, as will be seen below, it has nevertheless had observable effects that require correction.

In crop cultivation the distribution of tasks between women and men seems to depend mainly on the type of crop and on local cultural habits. For instance, rice cultivation in several areas of Central Java involves women in transplanting, weeding, routine observation of the crop, supplying food for hired labourers, harvesting and threshing, drying and selling the harvest; men are responsible for preparing the soil, preparing and caring for the seedbed, supervising transplanting, managing water and fertiliser, making routine observations of the crop, controlling pests, and harvesting and selling the harvest or supervising these activities (Van de Fliert, 1993). In vegetable cultivation in North Sumatra, however, we see women involved in all crop cultivation tasks, including preparing the soil and spraying pesticides. It is obvious that women have a very important role in decision making in all cases, since women usually manage the household's money.

Before looking at women's role in Integrated Pest Management (IPM), we should first differentiate various categories of women farmers. In Indonesia, three main groups of women farmers can be distinguished:

- women who manage their farm together with the husband;
- women whose husbands are temporary migrants. Usually this means the husband leaves the village to work in the city after the crop has been established, returning just before harvesting (although some return at the fertilisation stage and others only for the establishment of the next crop);
- women who manage the farm on their own, because they have no husband or the husband is permanently away.

Surveys indicate that 17% of Indonesian agricultural households are headed by women in the third category, managing on their own (FAO, 1990). The responsibility for farm management decisions is especially great for these women farmers, as well as those in the second category. Particularly for these women, involvement in agricultural development programmes would be extremely useful. However, they often belong to the lower socio-economic layers of the community (Van de Fliert, 1993) who in general are overlooked by development programmes (Röling, 1988) -- which implies that these women are doubly neglected.

Women's role in agricultural decision making and activities clearly indicates a need for their active involvement in IPM training and implementation. Obtaining a critical mass of women who are knowledgeable about IPM will significantly increase the effectiveness of its spread throughout farming communities. This chapter will first describe how women's tasks in agriculture are related to IPM, and how they have so far been involved in IPM programmes in Indonesia. An analysis is then made of the constraints and opportunities for actively involving women in IPM training and implementation.

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Women farmers and IPM

IPM, as presently advocated in Indonesia, is a crop protection approach that emphasises the specific ecological and economic conditions of individual farms, as well as farmers' ability to take informed crop protection decisions based on routine observations of the crop and its environment, plus analysis of farm conditions (Pincus, 1991). For various crops and various areas of Indonesia, it has been shown that farmers implementing IPM principles are able to reduce their expenditures on farm inputs while often producing higher yields than non-IPM farmers, so they increase their profits. Practices important for IPM implementation include choosing suitable, pest resistant varieties; good field preparation; adequate field sanitation; production of healthy seedlings; appropriate water and fertiliser management; timely and adequate weeding and pest control measures; and timely harvesting. The key to success with IPM seems to lie in the *adequacy* and *timeliness* of all management practices, producing a healthy crop and a healthy ecosystem that can resist pest and disease attack. To take adequate and timely decisions, farmers need to carry out routine monitoring and analysis of the crop ecosystem.

IPM is a complex, knowledge-intensive approach; it has many aspects that need to be known before a farmer can take informed decisions in accord with IPM principles. For example, types of pests and diseases and ways to assess the damage they can cause to a crop, types of natural enemies and their role in the crop ecosystem, analysis of comparative costs of different types of pest control, and effects of pesticides (and other control measures) on human and environmental health are all important aspects of the knowledge needed. This complexity means that training is required.

Many of the IPM practices mentioned above relate to farming responsibilities held by women. The importance of the decision making process, including the potential for savings on farm inputs, also call for their involvement in IPM implementation. In addition, women's exposure to pesticides often entails even greater risks, since through them pesticide residues can affect other family members. This is true not only because of their reproductive roles but also their other tasks: women are usually the ones who prepare the food for the family and serve as the caretakers. Therefore, it is especially important for women to be well informed about the hazards of pesticides and the ways to reduce their use. Yet as is amply demonstrated in this book, training provided for men alone does not 'trickle across' to women. For all of these reasons, it is vital to involve women in training.

Involvement in IPM training

In Indonesia, IPM training for farmers and field staff is presently the responsibility of two major programmes: the National IPM Programme and the World Education IEMA programme, although increasing numbers of NGOs are adopting the model. The National IPM Programme, launched in 1989, is managed by the Indonesian government in collaboration with the UN's Food and Agriculture Organisation (FAO). The 'IPM Farmer Field School' model presently being applied in a variety of Asian countries was developed by the FAO technical assistance team within the Indonesian National IPM Programme. This model includes field-based, season-long training and emphasizes discovery and learning by experience. World Education (WE), a US non-government organisation (NGO), initiated the IEMA ('Improved Environmental Management and Advocacy') programme in Indonesia in 1991. This programme also emphasizes IPM development and training, but works through a network of local NGOs and farmer groups. The Farmer Field School model of the National Programme is used here too, but is adjusted in several ways to fit the needs and conditions of NGO communities. Additionally, the WE programme has experimented with the field school model as an arena for participatory technology development in crops such as cabbage, potato, hot pepper, soybean and groundnut, where as yet there are no sound IPM technologies.

Women's participation in National IPM Programme IPM Farmer Field Schools has been measured in several studies (Figure 1). During the first training season (1989/1990 in North Sumatra, Java and South Sulawesi, and 1990/1991 in West Sumatra and Bali), a total of 1,700 FFS were organized; women appear to have been involved in only 19% of these groups, and in 15% of groups there were five or fewer women participants. On average, only 3% were women -- just one person among the twenty-five participants per group.

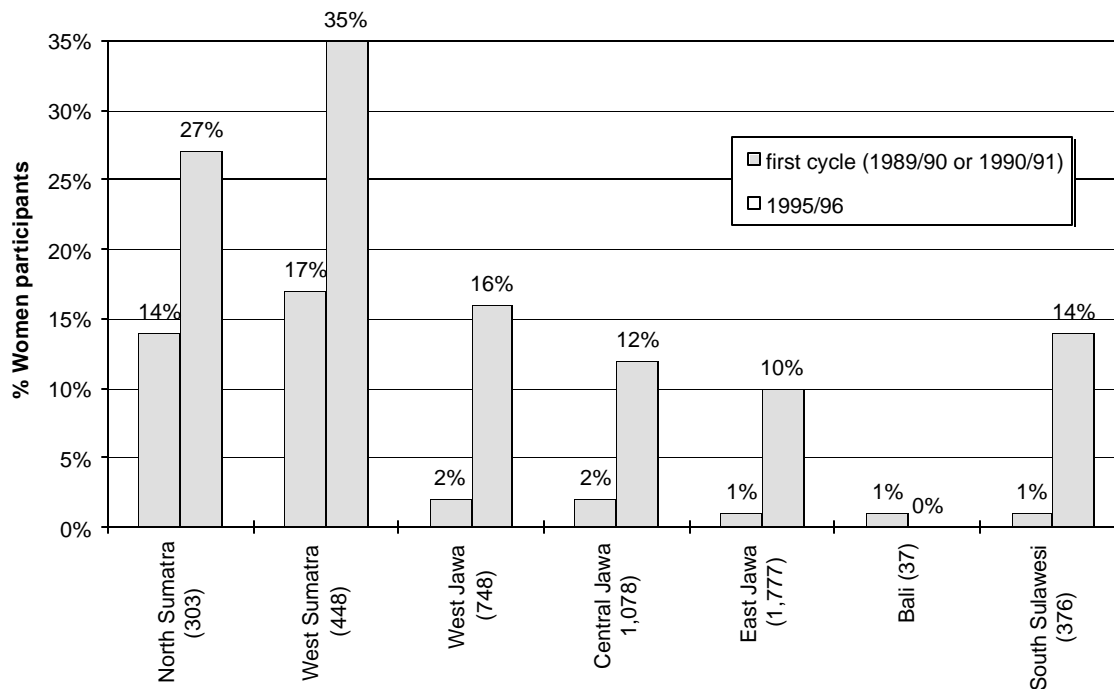


Figure 1 Women's participation in Indonesian National IPM Programme FFS: first training cycle^a versus 1995/1996^b

a The first cycle was in 1989/1990 or 1990/1991, depending on the province

b Women's participation is shown as a percentage of total number of participants; numbers in parentheses indicate the number of Farmer Field Schools implemented per province during the 1995/1996 training season

Sources: Van de Fliert, 1993; Kingsley and Siwi, 1996

When these data are analyzed by province, great variation of women's involvement in IPM Field Schools is visible. North Sumatra (where most of the agricultural workload is borne by women) and West Sumatra (which has a matrilineal culture) show a relatively high number of women participants, 14% and 17% respectively. These percentages, however, are still low compared to the proportion of farm work done by women in these areas, which is more than 50%. In all other provinces women are equally involved in rice farming compared to men (except for Bali where women are more confined to the house to fulfil religious ceremonial functions), yet the number of women attending IPM training was extremely low in the first training cycle (2% or fewer).

While these data show some influence of cultural differences on the involvement of women, in general women were indirectly screened out: trainees were selected from the members of the organized farmer groups, which are usually made up of the men in the communities. Moreover, the selection of trainees was left to the village extension workers, who were not given explicit selection criteria; they in turn often handed this responsibility over to village officials. In this situation it is reasonable to expect that habitual patterns will be followed, resulting in the selection of men, who are seen as heads of the households, to participate in training. Even the men who are chosen may not be the most appropriate. This was observed in a study in Central Java, where all Field School participants were not only men, but primarily men from the higher and middle socio-economic layers in the village (Van de Fliert, 1993). The wives of these men were often not directly involved in farming; either they had off-farm employment, or their families were prosperous enough to hire farm

labour. Therefore, many of these wives were not informed by their husbands about what they had learned in the Field School. Further, such men usually have little or no communication with women in lower socio-economic layers. As a result, in these villages there was no dissemination of IPM messages to women farmers, who mostly belong to the lower socio-economic layers.

In the first years of World Education's IPM training activities in Central Java and North Sumatra women's participation was never analysed quantitatively, but it is estimated that the proportion of women participants was below 10%.

Neither the National IPM Programme nor the World Education Programme ever purposely intended to exclude women farmers from their activities. However, a lack of deliberate attention to their involvement -- as in most development programmes -- means that women are often indirectly excluded. As one village extension worker said when he was asked why his training groups did not contain any women, 'Well, I never thought about it!'. Deliberate and specific action is needed to break through cultural habits (which are not necessarily barriers) to actively involve women in agricultural training and development activities.

After realizing this, both the National IPM Programme and the WE Programme have successfully begun taking steps to increase women's participation in their programme activities. WE has developed a training preparation process, during which a gender analysis using various tools and a needs identification is carried out together with the farming communities and village officials. This process makes a more just participant selection for IPM Farmer Field Schools possible. The idea of the preparation process has been adopted by the National IPM Programme and adapted to the conditions of government extension mechanisms. The results are obvious: women's participation in IPM Farmer Field Schools has increased substantially over time (Figure 1). In general, village officials, men and women farmers also respond positively to deliberate requests to actively involve more women. However, by 1995/1996, the National IPM Programme target of 25% women participants had been attained only in the provinces of North and West Sumatra; nevertheless, deliberate action has produced a good start on enhancing women's access to learning about IPM.

Women's role in IPM Farmer Field Schools

Interviews with Field School graduates (both women and men) from some mixed composition groups in North and West Sumatra and Central Java showed that the presence of women in training groups had a positive effect on the training process. With the exception of presentations of ecosystem analyses and experiments, which were left mostly to the men, women participated actively in all activities. Only women trainees with relatively high education dared to step in front of the group and give a presentation. In small group exercises, women's performance was equal to that of men. Many men stated that the women in their group were more accurate in observing pests and natural enemies; this forced them to take a better look.

All women participants interviewed stated they had enjoyed the Field School and that this experience had been very valuable for their daily work on the farm. After the Field School, they felt more able to take decisions on crop management in general and pest control in particular. This helped them to economise by avoiding unnecessary expenses for farm inputs.

Increasing involvement: constraints and opportunities

As stated above, in the implementation of the Indonesian IPM programmes cultural habits initially hampered the involvement of women in IPM training, although these habits do not necessarily seem to form an impenetrable barrier. On the other hand, despite the encouraging finding that as a result of a better participant selection process the number of women participants has increased in recent years, some constraints that seem more difficult to resolve can be detected. First, women farmers are usually also housewives, with the additional tasks of taking care of the household and the children. They have hardly any leisure time. Also, because household tasks are often difficult to schedule, it is harder for women than for men to guarantee that they will follow the Farmer Field School process routinely over an entire season (that is, attending weekly sessions). Second, Indonesian women often feel less competent than and inferior to men, which can hamper their active involvement in training. Even though it is generally the woman who manages the household and decides household matters, in the outside world she is supposed to act submissively. A third set of constraints in some areas, such as the North Sumatra highlands, are local customs: husbands there

do not like (and sometimes even do not allow) their wives to be involved in an activity with other men and/or with a male facilitator.

To reduce or even nullify such constraints, each situation will need to be analysed separately. Both opportunities and barriers presented by local customs and cultural habits will need to be explored together with the local community. For instance, to what extent can men be asked to take responsibility for particular household tasks while their wives attend training? To what extent can Field Schools be scheduled so they will not interfere with the duties of women farmers/housewives? To what extent and in what way can women be stimulated, convinced and empowered, to obtain more self-confidence? Is it feasible to set up special women's training groups and/or to find women facilitators? And, probably the most important aspect: can a selection procedure that enables and encourages the involvement of women farmers in IPM training be designed and implemented?

Here it should be noted that one solution often suggested as a way to increase women's involvement in training -- often applied but unlikely to yield any sustainable result -- is the appointment of women participants who are relatively highly educated (Sumayao, 1986). These women often show a high level of interest and an ability to play a prominent role in Field Schools, but their involvement in day-to-day farming is often negligible. In several cases it has been observed that more educated women Field School graduates leave the village after the training season is over to look for work, particularly office work, in the city. Relatively high education should not be a selection criterion for IPM training: what counts is daily farming experience and high motivation to implement and develop what is learned in the Field School.

A gender study recently done for the National IPM Programme summed up ways to further enhance women's access to and role in IPM training in Indonesia (Kingsley and Siwi, 1996) by recommending the following actions:

- broad application of the preparation process prior to an IPM Field School, including a gender analysis;
- strengthening the role and training of farmer trainers and extension workers in this preparation process, and ensuring adequate and timely funds for application of such a process; and
- strengthening women's leadership development.

Only when such processes have been institutionalised in the existing extension mechanisms can women's involvement be assured in the long term.

Conclusion

The desirability of involving women farmers in IPM implementation makes it imperative to assure their recruitment into IPM training. Thus far, however, the number of women participating in IPM Field Schools in Indonesia has been relatively low, due to lack of attention to gender issues in IPM programmes. Special efforts are therefore needed to increase women's involvement. Programmes should make deliberate efforts to design selection procedures and training schedules that enable and encourage the active participation of women farmers, in particular those belonging to the lower socio-economic layers in the community, who most need information and training that will allow them to improve their decision making capacity, and hence their farming practices. This will mean actively working with farming communities prior to conducting a Farmer Field School, to carry out a preparatory process of gender analysis. This makes it possible for communities and trainers to analyse and resolve constraints, including cultural habits and customs, that hamper women's active involvement in training and development activities.

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