OUTPUT 6. INTERNAL PROJECTS AND OTHER INSTITUTIONS SUPPORTED AND STRENGTHENED IN CONDUCTING PR

Constructing Innovation Histories to Improve Innovative Performance

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Highlights

- Construction of innovation histories of CIALs in Honduras and Colombia and innovation timelines in Bolivia, Ecuador and Nicaragua
- SWOT analysis of IPRA based on reflections on the CIAL innovation timelines and transcripts of stakeholder interviews
- Construction of the innovation history of small-scale cassava processing plants in Colombia
- Completion of an ILAC Brief that was circulated at AGM 2004 (see draft of "A Guide to Constructing Innovation Histories"
- Funding received from PABRA (Pan-Africa Bean Research Alliance) to construct histories of the adoption of four bean varieties in Kenya, Rwanda and Uganda

Introduction

An innovation history is a narrative that identifies, describes and explains the key events in an innovation process, whereby people attempt to use an idea or technology. Many R&D agencies want to enable rural innovation; but to do so, we need to understand how it happens, and these stories are rarely, if ever, written down. Innovation histories allow the people involved in the innovation process to reflect on what they did, and learn. If several innovation histories are recorded using a common framework, then we can look for similarities and differences and discover general principles. This helps avoid repeating mistakes and makes it possible to identify and use what works.

Methodology

In our method innovation histories are narratives built on providing causal explanations for two outputs:

- An *innovation timeline* that lists the key events in the innovation history in the order they happened
- *Actor network maps* that show the linkages between the stakeholders at the beginning, middle and end of that process

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The timeline and network maps develop and change during the process of explaining causality and the nature of the linkages. The stakeholders involved in the innovation process reflect and hopefully learn from the innovation timelines and actor network maps.

The methodology we use is described in the ILAC Guide no. 5, the text of which is reproduced above in Output 5.

Innovation histories in construction

IPRA and the Rural Innovation Institute, through CIAT's Learning-to-Innovate Group, is building up a portfolio of innovation histories on which we can do a meta-analysis. In a workshop in December 2003, we developed a set of criteria for selecting innovation histories for the purpose of meta-analysis. The criteria are as follows:

- Interest in doing it. There must be real interest to carry out the Life Histories, manifested in a person volunteering to shepherd the construction of each one.

- Significance of innovation. Impact on rural livelihoods, including food security, environment and income

- Diversity of innovations

  ✓ CIAT and non CIAT
  ✓ Successful and less successful
  ✓ Type of innovation (e.g., social; biophysical; knowledge intensive; simple)
  ✓ Type of environment into which it was introduced (e.g., cultural, socioeconomic, agroecological)
  ✓ Scale (e.g., local, national, regional)
  ✓ Degree of novelty of invention that initiated the innovation process

- Rich in lessons

  ✓ The innovation history is of strategic interest to CIAT
  ✓ Lessons to be learned are relevant to CIAT's target groups

- Stage in innovation process

  ✓ The innovation should have been adopted, or an attempt made to introduce it
  ✓ The innovation must not be too old that the actors are no longer around

Principal staff were then asked to nominate innovation histories based on these criteria. The following were nominated, and we are approaching completion on the first two:

  ✓ CIALs
  ✓ Small-scale cassava processing plants in Colombia

- ✓ Adoption of bean varieties in Kenya, Rwanda and Uganda
- ✓ Forage-based technology options for smallholders to raise production in Central America
- ✓ Supermarket of Options for Hillsides (SOL)
- ✓ The Quesungual slash and mulch agroforestry system

We applied for and received $3,500 from the Colombian Ministry of Agriculture and Rural Development (MADR) to fund the small-scale cassava processing plants innovation history. We also received $20,000 to carry out the studies on bean adoption. In a separate initiative we collaborated with the Tropical Fruits Project and submitted a proposal to DfID for $270,000 to construct innovation histories of underutilized crops.

Next steps
Continue to write up the innovation histories and then conduct a meta-analysis. A summary of the findings from a comparison of the innovation histories of CIALs in Colombia and Honduras is given in Output 5 of this report.

Leadership of the Learning-to-Innovate Development Challenge

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Milestones
- The Learning-to-Innovate community of practice formed and facilitated through web-based D-Group; LTI group has 47 members from CIAT.
- The goal, purpose and outputs of the LTI development challenge defined.

Background

CIAT management decided to focus research and fund-raising efforts around three development challenges at a retreat in May 2003. One of these is called Learning to Innovate (LTI) and is led from IPRA.

Activities and outputs

- November 2003: LTI model developed, describing the functions necessary for a healthy innovation system. The LTI model is described below.
- December 2003: One-day retreat to agree on a common vision and identify next steps. The group decided to support work on constructing innovation histories and adopt the LTI model as a common framework.
- January 2004: LTI-Group formed and housed at www.dgroups.org/groups/CIAT/LTI-Group
- April 2004: LTI strategy document written
- May 2004: Survey carried out by the LTI group identified 34 innovation projects in process or waiting for funding approval. Those already funded have a total budget of $4.3 million, while those pending approval have a budget of $10.9 million. Research with an innovation theme is clearly important to CIAT.
- May 2004: Meeting of Cali-based LTI-Group members to agree on the goal, purpose and outputs of the LTI development challenge, described below.
- June 2004: Process of identifying ongoing activities that fit under the LTI development challenge outputs begun.

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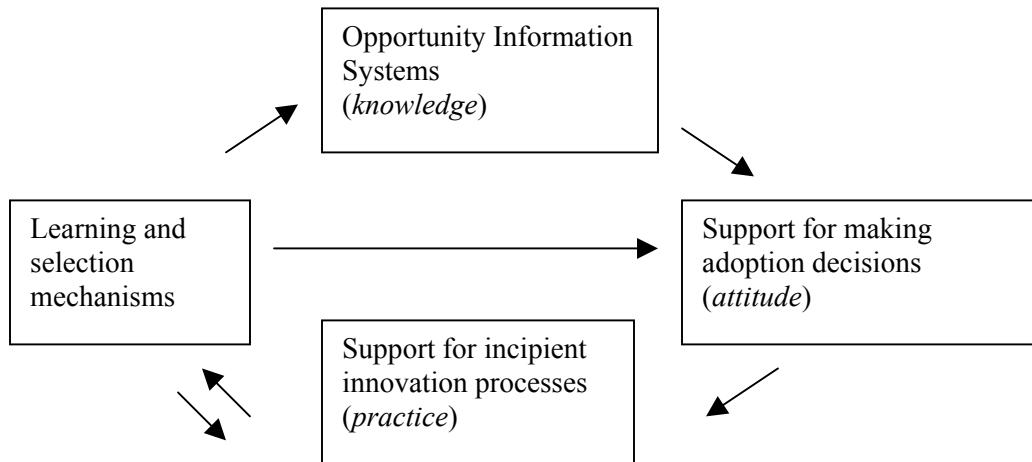
The LTI Model

Figure 1. The LIT Model: Four interdependent functions that enable rural innovation.

Opportunity Information Systems (OIS)

Opportunity information systems (OIS) are the ways in which the key stakeholders find out about new opportunities for innovation. Innovation is the process that transforms inventions—that is, new ideas or concepts—into improvements in livelihood for the key stakeholders, usually through making money (e.g., making them more competitive). The key stakeholders are the direct beneficiaries of an innovation process, usually those who use, replicate and promulgate it. For example, the key stakeholders for lulo are farmers and nursery owners and the key stakeholders for a new rice harvester are farmers and machinery manufacturers. Scientists in CIAT are stakeholders in rural innovation but generally not key stakeholders.

Inventions address two scales: *macro-inventions* are ideas and concepts that open up new innovation territory, while *micro-inventions* are improvements to existing technologies or processes. For example, the idea of growing lulo in an area where it has not been grown before is a macro-invention, while improvements to existing lulo growing and processing procedures would be micro-inventions. Obviously some macro-inventions are bigger challenges to the status quo than others; e.g., introducing bicycles and the idea of balancing on two wheels is a bigger challenge and will take longer than introducing the idea of growing a new type of fruit tree. If a macro-invention is already the basis of successful innovation processes elsewhere, then introducing it is much easier (assuming you learn from existing experience).

Innovation occurs within an innovation system, the set of distinct institutions that contribute to the development and diffusion of new technologies in an area. It is a set of interconnected institutions that form a system whose performance is determined both by the individual performance of each institution and how they interact with each other as elements of a collective system.

Types of OIS include databases of all sorts and the network of contacts of key stakeholders. They also include knowledge brokers and other facilitating mechanisms that help the key stakeholders gain access to information. Promulgation—that is, the idea of proactively promoting good ideas to areas where they are likely to fit—is another important component of an OIS.

Support for making adoption decisions (SAD)

Knowing that an opportunity exists is not generally sufficient for people to decide to adopt. By adoption we mean to embark on the experiential learning process involved in innovation. People need convincing that an invention is a "plausible winner." Ways of supporting adoption decisions include farmer field trials, market survey tools, participatory group approaches and the approaches to supplying site-specific information being developed by the Land Use Project.

Support for incipient innovation processes (SIP)

Once an individual, group or organization has decided to embark on an incipient innovation process, there can be many outcomes of the experiential and social learning cycles in which they engage. Things can go wrong and they need to find solutions; otherwise the innovation process can die. There are various SIP methods including on-line frequently asked questions, personal contact with other innovators, product champions and contact with researchers who have better technical knowledge.

Meta-learning and selection mechanisms (LSM)

Much can be learned from successful and unsuccessful innovation processes. Successful innovation usually involves many micro-inventions that improve the "fitness" of a technology or an idea and make it easier for others to innovate along similar lines. Unsuccessful adaptations to macro-inventions, and unsuccessful innovation processes can save others from making the same mistakes and wasting time and effort. Having mechanisms that spot and promulgate beneficial modifications and weed out detrimental ones can greatly speed up an innovation process, and help ensure a positive outcome.

Helping provide efficient and effective selection mechanisms is an important part of SIP. Synthesizing the learning from a number of completed innovation processes (meta-learning) helps build the OIS and SAD. Figure 1 shows these linkages and shows that LSM helps the other three functions evolve. However, of the four, LSM functions have received the least attention and where tool and methodology development could have most impact.

Discussion

These four functions are multiplicative rather than additive. In other words, if any one of the functions is nonexistent, then innovation in that particular innovation system is severely compromised.

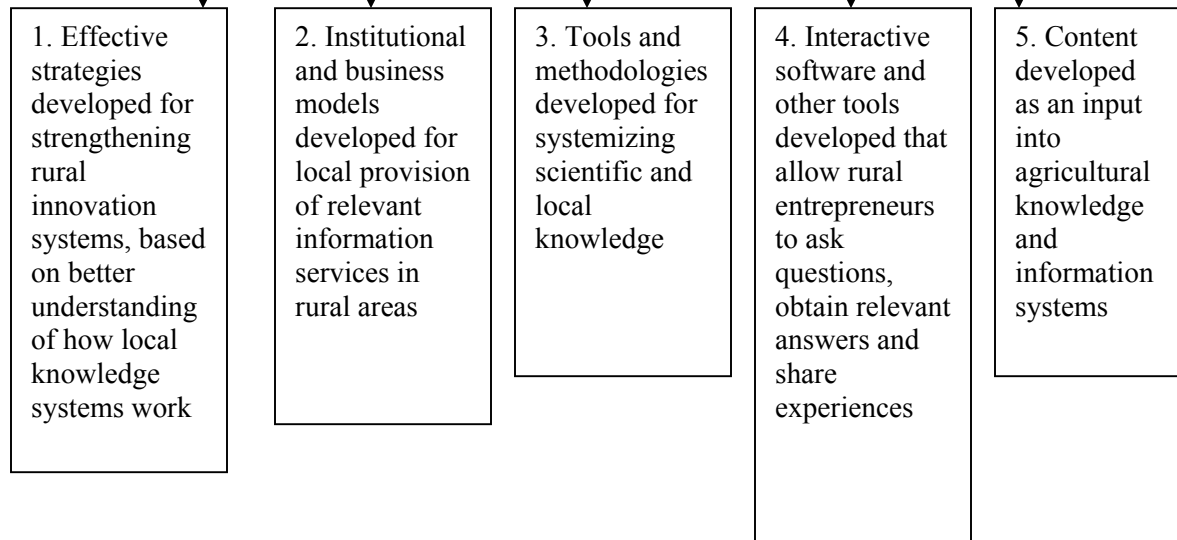**Work breakdown structure for the LTI development challenge**

Goal

> To contribute to the development of Agricultural Knowledge and Information Systems that improve the livelihoods of the rural poor

Purpose

> To provide methodologies, approaches, tools, models and software that generate, combine and share agricultural knowledge that increases the incomes of rural communities

Outputs

| 1. Effective strategies developed for strengthening rural innovation systems, based on better understanding of how local knowledge systems work | 2. Institutional and business models developed for local provision of relevant information services in rural areas | 3. Tools and methodologies developed for systemizing scientific and local knowledge | 4. Interactive software and other tools developed that allow rural entrepreneurs to ask questions, obtain relevant answers and share experiences | 5. Content developed as an input into agricultural knowledge and information systems |

Next steps

- Complete the identification of ongoing and planned activities that fit under the LTI Development Challenge Outputs
- Carry out a gap analysis to identify what is missing

Strengthening the network of organizations working on farmer participatory research approaches in Ecuador by sharing "good practice"[131]

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Abstract

The dismantling and privatization of public service agencies in many countries, particularly Latin America, means that the responsibility of managing natural resources and sustainable agriculture is being handed over to industry and civil society. This means new responsibilities for local governments, communities as well as non-governmental development organizations. Unfortunately, due to many social factors and the historical roots of development models, many communities are still treated as they were thirty and forty years ago when a top-down technology transfer dominated that did not allow for much local learning or adaptation. This has led to an unbalanced relationship between development practitioners and researchers with local stakeholders.

This challenge calls for an analysis and re-organization of exogenous development agendas in order to effectively facilitate endogenous development, through the promotion of participatory farmer research and experimentation. This means generating, adapting and using ideas and technologies to meet local needs, appropriately supported by other internal and external actors. The role, which researchers and development practitioners play, must enable socially and ecologically embedded development for endogenous development to occur.

This study therefore explored the way in which different research and development organizations manage and promote rural innovation through the implementation of different farmer experimentation and participatory research methodologies, specifically: Farmer Field Schools,

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Local Agriculture Research Committees (most commonly known by their Spanish acronym, "CIAL"), Experimental Plots (or Pruebas Experimentales in Spanish) and Farmer-to-Farmer Movement (or Campasino a Campasino in Spanish). The characterization of each of these methodologies was based on pre-established factors that contribute to rural innovation: self-financing and self-management, local leadership, adoption and adaptation, monitoring, and changes in attitudes.

Two concepts / methodologies were used in the characterization: learning cycles, in order to determine and analyze the above-mentioned factors, and learning alliances, to bring lessons learned to a common space to be discussed and to bring forth proposals for improving farmer experimentation and participatory research methodologies in a collaborative and constructive manner.

This exploration was not an exhaustive study; rather its aim was to conclude common strategic factors (positive and negative) as a base for developing a learning alliance for improving farmer experimentation and participatory research methodologies. These factors were discussed in a final workshop among possible participants of a learning alliance.

Learning alliances can help promote an increase in endogenous development in natural resource management and sustainable agriculture by bringing together a group of actors with an interest in a common issue. In the case of this study, the common issue participatory farmer research and experimentation to foment rural innovation. The goal of the learning alliance is to stimulate the group of actors to communicate, negotiate and act in a joint manner that takes them to new forms of social organization, learning and activity.

The current learning alliance has a long way to go before achieving this goal. Conflict and consensus need to be managed, definitions of rural development, innovation and methodologies need to be clarified and agreed upon, and learning spaces need to be created in order to continue promoting collaborative relationships. This demands a clear understanding of deeper issues such as the much-needed changes within development professionals, development agendas, and new means of designing, administering and implementing rural development interventions. It also begs for a comprehensible perception of the true meaning of learning alliances and their potential within the development context.

Project Justification

Many development and research organizations in Ecuador are looking to improve rural development and innovation through different participatory methodologies involving farmer experimentation and research. Each methodology has its factors of success and barriers, which may depend on how the organization manages the methodology. However, these organizations are often carrying out their work in an isolated manner. When collaboration does exist, it is often not recognized and taken advantage of in order to promote broader and stronger collaboration.

In order to improve the methodologies and the way they are used (in other words, the way in which the organizations "do" development), the organizations involved in the characterization

proposed an internal analysis (learning cycles) as well as a joint analysis in order to foster institutional innovation (learning alliance) in organizations working with farmer participatory research and experimentation methodologies.

Project Description

The study pilot tested an approach to fostering institutional innovation with NGOs and the NARS (World Neighbors, International Institute of Rural Reconstruction and INIAP) working with farmer participatory research and experimentation approaches in Ecuador.

After discussions with the three organizations involved, the need to answer certain questions was established which were:

- Where are we with farmer participatory research and experimentation approaches in Ecuador?
- Where are we going with rural innovation and the methodologies that promote rural innovation?
- How can we continue to learn from each other in the advancement towards rural innovation and development based on endogenous processes?

The first step began with the development of facilitated learning cycles within each organization. Successful case studies were identified and analyzed based on factors established by the three organizations. The objective of this characterization was to explore the impact and adoption of the selected methodologies, barriers and successes in their application, as well as opportunities and changes need for improvement and further use of the methodologies. The characterization was aided by innovation histories[145] of each methodology within the organizations involved in order to better understand where and why different methodologies function with better results, limitations, strategies for improving the relevance to local research and for greater effectiveness in fostering rural development and innovation.

The next step was to share, discuss and analyze the characterizations with the respective organizations in a workshop and by this process further foster a learning alliance based on farmer participatory research and experimentation approaches. The objective of this learning alliance is to improve understanding and communication around rural innovation and participatory methodologies, as well as continue planning actions that will improve the development of these methodologies in a collaborative way.

The principal outputs were:

- A characterization of the farmer participatory research and experimentation approaches used by three research and development organizations in Ecuador, using learning cycles and innovation histories to carry out the characterization.
- A workshop to establish direction of a future learning alliance.

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[145] For a description of the innovation history methodology please see Douthwaite, B. and J. Ashby, 2004. Writing Up Innovation Histories: A Useful Learning Tool. ILAC Brief No. 5

Activities Completed

i)   Methodology developed for characterization with IIRR, INIAP and World Neighbors. Purpose of learning alliance negotiated.

ii) Guided self-evaluations of the implementation of good examples of Local Farmer Research Committees (known by their Spanish acronym CIALs), Farmer Field Schools (FFS), Experimental Trials and the Farmer-to-Farmer approach by three organizations (World Neighbors; IIRR and INIAP). This work included a workshop that IIRR carried out as part of an evaluation of CIALs and Experimental Trials.

iii) Workshop held to present results of the self-evaluations amongst partner organizations, followed by discussion and identification the general principles of good practice FPR. In the final part of the workshop, participants proposed next steps for learning alliance.

iv) Presentation of characterization and learning alliance to delegation of Chinese academics analysing different participatory methodologies (unplanned activity).

v)   D-Group established as a forum for the incipient learning alliance (unplanned activity).

Achievements and Constraints

Achievements

Characterization and comparison of methodologies. Although each of the methodologies are becoming wide-spread in Ecuador, and some documentation exists, the study provided an opportunity for a first-time characterization of the methodologies based on common factors, as well as a comparison of the methodologies. The comparison resulted in new knowledge for different actor groups (mainly technical support personnel and project or program leaders). In presenting the results, these actors recognized the importance of gaining more knowledge on each methodology in order to identify complementarities for their innovation.

Institutional Learning and Change. In carrying out the characterizations, each organization recognized the need for learning cycles in order to effectively promote institutional learning and change within their organizations. In this study, IIRR was a pioneer in implementing learning cycles as a mechanism for institutional learning and change. The other organizations involved admitted that they had not previously engaged in learning cycles in a systematic way but saw them as a necessary procedure for self-analysis and to change their development approaches and philosophies.

Dialogue among learning alliance participants. At the level of each organization, learning cycles can bring about institutional learning and change. In addition the lessons extracted from these learning cycles produced dialogue among different actors. Dialogue is a necessary component for alliances. In this sense, an important component of the learning alliance was established.

D-Group. The suggestion to establish a D-Group for the learning alliance was an unexpected side effect of the study. This is an on-going activity that is being developed in accordance to actor needs.

Existing alliances. Within the learning alliance it was suggested that already existing alliances or platforms be recognized and incorporated, instead of repeating already established processes. It was agreed that regional platforms be identified and strengthened (the one example identified was the Network for Community-Based Natural Resource Management, MACRENA, in the northern Andes or Ecuador). Each regional network / alliance / platform would then have to analyze how they could incorporate themselves into a broader network.

Contact with other learning alliances. Although the concept of alliances is not new, the development of learning alliances in a CIAT framework is an important initiative taking place in many parts of Latin America. The Learning Alliance for Rural Innovation (established in this study) has attended several meetings of the Learning Alliance for Productive Chains, a learning alliance exploring ways to improve commercialization as it is related to small farmers. Lessons learned have been extracted, yet keeping in mind the immense differences in character of the two alliances. The later is made up of large national and international agencies with a specific focus on commercialization and who have a wide reach at the national and regional level. Our alliance involves more locally based partners who are concerned with development processes and paradigms as a necessary analysis to looking at rural innovation. However, certain spaces were identified where the two alliances could come together in future activities to support each other for two-way learning.

Constraints

Development of learning alliance. The Learning Alliance for Rural Innovation has yet to clearly determine its priorities and purpose, as well as logistical concerns (how to function as an alliance). The discussion that took place in the workshop to formally establish the alliance was conflictive and consensus was hard to reach. This was partly due to little understanding of what a learning alliance is, jealousy over methodologies, internal conflict within organizations, and a great dependence on external funding ("nothing works without money, so why bother discussing something unless funding is secured").

Another constraint, related to the issue of funding, is how to continue to develop a learning alliance with no paid person to do it. Few lessons were extracted from the Humanistic Movement on this topic.

Many differences were identified, but not resolved, which was a constraint for the construction of the alliance:

- The alliance should not be forced; natural already existing processes should be allowed to develop (let meetings develop as necessary) **VS.** intentionality in the organization of the alliance (arrange for key meetings in order to rapidly develop objectives, legalization, etc.).
- Alliance among development organizations and practitioners **VS.** an alliance among farmers and promoters.
- Individual will to create alliance **VS.** institutionalize alliance within each organization.

- Need to understand theoretical bases of new development paradigms related to methodologies **VS.** need to have a better understanding of technical aspects of the methodology and create concrete products.

Internal conflict. In some cases during the study, consensus and learning within organizations was hard to reach because of strong internal conflicts not yet resolved. This provides an important lesson for the need for honest and systematic institutional learning and change.

Conclusions

Clearing understanding what it means to be in an alliance. In order for an alliance to function, its participants or partners must have a clear understanding of what it means to be in an alliance. Concepts such as social learning, coherence and correspondence can help an alliance understand what it is that brought them together and the path that they are trying to create in order to arrive at a common destination. Put into action, these concepts can help create a functional learning alliance.

Learning alliances are not arrangements that can be automatically put together based solely on common interests. Many factors must be taken into consideration in order to recognize common needs as well as possible conflicts. Many organizations in the development context still jealously guard their ideas, resources, plans and proposals. Competition is a reality among development organizations. Healthy competition must be combined with a spirit of collaboration. This is also true for the different visions of development that different organizations hold. Development philosophies must be articulated and debated to reach a common understanding of development that truly promotes rural innovation.

Dependency on funding. Learning alliances take time and dedication. Unfortunately, the question asked is "who will fund this time and dedication". There is a resistance to move forward without external funding. Development professionals are weary of endless workshops and meetings, especially when there is little funding for these. Meetings outside of set agendas, which have no funding, cannot hope for broad assistance or participation. Unless learning alliances become institutionalized, there is the danger of learning alliances losing their true meaning as platforms for social learning and collaborative actions and analysis. Institutionalization can also help address the problem of fast turnovers of development professionals so that the learning alliance becomes part of the organization and not just of one particular individual.

Take advantage of what already exists. The Network for Community-Based Natural Resource Management (MACRENA in Spanish) is a platform for social learning. It brings together diverse organizations with different experiences and visions of development and rural innovation in relation to natural resource management, and works with these visions in order to establish commonalities and collaboration for natural resource management in Carchi and Imbabura provinces.

Next steps. The alliance is an opportunity to empower participatory rural development by transforming developing professionals / agents of change, create access to different experiences,

transform politics, foster endogenous development, institutionalization and communalization. Some basic next steps to help move the learning alliance forward (although it still needs to be established who will do this) are:

- Establish and develop D-Group in order to get to know each other better, establish a ways of interacting and communicating, share information (field days, meetings, presentations), clarify and deepen methodologies. Maintain diversity of methodologies but work towards profound knowledge and identify complementarities.
- Develop another meeting to build the objective of the alliance, action plan, establish roles and expectations and clarify and deepen methodologies. Identify leaders of learning alliance; facilitation is necessary. Use elements of Outcome Mapping and social learning analysis in order to achieve this.
- Develop specific action proposals and seek funding.
- Complete inventory of other institutions working with common themes and assess their participation in the methodology. The alliance should share experiences among a broad community of practice; it should be open enough that individuals or organizations can promote different actions according to their need, capacity and interest. The alliance cannot be forced.
- Continue to promote learning cycles and ILAC in order to change and reinforce values, conducts and actions at the personal level and institutional level.

Publications, Papers and Reports

- Final report of characterization (Spanish).
- Memories of workshop (Spanish).
- D-Group established.
- Paper forthcoming.