Promising Approaches for CCAFS Theme 4 To Consider In Its Social Learning Efforts

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for CCAFs theme 4 stocktaking assignment

CONTENT

BOX 1: PARTICIPATORY IMPACT PATHWAYS ANALYSIS: A PRACTICAL METHOD FOR PROJECT PLANNING AND EVALUATION

Boru Douthwaite, Sophie Alvarez, Graham Thiele and Ronald Mackay

Participatory Impact Pathways Analysis (PIPA) is a practical planning, and monitoring and evaluation approach developed for use with complex projects in the water and food sectors. PIPA begins with a participatory workshop where stakeholders make explicit their assumptions about how their project will achieve an impact. Participants construct problem trees, carry out a visioning exercise and draw network maps to help them clarify their 'impact pathways. These are then articulated in two logic models. The outcomes logic model describes the project's medium term objectives in the form of hypotheses: which actors need to change, what those changes are and which strategies are needed to realise these changes. The impact logic model describes how, by helping to achieve the expected outcomes, the project will impact on people's livelihoods. Participants derive outcome targets and milestones which are regularly revisited and revised as part of project monitoring and evaluation (M&E). PIPA goes beyond the traditional use of logic models and log frames by engaging stakeholders in a structured participatory process, promoting learning and providing a framework for 'action research' on processes of change.

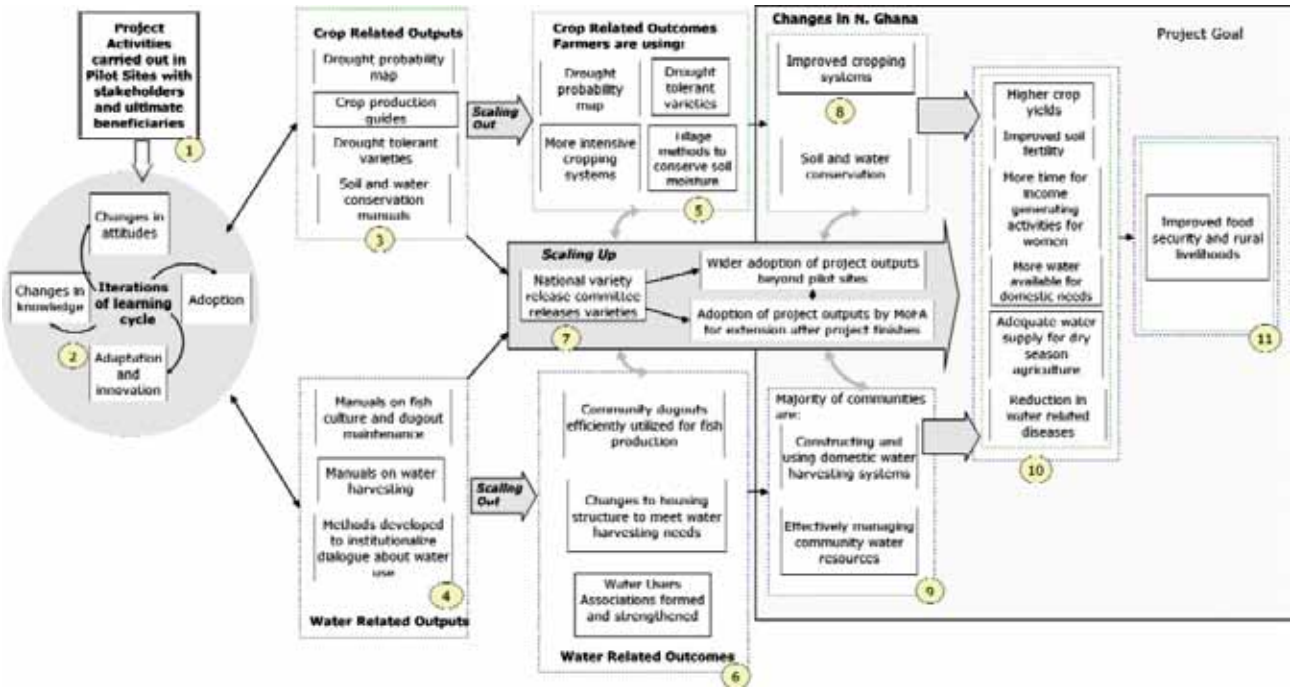


Figure 1. Example of an impact logic model for the CPWF Strategic Innovations in Dryland Farming Project

Conclusions

Participatory Impact Pathways Analysis (PIPA) is a relatively young and experimental approach that involves the participatory generation of impact pathways and their subsequent use. Although this brief focuses on monitoring and evaluation, PIPA is also used for ex-ante and ex-post impact assessment. We encourage readers to experiment with PIPA and contribute to its development. More information on all aspects of PIPA, including an on-line manual, can be found at http://impactpathways.pbwiki.com.

Source: **Participatory Impact Pathways Analysis: A practical method for project planning and evaluation Boru Douthwaite, Sophie Alvarez, Graham Thiele and Ronald Mackay ILAC Brief 17 2008 (Douthwaite 2008)**

[1] *The Participatory Impact Pathways Analysis Wiki contains more information about PIPA: http://impactpathways.pbwiki.com*
[2] *EULACIAS - The European-Latin American Project on Co-Innovation in Agricultural Ecosystems*

BOX 2: LEARNING ALLIANCES

The Learning Alliances approach was used by the International Center for Tropical Agriculture (CIAT), an international research institute based in Cali, Colombia, as a way for generating knowledge and fostering innovation processes. The authors indicated that it can be used to "strengthen capacities, generate and document development outcomes, identify future research needs or areas for collaboration, and inform public and private sector policy decisions" (Lundy, Gottret and Ashby, 2005).

Example

CIAT first experimented with this approach in 2000 in collaboration with CARE Nicaragua and eight local partners in 10 municipalities. From there the idea moved to eastern Africa, where a six-nation learning alliance was established with the East Africa regional office of Catholic Relief Services (CRS). These two experiences constitute a first phase of work, where the basic concepts of learning alliances were developed, tools were tested and promising initial results were achieved. More information can be found on the ILAC Brief attached.

Key principles for successful learning alliances

- Clear objectives (what does each organization bring to the alliance?)
- Shared responsibilities, costs and credit (since it seeks to benefit all, responsibilities should be shared)
- Outputs as inputs (outputs are used as inputs in the process of rural innovation)
- Differentiated learning mechanisms (more than one learning mechanism is need, as participants have different needs; e.g. participatory monitoring and evaluation, innovation histories, conven tional impact assessment)
- Long-term, trust-based relationships (it takes time to influence and understand change)

How CIAT implemented Learning Alliances

CIAT implemented the following steps:

1. Identify and convene partner organizations with an interest in rural enterprise development
2. Develop clear objectives, roles and responsibilities for the learning alliance
3. Define specific topics of interest based on partner needs and priorities
4. Implement a double-loop learning cycle for each topic of interest
5. Share results among researchers, practitioners and policymakers

Resources

Examples

- Program 'Improved Management of Agricultural Water in Eastern and Southern Africa' (IMAWESA) http://imawesa.info/wp-content/uploads/2011/12/Learning-Alliances-Concep...
- Wastewater Agriculture and Sanitation for Poverty Alleviation (WASPA Asia)http://www.iwmi.cgiar.org/waspa/learnAli.htm
- IRC International Water and Sanitation Centrehttp://www.award.org.za/File_uploads/File/Learning%20alliances.pdf
- Smits, Stef; Moriarty, Patrick and Sijbesma, Christine (eds) (2007). Learning alliances: Scaling up innovations in water, sani tation and hygiene. Delft, The Netherlands, IRC International Water and Sanitation Centre. (Technical paper series; no. 47). 174 p.http://www.award.org.za/File_uploads/File/Learning%20alliances.pdf

Sources: Lundy, M., Gottret, M.V. and Ashby, J. (2005) Learning Alliances: An approach for building multistakeholder innovation systems ILAC Brief No. 8. Rome, Institutional Learning and Change (ILAC) Initiative. http://www.cgiarilac.org/files/ILAC_Brief08_alliances_0.pdf

BOX 3: LEARNING ALLIANCES AS A VEHICLE FOR SCALING OUT

Mark Lundy

LA can be understood as a process undertaken jointly by R & D agencies through which research outputs are shared, adapted, used and innovated upon. This is done to strengthen local capacities, improve the research outputs, generate and document development outcomes, and identify future research needs and potential areas of collaboration.

The LA process begins with the identification of research outputs or development outcomes susceptible to scaling out by partners. It is followed by one or many adaptation and learning cycles, and is completed with the detection of new research demands, which feedback into the research process, and contribute to the generation of improved livelihood or policy outcomes. Figure 1 shows the LA process.

Several key issues need to be managed for an LA to be successful, as outlined below.

Clear Objectives

Clear objectives based on the needs, capacities, and interests of the participating organizations and individuals must be defined. What does each organization bring to the alliance? What complementarities or gaps exist? What does each organization hope to achieve through this collaboration? Answers to these questions, and an overarching cooperative agreement are helpful first steps. In the real world, however, clarity on these issues is often only achieved through practice.

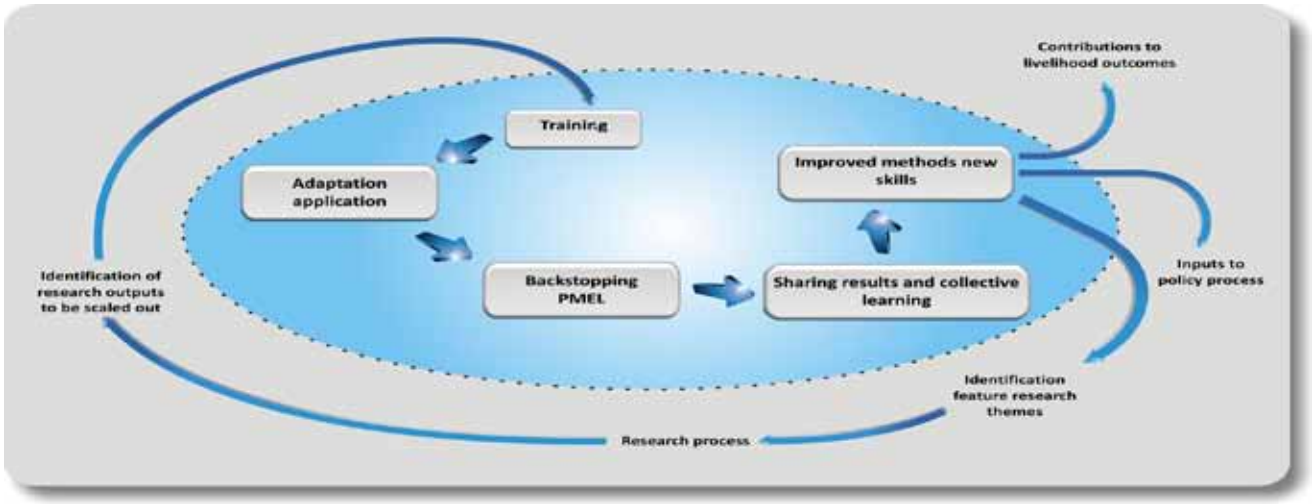


Figure 1. The Learning Alliance process (PMEL= participatory monitoring, evaluation and learning)

Shared responsibilities and costs

An LA seeks to benefit both parties: therefore responsibilities and costs should be shared. This is imperative at the beginning of such relationships where funds for scaling out (from the research side) or training from the development side) are often tied to project budgets that are difficult to modify in the short term. In the future, joint proposals for funding may present a good vehicle for supporting these activities.

Outputs as inputs

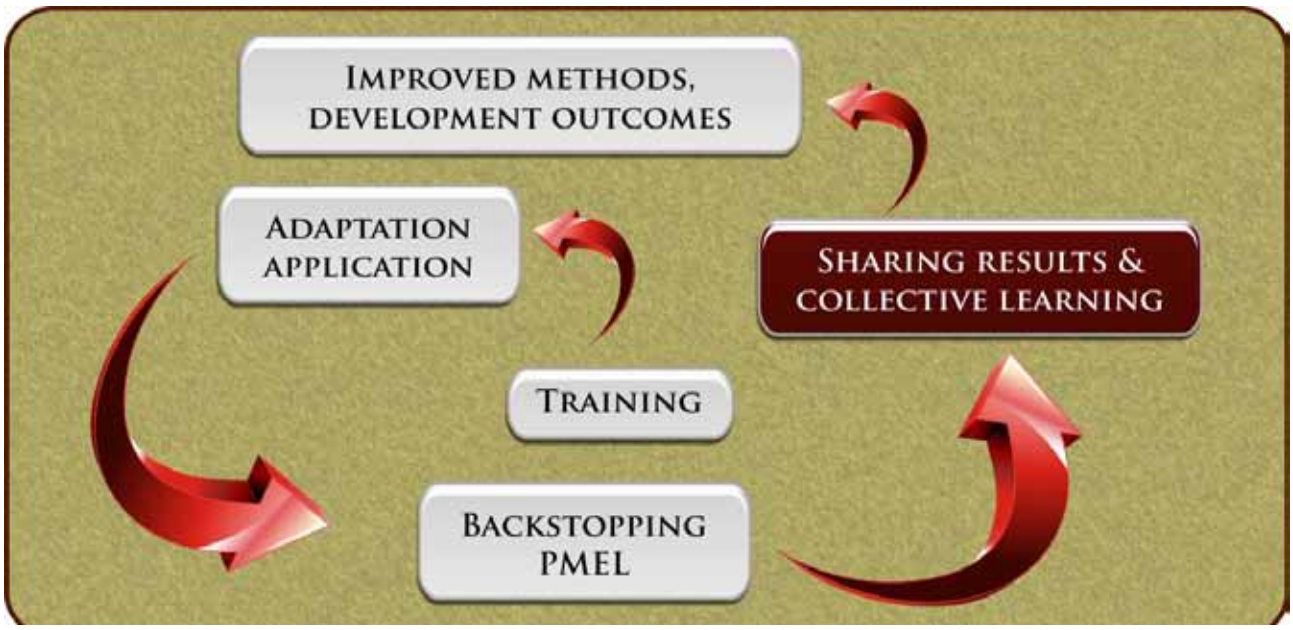
In the myriad contexts in which development occurs, there are no set answers. As such, Las view research outputs as inputs to processes of rural innovation that are place and time specific. Methods and tools will change as users adapt them to their needs and realities. Understanding why adaptations occur, if they are positive or negative in terms of livelihood outcomes, and documenting and sharing lessons learned is the goal.

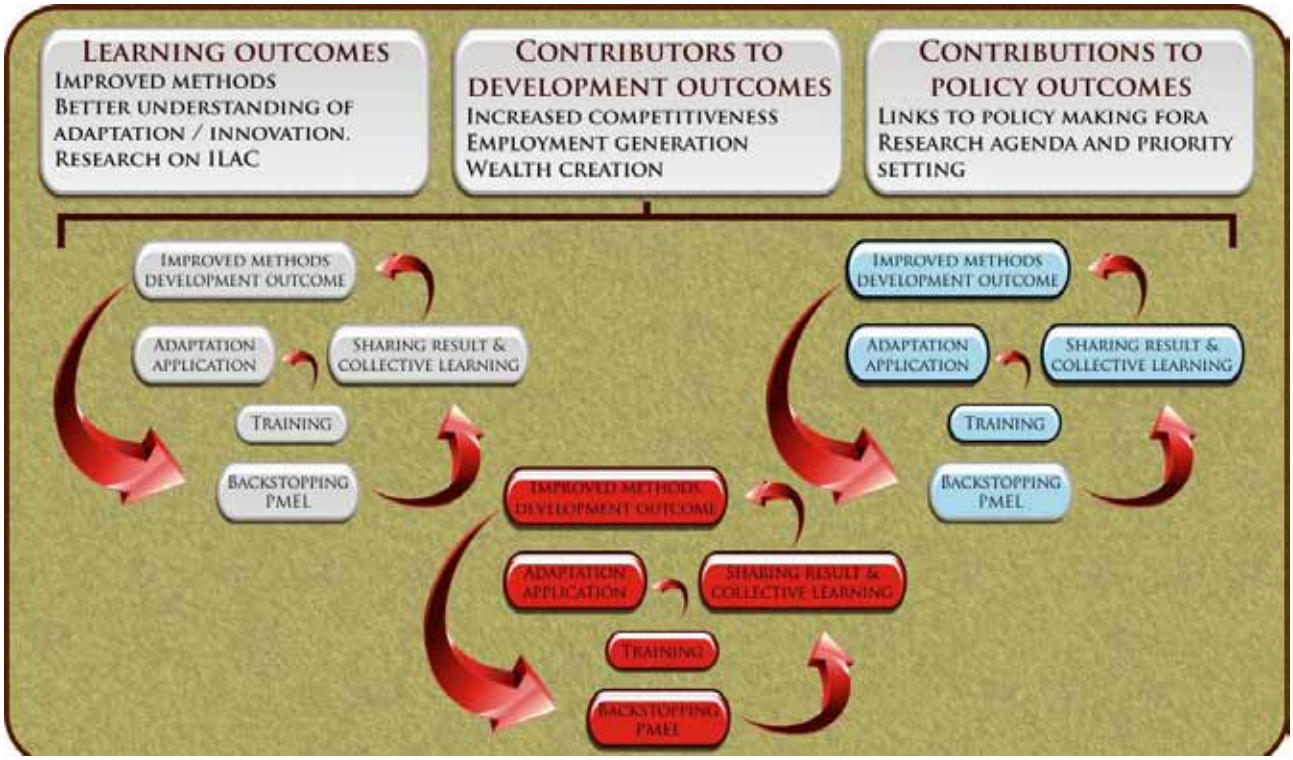
Source: Scaling Up and Out: Achieving Widespread Impact through Agricultural Research (Economics and Impact Series 3- CIAT) Edited by: Douglas Pachico and Sam Fujisaka: Chapter 14 of Learning Alliances with Development Partners: A Framewrok for Scaling Out Research Results page 226-227 by: Mark Lundy.

BOX 4: WHAT IS A LEARNING ALLIANCE?

A learning alliance:

- Has clear objectives based on the needs, capacities and interests of the participating organizations and individuals.
- Shares responsibilities and costs between research and development organizations.
- Views scientific outputs as inputs for processes of rural innovation.
- Includes differentiated mechanisms of collaborative learning relevant for different participants ranging from log frames to PME & Learning.
- Is a long-term, iterative relationship that seeks synergies between participating organizations that favor the end goal of improved rural livelihoods.





Source: Learning Alliances with Development Partners: A Framwork for Outscaling Research Outputs by: Mark Lundy Rural Agroenterprise Development Project CIAT Annual Review, December 2002; http://webapp.ciat.cgiar.org/agroempresas/pdf/learning_alliances.pdf

BOX 5: INNOVATION PLATFORMS

Innovation platforms bring together multiple stakeholders (researchers, farmers, national and local level governmental agencies, non-governmental organizations and other actors) and shape the nature of research and development interventions in a participatory and empowering way that supposedly guarantees improved sustainability of water and food research and development interventions. But the way forward is daunting. To achieve change and progress, one has to change, at various levels, and together.

This interactive session shed light on the nature of these changes. Andre van Rooyen, one of the presenters for this session, stressed some of the key lessons around the changes that had to happen to let innovation platforms blossom: Learning to live with change and uncertainty, nurturing diversity, combining multiple knowledges and social learning, shaping and seizing opportunities for self organization. Other speakers and presenters in the session further emphasized the different scales of learning to change around innovation platforms:

- Learning to let go of control – innovation platform processes tend to really exhaust their facilitators and that sometimes they have to learn to step out, for scaling up and local ownership to take the stage;
- In line with this, learning to facilitate. This is very different to managing a process. Managing keeps close control. Facilitation implies taking some distance and inviting all parties to find their space and pace to engage;
- Learning to let the project/intervention agenda mingle with and eventually get taken over by the local agenda, if innovation platforms are to be sustainable – a point which is arguable but let us spare this argument for later;
- Learning to practice what we preach, or to lead by example. This implies among others learning to organize meetings and discussions that truly open the space for higher engagement;
- Learning to start research and other interventions from the demand side. Innovation platforms are better off starting where there is pre-existing interest and expertise rather than starting from blank slate;
- Learning to assess impact in other ways: policy impact, behavior change impact, impact in in ter - institutional relationships;
- Learning to explore one's own untapped tacit knowledge and discovering ways to unravel it and stimulate organizational and social learning;
- Learning to deal with emotions and power – far from the comfort of objective science;
- Learning to listen to each other, which in spite of the obvious does not readily happen;

In short, researchers – certainly in the CPWF – have no alternative than carrying collaborative and integrated research, but they may not realize what this new process entails just yet, let alone accept the consequences of working around innovation platforms.

(This was extracted from a post that was originally published on the blog of the third International Forum for Water and Food. One of the sessions was dedicated to 'innovation platforms'. These are multi-stakeholder platforms around agricultural value chains, linking all important stakeholders from the production of crops or livestock to the consumption. The cooperation and coordination mechanisms of these innovation platforms are very similar to those of learning alliances, and the difficulty of the change process involving all these actors just as high)

Source: http://ilriclippings.wordpress.com/2012/07/10/innovation-platforms-imgoats/

BOX 6: ADAPTIVE COLLABORATIVE MANAGEMENT

Adaptive Collaborative Management (ACM) is a participatory approach that links forest stakeholders, empowers local communities and their subgroups, and strengthens adaptive capacities. Adaptive collaborative management (ACM) strives to recognize, build on and strengthen local people's capabilities in addressing the challenges that their changing environments pose.

ACM addresses these issues through its success at strengthening people's collective action, learning (and rethinking), while emphasizing local initiative and drive. This process-oriented approach provides guidance on how to involve communities in ameliorating and adapting to the predicted changes in our climate. As ACM evolved, it also became clear that there was a need for both strengthened local institutions and better links from communities to actors operating at other scales.

ACM builds on democratic ideals and concerns for justice and equity, recognizing the importance of power and striving to level playing fields through empowerment processes. It has three themes:

• A horizontal theme in which stakeholders in a particular forest work together toward common goals, addressing and resolving issues of concern for that forest and the people who live in and around it,

• A vertical theme in which local communities and actors at other scales develop effective mechanisms for two-way communication, cooperation and conflict resolution, and

• An 'iterative' or progressive theme wherein stakeholders learn, over time, about the management of their resources and their communities, in the course of actions evolving out of that growing understanding.

ACM - What are the Results?

The most general results of interest to policymakers are the strengthened capacities of communities and local governments—capacities that will help populations cope, both with the new opportunities/dangers of mitigation efforts and in adaptation to the other surprises that climate change will foster.

Because activities and goals are developed within and tailored to individual contexts and participants, each site has different results. However, typically improvements can be seen in the following local level skills: situation analysis, planning, coordination, implementation, monitoring, negotiation, conflict management, facilitation, proposal and other kinds of writing, and networking.

We see improvements in people's understanding of the views of other stakeholders, abilities to act collectively and to learn from their mistakes, and to deal effectively with more powerful stakeholders. We also see broader definitions of leadership, as people come to recognize that effective leadership can mean being inclusive, listening, pulling together diverse views, rather than only being directive and decisive.

Adaptive Collaborative Management – CIFOR's Original Definition, Plus

First version (2001): Adaptive collaborative management (ACM) is a value-adding approach whereby people who have interests in a forest agree to act together to plan, observe and learn from the implementation of their plans while recognizing that plans often fail to achieve their stated objectives. ACM is characterized by conscious efforts among such groups to communicate, collaborate, negotiate, and seek out opportunities to learn collectively about the impacts of their actions.

Supplement (2008): Working with a given group of people requires involving other people acting on other scales---usually at least one level down and one level up (e.g., user groups within a community and district officials above

(Continuation Box 6)

ACM - How is it done?

ACM researchers begin with a series of context studies to examine historical and political trends, and initial status of human well being and environmental health. In this and subsequent steps, ethnographic skills help them understand how socio-cultural systems work.

Researchers have usually begun at the community level. A central method in the ACM approach is the process oriented participatory action research (PAR). PAR is a long term, collaborative process in which groups of people act together in iterative cycles of goal setting, analysis, planning, implementing, monitoring, and reassessing progress (See the 'worm', below). This approach requires the skills of a facilitator of such processes. In ACM, this facilitator/researcher also serves as a node, linking groups of people, and, over time, training them in the required skills—to strengthen the sustainability of effort.

Such facilitators/researchers also bring a repertoire of other methods on which they draw, as the information and analysis needs of the participants become clear.

Recent users of the ACM approach have more explicitly involved community, district, and sometimes national level actors (e.g., Bolivia, Indonesia, Nepal, Zimbabwe, and 6 new sites in the CIFOR-ICRAF Landscape Mosaics project) using the same iterative processes. Changing attitudes and approaches among development and research organizations has proved to be an important but slow process.

Why do we Need ACM Now?

There is growing recognition that many efforts to address problems at local levels have in the past been unnecessarily passive, reactive, and/or purely technological. Effectively addressing climate change will require moving forward with more process-oriented approaches that look to the future, acknowledge local capabilities and opportunities, and build analytical and adaptive capacities at several levels.

To activate communities and local governments on the scale needed for these changes, global actors must recognize the need for clear and meaningful response to local needs.

Source: Adapted from Adaptive Collaborative Management Can Help Us Cope With Climate Change; Center for International Forestry Research (CIFOR) Infobrief July 2008, No. 13; http://www.cifor.org/publications/pdf_files/Infobrief/013-infobrief.pdf

BOX 7: COMMUNITY BASED MANAGEMENT IN THE WAKE OF CLIMATE CHANGE

Climate change represents a major threat to agrobiodiversity. One of the ways in which climate change negatively affects agriculture is to change the growing conditions and thus making the current practices and varieties ill-suited in the changed context.

Farmers may not have the capacity and facility to predict climatic variability before crop seasons or determine which new pest or pathogen will develop or how the rain will fall during the crop season. However, they can and do use a set of crop varieties in agricultural production systems to increase options to buffer against an unpredictable change. In this context, agricultural biodiversity has the potential to provide immediate cropping alternatives as well as genetic materials for the further development of stress tolerant varieties.

Strengthening farmer seed systems of a range of neglected crop species and other associated biodiversity promote an open, dynamic and integrated genetic system to cope with climate change at the local level through: i) community based conservation actions (e.g. seed fairs, diversity kits, community based register (CBR), community seed banks, community based seed production schemes) to improve access of materials and knowledge and their exchange, and ii) grassroots breeding, participatory variety selection and participatory plant breeding. This is only possible if the farmer's role as conserver and promoter of diversity and dynamic innovator is consolidated by strengthening their seed system and agronomic practices and in they are compensated/rewarded for the services of conservation.

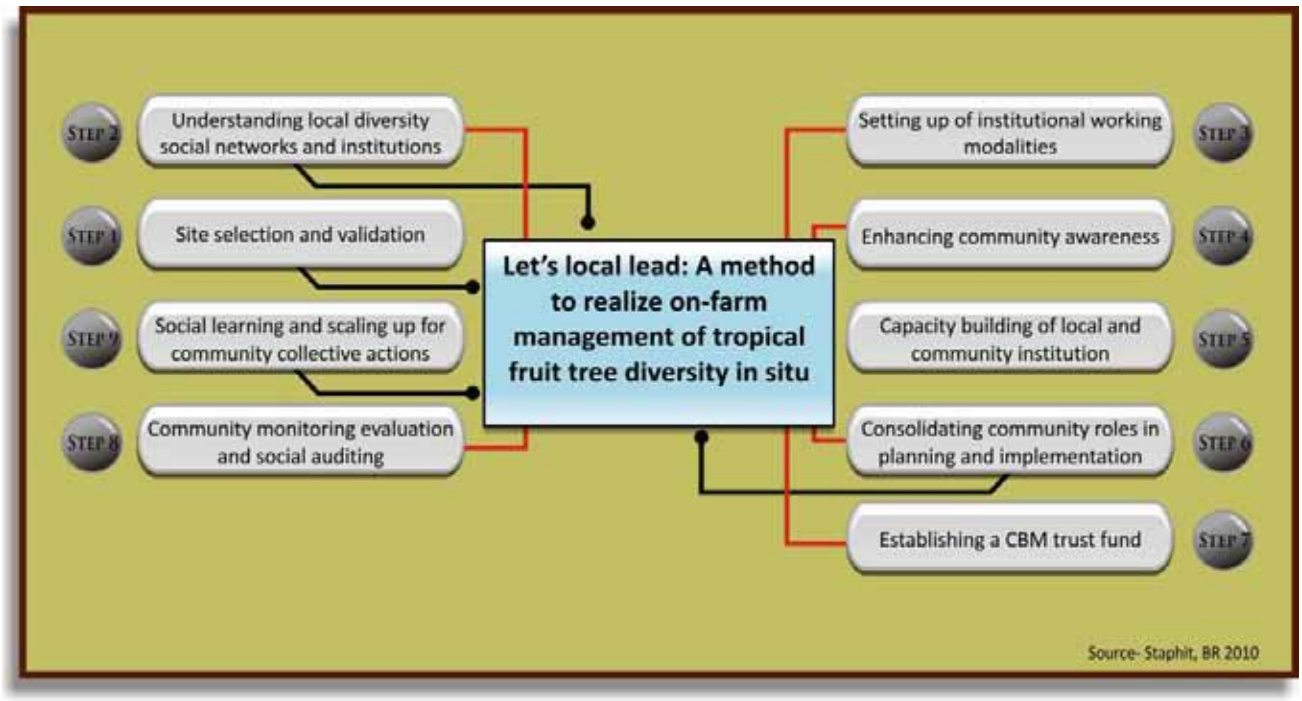
A farmer's ability to search for new adaptive diversity, selection of new traits and exchange of selected materials with friends and relatives are key adaptive strategies for dealing with climatic adversity. To achieve in situ (on-farm) conservation, community biodiversity management (CBM) method is employed to empower farming communities to manage their agricultural biodiversity. Community biodiversity management (CBM) is increasingly recognized as a process that contributes to on-farm conservation through the management of landscape, species and genetic diversity. The basic principle of the CBM method is legitimizing the role of locals in the following:

- building on local resources, skill, knowledge, practice, innovation & natural assets (local use of genetic diversity and blending new acquired knowledge and science),
- empowering community and local institutions for sustainable biodiversity management and better governance (social organizations),
- diversifying biodiversity based livelihood options by mobilizing social, human and natural assets (capitalizing sustainable livelihood assets),
- promoting good governance for biodiversity management and eco-friendly approaches, and
- providing a platform for social learning for collective action (social learning institutions) to save and use agricultural biodiversity.

(Continuation Box 7)

The methodology is designed in such a way that locals lead the process and make decision of management and use of agricultural biodiversity. The figure below illustrates key steps of community-based management of agricultural biodiversity.

Participatory research methods are used and platforms for farmers and researchers to share and learn from each other created. The capacity of local institutions are built to assess on-farm diversity, identify elite materials and improve access of useful diversity and make community action plans.



In order to ensure that communities' local organizations are equipped to make decisions about the management of local crop diversity, government agencies and donors must collaborate directly with them in letting the locals lead the effort to save agricultural biodiversity. CBM can ensure that communities have the knowledge and skills and appropriate decision making capacity to manage the agricultural biodiversity to cope with adverse situations.

This note is repackaged from the following sources:
Bhuwon Sthapit1, Abhishek Subedi2, Devra Jarvis3, Hugo Lamers4, V Ramanatha Rao5 and BMC Reddy6; Community Based Approach to On-farm Conservation and Sustainable Use of Agricultural Biodiversity in Asia; Indian J. Plant Genet. Resour. 25(1): 97–110 (2012); and Bhuwon Sthapit1, Stefano Padulosi2 and Bhag Mal; Role of On-farm/In situ Conservation and Underutilized Crops in the Wake of Climate Change; Indian J. Plant Genet. Resour. 23(2): 145-156 (2010)

BOX 8: PPB - PARTICIPATORY PLANT BREEDING

The Leading Practitioners of and Early Returns to Participatory Plant Breeding

The staunchest supporters of participatory plant breeding share a common background: many years devoted to improving drought-tolerant cereals in low rainfall environments. Two of the leading practitioners are J.R. Witcombe, who is the chief plant breeder at CAZS Natural Resources (CAZS-NR), University of Wales, Bangor, U.K., and S. Ceccarelli, who led the barley breeding program at the International Center for Agricultural Research in Dry Areas (ICARDA) for many years, is now a consultant to the same program and is also the coordinator for participatory plant breeding in the Participatory Research and Gender Analysis (PRGA) initiative of the Consultative Group for International Agricultural Research (CGIAR).

Since the mid-1990s, the CAZS-NR group and its partners have worked in participatory plant breeding in several well-known geographic poverty traps and marginal production environments in South Asia. They have focused on cereals, mainly rice and maize, and have had five published success stories characterized by strong early adoption of project varieties (Joshi et al. 2001, Joshi et al. 2002, Virk et al. 2003, Witcombe et al. 2003, and Virk et al. 2005). On average, the 'new' varieties gave 40% heavier yields in farmers' fields than the 'old' varieties farmers had cultivated at the start of the project. Several of these new varieties have been approved for national and/or regional release. The CAZS-NR team has also generated evidence that selecting for specific adaptation is not incompatible with wider adaptation as some of these varieties are performing well in poverty-ridden regions in neighboring countries (Joshi et al. 2007).

The model of participatory plant breeding by the ICARDA Barley Program features four years of on-farm trials and farmer selection (Ceccarelli and Grando 2005, Mangione et al. 2006, and Ceccarelli and Grando 2006). Between 1997 and 2004, the ICARDA Barley Program in Syria totally transformed the locus of their operation from 8,000 plots planted and evaluated on the research station to 8,000 plots planted and evaluated in farmers' fields. Based on initial results in Syria, the team has extended their PPB model to nine countries in the Middle East and Africa. In the first complete breeding and selection cycle, farmers have selected 12 barley varieties in Syria, 1 in Jordan, 5 in Egypt, 3 in Eritrea, and 2 in Yemen where two lentil varieties have also been selected. Of the selections in Syria, some are already planted on several thousand hectares (Mustafa et al. 2006).

Participatory Plant Breeding

Scientific plant breeding has been one of the main sources of growth in agricultural productivity in the 20th century and has been called "slow magic" (Pardey 2001). But not all farmers have been touched by the magic. Millions of poor farmers, mostly living in low and uncertain rainfall regions of marginal production potential, have yet to adopt an 'improved' variety. The reasons for negligible adoption of improved varieties in geographic poverty traps associated with marginal production potential include slower-than-expected progress from biotechnology on drought resistance in major field crops, an under-investment in agricultural research, ineffective formal seed systems, and rigid testing and varietal release procedures.

Bringing information from farmers to bear on conventional plant breeding is one way to improve plant-breeding performance in marginal production regions. It is increasingly common to find crop improvement programs incorporating users' information from men and women farmers, consumers, processors, and traders in decisions on the selection of finished products in what is termed participatory varietal selection. In the last ten years, involving farmers in the early stages of the plant breeding process has also started to pay dividends in what is referred to as participatory plant breeding (PPB) (See Box).

(Continuation Box 8)

The expectations for PPB are high: more adoptable varieties in less time compared to conventional breeding. PPB is seen as a more efficient approach to finding adoptable varieties because selection is largely carried out in the farmer's environment and because farmers' preferences for traits figure prominently in the choice of parental material when 'smart' crosses are made. Savings in time come from a shorter varietal development and dissemination cycle: 5-7 years in PPB where specific adaptation is the goal compared to 10-15 years in a conventional plant breeding program where wide adaptation is the objective. Time is saved mainly in varietal testing and seed multiplication.

PPB is not a panacea for all the ills that farmers in marginal environments face in adopting improved varieties, but PPB should increasingly make its presence felt by expanding varietal choice. The first 10 years of PPB has resulted in a small but thriving literature in plant breeding. In the next ten years, we will have a better appreciation of what works when, where, and why as accumulating experience allows researchers to approximate an ideal of efficient participatory breeding. We should also see examples of induced change on formal seed systems and on varietal testing and release procedures precipitated by the accommodation of PPB products.

We are already beginning to see what PPB is and is not. It is not about 'dumbing-down' science in a time when plant-breeding capacity is at a premium. PPB is about a sharpened focus on client needs in a local context, but broader plant-breeding considerations still need to be factored into decision making on varietal generation and selection (Witcombe et al. 2005).

Summary and Box References

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Source: PPBB summary from Sthapit Bhuwon

BOX 9: FARMERS' DIRECT ACCESS TO R & D RESOURCES ACCELERATES LOCAL INNOVATION

Focused funding to local innovation and adaption initiatives adds value to production and enhances local adaptive capacities

In today's volatile and unpredictable world, farmers face both challenges and opportunities created by a myriad of changes: price fluctuations, new markets, climate-change induced problems and issues related to wider political or socio-economic development. To respond to this fast-changing environment, farmers need to search for new and better ways of doing things. In this process, they are not only recipients of new knowledge and practices developed by others but also innovators in their own right (Richards 1985, Reij & Waters-Bayer 2001). Innovation "experts" from government agencies, NGOs and the private sector will be most effective if they work with and strengthen farmers' own experimentation and innovation processes through "Participatory Innovation Development" (PID) (Critchley et al 1999, Hocdé et al 2008, Huis et al 2007, Scheuermeier et al 2004). This approach helps to strengthen farmers' own capacities to experiment and adapt.

Most conventional agricultural research and development (ARD) funding mechanisms intended to encourage interaction between ARD stakeholders – including farmers – do not effectively support local innovation processes. They are usually managed by formal ARD institutions with little or no influence of farmers and other land-users on funding decisions. As a result, promising local initiatives and innovations rarely receive the support they deserve.

Creating direct farmer access to innovation funding

Inspired by work in decentralised competitive funding in Latin America and elsewhere (Ashby et al 2000, Veldhuizen et al 2005), PROLINNOVA, an international partnership programme promoting local innovation and PID, started to pilot alternative funding mechanisms that allow local innovators to access resources to support their own research in collaboration with other professionals. The "Local Innovation Support Funds" (LISFs) imply a fundamental change in how research and development (R&D) funding is allocated.

Three central principles of LISFs:

- Funds made accessible directly to farmers or their groups, not via development agencies
- Grants used for innovation, experimentation and learning by and with farmers
- Farmers and their organisations play a strong role in deciding on fund allocation.

Recent action research (2007–11) on LISFs conducted by PROLINNOVA with funds from the Rockefeller Foundation and the Netherlands Government (DGIS) involved eight countries: Cambodia, Ethiopia, Ghana, Kenya, Nepal, South Africa, Tanzania and Uganda. Key LISF performance data were captured in an MsAccess-based monitoring and evaluation (M&E) system. Analysis of the data together with findings of recent impact assessments allowed the country teams to prepare detailed action research reports, which form the basis of this policy brief.

The main purpose of the LISF pilots was to provide recommendations for scaling up and use of LISFs by the formal ARD system, by demonstrating that 1) LISFs work effectively, generate good grant applications that are processed using sound criteria, disburse money on time and monitor its use effectively; 2) LISFs are cost efficient, performing all tasks with acceptable handling and management costs; and 3) LISFs can find a sustainable institutional arrangement that allows them to continue functioning independently beyond the pilot phase.

(Continuation Box 9)

Design and operation of LISFs

LISFs are decentralised to the extent possible to facilitate easy access by smallholders. Farmers send in applications using simple formats to a local fund management committee (FMC), either directly or through a local
organisation. Wherever strong farmer/ community organisations exist, the FMC is embedded within them, while external agencies serve as members/advisers. In other cases, a multistakeholder FMC is hosted by a district agricultural office or a local NGO. The FMC screens and generally approves grant applications. Working together in the FMC creates a platform for stakeholder linkages and cooperation with impacts beyond LISF activities.

At national level, a relatively small team gives technical support, develops and shares formats and guidelines, and provides overall quality control. In the initial stages, the quality control role may require checking of all applications approved at the local level before release of grants. As local capacities increase, such checks can be limited to larger grants. The national team also handles the flow of funds to the FMCs and through them to the farmers, except where FMCs have generated funds at their own level.

Effective handling of LISF grants to innovators

The pilot LISFs managed to generate and process a large number of applications from smallholders in a timely fashion. An average of 35 grant applications per year were received and processed in each country, 64% of which met the criteria. In general, the processing of applications from receipt to approval took around 70 days on average, made possible through the decentralized design of the LISFs. The decentralised design provided opportunity for women to access LISFs. More than 40% of individual grant applications were submitted by women.

Typically, LISF innovation grants involve relatively small amounts of money from a donor's point of view. However, they take on greater significance in the hands of smallscale farmers in the pilot countries. Grant volume ranged widely. Smaller grants were mostly used to buy tools to improve (develop) a farmer innovation and try it out, or to buy inputs such as seeds for simple experiments by farmers. The grants were larger in the case of more complicated, capital-intensive innovations or for joint experimentation activities, including costs of external services such as laboratory analysis, costs of research or extension staff supporting the activity etc.

In order to enhance ownership, innovators receiving LISF grants were required to cover 15–20% of costs from own resources. Though farmers receive LISF funds to generate public goods – new insights and practices for sharing with others within and beyond their communities – (partial) payback arrangements have been used to generate resources for sustaining LISF operations. Payback is recommended when the funded activities directly lead to increased income of the grantee, when funds cover usual farming costs, and when an experienced community based organisation or farmer group is involved to handle the payback and manage the revolving fund that is formed as a result.

Cost efficiency of LISF Given the relatively small volumes per grant and the need for capacity building at various levels due to the newness of the approach and the involvement of staff and farmers at local level, a relatively high level of "overhead" could be expected. Current evidence on LISF operation under action-research conditions confirms this to some extent. When costs of action research and capacity building are taken into account, 30–40% of LISFs have actually been disbursed to farmers.

(Continuation Box 9)

Detailed analysis of cost data suggests that efficiency can be further improved, leading to a disbursement forecast of at least 60% by phasing out specific action research budget components, increasing the volume of LISF grants to reach economies of scale, reducing costs by streamlining and standardising procedures and formats, and taking into account revolving funds that continue LISF locally from payback on the (initial) grants.

Evidence of impact

Initial impact studies identified key impact areas (see boxes). They revealed that LISF funding has led to (further) development of locally relevant, improved agriculture and natural resource management (NRM) practices and systems. This, in turn, has led to livelihood improvements for those farmer innovators who have received grants.

The (improved) local innovations are not yet spreading widely; a longer timeframe is needed to see this impact of LISFs. Farmer capacities have increased in terms of access to information and linkages, self-confidence and recognition within the community and by external agencies, horizontal sharing, joint experimentation and management of innovation funds. Equally important is the increased interest shown by development agents and researchers involved to support farmer-led innovation and research.

Source: Repackaged from PROLINNOVA POLICY BRIEF (LISF2012) Title: Farmers' direct Access to R & D resources accelerates local innovation. http://www.prolinnova.net/sites/default/files/documents/LISF/policybrief_prolinnova_july2012_a4_lr.pdf

BOX 10: BROKERING INNOVATION FOR SUSTAINABLE DEVELOPMENT: THE PAPA ANDINA CASE[1]

The inadequate linkage of knowledge generation in agricultural research organizations with policy-making and economic activity is an important barrier to sustainable development and poverty reduction.

Klerkx et al. (2010:390) note that "in the AIS [agricultural innovation systems] approach, innovation is considered the result of a process of networking and interactive learning among a heterogeneous set of actors, such as farmers, input industries, processors, traders, researchers, extensionists, government officials, and civil society organizations."

Past efforts to strengthen agricultural innovation systems focused mainly on training and organizational capacity development (Horton et al., 2003). Attention is now shifting towards improving incentives for cooperation and strengthening linkages among relevant actors. The importance of having intermediary organizations that link the various actors involved in innovation is becoming recognized (Szogs, 2008; Klerkx et al., 2009; Kristjansonet al., 2009). These intermediaries have been referred to as "innovation intermediaries" or "innovation brokers"[2].

The Papa Andina Partnership Program, based at the International Potato Center, functions as an innovation broker in the Andean potato sector. As a regional initiative, Papa Andina operates as a "second-level innovation broker," backstopping national partners who facilitate local innovation processes in their respective countries. Papa Andina works to strengthen local innovation capacity and to foster "innovations in innovation" – the development of more effective ways of bringing stakeholders together to produce innovations that benefit smallscale farmers. There are virtuous feedback loops between first- and second-level innovation brokering functions. Papa Andina has developed approaches promoted for fostering innovation brokerage at these two levels.

Papa Andina was designed to strengthen potato research capacity in Bolivia, Ecuador, and Peru through the development of a regional research program. In line with the CGIAR strategy at the time, outlined by de Janvry and Kassam (2004:159), it sought to develop "a regional approach to research planning, priority setting and implementation" involving CIP's traditional research partners in the Andes – the national potato research programs.

Papa Andina began as a CIP project funded by the Swiss Agency for Development and Cooperation (SDC). It has evolved into a Partnership Program with different donors, and spans the institutional boundaries of CIP and R&D partners in Bolivia, Ecuador, and Peru. Over the years, Papa Andina has managed a portfolio of complementary donor-funded 13 projects that aim to stimulate pro-poor innovation and develop national innovation capacities in the potato sector. All its work has been funded through donor projects, rather than through CIP's core budget[3].

[1] *The authors would like to thank the Swiss Agency for Development and Cooperation (SDC) and New Zealand's International Aid and Development Agency (NZAid) for their support and contributions to the work and results presented in this paper. Thanks also to Rachel Percy and James Smith for useful comments on an earlier version of this paper, to Kay Sayce for editing, and to Cristina Sette for coordinating the publication process.*

[2] *Devaux, A., J. Andrade-Piedra, D. Horton, M. Ordinola, G. Thiele, A. Thomann and C. Velasco. 2010. Brokering Innovation for Sustainable Development: The Papa Andina Case. ILAC Working Paper 12, Rome, Italy: Institutional Learning and Change Initiative. URL: www.cgiar-ilac.org*

[3] *A CGIAR center's "core budget" is unrestricted in the sense that center management has discretion over the use of the funds to implement the center's program. In contrast, "project funds" must be used according to agreements between the center and the donor that specify budgets, output and impact targets, and timelines.*

(Continuation Box 10)

Papa Andina's Coordination Team is made up of CIP staff members and consultants based in Peru (3), Bolivia (2), and Ecuador (1). The Papa Andina Coordinator, who is based in Lima, Peru, makes frequent trips to field sites in all three countries and the management style is markedly "horizontal" (Bebbington and Rotondo, 2010: 36). Major decisions are made at Papa Andina's annual meetings or at meetings of the Coordination Committee.

The Coordination Team works closely with focal points and collaborators in one R&D organization in each country. Known as "Strategic Partners", these organizations are: the PROINPA Foundation in Bolivia; the National Potato Program at INIAP in Ecuador; and the INCOPA Project in Peru[4].

Most of Papa Andina's work in Bolivia, Ecuador and Peru is led by the Strategic Partners and is implemented directly by them or via local organizations known as "Operational Partners" (Figure 1). In this sense, therefore, Papa Andina operates as a second-level innovation broker. Its Coordination Team is not directly involved in brokering in-country innovation processes. Instead, it works to support and co-fund the Strategic Partners by creating an appropriate environment or "innovation ecology", facilitating the implementation of innovation processes in each country, and acting as a "broker of innovations for innovation[5]."

A key Papa Andina strategy is to strengthen the innovation capacity of national partners by delegating responsibilities and authority to them. An external evaluation of Papa Andina found that country-level activities were so closely associated with the Strategic Partners that many Operational Partners, producers, and other stakeholders knew little, if anything, about Papa Andina, and assumed that they were participating in or benefiting from the activities of PROINPA, INIAP, or INCOPA (Bebbington and Rotondo, 2010:38).

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[4] *The organizations' names in Spanish are: Fundación PROINPA (Promoción e Investigación de Productos Andinos), Bolivia (www.proinpa.org/); Programa Nacional de Raíces y Tubérculos rubro Papa (PNRT-Papa), INIAP, Ecuador (www.iniap-ecuador.gov.ec/); and Proyecto INCOPA, Perú (www.cipotato.org/papandina/incopa/incopa.htm), a coalition of private and public partners that aims to improve small potato farmers' access to markets.*

[5] *For a discussion of this term, and some examples, see Hall (2003).*

(Continuation Box 10)

The "horizontal evaluation" approach was developed to promote knowledge sharing and collective learning within the Papa Andina network (Thiele et al., 2006, 2007; Bernet et al. 2010). It combines elements of self-assessment and external peer evaluation within the setting of a regional workshop. In these workshops, two groups – a local project team and a group of peers from other organizations – assess the strengths and weaknesses of an experience (usually within a project), and then compare their assessments. Papa Andina's horizontal evaluations have a strong regional knowledge-sharing component because most of the peer evaluators come from abroad. There are usually important differences between the self-assessment conducted by the local project team and the assessment by the external peer group. The ensuing dialogue helps both groups fill information gaps and address points of disagreement. No attempt is made to reach broad agreement on the merits of the project. Instead, the local team formulates recommendations for improving the project, and the peer evaluators looks at how they can apply lessons learned during the evaluation in their own work back home.

Participants report that these horizontal evaluation workshops have been extremely useful opportunities for learning about the strengths and weaknesses of new R&D approaches, as well as for building common visions, language, and understanding among diverse stakeholders. As a result of horizontal evaluations, many local project teams have significantly altered the way they pursue their innovation agenda. After the workshops, when the peer evaluators return home, they often begin to experiment with things they learned during the evaluation. For example, after the horizontal evaluation of a PMCA project in Peru, Bolivian participants began to work with the PMCA themselves, and subsequently made major contributions to the approach. In contrast, Ecuadorian participants did not see the value of the PMCA in their context, preferring to focus their energies on strengthening farmer organizations.

BOX 11: RESPONSES TO CLIMATE CHANGE: ADAPTATION PATHWAYS TO CHANGE

Climate change has the potential to severely impact coastal and inland environments and ecosystems. All rural communities need to be aware of the potential impacts of climate change, and take measures to adapt, so that they can become resilient to these changes. Only by identifying the risks associated with climate-change, can communities initiate a plan that prepares them to adapt, and thus manage the social, economic, and environmental impacts of climate change on their communities.

While many climate change initiatives have been undertaken in the Pacific region over the past decade, only a few of these have detailed a plan for implementing adaptation actions to respond to climate change. This project, **Responding to Climate Change Using an Adaptation Pathways and Decision-making Approach**, funded by the Asian Development Bank (ADB), aims to strengthen coastal and marine resource management in the Coral Triangle of the Pacific, by assisting communities in Fiji, Papua New Guinea, Solomon Islands, Timor Leste and Vanuatu to develop their own climate change adaptation implementation plans. The project aims to build capacity among inland and coastal communities living within this region that are dependent on natural resources for their livelihoods, to enable them to respond and adapt to climate related change.

Overview

This project aims to identify key decision-makers within affected communities in the region, and provide guidance on how to develop a long-term action plan, or pathway, that will act as a roadmap to implementing adaptation actions. This decision-based approach is undertaken in collaboration with key stakeholders and decision-makers in target communities, taking into account that the adaptation process is an ongoing and dynamically evolving pathway that will be navigated by decision-makers at all levels in society.

Notable Features of Adaptation Pathways and the Decision-making Approach

- Decision-making, and progress along the adaptation pathway, is focused on tangible thresholds that are relevant to the community.
- Takes into account historical data and risk assessments, and builds upon them, to increase the knowledge base.
- Takes into account contested values, particularly those related to visions of the future.
- It is scale-neutral and can be used in planning and decision-making processes at local or national level simultaneously, allowing communities and regions to develop a nested approach to adapting to climate change.
- Considers climate-change adaptation a dynamic and ongoing process that is constantly evolving, and consequently requires a long-term, flexible strategy, with ongoing management.

How Stakeholders will Benefit

This project has been developed to respond to the needs of coastal community stakeholders, and to provide these communities with relevant information that will assist them in climate-change adaptation decision making processes. The WorldFish project consists of a team that has a broad range of skills, which enables us to evaluate the merits of different adaptation actions, taking economic, social and environmental issues into consideration.

(Continuation Box 11)

Learning Materials and Resources

This project aims to develop a number of learning materials and educational resources that can assist stakeholders in the decision-making process, including:

- User Manual – A manual outlining the methods that stakeholders can use to analyze and assess adaptation pathways.

- Knowledge Database – An online database of previous risk assessments and adaptation recommendations will be available, together with an evaluation of existing community adaptation tools/methods, to assess their effectiveness in preparing for climate change.

- Project Reports – Mid-term and final project reports will be submitted to ADB, together with a Policy Briefing. These reports will communicate key findings to both funders and participating regional organizations and stakeholders.

Project Outcomes

These learning materials and resources will increase our knowledge of climate change vulnerability, and provide a valuable reference from which to develop a plan to respond to the impacts of climate change.

Regional stakeholders will benefit by gaining knowledge that will empower them with a greater capacity to adapt to climate change through effective planning, implementation, and monitoring of adaptation actions. This will enable them to devise long-term responses that will assist their communities to adequately cope with change. In addition, these communities will gain an enhanced capacity for integrating these actions on a broader scale within future planning and human development initiatives.

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BOX 12: HORIZONTAL EVALUATION: STIMULATING SOCIAL LEARNING AMONG PEERS

Horizontal evaluation is a flexible evaluation method that combines self-assessment and external review by peers. We have developed and applied this method for use within an Andean regional network that develops new methodologies for research and development (R&D). The involvement of peers neutralizes the lopsided power relations that prevail in traditional external evaluations, creating a more favourable atmosphere for learning and improvement. The central element of a horizontal evaluation is a workshop that brings together a group of 'local participants' who are developing a new R&D methodology and a group of 'visitors' or 'peers' who are also interested in the methodology. The workshop combines presentations about the methodology with field visits, small group work and plenary discussions. It elicits and compares the perceptions of the two groups concerning the strengths and weaknesses of the methodology; it provides practical suggestions for improvement, which may often be put to use immediately; it promotes social learning among the different groups involved; and it stimulates further experimentation with and development of the methodology in other settings.

Evaluation by peers is what makes the process 'horizontal', compared with the 'vertical' evaluation typically provided by outsiders of perceived higher professional status. This method differs from the anonymous peer reviews used by professional journals and research funders, in that horizontal evaluation is open and transparent, with all the participants encouraged to learn and benefit from the evaluation process. Horizontal evaluation neutralizes the power dimension implicit in traditional evaluation, in which the 'expert' judge the 'inexpert' and the 'powerful' assess the 'powerless'. Because of this neutralization, a more favourable learning environment is created.

Most of those involved directly with Papa Andina have been specialists who work with potato R&D organizations. They come from broadly comparable social and professional backgrounds, with similar types of knowledge about potato R&D, and they see each other as peers. As stakeholders in Papa Andina they share an interest in the methodologies developed with support from the network. This gives them the motivation 1 to participate, learn and contribute. Another motivation for active involvement is that some of those who serve as peer evaluators during one horizontal evaluation know that their own work may later be evaluated by other peers within the network.

Horizontal evaluation is a flexible method which can be applied in a range of settings to facilitate: the sharing of information, experiences and knowledge; the building of trust and a sense of community, which in turn fosters knowledge exchange; the social or interactive learning and corrective action needed to improve R&D methodologies; and the adaptation and wider use of these methodologies.
We believe the approach can be applied in different types of projects and programmes, especially those that operate in a network mode. Combining self-assessment with external review: The heart of a horizontal evaluation is a participatory workshop, typically lasting 3 days, involving a local or internal group (referred to as 'local participants') of 10–15 people and a similarly sized group of outsiders or visitors (referred to as 'visitors'). Visitors are peers from other organizations or projects who are working on similar themes and have a potential interest in applying the methodology under evaluation.

(Continuation Box 12)

The role of the local participants is to present, and with help from the visitors, critically assess the methodology and make recommendations for its improvement. The role of the visitors is to critically assess the methodology, identifying its strengths and weaknesses and making suggestions that will aid its wider application. The visitors may contribute to the formulation of recommendations, but the local participants must take the lead and actually propose and agree them, since their ownership of the recommendations will be the key to implementation. Planning the workshop: We work with our partners to identify an appropriate methodology to be evaluated, select participants and prepare for the event. An organizing committee should be established and should include decision makers from among both local participants and visitors. We have learned that it is very important that the topic of the evaluation should be clearly defined: it is the methodology that should be evaluated, not the project or organization that developed it. Defining and maintaining the scope of the evaluation is critical for its success.

Advantages and critical success factors

We have found that horizontal evaluation has the following advantages over traditional external evaluations and study tours:

- it is adaptable to different objects of evaluation (including fairly complex R&D methodologies);
- local participants accept critical feedback and observations more easily from peers than from external evaluators;
- it fosters social learning, as local participants and visitors are actively engaged throughout the review process, which guides analysis and synthesis and generates new knowledge and proposals for action;
- it stimulates experimentation with and further development of the methodology elsewhere;
- it can be used in conjunction with a more traditional external evaluation, to generate additional information and insights.

We have identified the following factors as critical for the success of a horizontal evaluation:

- selecting the right moment for the workshop – one when the new R&D methodology is sufficiently advanced so that there is real substance to review but not so finished that there is little scope for modification;
- careful selection of visitors to ensure that they have diverse perspectives, possess adequate knowledge and experience, and are perceived as peers rather than superiors;
- good facilitation, so as to create an environment of trust, focus the attention of participants and manage time efficiently;
- identifying a limited number of clearly defined evaluation criteria;
- well-prepared presentations and field visits that ensure the visitors have all the information they need to understand the methodology.

Conclusions

Horizontal evaluation has become a central element in our approach for developing R&D methodologies and sharing knowledge across the region in which we work. It is especially relevant for networks such as Papa Andina, that seek to bring together peers for social learning in ongoing processes. After each workshop we have reflected on and improved horizontal evaluation as a tool. We believe horizontal evaluation is now ready for use by others who are developing new R&D methodologies with partners in different locations and who are keen to learn from their experiences.

(Continuation Box 12)

Further reading

Bernet, T., Devaux, A. , Ortiz, O. and Thiele, G. 2005. Participatory Market Chain Approach. BeraterInnen News, 1. Downloaded 26 December 2005 from the website of the Swiss Center for Agricultural Extension (LBL):http://www.lbl.ch/internat/services/publ/bn/2005/01/participatory_market...
Papa Andina. 2004. Memoria Taller de Eveluacion Horizontal: Articulando demanda y oferta tecnologica, la experiencia del proyecto Innova-Bolivia. CIP, Lima, Peru: CIP.
Papa Andina. 2005. Final Report – 3rd PMCA Workshop in Uganda, 13–15 December 2005. Lima, Peru: CIP.

About the authors

The authors coordinate the Papa Andina network hosted by the International Potato Center (CIP), based in Lima, Peru, with support from the Swiss Agency for Development and Cooperation (SDC). For further information, contact g.thiele@cgiar.org.

Source: Graham Thiele, André Devaux, Claudio Velasco and Kurt Manrique; Chapter 18: Horizontal Evaluation: Stimulating social learning among peers
URL: http://www.cgiar-ilac.org/content/chapter-18-horizontal-evaluation

BOX 13: MASAGRO: USING REGIONAL HUBS TO STRENGTHEN WORKING PARTNERSHIP WITH NATIONAL PARTNERS

The Sustainable Modernization of Traditional Agriculture (MasAgro) project[1] supports Mexican farmers working in partnership with several organizations to improve agriculture in Mexico. The Mexican Government and the international scientific community are collaborating to increase maize and wheat productivity, obtain higher returns on the yields of these two basic and strategic crops, and make sure that increased productivity does not contribute to climate change. MasAgro will make it possible to uncover the genetic potential of CIMMYT's maize and wheat collections. SeeD will provide the raw material for adapting seeds to adverse conditions resulting from global warming and from the shortages of water, nutrients and energy, both in Mexico and the rest of the world.

MasAgro brings together national and international organizations in partnership with innovative Mexican farmers to obtain higher and more stable crop yields. Following an initiative of Mexico's Ministry of Agriculture, Livestock, Rural Development, Fisheries, and Food (SAGARPA) and of the International Maize and Wheat Improvement Center (CIMMYT), the project targets small-scale farmers who lack access to modern agricultural technologies and functional markets. MasAgro aims to help them increase their income through a combination of improved cropping practices (including conservation and precision agriculture) and conventionally-bred, high-yielding maize and wheat varieties to ensure that increased productivity does not have negative impacts that may contribute to climate change. CIMMYT conserves the world's largest collections of maize and wheat. The Center safeguards this legacy for human kind, ensuring its accessibility through tools that facilitate its free distribution, exchange and use, for the benefit of agriculture and global food security.

Cutting edge technologies are being employed to release the genetic potential of these collections and to facilitate the use of new genes and useful characteristics as "raw material" for genetic improvement. Work is undertaken in parallel with similar initiatives in the private sector, the aim being to ensure important genes are within the reach of public improvement programs throughout the world.

The MasAgro project[2] works in the major maize and wheat producing regions in Mexico. In total seven regions of similar ecological and agricultural production characteristics have been identified and innovation systems are being established in all regions (Figure 1). The networks will focus on conservation agricultural based crop management technologies as well as improved crop varieties, post-harvest technologies and integrated soil fertility management.

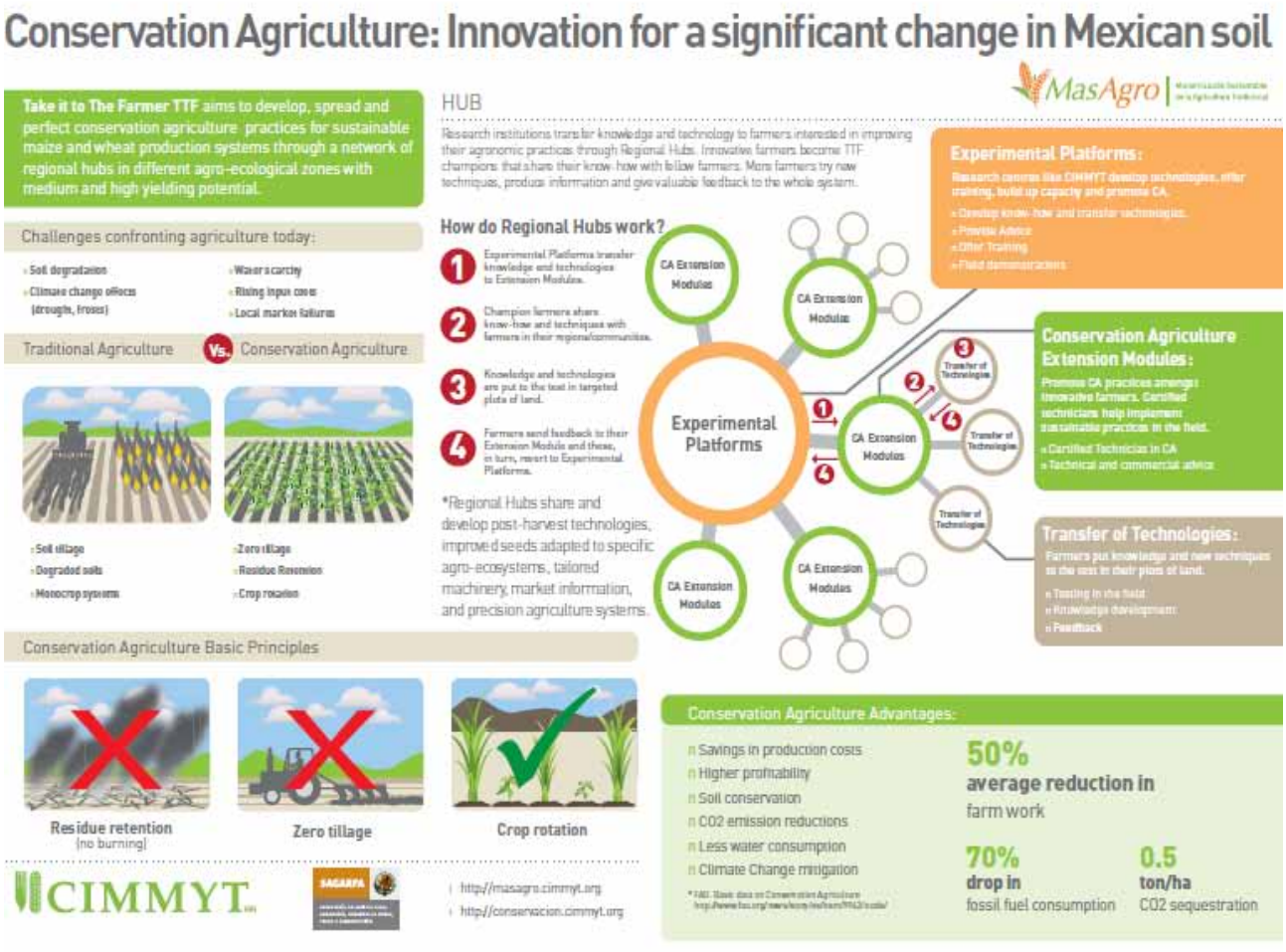
The MasAgro initiative has established as series of hubs. The idea of a hub is to provide a space where all actors of the value chain can meet, interact and link up to reduce information asymmetries and transaction costs as well as to create vibrant rural living spaces. The space serves also to establish strategic links between public and private institutions, be they research institutions or service providers and to disseminate knowledge about improved agricultural systems to small and medium sized farmers. CIMMYT, as the network broker for the MasAgro innovation network, facilitates the linkages of actors.

[1] Based on information extracted from the CIMMYT website
[2] Based on personal correspondence with Hellin, Jonathan (CIMMYT)" j.hellin@CGIAR.ORG

(Continuation Box 13)

The basic structure of a hub includes the establishment of experimental platforms, farmer modules and extension areas (Figure 2). Experimental platforms are placed within universities, research institutes or are newly set up with interested collaborators like farmers, producer organizations or private industry. Research in the platforms locally adapts and improves the proposed technologies and solves problems arising from farmer trials that are specific to the local cropping systems. Additionally, the experimental platforms serve to train farmers, extension agents, researchers, and other collaborators to reach a better diffusion of the climate smart technologies and practices.

The modules are placed on fields of innovative farmers who are interested in working with key agricultural technologies. The farmers are linked to an extension agent who is trained by CIMMYT and by MasAgro's scientific partners and who is supported by the MasAgro infrastructure. Together, they experiment with the chosen technologies in the farmer's field to test and further adapt the technologies. This feedback is necessary for the research platforms and other network participants to adjust the research trials and solve potential problems. Surrounding farmers, public and private extension agents and service providers are invited to field day demonstrations.



BOX 14: FARMER FIELD SCHOOLS AND CIALS IN CIATS WORK

Farmer field schools (FFS) and local agricultural research committees (CIALs) constitute two platforms1 for promoting integrated decision-making and innovation for sustainable agriculture by farmers. Recently, there has been some convergence between the two platforms, but the main objectives underlying each differ.

The first platform is oriented towards providing agroecological education through participatory learning, whereas the second is intended to build a permanent local research service that links farmer experimentation with formal research. Outcomes common to both approaches include:

- increased farmers' capacity for research, innovation and informed decision-making (Ashby et al., 2000; Aizen, 1998; Settle et al., 1998; Nyambo et al., 1997; Schmidt et al., 1997; van de Fliert, 1993; Humphries et al., this issue);
- development of farmers' capacity to define their own research agendas in the CIALs and as part of the FFS follow-up activities (Ashby et al., 2000; Ooi, 1998; Braun, 1997; Settle, 1997; Humphries et al., this issue);
- stimulation of farmers to become facilitators of their own research and learning processes (Ashby et al., 2000; Settle et al., 1998; Braun, 1997; Humphries et al., this issue; Schmidt et al., 1997; Winarto, 1995);
- increased responsiveness to farmer-clients' demands and needs by organisations in national research, extension and development systems (Ashby et al., 2000; Settle et al., 1998; van de Fliert, 1993).

The FFS and CIAL approaches have been replicated both inside and outside the countries where they originated (Ashby et al., 2000; Settle et al., 1998). FFS began in Indonesia in 1986. By 1998, two million small farmers in key rice production areas of 12 Asian countries had learnt through FFS how to become informed decision-makers with respect to crop management and protection (Settle et al., 1998). Untung (1996) estimates that the resulting reduction in pesticide use in Indonesia is around 50–60 per cent. FFS have already been established in several African countries and the first Latin American FFS are operating in Ecuador, Peru and Bolivia. CIALs began in Colombia in 1990, and by 1999 249 resource-poor communities in eight Latin American countries had active CIALs providing agricultural research services (Ashby et al., 2000). In addition to stimulating local experimentation on varieties, crop and soil management, and improving access to formal research products, the CIALs have contributed to increased food security, higher yields, greater biodiversity in cropping systems, the launching of rural microenterprises, and to increasing social status of women and other marginalised groups (Ashby et al., 2000; Humphries et al., this issue). In Latin America both the FFS and CIAL platforms have begun to operate within the same geographic areas: in Ecuador and Bolivia both are supported by the same organisations.

Both the FFS and CIAL platforms described require and promote a much closer engagement of agricultural research and extension with rural society, building local institutional structures and processes for agricultural development. They also offer the chance of making R&D more relevant because they place farmers themselves at the centre of development processes. If widely implemented, FFS and CIALs open the possibility of a more fundamental transformation of agricultural R&D systems which could help alleviate the current crisis. Developing the capacity to support platforms like FFS and CIALs implies that agricultural R&D systems must: (a) construct general theories of the structure and dynamics of specific agro-ecosystems required for the development of FFS curricula; and (b) involve farmers in the testing and adaptation of technological options; while (c) simultaneously building the human resources required for facilitating farmer research and discovery-based learning. Growing interest in both FFS and CIALs by a wide range of financing and implementing organisations reflects an underlying perception that they form viable new alternatives. Under these circumstances we believe that there is good potential for applying both FFS and CIALs more widely. Both platforms will evolve further, and we believe that their future development should be carefully managed so as to draw on their underlying synergy.

Citations within the above note have been removed in this shortened version. For full references please refer to the original article Farmer Field Schools and Local Agricultural Research Committees: Complementary Platforms for Integrated Decision-Making in Sustainable Agriculture. Ann R. Braun, Graham Thiele and María Fernández. AgREN Network Paper No. 105. July 2000.

BOX 15: SWEET POTATO FARMER FIELD SCHOOLS IN CIP

The Farmer Field School (FFS) approach originated in Indonesia in 1989, in response to a major pest outbreak, caused by the misuse of pesticides on rice farms. A national integrated pest management (IPM) programme began, which attempted to improve the organisation and management skills of farmers, not by instructing them on what to do but by empowering them through education to make better use of their existing knowledge to handle their own on-farm decisions. This training programme occurred in farmer's fields and combined farmer's traditional knowledge of land management with a more thorough understanding of the ecology of rice field ecosystems, it became known as the farmer field school programme. The field was seen as the teacher and its conditions defined most of the curriculum. The plants formed the most important learning materials and real problems were observed and analysed from planting all the way through to consumption, processing and/or sale.

The educational philosophy of the FFS rests on the foundations of non-formal adult education, and reflects the four elements of the 'experiential learning cycle':

Operationally, FFSs are typically organised around a season-long series of weekly meetings focusing on biological, agronomic and management issues, where farmers conduct agro-ecosystem analyses, identify problems and then design, carry out and interpret field and post-harvest experiments. The experiential learning approach of FFS provides participating farmers with a deeper understanding of crop ecology and observational, analytic and problem solving skills, which helps them evaluate the importance and applicability of their existing and innovative practices. In order to implement such integrated, knowledge-intensive and location-specific approaches, farmers require intensive training, so they can understand (as opposed to just participate in activities which help others understand), why some methods are better than others and acquire skills to adapt techniques as necessary to their own specific conditions. These understandings and skills are usually transferable between field activities, and can be passed on through traditional knowledge pathways. The formation of cohesive farmer groups during these collective learning activities and their exposure to economic analysis often increases the negotiating power of these producers with traders or suppliers, and leads to an increased awareness of rights and establishment of farmer action networks.

The longer-term empowerment goals of FFS seek to enable graduates to continue to expand their knowledge and to help others learn and to organise activities within their communities to institutionalise integrated crop management practices. Every learner is a potential trainer and the facilitators must be technically strong.

The FFS approach complements existing research and extension activities through shortening the time it takes to get research results from stations to adoption on farmers' fields by involving farmers in experimentation of their own; enhancing the capacity of extension staff to serve as technically skilled and group sensitive facilitators of farmers' experimental learning; increasing the expertise of farmers to make logical decisions on what works best for them, based on their own observations of experimental plots in their FFS and establishment of coherent farmer groups that facilitate the work of extension and research workers, providing the demand for a demand driven system.

During the 1990s an estimated 2 million farmers were trained through the FFS in South and South East Asia. The FFS approach has since been replicated in a variety of settings beyond IPM. There has also been a shift from a focus on a single constraint of a single crop (IPM for rice based systems) to an emphasis on the multiple aspects of crop production and management, to cropping systems, to non crop/forest (livestock production etc) to natural resource management (soil fertility, water conservation etc) and even to socio-cultural dimensions of community life (food security & nutrition, savings, health, HIV/AIDS, literacy training, livelihoods etc). The FFS approach has been extended throughout Asia and to several countries in Africa and Latin America. In East Africa, this has required adaptation and modification of the approach in order to make it more applicable for the farming systems of the region, where a

(Continuation Box 15)

wide diversity of crops are grown and where pests are not necessarily the major production problems. The adoption of an extra 'P' in the IPM acronym to form Integrated Production and Pest Management (IPPM) FFS reflects this more holistic approach. The East African context also provided specific challenges, different from those in Asia, such as long distances between farming communities, limited national funding for public extension, and highly unpredictable weather patterns with frequent droughts.

Note: This article has been substantially shortened (repackage for purposes of demonstrating the potential value of the FFS as a social learning tool. For full information on the use of the FFS in Sweet Potato promotion please refer to the original article ***An Introduction to Sweetpotato Farmer Field Schools*** from CIP.

For information on more recent use of FFS in CIP refer to Working with Resource-Poor Farmers to Manage Plant Diseases by: Rebecca Nelson, Ricardo Orrego and Oscar Ortiz, Jose Tenorio, Christopher Mundt, Corvallis Marjon Fredrix, Ngo Vinh Vien. Plant Disease, Vol. 85 No. 7.

BOX 16: MAINTAINING COLLECTIVE ACTION IN DIFFERENT SCALES IN WATERSHEDS

The Scales project was designed to address the challenges of achieving and maintaining collective action at different scales in watersheds. The multiple, overlapping scales, and the ecological, economic, social and political asymmetries that typically characterize watersheds substantially make it difficult to achieve cooperation around watershed management at anything but very local scale, yet high scale coordination and cooperation is essential to address watershed problems. Over 600 residents of 4 Andean watersheds participated as "players" in "economic games". Results confirmed that upstream downstream asymmetries reduce incentives for cooperation (compared to the symmetric conditions that characterize many common properly resource problems.

Upstream communities have an important role to, play in initiating watershed dialogue because downstream people, both in the games and in reality, appear to have a deep distrust of upstream residents, limiting their willingness to cooperate. Action research involved the use of an innovative methodology the Conservatorio de Accion Ciudadana (CAC), for empowering communities to engage with authorities was adopted and validated in two sites in Colombia. External assessments showed that CAC's had significant impact on human and social capital of participants. While also demonstrating that it is possible to level the playing field and empower communities to engage with authorities around issues of resource management. Communication rather than regulation is the most effective way for people to improve level of cooperation. One of the recommendations is that projects that seek to strengthen the role of the poor in watershed management need to be aware of the multiple and overlapping scales at which resource management decisions are made.

Key Reference:

Johnson N, Sustaining Inclusive Collective Action that links across economic and ecological scales in upper watersheds (SCALES) Project number 20 The Challenge Program on Water and Food August 15, 2009.