Wheelbarrows full of frogs

Social learning in rural resource management

Cees Leeuwis and Rhiannon Pyburn (eds.)

International Research and Reflections
Farmer researcher teams, farmer field schools and community IPM

Different platforms for different research and learning objectives

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Abstract

Based on experiences of integrated pest management (IPM) development and implementation efforts in Asia, this chapter elaborates on implications of the choice for an appropriate form of learning platform for separate steps in a research and development cycle, in order to contribute to sustainable agricultural development. The achievement of high quality impact in farmers’ fields on a substantial scale and in a sustainable manner, is dependent upon several requirements. First, a solid technical content of learning activities should be available to farmers. Second, effective and attractive learning methods and mechanisms allowing farmers to enhance knowledge, skills and collectivity need to be employed. Third, an encouraging environment and facilitation for farmers, should preferably be in place so farmers are able to continue and expand learning processes in order to tackle the many issues potentially contributing to sustainable improvement of their livelihoods. Farmers’ ownership over research and learning processes will be enhanced when appropriate learning platforms are established and facilitated to collectively tackle the various jobs at hand. Three platforms are discussed which are characterised by: their specificity regarding composition of partner categories involved to allow achievement of specific objectives at different stages of the research and development cycle; and their complementarity to link these stages and finally achieve impact. Farmer researcher teams, composed usually of two representative farmers from a community who are intensively involved in all stages of research planning, implementation, analysis and evaluation, have shown to greatly enhance relevance, applicability and efficiency of more basic and applied, innovative research. Farmer field schools provide experiential learning opportunities to farmer groups to develop sustainable crop management knowledge and skills, and to further test and adapt information and innovation offered. Community IPM further facilitates collective farmer experimentation and learning to address issues that sustainably enhance their lives and communities. Anticipation of the application of complementary learning platforms in designing and implementing research and development projects is likely to result in synergies contributing to sustainability in agricultural development that none could accomplish alone.
1 Introduction

Over the past decade, in the search for more emancipatory ways of conducting research and farmer education, various platforms for collective learning and participatory research have been developed, experimented with and institutionalised under a variety of conditions. Particularly in the fields of integrated pest, crop and natural resources management, where location specificity and collective problem solving and action are required, the choice of appropriate platforms to accommodate social learning processes is very important (Röling, this volume). Well known and well established, particularly in several Southeast Asian countries (Indonesia, Vietnam, Cambodia, Philippines), is the farmer field school (FFS). The farmer field school was designed in the late 1980s by the Food and Agriculture Organisation’s (FAO) technical assistance team to the Indonesian National Integrated Pest Management (IPM) Programme, as a training approach for IPM in rice. The FFS has become the first step in a strategy known as Community IPM. Community IPM, using a wide variety of activities including farmer experimentation, goes beyond pest management issues with the intention of sustainably enhancing the lives and communities of farmers (Pontius et al, 2001). In other instances, where adapted IPM approaches and FFS models for new crops did not exist, researchers and small farmer researcher teams have worked to develop both technical content and learning activities in a participatory way before scaling up the effort through existing IPM programmes. Other forms of platform building for participatory research and learning are addressed by approaches such as farmer research committees (Ashby et al, 1995; Ashby et al, 2000), farmer-led action research facilities (Ooi, 1998), mother-baby trials (Snapp, 1999), and participatory extension (Hagmann and Chuma, 1998).

This chapter will focus on collaborative efforts of the International Potato Centre (CIP)1 with the FAO Community IPM Programme and other national research and development partners on sweetpotato and potato IPM FFS development and implementation in East and Southeast Asia. In these efforts farmer researcher teams, farmer field schools and community IPM are employed as complementary platforms to achieve different objectives at different stages in the full cycle of research, development, extension and implementation. The underlying framework of the R&D cycle applied will first be explained, after which the various platforms are elaborated. The chapter concludes by pointing out the need for and complementarity of the various platforms in achieving large-scale impact of IPM training on the sustainable livelihoods of resource-limited farmers.

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1 The International Potato Centre is a Future Harvest centre supported by the Consultative Group on International Agricultural Research (CGIAR). With its headquarters based in Lima, Peru, CIP’s research mandate focuses on potato, sweetpotato and Andean root and tuber crops systems and on natural resources management in high mountain areas.
2 The opportunities-to-impact R&D cycle

CIP’s IPM development efforts in Asia have been guided by the overall goal to achieve impact in farmers’ fields. This implies not only a focus on biophysical research to develop solid IPM components for the cropping system of concern, but also on development, extension and implementation objectives. Achievement of impact on farmers’ livelihoods for an approach such as IPM is a very ambitious goal requiring both qualitative change relating to farmer capacities, practices, collective action and support systems, and significant quantitative change regarding numbers of people reached and increased income generated. Careful and participatory planning and implementation at each project stage to achieve: (1) appropriate need and opportunity definition and priority setting, (2) successful generation of applicable information and innovations, and (3) appropriate development and use of dissemination mechanisms and their effective implementation, can contribute to the realisation of the intended impact.

The framework applied is comprised of a set of sequential though partly overlapping steps occurring in three different realms, all involving intensive farmer participation (Van de Fliert and Braun, 2002):

1 Research and development: an iterative and synergistic set of co-creative processes is conducted to:
   • identify needs and opportunities
   • generate new information and innovations through basic and/or applied research
   • consolidate these with existing farming practice
   • translate them into learning objectives, activities and models for enhanced farmer performance.

2 Extension and implementation: the learning models developed are passed on to and implemented by extension organisations, through which the innovations are shared with larger groups of farmers. These farmers then test and evaluate the information and innovations, internalise (or reject) them in their farming practices, and share them with fellow farmers, which should finally lead to impact at the individual and community levels.

3 Monitoring and evaluation: a reflective mechanism is set in place where each step of the cycle is reviewed and adjusted, and appropriateness of outputs from research and development activities is measured by quality of processes, effects and impact occurring during extension and implementation.

By linking the three realms in a framework for project design, the necessary consistency needed between the nature of the innovation and that of the learning approach and methods applied to convey the innovation to farmers is guaranteed (Röling and Van de Fliert, 1998). Additionally, anticipating the various steps in project and activity planning involves active stakeholder participation at all stages, which in turn contributes greatly to a smooth transition from one stage to another, and finally to impact.
3 The platforms

The three platforms applied for (sweet)potato IPM development and implementation in Asia, i.e. farmer researcher teams, farmer field schools and community IPM, were each employed at specific steps in CIP’s IPM development framework. The sections below elaborate on the principles and application of these three platforms, leading into an explanation about how they were best applied at different stages.

Farmer researcher teams

In addition to a consultative mode of farmer participation in the research process by involving communities in study sites in needs assessment and technology validation activities, an effort is made to provide more ownership to farmers over the research and development process by involving them as colleagues throughout the project cycle. Two farmers per project site - normally of the same village - are invited to become intensively involved in the research process as farmer researchers. The number of farmers per community is purposefully limited to two per site because the research activities are of a basic and applied2 nature, implying uncertainty about research output, hence a possible risk to crop production output. We do not want to share research risk with too many farmers, and neither do we want to raise false expectations in farming communities. To accept research risk and understand that crop failure can also be an important research output, the farmers involved (just like the researchers and development workers) should be broad minded and inquisitive. Our experience shows that it is often only a few farmers in a community who are able, interested, and can afford the time and risk to get involved intensively in research. Furthermore, training and intensive guidance is required to upgrade research skills and support farmer fieldwork. Teams of two farmers per site rather than individual farmers has, however, proven to result in more creative processes because farmer researchers have someone who is working under similar conditions to talk to and develop ideas with on a day-to-day basis. Some farmer researchers from the same site conduct trials as a team, while others have individual trials but assist each other at crucial moments in planning, planting and harvesting.

The mechanism applied to establish, strengthen and operationalise these farmer researcher teams (FRTs) is made up of the following components:

- (Self-)selection of farmer researchers during preliminary needs identification community meetings. Criteria for selection include being a (sweet)potato farmer, having an interest in research, and being available to conduct research activities and attend seasonal review and planning workshops.

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2 In this paper a distinction is made between applied and adaptive research, in that applied research is described by the phase in which outputs from basic research are taken and developed into information and technologies with a potential application at the farm level. Field-testing at this phase is done only at a limited number of representative on-farm research sites. Adaptive research comprises the testing and adaptation of applied research outputs under varying ecological and socio-economic conditions, implying a larger scale, incorporation in extension programs and farmer implementation.
• Initial project planning workshop and training. Project objectives and outline are reviewed and reformulated, and research activities for the first season are planned and designed. Principles of research methodology are discussed and guidelines for conducting research under farm conditions are agreed upon.

• Routine visits to farmer researchers by a facilitator (a staff member of a partner organisation that could be a local NGO or a research institute) as a discussion partner to solve problems or take crop management decisions and collect data.

• End-of-season review and planning workshop with a rotating venue amongst research sites. Research data are analysed, conclusions and research output formulated, and detailed plans for the next season are made. These workshops also serve to socialise research output and processes to the study site communities.

• End-of-project national seminar in which project methodology and outputs are presented to stakeholder representatives at a national level (policy makers, staff from relevant research institutes and extension organisations, NGO networks).

Our experience is that at project sites where the facilitating organisation is a local NGO, farmer researchers work very independently and are for the most part, in charge of the topics chosen for research, trial design, implementation and analysis. In cases where local research institutes or universities are involved in facilitation, most of the responsibility for planning and conducting research tends to be with the researchers, with the farmers acting in more of a research assistant capacity. In the latter case, prior training on participatory approaches for partner researchers would have been appropriate.

Farmer researcher teams have mainly served as a platform during activity steps in the research and development realm, as described in the framework above. Farmer researchers have been involved in research ranging from needs and opportunity assessment studies on farmer cultivation practices, to basic and applied research activities (e.g. population dynamics trials of key pests and their natural enemies, variety, fertilization and pest management component trials) and even piloting and evaluation of FFS learning activities. Over the course of several seasons (six for the sweetpotato project during 1995-97, and so far five for the potato project 2000-present), the following types of activities and trials were conducted:

• farmer-designed, farmer-conducted
• collectively designed, farmer-conducted
• collectively designed, collectively conducted
• researcher-designed, collectively conducted
• researcher-designed, researcher-conducted

All activities are planned, analysed and evaluated collectively during the review and planning workshops. The workshops provide a strong link between trial output and FFS development research. Research outputs which hold potential and are adaptable, are immediately translated into FFS learning topics. A special FFS development team takes up the learning topics and develops adequate experiential learning activities and modules for them. These modules are again reviewed by and tested in the field with farmer researchers. Farmer researchers involved in this whole process appeared...
to be excellent resource people for the FFS facilitators training-of-trainers, some even became FFS facilitators themselves. Additionally, the farmer researchers have also become important sources of information in their own communities assisting farmers on crop cultivation problems and supporting adaptive research.

The farmer field school as a platform for IPM learning

The farmer field school (FFS) was originally designed as an IPM education model aiming at problem solving capacity building and the empowerment of farmers (Van de Fliert, 1993; FAO Community IPM, 2000a). FFSs emphasise experiential, discovery-based learning. Opportunities for this type of learning are created through a series of field activities and experiments in the FFS curriculum in which farmers observe and prove to themselves, through hands-on activities, how ecological processes work. In this way, farmers generate knowledge, which helps them make better cultivation decisions. Throughout a growing season, farmers meet regularly in a collective learning field where they manage an IPM plot, making informed decisions based on their thorough observation of the crop and its environment. Farmer researchers compare crop development and final economic analysis of crop management, with a plot using typical farmer practices. Additional learning activities and experiments are organised to enhance farmer knowledge on a range of special topics relating to pest and crop management. To stimulate learning, enhance group coherence and encourage collective decision making and action, farmers are engaged in group dynamics exercises. Trainers act as facilitators of the learning process by providing experiential learning activities and guiding constructive group discussions, rather than giving instruction- al lectures.

Typically a field school session lasts for about four hours and depending on the growth duration of the crop under study; a field school might be made up of 10-14 sessions. A rice FFS curriculum normally starts right after planting and continues with 10-12 weekly meetings until harvest. A sweetpotato IPM FFS needs to be initiated at the time of soil preparation to emphasise field sanitation for prevention of some major pests. It continues until the harvest is marketed, or even processed and utilised as animal feed, implying the need for a mixture of weekly and bi-weekly sessions at different points in the IPM FFS cycle. A potato IPM FFS needs to start 2-3 months before planting in order include the preparation of disease-free seed and organic manure. During the growing season, the potato IPM FFS might require sessions twice a week to monitor disease development. Rice IPM FFS facilitators will need additional training when expected to conduct FFS in another crop so as to upgrade both technical knowledge and facilitation skills when the curriculum demands new methodologies and learning activities.

Traditionally, the IPM FFS focuses on the interactions between the three trophic levels of crop, pests and natural enemies through weekly agroecosystem analyses on the IPM and farmer practice plot. In rice IPM FFSs, the difference between the two plots mainly relates to pesticide application practice, i.e. application according to a collec-
tive, informed decision based on an analysis of the rice agroecosystem, versus farmers' normal - often calendar based - approach. For sweetpotato FFSs, the agroecosystem analysis concept was broadened to include the analysis of healthy versus unhealthy components in the field, emphasising the importance of all biotic and abiotic factors influencing crop health. In addition, most IPM FFSs conduct a defoliation experiment to demonstrate the crop’s ability to compensate for leaf damage, and an enclosure experiment (‘insect zoo’) to demonstrate, among other things predator-prey relationships. These types of experimentation serve a learning purpose, not a research purpose. The experiments are designed by trainers in such a way as to create discovery-learning opportunities. The outcomes of these experiments, however, while leading to new knowledge in the learner, do not result in public innovations. Nevertheless, experiential and discovery-based learning has proven to be an effective way for farmers to learn ecological principles as a base for more sustainable crop management (Matteson et al, 1994; Mangan and Mangan, 1998; Dilts, 1999), and enhance their analytic and problem solving skills (Van de Fliert, 1993).

FFS curricula need to be developed for each crop or cropping system to respond to the specific characteristics and needs of a given crop and the farmers cultivating it. The sweetpotato IPM FFS model, for instance, was developed in Indonesia in a situation where no information was available to farmers on sweetpotato cultivation. The limited research results available were mainly from on-station trials under irrigated conditions. In addition, farmers expressed an interest in sweetpotato IPM FFSs only if it would: (1) present an exciting set of activities and topics relating to all crop management practices, and (2) result in new knowledge and skills also applicable to crops other than sweetpotato. This requires emphasis on teaching various skills such as experimental methodology, farm economic analysis, and yield assessment and price negotiation. The initial FFS developed for sweetpotato IPM in Indonesia was piloted during one season on a very small scale with farmer researchers and a limited group of other sweetpotato farmers involved; the model had to be validated. Only after revision based on farmer feedback was the model considered suitable for scaling up and allowing teams of facilitators be trained. Thereafter, the model was taken to the other project countries (Philippines, Vietnam and China) and both technically and methodologically adapted through pilot cycles.

Training FFS facilitators, and even upgrading them, requires very different skills from conventional (instructive) farmer extension and as such, should not be taken lightly. Since the rice IPM FFS program and various NGO IPM programmes in Indonesia established such an extensive cadre of highly skilled facilitators as a result of thorough, season-long training of trainers and years of experience, any programme in another crop would be wise to utilise these resources and link up with existing mechanisms. CIP’s sweetpotato IPM project did just this in moving the research phase to an extension phase by staging training-of-trainers events for both National IPM Programme FFS

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3 In Indonesia and the Philippines, project partners chose to call this approach Integrated Crop Management (ICM), whereas in Vietnam and China, they decided to stick to the term IPM, which already had a much broader meaning in these countries than pests anyway. We will use the term IPM here, however with the broader meaning of pest and crop management.
facilitators and NGO staff in major sweetpotato growing areas. The training-of-trainers eventually resulted in self-supported follow up FFS programmes, where the FFS is fully implemented for IPM learning in the extension and implementation realm of the project framework described above.

The farmer field school as a platform for IPM research

A wide range of organisations, including research institutions and NGO networks, have been applying the FFS approach to cropping systems more complex than that of the rice-based cropping system. The FFS has, in many instances, evolved into a platform serving more varied purposes than IPM learning only, including advanced learning and adaptive research. Where farmers will be in charge of the experiments, prior attention to experimental methodology may be desirable. This does not mean that farmers have to be able to use randomised split-plot designs and advanced statistics to interpret their data. Enhanced understanding of the factors that influence the outcome of their experiments and some basic ‘rules of the game’ of experimentation, however, has proven to greatly improve farmers’ capacity to generate useful information for location-specific decision making. By learning to test and tailor generic guidelines, farmers can put knowledge gained into better, more applicable practices (Van den Berg and Lestari, 2001). In other instances, FFS programmes have been used to provide an opportunity for researchers to collect data over a wide range of ecological conditions, for instance for participatory variety selection (Nelson et al, 2001). In such cases it is very important that the objective of the trial and the applicability of the research output for farmer practice is clearly discussed with participating farmers, so as not to raise false expectations.

In a crop like sweetpotato where high variability exists in cultivation conditions, practices and opportunities, location-specific implementation of IPM practices is a necessity. This implies that farmers should be able to test and adapt ideas and broad guidelines under the specific conditions of their farms, requiring them to have the skills to do so in a dependable manner. The sweetpotato IPM FFS curriculum contains a series of activities to enhance farmers’ experimental capacities in order to anticipate more adaptive research-oriented followup to initial field schools (Van de Fliert and Braun, 1999). The series of sessions on experimental methodology begins with: an inventory of farmer habits and methods in doing experiments on their own farms, an analysis of the reliability of the results obtained, and discussions on how to improve these methods. The concepts of focused problem definition, control treatment, and replication are introduced and farmers are guided through the process of designing, implementing and analysing their own experiments on the FFS plot. While building skills, these FFS experiments simultaneously serve an adaptive research purpose. Several of the original sweetpotato ICM FFSs in Indonesia resulted in follow up and self-supported collective experimentation by farmer groups during post-FFS seasons, as well as initiatives by individual farmers to more systematically test information in their own fields (Van de Fliert et al, 2001).
Community IPM

Community IPM is the conceptual framework in which farmer field schools are now being conducted by national IPM programmes in the member countries of the FAO regional IPM programme (FAO Community IPM, 2000b). ‘Community IPM’ is a strategy in which the farmer field school is a first step in the development of the sustainable management by a community of its shared agricultural and ecological resources. The goal of this strategy is to institutionalise IPM at the local level. The three basic elements of Community IPM are learning, experimentation, and organising. The three overlap in practise, but Community IPM begins with education; the farmer field school. The next step is the followup of the FFS with additional opportunities for farmers to build their skills. These activities further farmer learning so that they are able to: (1) create their own knowledge through research, and (2) organise groups and activities. Community IPM seeks to institutionalise IPM at the local level by putting farmers in control of the process of planning and implementing their own IPM programmes.

The purpose of experimentation in community IPM as opposed to FFS has evolved from merely serving learning goals to research. In a FFS, experiments are meant to demonstrate a process for knowledge generation purposes, hence are designed and managed by an FFS facilitator. FFS participants mainly observe, analyse and conclude. Community IPM experimentation is characterised by experiments designed and implemented by farmers to generate knowledge about issues that they have identified. Research focuses on field problems and is open ended. This type of learning requires concerted and intentional action over time based on analysis of opportunities and constraints within the larger social universe. Followup field studies often generate action and advocacy while serving as a cohesive force for farmer groups. Community IPM enables farmers to “stand on their own and think for themselves ... to do their own field observations, make their own discoveries, make their own decisions, and take action on their own” (quote from an Indonesian IPM Farmer Trainer). The job of outside trainers and facilitators in this process is mainly to provide analytical tools, methods, and opportunity for enhancing knowledge, skills and experience.

Farmer involvement and ownership in FFSs and setting the agenda for local IPM programming becomes increasingly important in followup activities. As part of the community IPM strategy, selected FFS alumni are trained as IPM FFS facilitators. Their training emphasises leadership skills, analysis, conducting field studies, and technical issues. These IPM farmer trainers are now providing leadership to community level IPM programmes in Bangladesh, Cambodia, China, Indonesia, Nepal, Sri Lanka, Thailand, the Philippines, and Vietnam. They have become the key element in both farmer research and farmer organising. In Indonesia, there is now a network of 60 alumni research groups spanning six provinces where studies are being conducted and results regularly shared through district level forums (FAO Program for Community IPM in Asia, 2002). Across the region, IPM farmers from areas as large as sub-districts and districts hold seasonal technical meetings to discuss field issues and share results of their own field studies. In addition, they organise other networking activities across sub-district and district levels, such as farmer media development,
farmer trainer workshops and farmer planning meetings. These farmer forums have become the basis for the emergence of local, provincial and national IPM farmer organisations, which have a broader agenda than field technical issues only. The activities vary from single-village-focused collective action to nation-wide ‘IPM Farmer Congresses’ involving thousands of people. In these forums, the farmers discuss a range of issues, e.g. farmer science and field study development, networking and organisation mechanisms, local and national agriculture policies, and farmer-to-farmer training activities. Through these forums, farmers have a better platform to establish dialogues with local, provincial and even national policy makers and legislators.

For the sweetpotato IPM activities in Indonesia, community IPM has mainly occurred through the NGOs whose staff were given training-of-trainers. After initial socialisation of sweetpotato IPM FFS concepts within their organisations, they conducted a variety of activities applying the IPM and FFS principles in sweetpotato and a range of other crops (Van de Fliert et al, 2001). Research and learning activities are ongoing and evolving, and the focus shifts according to what farmer groups consider relevant to potentially improve their livelihoods.

4 Conclusions: A different platform for a different objective

The platforms described above to accommodate various types of IPM learning and research activities are characterised by varying compositions of partner categories involved, varying objectives of the activities, and varying levels of farmer ownership of the research or learning processes (see table 1). Experiments meant to generate data for applied research purposes can either be researcher/facilitator or farmer designed, depending on who has expressed the need and taken the initiative for the experiment. Participatory research as done at CIP through farmer researcher teams purposely involves very few farmers intensively at each study site, because the work has a clear research objective, implying that risk is involved in the trials. Farmers involved in participatory research that serves a more basic or applied research purpose will need to understand what this kind of research is about, in that information and innovative practices are developed and one is not sure about the outcome at the outset. This, as opposed to research as done in FFSs or by farmers individually in their own fields which is mostly of an adaptive nature - already solid guidelines are tested and adapted under varying conditions. However, having a few farmers in the community who perform the role of farmer researcher generally triggers interest from more people to help observe, analyse and evaluate the trials. Additionally, these farmer researchers often become a major sources of information for other farmers (Johnson et al, 2001) and their presence facilitates the later implementation of learning activities such as FFSs or more advanced community IPM activities within the community.

Given the specific objectives of the three platforms discussed here, ownership over research, learning activities, and facilitation will vary among the platforms. Although ownership of the research process by farmer researchers in farmer researcher teams is strong, researchers dominate project initiative and facilitation, albeit guided by
participatory approaches. Experience has shown that farmer researchers display an increasing amount of initiative over time, after they’ve gained experience and developed skills and confidence with the research goals of the activities. With FFS programmes, initiative and facilitation are mainly in the hands of the organising institutions in order to fulfil the learning goals of their programmes. Advanced FFS groups may request certain topics to be tackled, but the facilitator will decide on the learning method. Community IPM activities are fully farmer initiated, designed and led, and outsiders such as facilitators and researchers will only come in as resource persons upon request by the group.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Farmer Researcher Team</th>
<th>Farmer Field School</th>
<th>Community IPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of farmers typically in one group</td>
<td>2 farmers per FRT</td>
<td>25 farmers</td>
<td>Varies depending on number of alumni in a community.</td>
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<td></td>
<td>3-5 FRTs per research group</td>
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<td></td>
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<tr>
<td>Objectives</td>
<td>Basic and applied research</td>
<td>Learning (ecological knowledge and skills)</td>
<td>Adaptive research</td>
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<tr>
<td></td>
<td>Development of both technical and methodological protocols</td>
<td>Adaptive research</td>
<td>Learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Applied research</td>
<td>Action research</td>
</tr>
<tr>
<td>Initiative of and ownership over the process by partners</td>
<td>Initiative for project often from researchers but based on participatory needs and opportunity assessment</td>
<td>Facilitators initiate, determine and lead the learning process</td>
<td>Farmers initiate, plan and lead the process</td>
</tr>
<tr>
<td></td>
<td>Farmers and researchers have equal ownership over research process, collectively set the research agenda and design trials, either collectively or individually conduct trials, and collectively analyse the results</td>
<td>Farmers participate</td>
<td>Facilitators and researchers serve as resource persons whenever requested by farmers</td>
</tr>
<tr>
<td>Facilitation of the process</td>
<td>Researchers and development workers facilitate the process, but all planning is done in a participatory manner</td>
<td>Extension workers (GO or NGO) and farmer trainers determine activities and facilitate the process</td>
<td>Farmers determine activities and facilitate process, when requested by the community, extension workers (GO or NGO) may participate</td>
</tr>
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Table 1: Characterisation of the three platforms for participatory research and learning

When designing a project, the first step should be to identify distinct phases and related objectives. Secondly, a decision must be made regarding the most appropriate plat-
form for each phase to achieve the various objectives and fully allow for participation of all stakeholder groups. The phasing of projects and anticipating the application of a different platform in each phase, is crucial for implementing strong research, development and extension activities, and consequently achieving qualitative and quantitative impact in farmers' fields. Basic and applied participatory research can enhance the technical content, its applicability to farmer management systems, and the quality of learning approaches. Larger scale farmer education programmes are needed to help make the information and technologies available to a large audience. Community IPM activities allow for location specific adaptation, internalisation and further local innovation. The various platforms for farmer research, learning and organisation can be both complementary and evolving from one into the other as objectives shift over time. When different institutions employing different platforms manage to link up, interesting synergies can take place. These synergies are at the core of social learning and increase the likelihood that an intervention will result in improving the livelihoods of farmers and farming communities in a sustainable way.

References


