Commentary

Farmer Field Schools: A Boon or Bust for Extension in Africa?

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Abstract

Despite the tremendous need for extension approaches that contribute to poverty reduction in rural sub-Saharan Africa, many extension models have been tried with only limited success. A popular model at the moment is the farmer field schools (FFS) approach, based on adult education principles such as experiential learning. Farmer field schools are intensive, season-long programs where farmers meet regularly to learn and experiment on a given topic. Farmer field schools have shown remarkable impacts in terms of reducing farmers’ use of pesticides for environmental and health benefits, increasing their on-farm productivity, improving knowledge gain among farmers, and empowering rural communities. However, these impacts have not translated into changes beyond the local level; several studies suggest that FFS are having limited or no effect on the agricultural sector’s economic performance, sustainable use of the environment, on rural health, and on dissemination of information by FFS participants to other farmers. There are also many questions about their sustainability. This paper examines the FFS approach in detail. Findings suggest that many of the issues inherent in the approach are not being addressed, even though the approach is being aggressively promoted by donors, governments, and non-governmental organizations as the next best thing in extension. The paper concludes that what is needed is not a “one size fits all” approach, but rather local solutions for local problems.

Keywords: Extension, farmer field schools, sub-Saharan Africa, sustainability, development
Introduction

Agricultural extension and advisory services are a critical means of addressing rural poverty, since they have the mandate to transfer technology, support farmers in problem-solving, and enable farmers to become more actively embedded in the agricultural knowledge and information system (Christopolos & Kidd, 2000, p. 11). There are almost one billion small-scale farmers worldwide that extension is responsible to. It is thus urgently seeking for the best ways to support these farmers in terms of information, technology, advice, and empowerment.

Is there an extension approach that adequately addresses these issues? In the African context, with poverty growing and productivity declining on the continent, the question is crucial. Extension was one of the top agricultural priorities listed by 24 African countries for a poverty reduction strategy (InterAcademy Council, 2004). One highly successful extension approach is the farmer field schools (FFS) approach. Started in Indonesia in 1989, the approach has expanded throughout many parts of sub-Saharan Africa. In Kenya alone, there are over 1,000 FFS with 30,000 farmer graduates (FAO-KARI-ILRI, 2003).

Although a popular method—the new “orthodoxy,” according to Leeuwis, Röling and Bruin (1998)—much of what is written on farmer field schools is found only in the grey literature, and deals mainly with the methodology or cases of FFS approaches. Peer-reviewed journal articles based on research have been confined mostly to the World Bank Asian studies (Feder, Murgai, & Quizon, 2004a, 2004b; Rola, Jamias, & Quizon, 2002); to studies in Kenya (Bunyatta, Mureithi, Onyango, & Ngesa, 2005; Mwagi, Onyango, Mureithi, & Mungai, 2003); Zimbabwe (Mutandwa & Mpangwa, 2004); a recent study in Sri Lanka (Tripp, Wijeratne, & Piyadasa, 2005); and to a study in Peru (Godtland, Sadoulet, de Janvry, Murgai, & Ortiz, 2003). Because of the limited number of studies, there is still much unknown about the approach and the issues pertinent to extension, such as effectiveness, sustainability, participation, and financing.

In spite of the limited evidence, many donors, governments, and non-governmental organizations are enthusiastically promoting farmer field schools in sub-Saharan Africa today. As a result of their popularity, there is some discussion as to whether FFS should be scaled up and out and incorporated into mainstream extension practices.

Farmer Field School Approach

The farmer field school approach is an adult education method developed in Asia to teach integrated pest management techniques to groups of farmers. It is used to educate and empower farmers as well as to disseminate information and technology. Farmer field schools are sometimes viewed as “schools without walls” where facilitators use experiential learning, group dynamics, and simple experimentation to “co-learn” with farmers. In the typical FFS, a group of about 25 farmers meets regularly with a facilitator during the cropping season. The facilitator does not so much lecture to the farmers as he or she helps them to learn for themselves by asking questions and encouraging discovery learning. Farmers are taught to problem-solve, set priorities, and to experiment. The process involves field days where neighbors and officials are invited and taught by the farmers, and culminates in a graduation ceremony. Farmer participants are sometimes trained as facilitators for future schools.

Farmer field schools have shown remarkable impact in terms of pesticide reduction, increases in productivity, knowledge gain among farmers, and empowerment. However, these effects have been generally confined to the local level. Furthermore, some studies show that FFS have limited or no effect on economic performance, the environment and health, and farmer-to-farmer dissemination of
information and technologies. There are also many questions about their sustainability. Table 1 details some of the various research findings.

Table 1

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Country</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bunyatta, Mureithi, Onyango, &amp; Ngesa (2005)</td>
<td>Kenya</td>
<td>FFS farmers acquire more knowledge</td>
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<tr>
<td></td>
<td></td>
<td>FFS farmers disseminate more</td>
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<tr>
<td></td>
<td></td>
<td>FFS farmers adopt more</td>
</tr>
<tr>
<td>Feder, Murgai, &amp; Quizon (2004a)</td>
<td>Indonesia</td>
<td>No significant impact on economic performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental &amp; health impacts not significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance of graduates/neighbors not sig.</td>
</tr>
<tr>
<td>Feder, Murgai, &amp; Quizon (2004b)</td>
<td>Indonesia</td>
<td>No diffusion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decreased pesticide use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased knowledge</td>
</tr>
<tr>
<td>Godtland, Sadoulet, de Janvry, Murgai, &amp; Ortiz (2003)</td>
<td>Peru</td>
<td>Positive impact on knowledge &amp; productivity</td>
</tr>
<tr>
<td>Mutandwa &amp; Mpangwa (2004)</td>
<td>Zimbabwe</td>
<td>FFS knowledge greater</td>
</tr>
<tr>
<td>Mwagi, Onyango, Mureithi, &amp; Mungai (2003)</td>
<td>Kenya</td>
<td>Much higher adoption of technologies by FFS</td>
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<td></td>
<td></td>
<td>Greater cohesiveness of FFS groups</td>
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<tr>
<td>Rola, Jamias, &amp; Quizon (2002)</td>
<td>Philippines</td>
<td>FFS farmers retain knowledge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FFS farmers share what they learn but not showing with non FFS</td>
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<tr>
<td></td>
<td></td>
<td>Use less insecticide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Little evidence of diffusion</td>
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<tr>
<td></td>
<td></td>
<td>Groups do not usually continue</td>
</tr>
</tbody>
</table>

**What are the Issues in FFS?**

Many extension approaches have been used in sub-Saharan Africa to achieve certain basic objectives: to improve agricultural performance, bring about rural community development, and provide non-formal/continuing education (Rivera, 1988). Approaches have included the commodity-specific, transfer of technology, farming systems research and extension, and training and visit (T&V). While the FFS approach is a new twist on these earlier approaches, it is experiencing many of the problems that plagued its predecessors.
Cost/financial sustainability. Just as the T&V system was brought down by its limited financial sustainability (Anderson & Feder, 2005), FFS is facing similar challenges. Farmer field schools appear to be an expensive intervention both in terms of direct outlays for professional facilitators and the opportunity cost of farmers’ time. Moreover, they are overwhelmingly dependent on donor funding rather than recurrent government expenditure (Quizon, Feder & Murgai, 2001; Rola et al., 2002). Several solutions have been pursued, such as wholly or partly self-financed FFS programs in East Africa, or those that rely on the relatively low-cost services of a farmer-facilitator. But there are no studies showing whether these types of schools are effective in comparison to regular FFS.

Scaling up. Can farmer field schools have impact at the national level? Tripp et al. (2005) found that although there were changes in farmer practices at the local level, FFS did not appear to have impact at the broader national level. These findings reflect the economics of scaling up—mobilizing adequate human and financial resources to replicate the approach at the national level. Farmer-to-farmer dissemination is a key issue in scaling up—farmers from the schools diffusing knowledge and technologies to their neighbors. However, some studies show that effective farmer-to-farmer dissemination is not taking place (Feder et al., 2004b; Tripp et al., 2005). Farmers may be gaining skills and knowledge, but they are not sharing them with their neighbors.

Empowerment. One of the unique aspects of the FFS approach is that it embodies an effort to empower farmers through the process of learning and teaching—an element that is absent in other extension approaches (Bingen, 2001; Mwagi et al., 2003). Empowerment is characterized by the long-term viability and cohesiveness of groups engaged in collective action. The empirical evidence suggests mixed results in terms of empowerment. In Kenya, for instance, one study shows that FFS groups are more cohesive than non-FFS groups (Mureithi, Mwagi, Bunyatta, Nyambati, Kidula, & Wamuongo, 2005), while other Kenyan report shows empowerment gains through FFS (Abate & Duveskog, 2003). A study on Sri Lanka, however, finds that the FFS groups do not stay together (Tripp et al., 2005).

Participation. The issue of participation in farmer field schools has barely been touched in the literature. FFS usually target women and encourage them to join, but is this indeed happening? Are some farmers unable to join the groups, and if so, why? Can farmer field schools, as they are currently configured, reach everyone? In looking at household characteristics of FFS and non-FFS farmers in the Philippines, Rola et al. (2002) found that FFS participants were tenants rather than owners of land, tended to be female, and had off-farm income sources. Tripp et al. (2005) found little difference between participants and their neighbors, except that farmers who worked as casual laborers were less likely to participate.

Donor-driven approaches. Extension is not immune to donor interests and fashions. The T&V approach, though used throughout sub-Saharan Africa, was popular until emerging evidence suggested that it was a widespread failure (Anderson & Feder, 2005; Leeuwis et al., 1998; Picciotto & Anderson, 1997). So is the FFS approach just another donor-driven craze?

There are some close similarities between the T&V and FFS approaches to suggest this. First, as with T&V, the FFS approach is being promoted aggressively by donors without sufficient monitoring and evaluation or ex ante and ex post assessment. These concerns not to be taken mildly; many experts argue that the World Bank’s efforts to push the T&V approach with “excessive expectations” based on “erroneous assumptions” (Axinn, 1988, p. 6-7) led to its failure (Leeuwis, et al., 1998).
With respect to the FFS approach itself, there are several similarities with T&V that are of concern. The formulaic gathering of farmer groups for weekly meetings during a crop growing cycle for experiencing and experimenting may not produce the desired increases in yield or empowerment. It is not simply a matter of a country taking up an approach that has worked well in Asia or even another African country. Adopting an approach simply because it is popular and worked elsewhere should not be done. The FFS methodology cannot be used as a “cookie cutter” approach to development.

Another danger is that of practitioners and policymakers picking and choosing the aspects of the approach that they want, and not paying attention to the necessary adult education principles woven into FFS. Donors and policymakers need to decide what they expect from the schools, and whether the FFS approach can help meet their broader goals. If they decide that the schools are appropriate to their goals, then they need to implement FFS as a complete package to achieve the desired results. There have been many adaptations to the approach since its inception in Asia; however, the approach loses its effectiveness when the fundamental principles and components are overlooked.

**Conclusion**

The ultimate impact of the FFS approach depends on the goals for which the schools are used. If the schools are employed merely to increase yields at some aggregate level, then they will likely fail to meet expectations. If they are used only to mobilize and empower farmer groups, then they will also fall short. If they are used to increase the long-term sustainability of extension services, then once again they may not measure up. But as a means of combining these objectives into a single approach, there is some evidence to suggest that farmer field schools are useful.

But as a “one size fits all” answer to development problems, the approach has no chance. *Should FFS be scaled up?* Do we mainstream the approach, or leave it as one option to be used when and if the conditions are right? The position of this paper is that FFS offer one possible approach among many that are viable in sub-Saharan Africa. It is not a “quick fix” or an easily implemented solution to farmers’ problems, but it is another tool in the toolbox that may be appropriate to specific conditions in specific communities.

In summary, farmer field schools are indeed a boon to extension. They have shown promise in terms of participatory methods, gender sensitivity, environmental considerations, empowerment, and productivity gains. However, it is doubtful that the FFS approach can be applied across the board as mainstream extension. Farmer field schools should be implemented because they suit local conditions and because they work, not because they are donor-driven. We must focus on what FFS—and other extension methodologies—were designed for. FFS are not necessarily an alternative to existing systems, but certain principles of FFS could be incorporated into existing systems, to make them more effective at reaching small and marginalized farmers and in alleviating poverty.

Perhaps the Mozambique experience of “building African models” of extension may be a guiding light for those searching for appropriate models to fight poverty in Africa (Gemo, Eicher, & Teclemariam, 2005; Rivera, 2005). This approach built a Mozambique-specific agricultural extension model by drawing on past experiences, using pilot studies, experimenting with institutional innovations, learning by doing, focusing on emerging opportunities, and learning from other countries’ experiences. Similarly, those wishing to improve agricultural extension should seek methods that consider and are compatible with these issues.
All of the judgments are not in on FFS, as they seem to be on the World Bank’s training and visit system. There is still much that is not known about FFS and their impact. But from the lessons learned from T&V, it would be wise for policy makers and practitioners to take a cautionary approach with farmer field schools, using them where they are suited rather than applying the methodology across the board.

Where do we go from here? This paper is a call for scholars, practitioners, and programs to (1) report what is really going on in FFS—and what is not working so we can fix it—and (2) design rigorous yet participatory research that can tell us what works when, where, how, and why; and also how to scale up the approach, if this is warranted. It is only when we use the right tools at the right place and time that pro-poor extension—and true development—occur.

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References


