

Our experiences with modified Farmer Field Schools in dryland areas

Arun Balamatti and Rajendra Hegde

The Farmer Field School (FFS) approach has become well-known after the positive experiences seen in Indonesia and other Asian countries. In many ways, however, it lends itself more to addressing the pest problems of farmers in irrigated agriculture than in dryland farming. In the latter, pests and diseases are only a part of the farming problems, often less crucial than in irrigated farming; and they need to be seen in relation to many other aspects. In this article we describe how the “conventional” IPM Farmer Field School approach has been modified in the South Indian dryland agriculture context, in order to suit the needs and problems of farmers in this area.

Transforming the FFS approach to suit dryland farming

The AME Foundation, with the assistance of FAO, has made a concerted effort to innovate and adapt the conventional FFS approach. AME is a support NGO working in the southern Indian states of Andhra Pradesh, Karnataka and Tamil Nadu. It works with groups of farmers in clusters of villages, where it promotes the use of LEISA technologies with participatory tools. Alternative farming practices are scaled up through and with NGOs and NGO networks. The capacity building of farmers and of NGO staff therefore constitute its major activities.

AME has been using the FFS approach since the late nineties. In 2005, with the initiation of a partnership project with FAO, the process of adapting and transforming FFS process and contents was given a further boost. The key challenge was to transform the contents’ orientation, which was mainly on the plant–ecosystem relationship, to the interrelated aspects of rainwater, soil fertility, crops and cropping system management and biomass, in a wider livelihoods context. Another challenge was to organise the entire capacity building process in such a way that it would be possible to achieve maximum up- and out-scaling of the FFS contents, without diluting the quality of the learning experience. AME thus embarked on a “Modified Training of Facilitators” programme (MToF) in Dharmapuri, a district in Tamil Nadu, in partnership with MYRADA, a large local NGO. This programme aims to train facilitators who can independently conduct FFSs in a dryland context. About 2500 Self help Affinity Groups (SAGs) have been organised in this area, and these in turn have formed eighteen Community Managed Resource Centres (CMRCs), with the basic objective of being a “service provider” for the development needs of the member SAGs. In total, nearly 40 000 families are involved. This offered an excellent platform for the large scale promotion of LEISA approaches in dryland farming.

Content innovation

Groundnut is the major crop grown in Dharmapuri under rainfed conditions. While the average yields are poor, pests and



Photo: S. Jayaraj

A broad approach to pest management is needed in dryland areas. This needs to be taken into account in the FFS curriculum.

diseases are only one of the problems which farmers face. The inadequate rainfall and its poor distribution, poor soil fertility and inappropriate agronomic practices are also key problems. AME therefore decided to bring these issues into the FFS curriculum. The discovery learning and experiential learning opportunities stretched beyond the crop–ecosystem interaction; in fact, an attempt was made to address livelihood improvement in the drylands, which encompasses crop husbandry and related activities. Short studies and long-term experiments were designed around *in situ* rainwater conservation, improving soil fertility and modified cropping systems. Support activities like biomass generation, kitchen gardening, the cultivation of azolla, livestock management and vermicomposting were included to ensure that the programme was “livelihood” focused in addition to being “crop” focused.

Insect zoos and studies normally form part of the IPM Training of Facilitators curriculum, along with an agro-ecosystem analysis (AESA). In our “Modified Training of Facilitators” we included several new studies and experiments:

1. Soil moisture management: Various simple experiments were designed for assessing and measuring the soil’s physical properties, the erosion, the water infiltration rate and water holding capacities, and the effects of preparatory tillage;
2. Soil fertility improvement: Experiments were also designed to determine the effect of enriched farmyard manures, *in situ* green manuring, composting and vermicomposting;
3. Modified cropping practices: We also considered testing the viability of the groundnut seed (after removing the seed coat), its germination, the different methods of sowing, the optimum sowing depth, and practices such as strip cropping;
4. IPM: Pot experiments were included, looking at the role of *Rhizobium*, the uptake of nutrients, the effect of inorganic fertilizers on soil micro-organisms, the effect of *Trichoderma viridae*, different options for intercrops and trap crops, the efficiency of bio pesticides and the calculation of the leaf damage area, among others; and

5. Support activities: Finally, we also included a series of support activities, such as establishing kitchen gardens, making silage and mushroom production.

Process innovation

An extension approach can only have an enduring impact if it can be scaled up. Initial FFS experiences have been mainly built around governmental extension systems; the underlying assumptions being that extension is a governmental responsibility, and that the government extension system has a larger coverage. However, as governments became interested in the FFS approach, its philosophy has often been diluted, and after a few years not too much remains of its original learning-oriented spirit.

The AME Foundation decided to follow a different approach. It chose to work with NGOs which reach large numbers of community-based institutions. Rather than training the government or NGO extension workers, we decided to look to the communities as the starting point for up-scaling. Young farmers linked to the CMRCs were included in the training courses; the aim was to make the FFSs an integral part of the service provision package of these centres. The conventional Training of Facilitators, involving five-day classroom sessions and one-day practices, was changed to three days of classroom sessions followed by three days of practical work. The “practice FFS farmers”, in turn, adopted 3 to 5 farmers to share their learning. In this way, it has been a three-level learning opportunity for the participants: one, as participants, they learn the skills of facilitation; two, by conducting “practice FFS”, they get “hands-on” experience of facilitating FFS with the farmers. And finally, by helping the “practice FFS farmers” adopt more farmers, the participants could obtain feedback from the fellow farmers to ensure the curriculum is always need-based. This way, it has been an educational investment to prepare FFS trainers and, simultaneously, an extension activity to involve more farmers in FFS.

During the last few years, 32 Community Resource Persons have been trained in the FFS methodology; nearly 900 farmers have been directly involved in the “practice FFS”, with more than 1300 farmers being involved indirectly. These activities have created space for the participation of a large number of women, in some cases making up to 90 percent of all participants.

The adoption of certain practices implied that the new studies within the Modified ToF curriculum were found useful. Vermicomposting, kitchen gardening and the production of azolla became instantly popular among the “practice FFS farmers”. A recent study conducted by FAO and AME on the impact of the “Modified Training of Facilitators” on participants’ livelihoods revealed that the FFS training has improved participants’ skills and abilities. The FFS training has strengthened women’s knowledge and skills on soil and water conservation, soil fertility management and better practices of crop production and protection. The availability of food crops for home consumption has improved. FFS farmers have earned a remarkably higher income from agriculture as a result of improved management of their fields. FFS training has also enabled women to be better decision makers, particularly in the area of livestock management.

The way forward

Our experience has shown that it is possible to adapt the FFS approach to a dryland context, effectively tackling pests and diseases, though as part of larger set of problems. In the IPM

Farmer Field Schools the emphasis is on growing a healthy crop, whereas in a dryland FFS, the facilitators have to skilfully use this principle in its broader farming system perspective. The FFS approach can be an empowering tool in a dryland farming context, provided the facilitators have the sensitivity and skills to design learning exercises for farmers that focus on location-specific technologies relevant to their specific context.

Similarly, the process suggests that it is possible to upscale the FFS approach, provided there is a sound base in the form of community-based institutions. This year, the AME Foundation is running nearly 600 FFS events in 13 different cropping systems, covering over 10 000 farmers in 500 villages, 11 districts and 3 states. This level of up-scaling could not have been achieved without the local organisations. Among the lessons we have learnt in the process:

- A thorough understanding of livelihood systems is necessary for developing a broad-based FFS curriculum. The continuous interaction of the facilitators with farmers, research and extension agencies enriches the curriculum;
- Larger farmer outreach is easier if there are organised groups close to the training location. The existence of such organisations is likely to be a condition for the sustained impact of FFS;
- Training events, proper planning and preparations for the “practice FFS” and receiving feedback after the sessions are crucial steps. They need to be properly managed, or else these could eat into the precious little time available for classroom sessions;
- While the ToF events requires intensive involvement of both facilitators and participants, the overall cost of the ToF and the follow up FFS events becomes justified, keeping in mind the substantial farmer outreach.

AME plans to evaluate this process again at the end of the 2007 season. It is expected that the effectiveness of the programme will depend to a large extent on whether and how the CMRCs will continue to use the services of the trained FFS facilitators. Regular monitoring and refresher courses for updating the facilitators’ knowledge and skills are essential to maintain the impact of FFS in future. If these Resource Centres are able to provide sustained follow-up to the FFS, with minimum external support, it will mean that FFS can become an effective, affordable and sustainable extension strategy in dryland agriculture. ■

Arun Balamatti and Rajendra Hegde. Executive Director and Programme Co-ordinator, AME Foundation. P.O. Box 7836, Bangalore 560 078, India. E-mail: amebang@giasbg01.vsnl.net.in

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